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DEPARTMENT OF EDUCATION

DEPARTMENT OF ENERGY

DEPARTMENT OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF THE INTERIOR

INSTITUTE OF MUSEUM SERVICES

NATIONAL CAPITAL PLANNING COMMISSION

NATIONAL ENDOWMENT FOR THE ARTS

NATIONAL ENDOWMENT FOR THE HUMANITIES

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

SMITHSONIAN INSTITUTION P. 965

U.S. HOLOCAUST MEMORIAL COUNCIL

WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

WEDNESDAY, MARCH 30, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:10 a.m., in room SD-116, Dirksen Senate Office Building, Hon. Harry Reid presiding.

Present: Senator Reid.

SMITHSONIAN INSTITUTION

STATEMENT OF ROBERT McC. ADAMS, SECRETARY

ACCOMPANIED BY:

DEAN W. ANDERSON, UNDER SECRETARY
TOM FREUDENHEIM, ASSISTANT SECRETARY FOR MUSEUMS
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RICHARD L. SIEGLE, DIRECTOR, OFFICE OF FACILITIES SERVICES
MICHAEL H. ROBINSON, DIRECTOR, NATIONAL ZOOLOGICAL PARK
NANCY D. SUTTENFIELD, DIRECTOR, OFFICE OF PROGRAMMING AND BUDGET

BUDGET REQUEST

Senator REID. The subcommittee will come to order.

This is the time scheduled for the subcommittee to review the fiscal year 1989 budget requests for the Smithsonian Institution and the Woodrow Wilson International Center for Scholars.

Today's hearings will begin with the Smithsonian Institution. The principal witness will be the Secretary, Mr. Robert McC. Adams.

Mr. Adams, would you come forward?

The Smithsonian's total 1989 request is \$252,504,000, an increase of some \$22 million, or 9.7 percent, over last year's.

The request includes \$216,214,000 for the salaries and expenses appropriation, an increase of \$14,782,000 over 1988. Funding requested

for the repair and restoration program totals \$8,835,000, an increase of \$1,581,000 over 1988.

The request for the construction appropriation is \$10,150,000, an increase of \$8,836,000 over 1988. Finally, construction requested at the National Zoological Park is \$5,305,000, a decrease of \$2,845,000, below last year.

PREPARED STATEMENT

Mr. Adams, your entire opening statement will be made a part of the record at this point.

[The statement follows:]

STATEMENT OF ROBERT McC. ADAMS

It is a great pleasure to appear before the subcommittee once again to discuss the aspirations of the Smithsonian Institution, as embodied in our FY 1989 budget request. With your guidance and assistance in recent years, we have been able to reinforce in important ways the Institution's basic programs in research and research support, collections management, public services and education, and international activities, while also beginning to make progress in the critical areas of essential maintenance and repair of existing facilities. Today, I will highlight some recent program achievements, share with you an overview of the process used to establish our FY 1989 budget priorities, and describe the modest new initiatives that we propose in our request.

Recent Program Accomplishments

Quadrangle

The first and, perhaps, the most visible accomplishment occurred this past September with the opening of the National Museum of African Art, the opening of the Arthur M. Sackler Gallery, and the commencement of the programs in the S. Dillon Ripley Center. During the first five months of operation, more than 640,000 people visited these museums and public spaces. At the opening ceremony, Smithsonian Regent Anne Armstrong spoke of the purpose that the new and expanded programs in the Quadrangle will serve in increasing scholarly and public knowledge of non-Western cultures and societies. She said that the Quadrangle represented "an opportunity to emphasize both the rich diversity of these civilizations and the underlying brotherhood of mankind."

Already, the benefits of the heightened visibility of these programs have become manifest, not only in the magnitude of the visitor attendance, but also in increased support for these programs both within and outside the Institution. For example, a grant from the Rockefeller Foundation has made it possible to establish a Rockefeller Foundation Residency Program in the Humanities to support residential fellowships in Asian and African art. More recently, the Annie Laurie Aitken Trust awarded a grant to the National Museum of African Art to establish a collections acquisition endowment fund; as you know, the development of this Museum's collections is of critical importance to the continued enhancement of both its research and public programs.

Bicentennial of the Constitution

The programs and exhibitions sponsored by different Smithsonian bureaus to commemorate the Constitution's Bicentennial constitute a second major program achievement. The Smithsonian co-sponsored an international symposium on "Constitutional Roots, Rights, and Responsibilities." For this five-day program, which was the scholarly centerpiece of the Nation's Bicentennial observance, 68 participants from 12 countries convened to discuss the origin of written and unwritten constitutions and the interplay of rights and responsibilities in a democracy, among other topics. A second symposium to observe the Bicentennial of the Constitution, "Afro-Americans and the Evolution of a Living Constitution," will address the Afro-Americans' search for full citizenship and its impact on Constitutional law in the 19th and 20th centuries. The Institution also sponsored a two-day symposium on "Teaching the Constitution"; at this event noted scholars and educators presented lectures and workshops for more than 150 teachers.

At the National Museum of American History, an exhibition titled "A More Perfect Union" examines the experience of Japanese Americans during World War II in the context of constitutional issues. The National Portrait Gallery plans to commemorate the Bicentennial of the Constitution with three exhibitions, namely, "American Colonial Portraits: 1700 to 1776," "The First Federal Congress," and "Portrait of the Law." Of particular interest to the Subcommittee is "The First Federal Congress" exhibition, which the Portrait Gallery is currently organizing in cooperation with the Historian of the House of Representatives and the Curator of the Senate. This exhibition, scheduled to open in March of 1989, will feature the portraits of 40 Senators and Congressmen who were members of the first Congress, including many who were signers of the Declaration of Independence.

Reinforcement of Research Capabilities

A third major program achievement results from the reinforcement of our basic research capabilities. During the past few years, we have significantly improved support for the Institution's research programs, especially in molecular biology, biological diversity, tropical biology and astrophysics, where the Institution has the potential to make truly excellent research progress.

The National Museum of Natural History has established a molecular systematics laboratory to foster research in this rapidly developing field. Also at the Museum, researchers have begun a series of multidisciplinary and integrated biological diversity studies to enhance understanding of the composition, functioning, and evolution of natural biotas in tropical regions. This biological diversity program is the only integrated multidisciplinary program that attempts to inventory the earth's disappearing flora and fauna in a way that also registers natural changes in population abundance and dispersal.

The National Zoo has developed programs in molecular genetics and the genetic management of rare and endangered species. These new programs will allow the Zoo's researchers to supplement their long-standing theoretical expertise through the application of a variety of molecular genetic techniques. During the past year, the Zoo concentrated on the identification of genetic markers in hooved stock species known to suffer from the detrimental consequences of inbreeding as evidenced by high juvenile mortality and reduced fertility. Future research efforts in this program include the expanded use of state-of-the-art molecular techniques through the utilization of molecular probes that permit DNA "fingerprinting."

A research program in molecular evolution and plant physiology has been inaugurated at the Smithsonian Tropical Research Institute in Panama. Studies of molecular evolution will permit STRI's scientists to address basic questions concerning the processes of speciation, maintenance of genetic variation in populations, and the nature of population differentiation. This new program will emphasize the most promising molecular techniques used in evolutionary studies, including protein electrophoresis, restriction mapping and sequencing of nucleic acids, and DNA-DNA hybridization. No other institution in the tropics is conducting rigorous research on molecular evolution and physiology in marine and terrestrial habitats.

The Astrophysical Observatory is continuing to develop the technology for submillimeter wavelength receivers, and, in particular, to build receivers for use on existing telescopes. In addition, during this year, the design work has begun for the

conversion of the Multiple Mirror Telescope at Mt. Hopkins, Arizona into a larger single-mirror telescope. I will address these two important projects in more detail when I present the FY 1989 request for Major Scientific Instrumentation. However, I want to take the opportunity to express our appreciation for the support that the Subcommittee has shown throughout the years in helping the Smithsonian maintain its pioneering role in astrophysical research.

Collections Management

Collections management remains a high priority of the Institution. A recent discussion paper on the scope of Smithsonian collections management efforts and their interrelationships answers many questions that have been posed in the past and is attached for the Subcommittee's further review. Continued progress in collections management programs throughout the Institution has been highlighted by the ongoing development of an Institution-wide automated Collections Information System. In FY 1986, the Office of the Registrar established a steering committee to plan and promote the concept of such a system, with representatives from all of the Smithsonian museums. The development of this on-line Collections Information System has been undertaken by the Institution's Office of Information Resource Management. In the natural sciences, a prototype for the system was created, using the collections of the Museum of Natural History's Department of Fishes. The system provides on-line retrieval of information for research and collections management purposes. The Collections Information System produces computer-generated, wet labels and identification tags for specimens, as well as the numerous reports required for the daily work of the Institution.

For the Institution's art collections, the seven art bureaus have agreed upon a structure for a conceptual data model for collections data. This structure includes elements of data required for all phases of collections management, including acquisitions, conservation, loans, and deaccessioning, while providing flexibility to accommodate differences in the level of detail that an individual museum maintains for specific types of art collections. The Collections Information System will also serve as the basis for several specialized projects to integrate digital images of works of art with the collections data. At the Hirshhorn Museum and Sculpture Garden, one prototype of an advanced system is being developed, using personal computers, that will ultimately allow researchers and the public to retrieve information concerning the collections, including visual images created from digital data stored on a central computer. A second system, under development at the Museum of American Art, would enable visual images and related collections information to be stored on compact discs mastered from computer tape. These compact discs will be read by a compact disc player attached to a personal computer, either on its own or in conjunction with the on-line capabilities of the Collections Information System.

Public Services

The Smithsonian has increased the attention given to informing and educating museum visitors in general about the Institution's various programs, exhibitions, and research, and has conducted specialized outreach programs directed toward minority and other targeted audiences through initiatives in three critical areas: renovation and reinstallation of exhibitions, American Indian programs, and pre-college science and mathematics education.

During the past year, exhibition renovation and reinstallation

proceeded at both the Museum of American History and the Museum of Natural History. At the Museum of American History, the reinstallation of the permanent exhibition halls is being coordinated with the renovation of the Museum's physical plant. As part of this reinstallation program, significant changes for two of the Museum's most popular attractions occurred in the last year. In the summer of 1987, the Pendulum was removed to allow for the preparation of an exhibition on the first floor; when it is placed back on display, it will be reinstalled on the second floor. In September of 1987, the "First Ladies Hall" was closed, to prepare for reinstallation in space on the second floor in 1991.

At the Museum of Natural History, funding received in FY 1988 is being used to plan the renovation of its American Indian exhibition halls. Some of the innovations planned for the proposed new American Indian exhibit complex will be tested in the existing halls.

In the area of education, the Smithsonian, in cooperation with the National Academy of Sciences, has established the National Science Resources Center to improve the quality of pre-college science and mathematics education. This Center is working closely with state and local school systems, research scientists, educational and scientific organizations, and science museums to develop high-quality materials and programs that will meet the needs of classroom teachers throughout the Nation.

Facilities Maintenance

A very important but less visible accomplishment is the increased emphasis on resolving the massive backlog of required facilities repairs for the Institution's buildings. In recent years, funding levels for maintenance, repair and preservation of the buildings have not kept pace with need. Last year we reported to you that the backlog of repairs required to ensure continued operation of building equipment and systems, provide long-term preservation of the buildings, and bring the buildings into compliance with safety and health codes and standards was estimated at \$216 million. With the support of the Congress, for which we are, indeed, grateful, a substantial increase in funding was provided in FY 1988, thus allowing the Institution to begin reducing the backlog.

Improvements in the Planning and Budget Process

This brief list of program accomplishments represents a cross-section of endeavors implementing initiatives that reflect our basic Institutional commitments in collections and non-collections related research, museum curation, collections management, public service and education, and necessary program and administrative support. Through the planning and budget process, the Smithsonian strives to balance these competing demands for resources to ensure that they are distributed as effectively and efficiently as possible.

During the past year, we have reexamined our planning and budget process and implemented several new internal procedures to improve our ability to make decisions and achieve our program goals. As a result, new mechanisms for integrating and strengthening internal planning and budgeting were implemented. In large measure, these are based on a model used by institutions of higher education, whose education, research and public service programs, governance and organizational structure, and sources of funding are similar to the Smithsonian's. I would like to highlight the features of the process by which we set the Institution's FY 1989 planning and budget priorities.

First, to establish long-term program goals ahead of budget formulation, bureau and office directors were asked to assemble and submit early in February 1987 their plans and priorities for the next five years. During subsequent months each Management Committee member held extensive discussions with those directors to explore fully the issues raised. Based on those discussions, areas of common interest and opportunity for collaborative efforts among the bureaus were identified on a preliminary basis, along with potential research and administrative support requirements. The identification and examination of the Institution-wide consequences of individual bureau plans early in the planning process contributed to improved coordination among bureaus as more refined program and budget plans were developed. After the discussions were completed, the plans and priorities originally submitted by the bureaus and offices were either endorsed in concept, or modified as indicated.

Simultaneously, Management Committee members worked with me to amplify the Institution's basic mandate "for the increase and diffusion of knowledge . . ." in order to develop a more contemporary statement of purpose for the Institution and a set of explicit goals. Effort was directed at articulating the essence of the Institution, its management philosophy, its aspirations for program quality, and its consciousness of the need to reach a wider audience in more resourceful and sensitive ways. Integral to this effort was determining "Areas of Emphasis" representative of the Institution's most important opportunities and requirements in the years ahead.

The Board of Regents endorsed these statements at their meeting in May 1987; subsequently they were issued to Smithsonian bureaus and offices as formal policy guidance for budget formulation and planning for the next five years. Bureaus were asked to prepare budget plans responsive to and consistent with that guidance. After the bureaus submitted their budget plans for the next five years, these documents guided establishment of the budget priorities embodied in the Institution's FY 1989 Federal budget request, in its FY 1988 and FY 1989 budgets for nonappropriated funds, and in its Five-Year Prospectus, FY 1989-FY 1993.

FY 1989 Budget Highlights

Let me now turn to some of the specifics of our FY 1989 budget request which totals \$252.5 million, or \$22.3 million more than the FY 1988 appropriation. In this budget, the Institution requests your continuing support for the additional resources necessary to reduce and eventually eliminate the backlog of deferred repairs in various facilities and to manage properly the increasing number of repair projects. Funding at a "current services" level for essential repair work would not permit us to keep pace with new repair work and at the same time make progress with previously identified repair projects. The remainder of the request for increased funds represents requirements to support the Institution's various "Areas of Emphasis" for achieving its long-term program goals and to cover various uncontrollable items of expense.

Salaries and Expenses

The Salaries and Expenses (S&E) request totals \$216.2 million and 4,276 workyears, an increase of \$14.8 million and 184 workyears over the FY 1988 appropriation. This request would allow \$9.3 million of program growth, with \$1.3 million of that growth directly in support of the management of an expanded facilities repair and

restoration program. Also included are additional funds totaling \$5.5 million to cover basic "uncontrollable" cost increases for pay, rent, utilities, postage, and communications, including the costs of full-year funding for new positions authorized by Congress in FY 1988. A complete listing of these S&E program increases arrayed around each "Area of Emphasis" appears as Attachment 2 to this statement. Let me simply highlight some of the major program initiatives that we contemplate with the additional funding requested in this budget.

Research and Research Support

A major portion of the request for additional funding for research will enable the Astrophysical Observatory to continue efforts directed at the eventual construction of telescopes for use with submillimeter wavelengths and to continue the conversion of the Multiple Mirror Telescope to a single mirror telescope.

The FY 1989 request also reflects an indispensable change in the way the Smithsonian is now able to plan for the acquisition of such major scientific instrumentation through the S&E account. In the past, the Institution has purchased most needed research equipment as an operating expenditure through the S&E account. However, under the constraints of a one year appropriation, it became increasingly difficult to conduct orderly and cost-effective planning for the acquisition of major pieces of instrumentation that are analogous to capital costs. Instruments such as telescopes require careful research and development (R&D) over an extended period by concentrated teams of in-house scientists and technicians for sub-elements such as optics, receivers, and structural forms. In addition, the fabrication of these sub-elements, or necessary modifications to them, must be done largely in-house, or with specialized contractors, as opposed to being bought off-the-shelf.

The budget request for SAO's telescope initiatives therefore reflects the establishment, within S&E, of a line-item for "Major Scientific Instrumentation" that will accommodate no-year appropriations for these R&D costs. The no-year provision will allow the flexibility critical to the development of these telescopes and other leading-edge scientific tools, which almost by definition, involves the unknown, since researchers are pushing back the frontiers of science and technology. As a result, sub-elements of a particular instrument may develop at different rates, making funding flexibility essential.

Also still a high priority in our request for "Research and Research Support" is funding to further the efforts in molecular systematics and biological diversity begun with your support in FY 1988. Additional funding is included for the National Museum of Natural History to proceed with its inventory of the species and, thus, expand its research in biological diversity. The requested increase will make possible additional field work and collaboration with other institutions. Funding is also requested to enable the Natural History Museum to continue its development of a permanent sustainable capability for research in the field of molecular systematics, building upon the Museum's broad expertise in systematic biology encompassing both historical and ecological perspectives. Other requested research funds will allow the National Zoological Park to complete its development of the molecular systematics and evolution program through the establishment of a genetics laboratory.

Public Services

Other components of the FY 1989 budget request are to improve programs and services provided to the public. Funds are requested for the renovation and reinstallation of exhibits at the National Museum of American History and at the National Museum of Natural History. Funds for the American History Museum will permit reinstallation of major permanent exhibits throughout its three floors of exhibition space, while funds for the Natural History Museum will enable it to embark on a long-term plan for renovation of its 30 permanent halls.

In addition, funds are requested to develop the American Indian programs at the American History and Natural History Museums. Through cooperative programs offered by these bureaus, improved access to American Indian collections will be made available and new and better links will be forged with American Indian communities.

Finally, funding is requested to enable the National Science Resources Center (NSRC) to establish a teaching resource collection and information data base of science and mathematics teaching materials. This computer data base will be used by people participating in NSRC resource development projects and will be made available to science educators and teachers throughout the Nation by means of a computerized telecommunications network.

Collections Management

Collections management is a priority to which the Institution is seriously committed. Funding is requested for the Museum of Natural History for support staff to process backlogged and recent acquisitions, maintain collections accountability, and evaluate and cull collections. In addition, funds are requested to allow the Museum of American History to convert data to the Institution's Collection Information System, which supports data essential for management of collections for research, exhibit planning, and object interpretation. Other requested funds will support additional staff -- conservators, registrars and computer specialists. A significant amount of the request is for additional collections storage equipment for the expanded and renovated areas at the Freer Gallery of Art.

Columbus Quincentenary Programs

To continue planning and preparation of exhibitions and events in commemoration of the Columbus Quincentenary, additional funds are requested for several museums and offices. Our Quincentennial observance will focus on the Americas with a creative mix of historical, topical and cultural issues and ideas through exhibitions and public and scholarly programs. Research and program development proceeds to build the foundation on which to present not only the history of the encounter of European and American civilizations 500 years ago, but also to highlight and celebrate the ensuing centuries of common experience in the Western hemisphere. Contributing to the commemoration are the Museum of Natural History, Museum of American History, the Air and Space Museum, Museum of American Art, Cooper-Hewitt Museum, Traveling Exhibition Service, Office of Elementary and Secondary Education, and the Office of Folklife Programs.

Administration and Facilities

Among the most urgent of administrative needs are additional funds for the Office of Environmental Management and Safety to continue to improve the Institution's programs in those areas.

Equally important is the need for additional staff to maintain, operate and protect the General Post Office Building. Additional security staff also are required to accommodate requirements based upon final design of gallery space in the Quadrangle. These administrative requirements are in a sense uncontrollable; the Institution has an obligation to provide for the safety of visitors, employees, and the National Collections.

Additional funds are requested to implement the last phase of the Institution's new payroll/personnel system, which became operational in October 1987 through the U. S. Department of Agriculture's National Finance Center in New Orleans. Funding is also requested to allow the development of subsystems for the Institution's planned new financial information system. Planning costs thus far have been covered by nonappropriated funds.

A significant portion of the S&E request corresponds to the Institution's expanded program for facilities repair and restoration. The Institution is seeking to expand this program further in FY 1989. However, the increased workload associated with this level of repair work is beyond the capability of existing staff. Additional funding is included in this year's operating budget to staff the various administrative offices that are affected by the more extensive facilities repair program.

Repair and Restoration

The Smithsonian Institution is requesting \$20.8 million in its newly restructured Repair and Restoration (R&R) account. With the massive backlog of necessary repair work, the need to distinguish more explicitly between various categories of projects to allow more effective budget planning was underscored. Presenting the R&R account with two sub-accounts, as well as creating a new sub-account in the Construction account, will allow us to respond more effectively to changing priorities and critical needs within the different categories as they are identified. For FY 1989, funding of \$3,700,000 is requested for the initiation of a Major Capital Renewal program to replace major building systems that are approaching the end of their useful lives at several of the Institution's facilities. In addition, \$17,135,000 is requested for Repair, Restoration and Code Compliance projects.

Construction

In the Construction account, a total of \$10,150,000 is requested. Of this amount \$1 million is to enhance the Institution's planning capability for future construction projects, including the renovations necessary to make the Old General Post Office Building usable; \$2,750,000 is to design and construct laboratory and research facilities for the Tropical Research Institute; and \$3,200,000 to complete the construction of the base camp supporting the Whipple Observatory at Mount Hopkins, Arizona. Funds totaling \$3.2 million are requested for a new sub-account for Alterations and Modifications to facilities. Included in this category are projects that in previous budgets were funded in the Restoration and Renovation account. These projects, although small in scale compared to most new construction, are driven by changing programmatic needs rather than repair or preservation considerations.

Construction and Improvements, National Zoological Park

An amount of \$5,305,000 is requested for the Construction and Improvements, National Zoological Park account. This request

includes funding for the highest priority repair and renovation projects at Rock Creek Park and Front Royal, as well as funding to begin modifications necessary to convert the Polar Bear Exhibit to an Amazonia Exhibit by enclosing the facility and including the required mechanical systems to support a greenhouse structure.

Closing Remarks

Over the course of its 142-year history and under the direction of succeeding Secretaries, the Smithsonian has evolved into an internationally renowned research center and the world's largest museum complex. Its activities span the globe and are devoted to research, museology, and public education in the arts, sciences, and history in the service of all mankind. The Institution is an unique establishment which has grown and prospered, pursuing its basic mission to increase and diffuse knowledge, through a partnership of private support and public funding, the latter most clearly manifest in the dedication of this Subcommittee. The partnership is critical to the Institution's ability to respond to future challenges, to maintain its excellence as the 21st century approaches, and to serve the public that is the object of its existence.

Attachment 1

COLLECTIONS MANAGEMENT AT THE SMITHSONIAN INSTITUTION

Collections management is the term used by the Smithsonian and other museums to describe the functions necessary to develop and maintain collections of works of art, scientific specimens and other objects as well as documents and data collections. Collections management encompasses planning for the use and growth of the collections as well as the selection of artifacts, information management (classification, cataloging, inventory and records management), conservation, insurance, risk management, security, storage, transportation and space planning.

For the past 142 years, the collections of the Smithsonian Institution have grown in variety, complexity and richness. Today, with the opening of the Arthur M. Sackler Gallery and the National Museum of African Art on the National Mall, the Smithsonian collections stand unmatched in breadth and depth by any other museum complex in the world. These collections are a national resource for millions of visitors each year from America and abroad and for researchers in every subject from American history to zoology. By using the collections for exhibition, research, education and interpretation, the Smithsonian meets its mandate--"the increase and diffusion of knowledge among men."

Size and Scope of the Collections

The total number of objects in the Smithsonian collections is now estimated at 134 million. Eighty-eight percent of the collection, or 118 million speci-

mens and artifacts, is in the National Museum of Natural History which has an encyclopedic array of the world: rocks, minerals and meteorites; fossils; plants; insects and other invertebrates; vertebrates including fishes, amphibians, reptiles, birds and mammals, and anthropological artifacts from many cultures of the world, past and present. The scope of the Smithsonian's collections can be seen in the listing of museums that have collections at the end of this report.

Only a tiny portion of the scientific collections becomes part of the public exhibitions. Museum visitors would find little of interest in the institution's full array of 30 million insects, for example, and the Smithsonian would not have space to exhibit such a vast number of specimens. On the other hand, research on species requires a wide range of specimens--males, females, various age groups, specimens representing various regions of the world--to offer a complete picture of a species.

The estimated total number of artifacts and specimens in the Smithsonian collections--134 million--represents a substantial change from the 100 million objects reported in 1983 following a five-year baseline inventory project at the institution. The change occurred principally at the National Museum of Natural History, where the total went from 81 million in 1983 to 118 million in 1987.

The major reasons for the increase were improved methods of counting and estimating the number of specimens in a batch (which resulted in higher numbers). Specimens previously recorded as a batch or lot have been individually estimated. In 1983, for example, the fish department estimated its holdings at 500,000 when it counted a jar of fishes as one item. Recently, museum technicians estimated the number of fishes in each jar and calculated the number of individual specimens to be 7.5 million. Another reason for the increased number is that new specimens are added to the collection every year, as a consequence of research carried on by Smithsonian scholars throughout the world.

Inventory

Prior to 1978, the Smithsonian maintained a perpetual inventory. That is, as objects were added or removed from collections each year, the figures were calculated into the previous year's total. In 1978, special funds were authorized by Congress to begin a physical inventory of the Smithsonian's massive holdings. The first phase of that inventory took five years to complete and

resulted in an estimated total of 100 million objects and artifacts at the Smithsonian.

The complexities, implications and impact of carrying out an inventory as a normal, on-going collections management function are now understood as consisting of several steps. Step one is the shelf inspection of the physical object. The identifying specimen number and location is recorded. Often the condition is noted and the object receives basic attention (dusting, perhaps, or re-rolling of textiles). If appropriate, the storage condition might be improved--acid free paper may be laid, material in a drawer unit might be separated for more space, natural science specimens might require fresh preservative.

Because examination of segments of any collection is sometimes sporadic, an inventory is properly seen by staff as a time to address problems of collection care. This has certainly been true at the Smithsonian.

Step two of the inventory process is to reconcile data collected during the shelf examination with previously existing records. This seemingly straightforward task is complicated by the vagaries of language, lapsed time and the sheer numbers involved.

For example, a museum physically locates 142 quilts, and the records match exactly in 137 cases but indicate that the museum received 149 quilts over the years. The difference might be a matter of nomenclature; for instance, a "missing" quilt may have been identified as a coverlet and therefore was listed elsewhere or it might have been on loan and the records were not updated. In any event, the reconciliation process, time consuming as it is, provides the answers to the questions.

Inventory refinement is another step often required. Reasonable accountability requirements may mean that it is enough to know where the mosquito collection is stored. Refinement of this sort of high-level inventory implies the addition of the intellectually meaningful levels of collection data: Where were the mosquitoes collected? When? By whom? Information of this type is useful and interesting to the research scientist and responds more fully to the mission and goals of the institution.

Cyclical inventory is ongoing and continuous. The location and presence of the Hope Diamond and the moon rocks on exhibition are noted by security guards and other staff members many times a day. Specimens in the natural history

research collections, however, are inventoried less frequently, sometimes on the request of researchers who need access to those particular specimens.

Collections management continues to be at the heart of Smithsonian Institution activities. The focus of collections management programs currently is to provide data that better meets the needs of researchers and of Smithsonian managers who base collections management decisions on this information. Smithsonian staff members at all levels, from museum directors to technicians, are involved in the ongoing collections management program at the institution.

Adding to the collections

To attain a better understanding of the present and gain insight into the future, it is important to know and understand the past. Artifacts and scientific specimens added to the collections provide a basis for such knowledge. The collections in the Museum of Natural History, amassed in the 19th and 20th centuries, document advances in science as well as past and present environments and their flora, fauna and human cultures. As such, the collection provides a fertile source of data for research.

The goal of such scientific collecting is to bring together a sufficient number of items and enough documentation and other supporting written information to allow significant comparisons and systematic studies of entire species, cultures and classes of geologically important materials.

At other museums, those with art and history collections, additions to the collections are made to present aesthetic high points in the history of art and culture and to capture the range of a particular artist's work. History museums seek both unusual and common examples of human society.

The formal process by which an object or specimen is added to the collection is known as accessioning. Because this is considered a permanent step, careful consideration, following established Smithsonian policy, is given to whether an object should be added to the Smithsonian's collections. The decision is made by curators, museum administrators, directors and, in some cases, advisory boards. The criteria used to make this decision are: the object's scholarly, scientific, historical or aesthetic importance; its appropriateness to the collections; the need for such an object to fill a gap in the collection; its condition and potential for exhibition and preservation; its provenance or origin, and the stipulations of the donor.

Material comes to the Smithsonian through field expeditions, donation, bequest, exchange and through purchase. Many of the scientific specimens are collected in the field by researchers and brought to the Smithsonian with supporting documentation. Others are donated by private collectors. Regardless of the way in which an object or collection comes to the Smithsonian, they are subject to stringent evaluation before being officially accessioned.

Once an object is accepted into the Smithsonian collection, it is held in trust for all mankind. Occasionally, objects are deaccessioned or removed from the collections following a rigorous review. Deaccessions occur because, despite conservation efforts, some objects deteriorate beyond usefulness, others are found to be redundant or duplicative, others do not fit into overall Institutional goals and, therefore, are judged to be better placed elsewhere. Deaccessioned objects may be transferred to other museums, historical societies, government agencies or appropriate non-profit organizations. A small percentage of deaccessioned specimens, artifacts or works of art are traded or sold at public auction.

Limits to collections growth at Smithsonian

In a sense, there is no limit to the growth of some collections at the Smithsonian. As a vital, active museum complex housing the national collections, the Smithsonian collects many artifacts and specimens including those representing various cultures or species that may become extinct. Researchers from entomology, botany and other departments in the Museum of Natural History, for example, are collecting specimens in the tropical forests of Central and South America, Asia and Africa where rain forests are disappearing at a rate of about 100,000 square miles a year, according to United Nations statistics.

The Political History Department in the National Museum of American History will be collecting presidential campaign memorabilia in 1988, as it has in previous campaigns, so that future generations will have a record of this important national activity. And the Smithsonian's Archives of American Art continues to collect and preserve the letters, documents and photographs of artists, collectors and galleries in the United States, making them available for research.

The lives of immigrant and minority peoples are better understood and more widely appreciated when they are properly represented in public collections such

as those at the Smithsonian Institution. The Smithsonian therefore seeks to represent the pluralism of American life and to maintain an inventory of this diversity in its collections. Two exhibitions that opened in 1987 at the Museum of American History illustrate this expanded approach to American history: "Field to Factory" is an exhibit that chronicles the migration of American blacks from rural southern communities to the cities of the North, and "A More Perfect Union" describes the internment of Japanese-Americans during World War II.

Acquiring new objects or collections for the Smithsonian is a decision made by various curators, directors and board members who at times must deal with such unanswerable questions as: Will this collection be needed in the future? Past experience has shown that collections often are used to answer questions that could not have been predicted by their collectors. For example, a large collection of birds' eggs that have been in the Museum of Natural History for decades was used in the 1960s by researchers studying the effects of DDT and other pesticides on the thickness of the eggs' shells, and the role of egg-shell thinning in the decline of certain bird populations.

Collections management policy

The Smithsonian's collections management activities are guided by a detailed written statement that sets forth the purpose of the museum complex and its goals and explains how these goals are interpreted in its collections activity. Policy guidelines were first issued in 1980 and currently are part of an ongoing review process.

The statement offers general guidelines for the wide range of the museums (including the National Zoo) of the Smithsonian Institution.

Thereafter, the purpose and scope of an individual museum's mission is defined, drawing from documents relevant to the establishment of the bureau and setting forth the current nature, uses and goals of the collection.

Acquisitions standards are established for accepting objects and specimens into the national collections. Standards address legal matters such as donor restrictions, purchasing authority, the provenance of an object, appraisals, copyright law, endangered species and repatriation concerns.

Deaccessioning is a responsibility of prudent collection management and can be accomplished only when the collection is understood and under control.

Methods of disposition and record-keeping requirements are defined and potential public response is carefully considered.

Lending and borrowing objects and specimens occurs frequently for purposes of exhibition and study throughout the world. Here, more than almost any other area, risk control is practiced because objects and specimens are in jeopardy when traveling.

Care of the collections includes physical storage, handling and conservation considerations, all of which are basic to museum operations.

Accountability standards comprise another cluster of activity addressed in the collections management policy. Methods and levels of security and record keeping (including collection inventory) fall under the accountability rubric.

Record keeping in a museum implies that actions which involve objects and specimens are recorded and become part of the collection history. The records hold scientific and historic data, as well as operational information. The record parallels the physical collection and enriches its value to the institution.

Uses of the collections

Research has been an essential function of the Smithsonian since its founding. At the National Museum of Natural History, for example, the more than 118 million specimens and artifacts of human cultures provide a focal point for the collections-based research conducted by the museum's scientists and by other researchers. Numerous scientists all over the world use these collections, either as visitors or borrowers.

Among the collections used by researchers to examine modern-day problems are the 5,000 specimens of diseased fish that provide information on the high prevalence of cancer in fish that lived in chemically contaminated bodies of water; an extensive collection of cataloged skeletal remains used for National Institutes of Health-funded studies on the origins of disease, and the collection of marine animals discovered in previously unexplored underwater caves which included both a class of crustaceans that had been unknown to scientists and 20 new species.

Museum volcanologists continue to collect the ongoing eruptive products of the Mount St. Helens volcano, which exploded in 1980. Studying the changing

chemistry and gas content of successive lavas helps scientists understand the mechanism that drives the volcano's continuing activity. Eventually, aided by data from this research at the Museum of Natural History, it may be possible for scientists to predict the phases of eruptions of Mount St. Helens and other volcanoes.

At the Smithsonian's art museums, collections-based research often results in exhibitions in which the results of years of research are shared with the visiting public. For example, among the projects at the Hirshhorn Museum and Sculpture Garden in recent years were the biographical survey of living artists represented in its permanent collection and an investigation of relief sculpture, which led to a 1986 exhibit, "Relief Sculpture from the Permanent Collection."

Among current research projects at the National Portrait Gallery are a study of American portrait paintings from 1700 to 1776 and a study of the portraits and biographies of members of the first U.S. Congress. Publication-oriented research continues on, among other projects, the photographs of Mathew Brady and the papers of Charles Willson Peale.

A breakdown of the Smithsonian's collections by museum:

Arthur M. Sackler Gallery

2,106 works of art

Collection includes 967 works of Asian art (jades, bronzes, Chinese lacquerware, Chinese paintings, Near Eastern works in silver, bronze and gold) donated by the late Dr. Arthur Sackler, as well as recent acquisitions such as a collection of Persian and Indian manuscripts of the 12th to 18th centuries.

Cooper-Hewitt Museum

167,000 decorative and fine art objects

Decorative art objects such as furniture, glassware, jewelry, silver, prints and drawings, textiles and wallpaper samples.

Freer Gallery of Art

34,611 works of art

Works of art from Asia include bronzes, paintings, pottery and ceramic objects, manuscripts and lacquerware.

Hirshhorn Museum and Sculpture Garden

13,006 works of art

Collection of modern art has 5,131 paintings, 2,702 sculptures, 5,054 works on paper and 119 works of decorative art. The total includes 5,878 works of art received from the 1981 bequest of Joseph Hirshhorn. Mr. Hirshhorn's gift of about 6,000 works of art in 1966 formed the nucleus of the museum's collection.

National Air and Space Museum

29,000 artifacts

Collection includes 342 planes, 126 missiles, 64 satellites and 78 spacecraft, as well as thousands of instruments, memorabilia, clothing, awards and models.

National Museum of African Art

6,500 works of art

Housed in the new museum on the Mall, the collection includes sculpture, textiles, utilitarian objects and decorative arts in wood, metal, ivory, gold, copper, fired clay and fiber.

National Museum of American Art (and Renwick Gallery)

34,000 works of art

Includes paintings, decorative arts, miniatures, graphic arts by American artists and American craft objects.

National Museum of American History

16 million artifacts

Collections are divided into divisions:

History of Science and Technology (about 1.8 million artifacts)

agriculture and natural resources

armed forces history

computers, information and society

electricity and modern physics

engineering and industry

medical sciences

physical sciences and mathematics

transportation

Numismatics (914,000 coins)Philately (13 million stamps)Social and Cultural History (about 204,000 artifacts)

ceramics and glass

community life

domestic life

costumes

graphic arts

musical history

photographic history

political history

textiles

National Museum of Natural History

118 million specimens and artifacts

Seven departments include:

Anthropology--(2.2 million artifacts) Includes one of the largest collections of North American Indian artifacts and American Indian materials--baskets, pottery and utilitarian objects.Botany--(4.2 million) Algae, flowering plants, pressed specimens and microscopic plants.Entomology--(30 million) Butterflies, moths, mosquitoes and beetles. Collection includes all 30 of the known orders of insects.Invertebrate zoology--(32 million) Marine and fresh water animals including sponges, crayfish, mollusks, worms and shrimp.Mineral sciences--(362,000) Includes gems, minerals, rocks and meteorites.Paleobiology--(40 million) Fossil fish, fossil flora and fauna, sharks' teeth, and foraminifera (microscopic organisms on slides).Vertebrate zoology--(9.2 million) Mammals, birds, reptiles, fish and amphibians. This collection includes birds' eggs and nests, fur pelts and elephant skulls.National Portrait Gallery

14,500 works of art

Prints, paintings, sculptures, drawings and photographs of Americans who have made important contributions to the nation. The collection includes the Meserve collection which is 5,400 glass plate negatives taken by photographer Mathew Brady in the 19th century. Portraits of all U.S. presidents and about 1,300 pieces of original art work from Time magazine covers of the late 1970s and early 1980s are part of the collection.

National Zoological Park

More than 4,600 living animals

The zoo's living collection is divided into four departments: mammalogy, herpetology, ornithology and invertebrate zoology (the four exhibit areas). The zoo's Conservation and Research Center, located in Front Royal, Va., is a breeding preserve for rare and endangered species.

Attachment 2

FY 1989 CONGRESSIONAL BUDGET REQUEST
(By Area of Emphasis)

:BUREAU:	:	:		
:NAME :	:ITEM OF INCREASE	:	FTE	DOLLARS :
1. OMB Workyear Ceiling		:	3,975.00	0 :
2. WORKYEARS (catchup)		:	135.00	0 :
3. FY 1988 APPROPRIATION		:	4,091.68	201,432 :
4. NECESSARY PAY, PAY RAISE, RENT, AND UTILITIES		:	36.82 *	3,509 :*
5. PROGRAMMATIC CHANGES:				
A. AREA OF EMPHASIS: RESEARCH				
:NPG :	:Less one-time: Constitution Bicentennial	:	0.00	(139):
:STRI :	:Less one-time cost: Tupper furniture	:	0.00	(184):
:STRI :	:Less one-time: BCI-Gambos equip & furn.	:	0.00	(114):
:SIL :	:Less NMFA Lib coll.devlpmnt prog. funds	:	0.00	(219):
:STRI :	:Molecular evolutionary studies	:	0.00	400 :
:SAO :	:Staffing-Submillimeter Telescope Array	:	3.00	199 :
:Instru:	:Submillimeter Wavelength Telescopes	:	0.00	611 :
:Instru:	:Multiple Mirror Telescope Conversion	:	0.00	70 :
:STRI :	:Equipment replacement and acquisition	:	0.00	114 :
:OPF :	:Folklife Program Archives Staff	:	2.00	54 :
:NASM :	:Historical Research - Aeronautics	:	2.00	125 :
:DIS :	:Expand Ongoing Seminar Series	:	0.00	15 :
:NZP :	:Support of Existing Facilities	:	8.00	327 :
:NMNH :	:Biological Diversity	:	4.00	315 :
:SIL :	:Com. Doc. Del. /Loan Technician	:	1.00	69 :
:SIA :	:Space rental	:	0.00	51 :
:NMMA :	:Inventory of American Sculpture	:	0.00	53 :
:NMNH :	:Molecular Systematics Lab	:	5.00	650 :
:NZP :	:Molecular Systematics & Evolution	:	2.00	194 :
:NMFA :	:Photographic Archives	:	1.00	40 :
:NMNH :	:Evolution of Terrestrial Ecosystems	:	2.00	100 :
:C-H :	:Asst Curator Prints/Drawings	:	1.00	35 :
:STRI :	:Staffing for administrative support	:	2.00	40 :
:SAO :	:Increased Rental Costs	:	0.00	120 :
:SIL :	:Serial Inflation	:	0.00	55 :

		SUBTOTAL	33.00	2,981
B. AREA OF EMPHASIS: PUBLIC SERVICES				
:NSRC :	:Teaching resource collection	:	1.00	35 :
:NMNH :	:Renovation of Permanent Exhibit Halls	:	4.00	100 :
:NMHA :	:Exhibit reinst.(\$100)/electrical (\$100)	:	0.00	200 :
:NMNH :	:American Indian Outreach Program	:	0.00	75 :
:NMHA :	:American Indian Outreach Prog.staff asst.:	:	1.00	24 :

		SUBTOTAL	6.00	434

* INCLUDES ANNUALIZATION FOR ALL POSITIONS PARTIALLY FUNDED IN FY 1988.

:BUREAU:	:	:	:	:
:NAME :	:ITEM OF INCREASE		:FTE	DOLLARS :

C. AREA OF EMPHASIS: COLLECTIONS MANAGEMENT

:WMNH :	:Collections Management Support	:	6.00	430 :	
:WMAH :	:Collections Information System	:	3.00	215 :	
:MSC :	:Asbestos contamination evaluation	:	6.00	150 :	
:FGA :	:Collections Storage Equipment	:	0.00	300 :	
:AAA :	:Archival Registrar	:	1.00	39 :	
:NMFAF :	:Asst. Objects Conservator	:	1.00	44 :	
:NMAAF :	:Objects Conservator	:	1.00	70 :	
:WMAH :	:Conservator for general backlog	:	1.00	60 :	
:C-H :	:Collect. Mgt.-- Data Entry	:	0.00	30 :	
:NASM :	:Collections management projects	:	2.00	125 :	
:NPG :	:Comp. Sys. Mgr.& Storage	:	1.00	65 :	
:AM :	:Registrar and Library Technician	:	2.00	70 :	
				SUBTOTAL	
				24.00	1,598

D. AREA OF EMPHASIS: ADMINISTRATION

:DEM&S :	:Less one-time cost: storage system	:	0.00	(39):	
:OEM&S :	:Less one-time cost: automation	:	0.00	(31):	
:ODC :	:Less one-time cost: automation	:	0.00	(75):	
:OFMP :	:Base Deficiency-Deputy Director	:	1.00	100 :	
:OPersA:	:Staffing Requirements	:	4.00	126 :	
:OAFS :	:Accounts Payable	:	2.00	35 :	
:OEM&S :	:Environmental and safety programs	:	6.00	400 :	
:OPlant:	:Maintenance/Staffing GPO Building	:	2.00	60 :	
:OAFS :	:Data Entry	:	1.00	19 :	
:OPS :	:Staffing Requirements - GPO	:	12.00	282 :	
:OAFS :	:Account reconciliations	:	1.00	20 :	
:OPPM :	:Staffing	:	2.00	126 :	
:OAFS :	:Accounting Procedures and review	:	1.00	20 :	
:OPlant:	:Staffing Requirements - General	:	11.00	390 :	
:OIRM :	:Personnel Payroll System (Phase IV)	:	0.00	100 :	
:OPS :	:Staffing Requirements - Quad	:	10.00	221 :	
:OFMP :	:Financial Systems	:	0.00	400 :	
:OFS :	:Staffing Requirement	:	1.00	66 :	
:Audits:	:Automation	:	0.00	30 :	
:Archit:	:Staffing Requirements	:	1.00	29 :	
:OIRM :	:Staffing Requirements	:	2.00	68 :	
:OPS :	:Base deficiency	:	0.00	310 :	
:ODC :	:Staffing for expanded R&R program	:	13.00	691 :	
:OPPM :	:Staffing for expanded R&R program	:	8.00	425 :	
:OEM&S :	:Staffing for expanded R&R program	:	2.00	106 :	
:Audits:	:Staffing for expanded R&R program	:	1.00	46 :	
:OAFS :	:Staffing for expanded R&R program	:	1.00	20 :	
:OPersA:	:Staffing for expanded R&R program	:	1.00	42 :	
				SUBTOTAL	
				83.00	3,987

:BUREAU:	:	:	:
:NAME :	:ITEM OF INCREASE	:	FTE DOLLARS :

E. AREA OF EMPHASIS: INTERNATIONAL AND ASSOCIATED PROGRAMS

:DESE :	:Quincent: Wispan/bi-cult Curr Kits	:	0.00	38 :
:OPP :	:Quincent: Symposia programs	:	0.00	50 :
:NMNH :	:Quincentenary	:	0.00	50 :
:NASH :	:Quincentenary	:	0.00	11 :
:NMAH :	:Quincentenary	:	1.00	45 :
:NMAA :	:Quincentenary	:	0.00	25 :
:C-H :	:Quincentenary	:	0.00	24 :
:SITES :	:Quincentenary	:	0.00	30 :

SUBTOTAL	1.00	273
TOTAL, CHANGES	147.00	9,273

6. SALARIES AND EXPENSES	4,275.50	216,214
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7. CONSTRUCTION AND IMPROVEMENTS,

NATIONAL ZOOLOGICAL PARK

--Repair and Renovations, Rock Creek	:	0.00	1,555 :
--Repair and Renovations, Front Royal	:	0.00	550 :
--Amazonia Exhibit (Aquatic Habitats-Phase I)	:	0.00	3,200 :
		0.00	5,305

8. REPAIR AND RESTORATION OF BUILDINGS

--Repairs, Restoration and Code Compliance	:	0.00	17,135 :
--Major Capital Renewal	:	0.00	3,700 :
		0.00	20,835

9. CONSTRUCTION

--Whipple Base Camp	:	0.00	3,200 :
--STRI: BCI Lab and Research Facilities	:	0.00	2,750 :
--Construction Planning	:	0.00	1,000 :
--Minor Construction, Alterations and Modifications	:	0.00	3,200 :
		0.00	10,150

10. SMITHSONIAN INSTITUTION REQUEST TO CONGRESS	4,275.50	252,504
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Senator REID. We would appreciate it if you would summarize your statement, and we have some questions based on the statement that is part of the record, which we will proceed to ask as soon as you have summarized your statement.

Mr. ADAMS. Thank you, sir.

Mr. Chairman, you have copies of my longer statement, and I will only touch on a few highlights of it in order to permit maximum time for discussion.

What I do not want to paraphrase is my personal appreciation and that of my colleagues for the good will that the subcommittee has extended to the Institution across the years.

We are acutely aware, of course, of the limits on the Federal budget and the difficulty of the decisions that this committee faces. Your support for our efforts reflects, we believe, the importance of the mandate of the Institution, and I hope it expresses confidence in the way in which we are trying to carry out that mandate.

The Board of Regents and the staff are particularly grateful for the increased level of support that has been reflected in the current fiscal year that permits us to begin to deal comprehensively with a massive backlog of repairs and preservation of the Institution's physical facilities. These are as important to the fulfillment of our mandate as are collections and staff. Like those resources, they must be brought up to and maintained at a high standard.

I am pleased to report that as a result of concern as well as encouragement within and outside the Institution we are now fully engaged in wide-ranging actions to ensure that our programs are staffed and represent the cultural and ethnic diversity of our Nation.

Among these actions are a recently announced plan to simplify the hiring of minority professionals and the strengthening of our search process for our senior managers.

In addition, we are examining ways to increase advancement opportunities for current employees. Many of our museums and offices are now engaged in review of program involvement.

Over the coming year I am confident that we will see important changes in the Institution and in the way it is perceived and accepted by the full range of audiences it was established to serve.

As we look around the corner of the decade and toward the end of the century, we are mindful of the extraordinary opportunities that lie ahead for the Institution. We sense as well the problems, the outlines of which are not fully defined and the results for which we cannot even begin to suggest solutions.

MUSEUM OF THE AMERICAN INDIAN

We continue to believe that the collections of the Museum of the American Indian at the Heye Foundation in New York may yet provide a singular opportunity to establish a National Museum of the American Indian on the Mall here in Washington. As you know, we

discussed a proposal in that regard with the museum's board of trustees last June, but suspended negotiations in August, when it became clear that they would be fruitless until certain political and legal issues to which we are not a party were resolved in New York.

To the best of my knowledge, efforts to resolve those issues are continuing, and we hope that a conclusion is reached soon. Otherwise, I fear the collections may suffer the exigencies of time and environment and will eventually be lost to the public at large and the cultures from which they were derived.

NATIONAL AIR AND SPACE MUSEUM EXTENSION

Another opportunity, as well as the fulfillment of a critical need, is present in the prospective extension of our National Air and Space Museum. At their meeting on February 1, the Board of Regents agreed to proceed with a study of the requirements, the first step in the process of proceeding with the extension. I have appointed a small group of key Smithsonian staff to assist in that project which, among other things, will not only define the nature of the extension but also the nature of the activities housed in the museum on the Mall and the interrelationships of both.

Clearly, in terms of our own needs and those of visitors, it makes no sense to have one museum mirror the other. It is also clear that while an extension will give us a substantial increment of new space in which to illustrate more fully the principles of science and technology, the international aspects of the development of air and space flight, and the technological derivatives and applications of those activities to planet Earth, how and where these and other museums take place remains to be determined in the course of our planning.

SPACE REQUIREMENTS

These prospects as well as that represented in the planning funds we seek in the current request for the old General Post Office Building are forcing us to examine more thoughtfully than we have ever done before the interstices of needs such as those for additional collections storage, library, and archival facilities, which cut across a large number of Smithsonian bureaus and offices, with requests for specific projects that are rooted in individual bureaus or disciplines, such as air and space or art history.

The problems I alluded to earlier are in fact a series of questions of the decisions in which the needs of a single museum and the target of opportunity such as an available or prospective building must be considered within the universe of the Institution.

Requirements for similar kinds of space in other bureaus must be factored into such an equation, as must the knowledge that not all the bureaus can attract outside support or be located near vacant historic structures. The bureaus' needs for space must be addressed in the total Smithsonian context because they are not each a ship on its bottom, but rather institutional commitments to the increase and diffusion of knowledge.

The answers to such questions and the decisions they entail are central to the vigor with which the Smithsonian approaches the 21st century.

Mr. Chairman, I look forward to our discussions and to your questions and those of other members of your subcommittee.

TWO-PERCENT INCREASE

Senator REID. Thank you a lot.

For 1989 you are requesting increases totaling almost 10 percent. I am sure you are aware that OMB looked more favorably on your budget than any other major agency funded in the Interior bill.

Last year in the budget summit agreement, which was made part of the law of this country, was a provision generally for a 2-percent increase in 1989.

What would it look like if it contained only a 2-percent increase over last year? I am wondering at this point have you done that analysis?

Mr. ADAMS. We can certainly speak to that, Mr. Chairman. I might request at this point that some of my colleagues come to the table who are more familiar with the details.

Mr. Dean Anderson, the Undersecretary, and Ms. Suttenfield, Director of Planning and Budget.

We will be bringing some of the Assistant Secretaries to the table presently, but certainly for these initial questions on budget this is the essential crew.

Let me say with regard to the general question, first of all, that the Smithsonian is distinguished from many, probably most, other government operations, in that the level of our uncontrollables is quite different than that which is characteristic of the Government generally.

We must handle within our own budget funds for utilities, for example, which in other cases would be carried through to the GSA budget. That is a source of uncontrollable growth which I think we need to take into account.

We also are faced with the addition to the Institution's roster of a major new building complex that came online only at the beginning of last year, with requirements for staffing that are still not fully met. I think OMB was conscious of those.

With regard to the details of what would be involved if we were to cut back to a level commensurate with that of the average which the initiative set, let me ask Mr. Dean Anderson to speak to that.

Mr. ANDERSON. I think one of the first effects, simply arithmetically, Mr. Chairman, would be the zeroing out of all of the program increases that are in the budget before you. If I did the arithmetic in my head just now correctly, I think it would also mean some of the base that we have presently attributed to program activity would have to be redirected in order to meet the uncontrollable increases of the sort the Secretary was just mentioning.

We'd have to take some funding that is now in support of programs of our museums and research laboratories or public education activities and turn that over to helping to pay the light bill, for example.

Senator REID. What would be your single highest priority over last year's funding level? Is there one object or program?

Mr. ANDERSON. The budget before you was presented first to the Office of Management and Budget and then to the committees of Congress with definite priorities in mind. I think it is fair to say that a continuation of priorities from the previous year is that of improving and strengthening the infrastructure in support of research at the Smithsonian.

Senator REID. What we will do, rather than spend more time on that now, I think it would be appropriate that you provide a detailed list of increases at the 2-percent level for the record.

Could you do that?

Mr. ADAMS. Fine, Mr. Chairman.

[The information follows:]

FISCAL YEAR 1989 BUDGET REQUEST AT THE 2-PERCENT LEVEL

No programmatic increases could be supported at a 2-percent increase level. The Smithsonian Institution's fiscal year 1988 appropriation for the "Salaries and expenses" account was \$201,432,000. A 2-percent increase over this level would allow an additional \$4,029,000. The Institution's uncontrollable increases required for fiscal year 1989, including annualization of new positions contained in the fiscal year 1988 appropriation, legislated pay increases for onboard staff, workers' compensation, utilities and rent are estimated at \$5,509,000. Therefore, a budget limited to a 2-percent increase over the fiscal year 1988 appropriation level would not be sufficient to cover even these uncontrollable costs.

TUPPER LAB AND CONFERENCE CENTER CONSTRUCTION

Senator REID. During last year's hearing, we discussed the construction of the Tupper Laboratory and Conference Center at the Smithsonian Tropical Research Institute in Panama. At that time it was anticipated that construction would be completed by June of this year.

Is the construction still on schedule?

Mr. ADAMS. I will ask Mr. Robert Hoffmann to come to the table with us. He is the Assistant Secretary for Research, and he will speak to that in more detail.

Let me say that in general we still are on schedule. There are problems, as I understand, with concrete deliveries. There is a shortage of fuel. But perhaps Mr. Hoffmann can address that.

Mr. HOFFMANN. Yes.

As you know, the situation in Panama has resulted in our having to take certain steps to make sure that our operation has remained essentially unaffected. We have been successfully doing that, with the major exception that the construction which depends upon transportation of materials, the flow of this material has been interrupted.

We are probably on the order of 1 month behind schedule. This is a delay which we could reasonably expect to catch up on through accelerating the work schedule once conditions return to normal, assuming that that happens soon. If it does not happen soon, then we will be faced with some additional delays, but this is obviously something that is very difficult to predict.

SENATOR REID. Your 1988 budget also included funds for staffing and furnishings at the center.

Will they still be needed this year?

MR. HOFFMANN. If the situation in Panama resolves itself soon, as I indicated, we can probably get the project essentially back on schedule. If that is the case, then, yes, we would continue to need that funding for operations.

At the present time, though, since we cannot say when the situation will be resolved, it becomes really impossible to make a prediction. I think we will simply have to wait.

But I think what we would like to do is to prepare a more detailed answer to that for the record and hope that within the next few days we can work with you and see what is going to happen on that.

ESCALATION COSTS

SENATOR REID. Your 1989 budget includes \$2,750,000 for construction of a laboratory and growing facility at STRI and an additional \$415,000 for minor construction items. Included in the request is \$350,000 for anticipated escalation in project costs.

Why this?

MR. HOFFMANN. I think I would like to call on Allen Smith.

Is Allen here?

He has the details. Allen is the Acting Deputy Director at STRI and has the details of this project.

MR. SMITH. Mr. Chairman, I think we would want to come back to you with a more detailed discussion of those costs.

SENATOR REID. Keeping in mind that our experience with OMB always has been that they have the escalation built in their figures, so it would be surprising to me that you would have to include this separately.

So if you could address yourself to that, either now or at some subsequent time. You have indicated that you don't have the information now?

MR. SMITH. Yes; we will come back with that information.

[The information follows:]

BARRO COLORADO ISLAND LABORATORY AND GROWING FACILITY

The \$350,000 escalation represents approximately 15 percent escalation for the 5-year period fiscal year 1989 (date of master plan estimate) through fiscal year 1990 (assumed mid-point of construction).

CONSTRUCTION COSTS

SENATOR REID. You have already indicated that with the current Panamanian situation it may not be possible to accurately estimate construction costs a year from now.

Is that a fair statement?

MR. HOFFMANN. I think that is a fair statement.

GENERAL REPAIRS

Senator REID. Your budget, on pages 273 through 276, displays a listing of projects you propose to fund with the \$20.8 million requested for repair and restoration of buildings. The list includes six items, totaling \$230,000, identified as general repairs.

Mr. Adams, can you or a member of your staff address the nature of these general repairs?

Mr. ADAMS. I would like Mr. Richard Siegle to do that, if he could come forward.

Mr. SIEGLE. Mr. Chairman, the item under general repairs includes those items that are not specifically contained under the other categories. There is a category for facades, there is a category for fire protection, safety and security et cetera. But there are items under general repair that don't fit neatly into the other categories. So this is a general category.

Senator REID. But they are identifiable?

Mr. SIEGLE. Yes, sir.

Senator REID. All the \$230,000 is identified by a specific item of construction and/or repair?

Mr. SIEGLE. Right, and we have—in our budget submittal, by building and by category, all of the projects that are in there. But if there is any more finite breakdown or description of any specific project, we can provide that, also.

Senator REID. Why wouldn't you make this request under the Office of Plant Services?

Mr. SIEGLE. Most of this is work that is done by contract, not in-house performance. We figure projects that have some skills that maybe we don't have in-house. In general, the work under the R&R program is performed by contract.

EMERGENCY REPAIRS

Senator REID. Under miscellaneous locations, the budget requests \$200,000 for emergency repairs throughout SI.

Isn't it possible to reprogram funds from other projects if emergencies arise?

Mr. SIEGLE. We try to project a couple of years in advance what equipment needs to be replaced and when, but we have a backlog of that sort of thing. So each year there are pieces of equipment that fail unexpectedly. Sometimes they are quite large, compressors or pumps or transformers or something of this nature, and we need to immediately enter into an emergency contract to have them replaced. We may not have any surpluses from other jobs, particularly if it is the beginning of the year before the other work is accomplished.

Senator REID. What level of emergencies have you experienced over the last 3 years?

Mr. SIEGLE. I don't have those figures in my head, but we base that request on the norm that we have been experiencing over the past years. As our level of maintenance improves over the years, the amount

of unexpected failures will go down and the amount of need for emergency repairs will go down.

CHILD CARE CENTER

Senator REID. On page 276, there is a request for \$300,000 for a child care center.

Is this for the employees' children?

Mr. SIEGLE. Yes, it is. All the costs for operating the child care center would be borne by the people whose children are there, the cost of the staff and things of that nature.

Senator REID. Then the \$300,000 is for the physical facilities?

Mr. SIEGLE. To provide space.

Senator REID. I have cosponsored a couple of bills in the Senate relating to child care and the private sector, and I think that the examples of how we are reacting on the Federal level will certainly help. It is a tremendous problem.

Mr. SIEGLE. We feel the same way. It is very difficult for our employees to find adequate places for keeping their children.

Senator REID. I don't want to dwell on this, but all the statistics and everything indicate that you will have much better employees if they know that their children are taken care of.

Mr. SIEGLE. That is our feeling, precisely.

EXPANSION OF THE AIR AND SPACE MUSEUM

Senator REID. I think I can't stress too much the tremendous problem that we have been having with children. I am glad to see that, and I would like to visit it someday.

I understand you have a study underway of the possible expansion of the Air and Space Museum.

What is the purpose of the study?

Mr. ADAMS. Well, there has been tremendous interest, indeed, from a number of directions. If I might point out, first of all, there are many major artifacts in our collection, aircraft, and spacecraft, which cannot find a place in the present Air and Space Museum. They are parked on the tarmac out at Dulles or in our repair facility at Silver Hill, and I think it would be a tragic loss to the Nation if, having made such a comprehensive collection that in fact summarizes this Nation's contribution to the leap into the air and into space, its leadership in that over the course of the century, we were to terminate arbitrarily because we have no more space in which to exhibit these space and air vehicles.

It seems to me that is a distinctive achievement of the United States which ought to be a part of sort of the permanent record for visitors to see here in Washington. So there is a sense in which we feel we must go ahead with an additional facility in order to make possible the presentation of that collection.

If we do so, however, we cannot simply make it an overflow facility or a museum on the Mall. It is important to have it adjacent to the airport because many of the kinds of craft that ought to be exhibited are

not the kinds that you can bring down Constitution Avenue and put into a museum. They need to be exhibited where they can be landed and brought in. That dictates the location near an airport.

Once you then say that you are going to have a new facility there, you have got to reconfigure both the existing museum and the one that might come into existence there in such a way as to give them some integrity as to program.

The study that we are now carrying on is at a conceptual level. It is designed to give us a framework of thought.

Senator REID. Who is doing the study?

Mr. ADAMS. This is being carried on internally. This is a study that will lead to a report on what the nature of the two structures might be and what their programs might be rather than the design of a facility.

Senator REID. You don't at this stage know if this study is going to relate to an expansion of the Air and Space Museum?

Mr. ADAMS. Of the existing Air and Space Museum? I don't believe we have any plan whatever to expand the existing Air and Space Museum. I think that would run into serious problems with the National Capital Planning Commission.

MUSEUM OF THE AMERICAN INDIAN FEASIBILITY STUDY

Senator REID. They were before us a few weeks ago.

What is the status of the feasibility study on the Museum of the American Indian?

Mr. ADAMS. That feasibility study is about to go to the stage of formally making public a request for proposal. We have been in communication with the Museum of the American Indian staff on this, and I think we are essentially in a final agreement as to what the precise specifications of the RFP ought to be.

Senator REID. Does today's budget include any funding related to the Museum of the American Indian?

Mr. ANDERSON. I don't believe it does, Mr. Chairman.

Senator REID. What we would like you to do is prepare a status report of all the efforts relating to this museum.

Mr. ADAMS. You understand, Mr. Chairman, that at this point our activities are essentially on hold.

Senator REID. That is the New York problem?

Mr. ADAMS. That is really a New York problem until the problem has been worked out there.

POLYCHLORINATED BIPHENYLS TRANSFORMERS

Senator REID. Last year you indicated that it would be 1989 before all PCB-contaminated electrical transformers could be replaced or retrofitted.

How are you doing in that regard?

Mr. ADAMS. I think we are doing very well, but Mr. John Jameson, the Assistant Secretary for Administration, will be able to speak to that.

Mr. JAMESON. Mr. Chairman, we will complete that project in the spring of 1989. A contract has been awarded for all the work.

Senator REID. What has been the cost to eliminate these?

Mr. JAMESON. It will be approximately \$4 million. We have on the order of 60 such transformers. Most of them have to be taken out of existing buildings. In many cases the concrete on which the transformers were rested will have to be taken up, so that if there is any contamination from minor spills or leakages that problem can be corrected.

WATER AND SEWAGE PAYMENTS TO THE DISTRICT OF COLUMBIA

Senator REID. Last year OMB issued a bulletin which mandated that Federal agencies receiving District of Columbia water and sewage services should make payment directly to the District government. Your additional costs, for which no funding was budgeted, would have totaled some \$3.5 million in 1988. There does not appear to be any provision covering these costs in this year's budget; that is, the 1989 budget.

What is the status of this OMB proposal?

Ms. SUTTENFIELD. We were not told by OMB that they would be submitting the 1989 budget with funding for payments for water and sewer appropriated to the user agencies in the District, and we learned within the last couple of weeks that this an oversight on OMB's part.

We are now projecting that we will have an unfunded requirement in 1989 of approximately \$3.2 million for water and sewer payments.

POLAR BEARS

Senator REID. You are going to convert the existing polar bear exhibit at the National Zoo.

What is going to happen to the polar bears?

Mr. ADAMS. The polar bears are no longer part of the Smithsonian establishment, but I think Mike Robinson, the Director of the zoo, had better speak to that issue.

Mr. ROBINSON. Yes, sir; this was one of those unfortunate errors of architecture that aren't obvious until the thing is finally done, and the polar bears were in an exhibit facing south. As a consequence, in the Washington summer when the trees were removed, the water was reaching temperatures of over 100 °F and their exhibit was reaching that temperature. It was a mistake in the original design, I can happily say before my time. [Laughter.]

AMAZONIA EXHIBIT

We are capitalizing on the fact that it faces south to create the appropriate exhibit. That is where we are building the Amazonia exhibit where facing south it will be inundated with sunshine. That is a great advantage, and we will save more than \$1.5 million by utilizing the concrete.

Senator REID. The bears are going to Detroit?

Mr. ROBINSON. The bears left 2 years ago on animal welfare grounds. One of them is in Detroit and two are in Chicago at the Brookfield Zoo, where we hope they are going to be breeding and eventually will have control of the cubs to bring them back. One of these two bears was on loan to us from the Brookfield Zoo.

Senator REID. I hadn't been to the zoo for a while. That is the only reason I used to go, is to see the polar bears. [Laughter.]

Mr. ROBINSON. I would like to offer you a chance to come to the zoo and see some of our more magnificent exhibits. We have two baby spectacled bears this year, which are a remarkable achievement. They are an endangered species, the only bear that occurs in South America. The mother is currently denning up with two babies. This is the second year in succession we have bred this endangered species.

Polar bears, as you may know, are no longer considered endangered in certain areas. They are proving a nuisance in Alaska and elsewhere. They are a good exhibit, but we have got some finer ones. We can offer you sea lions. [Laughter.]

RUSSIAN ART EXHIBIT

Senator REID. During last year's hearing, we discussed the Hirshhorn Museum's travel budget. We mentioned that the Director would be traveling to the Soviet Union. He was going to pursue the opportunity to exhibit some early 20th century Russian art here in the United States.

Did anything ever come of this trip?

Mr. ADAMS. Yes; we are delighted to report that that exhibit is currently scheduled. I believe it will open in July or August.

Senator REID. And those moneys for that are already in the budget?

Mr. ADAMS. Yes.

SOLE SOURCE CONTRACTS

Senator REID. Your budget on page 13 stated that you have reduced the number of sole source contracts as part of your compliance with the Competition in Contracting Act.

Describe for the subcommittee the progress you have made in this area.

Mr. JAMESON. Mr. Chairman, we have very few sole source contracts. The only example of sole source contracts that I am currently aware of is for purchases for the collections of a specific object or specimen that by its nature would dictate that it is sole source. But I would say 90 percent or better of our contracts are competitive of one sort or another.

FUNDING FOR GUARD POSITIONS

Senator REID. You are requesting on page 254 an increase of some \$310,000 to provide funding for 13 guard positions previously authorized by Congress and the purchase of essential equipment, supplies, and services needed to support these positions. Each year since 1986 funding for these positions has been requested.

Are these positions that were previously funded in your budget?

Mr. ADAMS. Mr. Jameson.

Senator REID. I think maybe you are going to have to take a seat up here. [Laughter.]

Mr. JAMESON. Mr. Chairman, we had both the authorized positions and the funding for them in about 1984 or 1985, if my memory serves me correctly. Then there was an across-the-board percentage reduction which all the Institution's activities took in 1985 and 1986, and we have continued since then not to have the money to be able to fund those 13 positions.

Senator REID. So these funds, were they reprogrammed then?

Mr. JAMESON. They were available when appropriated by the Congress in about 1984-85. They were in the base of the Office of Protection Services and were lost as a result of the across-the-board reduction throughout the Institution.

Senator REID. To whom was the request made to refund these positions?

Mr. JAMESON. The principal one that I recall, Mr. Chairman, was in the 1988 budget to Congress, where we asked if we could reprogram money from summer hours. That was probably a tactical error in the way we made our request, but that was the same \$310,000 that showed up in the 1988 budget to Congress. I think, very wisely, the Congress said to continue the late summer hours. That is why we have renewed this request for fiscal year 1989.

Senator REID. Your justification this year talks of the need to close exhibition galleries and other spaces as a result of understaffing.

How specifically have your hours of operation been affected by not having these 13 guard positions?

Mr. JAMESON. We have made no adjustments to the hours of operation. We still have a primary 10 o'clock in the morning to 5:30 in our buildings and open after that in the evenings in summer.

What we have had to do, Mr. Chairman, on a spot basis, when there were inadequate guards in any given building, is to close areas within a building to the public.

We can provide quite a list of areas we have had to close.

Senator REID. Would you do that?

Mr. JAMESON. Yes, sir.

[The information follows:]

CLOSURE OF GALLERIES DUE TO LACK OF GUARDS

The major museums where galleries have had to be closed due to the shortage of guards have been the Museum of American History and the Hirshhorn Museum and Sculpture Garden. In these museums, a system of rotating the closure of galleries for 2 hour intervals has made it possible for visitors to return to a closed area later in the day. We have been able to limit the times this has happened to about 20 in both museums, because of a decision made early this year to reduce coverage in other areas. The south door of the Freer Gallery of Art was closed to the public permanently, and entrance doors of other museums have had to be closed intermittently, so that the guards normally posted there could be reassigned to patrol exhibit galleries. Nighttime coverage has also been reduced to the barest minimum in order to have guards avail-

able to cover the exhibit areas during the day so that they may remain open to the public. During some periods of acute shortages—due to illness, et cetera—extensive overtime has been required to keep galleries open, which has cost approximately \$60,000 so far in fiscal year 1988. The additional cost, however, has reduced the funding available to replace worn out security devices in Smithsonian museums, which is a vital component of an effective security program. The actions taken have increased the risk to the collections and we would not want this situation to continue.

GUARD STUDY

Senator REID. Last year we were told that a study was underway to determine if your guards could be hired at the GS-3 level rather than at the current 4 or 5 level.

What has happened there?

Mr. JAMESON. Mr. Chairman, we hire both at the 3 and the 4 level, depending on who we can find and the kind of qualifications and experience we find in the recruitment process. Part of the problem is that neither grade 3 nor grade 4 pay is very good. Sometimes veterans' preference gets in the way. If it gets badly in the way, then the OPM allows us to take any qualified employee.

Senator REID. Was there an actual study done?

Mr. SIEGLE. Not a formal written study, no, sir. We were having trouble at that time getting qualified people at the 4 level. So then we started recruiting at the 3, with no experience, but the 4 level requires at least 1 year experience as a guard.

MAINTENANCE AND REPAIR BACKLOGS

Senator REID. Last year, in response to subcommittee questions for the record, you indicated that if the restoration and renovation budget were increased to \$30 million in 1989 and to \$45 million in subsequent years and if the major capital renewal program were increased to \$10 million in 1989 and \$15 million in subsequent years, the major portion of your maintenance and repair backlog would be eliminated by 1993.

Your 1989 budget request totals \$20.8 million for both of these programs rather than \$40 million you had hoped for.

If the level of funding in the budget request were continued in subsequent years, in what fiscal year would you expect to eliminate the major portion of the backlog, if you ever could?

Mr. SIEGLE. The backlog we submitted to OMB had \$35 million in there for repair and restoration type projects.

Senator REID. How much?

Mr. SIEGLE. \$35 million. Then that was cut back to \$20 million by OMB.

If we were allowed to go in at the rate of \$35 to \$40 million per year, based on the currently identified backlog, then it would be 10 years worth of work.

The thing is, though, that other projects will come up. You know, like 5 or 6 years from now other pieces of equipment will become eligible for replacement at that time. But as far as the elimination of the backlog, we are sitting right now at \$196 million in the backlog down

from last year as the result of 1988 funding and in-house work by our plant services people.

So we are looking at about 10 years worth of funding at that level, at that higher level, and we propose to come in with a budget for 1990 at \$35 million in repair and restoration aimed at the backlog elimination and bringing our buildings up to code compliance.

Senator REID. Mr. Adams, thank you very much for your testimony and that of your colleagues.

ADDITIONAL COMMITTEE QUESTIONS

The subcommittee as well as individual Senators will have additional questions which can be answered for the record.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Smithsonian Tropical Research Institute - Panama

Question: During last year's Hearing, we discussed the construction of the Tupper Laboratory and Conference Center at the Smithsonian Tropical Research Institute (STRI) in Panama. At that time, it was anticipated that construction would be completed by June of this year. Your 1988 Budget also included funds for staffing and furnishings at the Center. Will they still be needed in 1988?

Answer: Budgeting for the furnishing and equipping of the new Tupper Center was planned over a two-year period with \$460,000 in FY 1988 and \$276,000 in FY 1989. For many of the items required to complete the building, we need to order at least 4 to 6 months ahead of time to be confident that they will be available when the building is completed. With that kind of lead time, purchase orders must be issued well before the close of FY 1988. Our spending plan calls for the purchase of those high priority items during the current fiscal year and purchase of the less critical and short lead-time items early in FY 1989.

The Tupper Center will create a new and more sophisticated physical plant and associated responsibilities. As a result, we need to hire and train all the new staff well before the building is available. STRI is initiating a comprehensive study of staffing needs with existing and new facilities. For the resultant program to be most effective and if we are to train current and new staff to provide service and maintenance in our new facilities, it is important that our staffing plans be kept on track.

Question: Your FY 1989 budget includes \$2,750,000 for construction of a laboratory and growing facility at STRI and an additional \$415,000 for minor construction items at STRI. Included in the request is \$350,000 for "anticipated escalation in project costs." Don't your construction estimates reflect 1989 costs? For the record, please explain how inflation is included in your construction estimates.

Answer: Cost estimates normally have an escalation factor which represents estimated cost increases from the time the estimate was made to the projected mid-point of construction. The base cost estimate for the STRI Barro Colorado Island Laboratory/Vivarium/Insectary/Growing House was prepared in FY '86 in conjunction with the STRI Facilities Master Plan. The \$350,000 escalation amount represents approximately 15 percent escalation from FY 1986 (date of Master Plan estimate) through FY 1990 (projected mid-point of construction). Therefore, the escalated cost estimate reflects 1990 costs while the base estimate represents 1986 costs. The usual source of the annual projected escalation factors is the U. S. Army Controller General. These annual escalation percentages are compounded to calculate multi-year estimates of escalation.

Repair and Restoration of Buildings

Question: Under "miscellaneous locations" the budget requests \$200,000 for emergency repairs throughout SI. Isn't it possible to reprogram funds from other projects if emergencies arise? What level

of emergencies have you experienced over the last three years? How have you handled them?

Answer: The Emergency Repairs line item is intended for unanticipated repairs that require immediate attention within a fiscal year. To use reprogrammed funds from regularly scheduled projects could delay or deny full implementation of those projects, and more importantly the time necessary for processing a reprogramming is not always available when faced with implementing an emergency solution.

The kinds of emergencies over the past three years have been wide ranging. We have experienced extensive leakage and flooding after severe storms at the Freer and American Art & Portrait Gallery Building. This condition compromised the integrity of the building envelopes and endangered Smithsonian properties. Emergency Repairs funding was used to recaulk areas of failed caulking that had caused the flooding. Emergency Repair funds have been used to repair unanticipated roof leaks at the Tropical Research Institute where both research and research equipment have been endangered. Other uses have been repair of bridge and road at the Astrophysical Observatory after river flooding and guard rail repair at the same location, after a trucking accident. It has been used for repair and replacement at American History and the Cooper-Hewitt when mechanical equipment has unexpectedly failed.

Levels of expenditures from the emergency repairs account over the last three years have been \$165,000 in FY 1985 (\$100,000 appropriated); \$102,244 in FY 1986 (\$100,000 appropriated); \$49,785 in FY 1987 (\$50,000 appropriated); and \$42,303 so far in FY 1988 (\$100,000 appropriated).

Child Care Center

Question: Your budget, on page 276, requests \$300,000 for the Child Care Center. Is this Center for your employees' children? For visitor's children? What will be done with the \$300,000 requested?

Answer: The child care center is intended for employees' children. The sum of \$300,000 is the estimated cost for design and construction of physical modifications for a child care center within the Arts and Industries Building.

Air and Space Museum Study

Question: I understand that you have a study underway on the possible expansion of the Air and Space Museum. What is the purpose of the study? Are any funds being spent to design a specific facility at a specific location?

Answer: This study effort will provide information on program requirements, special needs and relationships, site selection factors, preliminary construction costs estimates, projected operating budgets and an analysis of alternative sources of funds for construction and operations. No funds are being spent for a specific facility or location.

Question: Will authorization be required if construction is planned at a later date?

Answer: The Smithsonian is proceeding with a review for the development of program requirements to report to the Board of Regents in the fall. If Federal funds will be a requirement for constructing an extension of the Air and Space Museum, authorization will be required.

Question: Does this budget include any funding related to the expansion of the Air and Space Museum?

Answer: It is our expectation that a portion of the \$1 million requested for Construction Planning in FY 1989 might be used for this purpose, as well as for further planning for a number of other projects which are high Institutional priorities (such as the General Post Office Building and collections storage requirements) so that more informed decisions can be made prior to proceeding with the projects. It has not yet been determined how much of the Construction Planning funds might be used for the NASM Extension project. A study of programmatic goals and requirements of the Air and Space Museum will shortly be initiated. Once this study has been completed, and intentions and parameters discussed and agreed upon internally, the potential cost and timing of future planning efforts can be identified.

Museum of the American Indian

Question: For the record, please provide a status report on New York efforts to retain the Museum. Will construction, if contemplated, require authorization?

Answer: As the Smithsonian has not been party to New York efforts to retain the Museum of the American Indian, it does not have direct or complete information in that regard. It is clear, however, that if the Museum is to become a part of the Institution, construction of appropriate facilities will be required and authorization for that construction will be sought.

Water and Sewer Payments to the District of Columbia

Question: Last year OMB issued Bulletin 87-9, which mandated that Federal Agencies receiving District of Columbia Water and Sewer Services should make payments directly to the District Government beginning in FY 1988. Your additional costs for which no funding was budgeted, would have totalled \$3,500,000 in FY 1988. There does not appear to be any provision to cover these cost in your FY 1989 budget. What is the status of this OMB proposal?

Answer: After the submission of our FY 1989 budget to Congress, we learned that OMB had proposed that appropriations for water and sewer payments be made directly to various user agencies in the District, rather than to the District of Columbia on behalf of all such users. We contacted OMB to confirm the proposed change; our OMB examiner confirmed the change and informed us that the impact on the Smithsonian had not been taken into consideration because of an oversight on OMB's part. We estimate that the unfunded cost to the Smithsonian for FY 1989 will be approximately \$3.3 million.

National Zoo Construction - Amazonia Exhibit

Question: You are requesting \$3.2 million (p. 261) for the first phase of a project to convert the existing polar bear exhibit to an Amazonia exhibit at the National Zoo. Apparently there will be other phases of this project. What will be the total cost and when do you anticipate that you will request the additional funding?

Answer: The total estimated cost for the Amazonia Exhibit is \$12,200,000. Additional funding for this project will be requested in FY 1990.

Charles Mathias Laboratory - Edgewater, Maryland

Question: In your letter to the Subcommittee, dated December 2, 1987, you indicated that the construction of the Charles Mathias Laboratory at the Smithsonian Environmental Research Center in Edgewater, Maryland would be accomplished within the approved funding of \$960,000. You further indicated that construction of the greenhouse and some other critical elements of the facility would be deferred, and funding sought later through either a reprogramming or a separate budget request. What is the current status of construction of the facility?

Answer: The construction of the Lab is currently 30 percent complete, and on schedule for completion in September 1988.

Question: Does your 1989 budget include funding for the deferred items? When do you expect to submit a budget request or reprogramming proposal for these items?

Answer: The FY 1989 budget does not include funding for the items deferred from the original scope of work. It is anticipated that two items that were deferred will be included in the FY 1990 budget request: the greenhouse (at an estimated cost of \$90,000), and the roadway paving (at an estimated cost of \$40,000). The remaining items deleted from the original scope of work, such as painting and other interior finishes, will be done with in-house staff and will therefore not require additional resources.

Sole Source Contracts

Question: Your budget on page 13 states that you have reduced the number of Sole Source Contracts as part of your compliance with the Competition in Contracting Act. Do you have any statistics that would indicate that compliance with the Act has generated savings for the Institution?

Answer: No. Given the diverse and often one-time purchases of the Smithsonian it would be difficult, if not impossible, to make such a comparison and thus maintain meaningful statistics concerning savings. The only valid way to produce such statistics would be to compare similar or repetitive procurements which are routinely competed.

Question: Can you compare the number of sole source contracts you awarded in FY 1984 with the number in FY 1987; both in terms of numbers of contracts and dollar amount?

Answer: Reliable information on the Institution's true sole source contracts in FY 1984 is not available because of the coding structure for contracts used by the Federal Procurement Data Center. For FY 1987, however, a manual review of our record shows only 21 such contracts at a total dollar amount of \$1.3 million. Of this amount, one contract of the 21 was for the purchase of a work of art for \$1 million. The balance of the \$1.3 million was primarily for exhibition related expenses. The 21 contracts represented about 5 percent of the total number of contracts (392) and about 4 percent of the total cost of contracts (\$35 million).

National Zoo Construction

Question: You are requesting a total of \$2,105,000 for repairs and improvements at National Zoo facilities. \$1,555,000 is requested for Rock Creek and \$550,000 for the Front Royal facility. Please provide for the record a list of the projects, including dollar amount and description, that would be funded under this request.

Answer: Improvement Projects - Rock Creek (\$1,550,000)

<u>Amount</u>	<u>Description</u>
\$ 350,000	HVAC Program
75,000	Complete Asbestos Removal
200,000	Repair Curbs & Roadways
200,000	Renovate Bald Eagle/Crane Yards
250,000	Renovate Delicate Hoof Facility
70,000	Renovate Upper Bear Line
50,000	Pool Repairs - Beaver Valley
50,000	Repair Skylights (Various Locations)
200,000	Paint Railings (Zoo wide)
50,000	Repair Perimeter Fencing
<u>55,000</u>	Storm Sewer Repairs
<u>\$1,550,000</u>	Total Rock Creek

Improvement Projects - Front Royal (\$550,000)

<u>Amount</u>	<u>Description</u>
\$ 190,000	Renovate Building #7
75,000	Renovate Building #16
40,000	Convert Building #28 into a Research Facility
50,000	Renovate Residences (Porches, Siding, & Trim/etc.)
75,000	Repair Roofs, Flooring, & HVAC in Various Barns
25,000	Repair Roads
30,000	Construct Deer Stable at Long Field
<u>65,000</u>	Renovate Building #4
<u>\$ 550,000</u>	Total Front Royal

Restoration of Guard Positions

Question: You are requesting (P. 254) an increase of \$310,000 "to provide funding for 13 guard positions previously authorized by

Congress and the purchase of essential equipment, supplies, and services needed to support these positions. Each year since FY 1986, funding for these positions has been requested.

Were these positions previously funded in your budget? In what year where they funded and when did you find it necessary to remove the funding?

What did the Institution do with the money that Congress previously made available for these positions?

Answer: The Institution did not redirect these funds to other uses; rather the funding was eliminated from the base as a result of the budget reductions. In FY 1986, resources were requested to remedy the long-term problem of insufficient funding, caused by various budget reductions dating as far back as FY 1979. The request was reduced by \$250,000. Adding to this problem were across-the-board reductions in FY 1985 and FY 1986. The total of insufficient funding reached \$666,000 in FY 1986 and FY 1987. This was partially resolved in FY 1988 with the redirection of \$356,000 associated with the completion of the Smithsonian Institution Proprietary Security System.

Question: Your justification talks of the need to close exhibition galleries and other spaces as the result of understaffing. How, specifically, have your hours of operation been affected by not having these 13 guard positions?

Answer: The normal hours of operation for the Smithsonian Institution museums are from 10:00 a.m. to 5:30 p.m. During the summer months (Memorial Day to Labor Day) the hours of operation are normally 10:00 a.m. to 9:00 p.m. In order to keep all of the galleries open to the public in the last several years, we have had to cancel or reduce the summer hours to 10:00 a.m. to 7:30 p.m. in most of the museums. In addition, we have closed the south door of the Freer Gallery of Art to the public, and used a rotating system of closing galleries or floors in several buildings for two hour intervals (to enable the public to come back to a space that has been closed). Overtime has also been used to keep galleries open when there is an unanticipated additional shortage of guards on a particular day. Overtime costs so far in FY 1988 total about \$60,000, and this has reduced the funding available to replace worn out security devices in Smithsonian museums.

Question: Last year we were told that a study was underway to determine if your guards could be hired at the GS-3 level rather than at the current GS-4 or GS-5 level. Who was doing the study? Can you share with the Subcommittee the findings of the study? Does your FY 1989 budget reflect these findings?

Answer: The study was conducted by the SI Office of Personnel Administration, to determine whether we could hire people at the GS-3 level who did not have security experience or who were not Veteran Re-adjustment Act (VRA) eligible. We were particularly interested to find a way to hire these people either as guards or in some other classification which would allow us to convert them to guards once they had acquired appropriate experience. We encountered a problem in developing a position description that was an accurate indication of the work they were to perform and which provided enough security

related work to qualify them for a fully operative guard position after a year. It was determined that this would be difficult to do.

We do at the present time hire GS-3 guards, as advanced trainees, who qualify by the present OPM standards. We then promote them to GS-4 Gallery Guards as soon as they are eligible, a maximum of six months. The FY 1989 budget request reflects the anticipated advancement of guards hired at the GS-3 level to the full performance level at GS-4 for the positions for the Quadrangle building. The other positions contained in the request are for Museum Protection Officers, who operate at the GS-5 level, and we do not consider trainees appropriate for these positions.

Office of Design and Construction

Question: You have requested an additional \$691,000 and 13 positions in FY 1989 for the Office of Design and Construction (p. 248). This request would increase staffing of the Office from 35 to 48 FTE's. Does the budget reflect the full-year cost of these 13 positions?

Answer: The budget request of \$691,000 reflects the full cost of the 13 FTEs (\$462,000 for salaries & benefits, \$229,000 "other objects").

Question: Does this request represent the optimal size for the Office to support the programs of the Institution? If not, what increases or decreases would you anticipate in future years?

Answer: This request does not represent the optimal size for the Office to support the projected level of the Repair and Restoration of Buildings program, nor is the current staff adequate to deal with the current non-R & R programs of the Institution. The Institution requires a continuous annual funding level of \$35 million in the R & R account in order to eliminate the currently identified backlog of repair work in its facilities. The FY 1989 request for additional staff for the Office of Design and Construction is to support growth in that account to the \$20 million level. Approximately 8 additional FTEs will be required to execute the R & R program at the \$35 million level.

Design and Construction Management

Question: Each of the 2 major projects requested under your Construction appropriation includes a design and construction management component. For the Fred L. Whipple Observatory the amount is \$150,000 and for the Smithsonian Tropical Research Institute the amount is \$250,000. Since your budget, on page 247, indicates that the Office of Design and Construction, within the Salaries and Expenses appropriation, provides "design and engineering studies" design development, contract document preparation, project management, contract administration, and development of cost and budgetary estimates.", why shouldn't these costs be borne within the \$2.9 million and 48 FTE's requested for the Office, rather than in the Construction appropriation?

Answer: Base funding for the Office of Design and Construction is for the administration, planning and design (or supervision of

planning and design by contractors), and management of construction activities of the R & R program and similar services related to exhibit construction, minor maintenance projects performed by the Office of Plant Services, and minor trust funded construction projects. Staff resources are not available within the current ODC base to provide construction management or design of major projects, which can run into the millions of dollars per project. Although staff and financial resources might be sought for these major activities, it is considered more cost effective to include funding within the budgets of these major construction projects to meet the "peak" workloads involved, and to provide the specialized expertise not currently represented on the ODC staff, rather than to maintain a constant higher level of staff for design and management capability.

The budgets for previously funded major construction projects, such as the Museum Support Center, the Quadrangle and the Tupper Conference Center now under construction in Panama, have also included a "line item" for design and construction management. For the MSC and Quadrangle projects, funds in this category were transferred directly to the General Services Administration, which provided these services to the Institution. For future projects, including the two requested in the FY 1989 budget, the Smithsonian plans to contract directly with an architectural/engineering firm for project design, and will hire or contract directly for construction management expertise.

Federal Employees Retirement System (FERS) Costs

Question: In fiscal year 1988, your initial request for the Federal Employees Retirement System (FERS) was \$7,245,000. A subsequent budget amendment reduced the request to \$6,181,000, which was the amount appropriated by the Congress. Most agencies coming before the Subcommittee have indicated that their FY 1988 FERS costs have been much less than the amount appropriated in FY 1988, and have requested a decrease for FERS in FY 1989. How many employees were contemplated to be covered by FERS under your FY 1988 budget request of \$6,181,000?

Answer: When estimates were prepared to determine total FERS enrollment population, the Institution used assumptions and guidance provided by the Office of Management and Budget and determined that approximately 2,230 employees would be enrolled in the new retirement system.

Question: How many of your employees do you now expect will actually be covered by FERS in FY 1988? At what cost?

Answer: Based upon the most recent assumptions and guidance provided by the Office of Management and Budget and actual experience, it is anticipated that approximately 1,300 employees will be covered by FERS in FY 1988. The most current estimate of the Institution's projected increased cost for FY 1988 is \$3,117,000.

Question: How do you propose to use the excess FERS appropriation in FY 1988? Do you intend to submit a reprogramming for Subcommittee approval?

Answer: The Institution will seek permission to reprogram excess FERS funds to cover the unfunded FY 1988 coat of the January

1988 legislated pay raise, to defray the increased costs to the Institution of health benefits, and also to provide sufficient base funds for the Smithsonian Astrophysical Observatory's computer equipment.

Question: Your FY 1989 budget shows no change from the FY 1988 FERS appropriation--Is that correct? Will FY 1989 FERS costs total \$6,181,000?

Answer: The FY 1989 request for FERS is \$6,181,000. This amount is equal to the amount contained in the FY 1988 appropriation for FERS. Based upon the most recent assumptions and guidance provided by the Office of Management and Budget, the estimate for the increased cost associated with FERS is \$3,688,000.

January, 1988 Pay Raise

Question: What is your cost, in FY 1988, of the January, 1988 2% pay raise?

Answer: The Institution's FY 1988 cost of the January 1988 2% legislated pay raise is \$2,025,000.

Question: In the absence of any supplemental request, how do you propose to cover these costs in FY 1988?

Answer: As previously stated, it is anticipated the FY 1988 costs of the January 1988 legislated pay raise can be covered by the excess funds appropriated for FERS. A request for this reprogramming will be forwarded to the Congress shortly.

Within Grade Promotion Costs

Question: Your budget, on page 25, includes an increase of \$2,230,000 for within grade step increases. This represents an increase of \$522 for each of the 4,276 FTE's shown on page 23 of your budget. OMB Circular A-11 requires, on page 27 that: "estimates will provide increases to cover within grade salary advancements only on a basis consistent with recent experience. Only net within grade increases (i.e., increases remaining after turnover, downgrades, and other grade and step reducing events are taken into account) can be considered for funding. The cost of such advancements should be offset by savings due to greater productivity and efficiency." Would you describe for the Subcommittee how you computed the \$2,230,000 requested for within grades?

Answer: Within grade increases are calculated using the information contained in the automated personnel/payroll data base. The amount required to fund within grade increases is considered to be net of total personnel costs. Bureaus and offices are required to absorb other costs associated with staffing such as performance awards, uncontrollable costs such as overtime and are required to fully fund promotions from existing personnel resources.

Number of FTE's

Question: Your budget, on page 23, shows total FTE's of 4,276 in FY 1989 but indicates that the OMB FTE ceiling is 4,110. Why is

there a difference of 166 FTE's between OMB's numbers and your own?
What constitutes this difference?

Answer: The OMB workyear ceiling for FY 1989 is 4,110. Guidance from the Institution's OMB Examiner was that the Institution could pursue additional positions for FY 1989 if those positions could be accommodated within the approved workyear ceiling. The difference between the OMB ceiling and the FY 1989 request represents an over-allocation of workyears. Workyear usage is monitored throughout the fiscal year and this over-allocation among the Institution's various bureaus and offices assures effective use of allowed workyear resources.

Salaries and Expenses Increases

Question: Your request for the Salaries and Expenses Appropriation in FY 1989 totals \$216.2 million. This represents an increase of 14.4 percent over FY 1987 appropriations--a rather dramatic increase at a time when so many Federal government programs are being decreased. Please provide for the record a listing, in priority order, of all FY 1989 increases requested in the Salaries and Expenses appropriation.

Answer: The following lists the FY 1989 program increases in priority order requested in the Salaries and Expenses account.

FY 1989 BUDGET REQUEST Priority Listing of S & E Program Increases

ASSISTANT SECRETARY FOR RESEARCH

Priorit-Bureau:Area of		Item of Increase	INCREASES	
ity	Name	Emphasis	:FTE	\$(000s)
:	1 :STRI	:Research :Sci.en.equipment acquisition, replacmnt.	:	114 :
:	2 :NASM	:Research :Historical Research - Aeronautics	:	2 125 :
:	3 :NRP	:Research :Support of Existing Facilities	:	8 327 :
:	4 :MMNH	:Research :Biological Diversity	:	4 315 :
:	5 :MSI	:Research :Submillimeter Telescope Array (no-year)	:	611 :
:	6 :SAO	:Research :Submillimeter Telescope Array (staffing)	:	3 199 :
:	7 :MSI	:Research :HMT Conversion (no-year)	:	70 :
:	8 :SIL	:Research :Com. Doc. Del. /Loan Technician	:	1 69 :
:	9 :SIA	:Research :Space rental	:	51 :
:	10 :NMAA	:Research :Inventory of American Sculpture	:	53 :
:	11 :MMNH	:Research :Molecular Systematics Lab	:	5 650 :
:	12 :STRI	:Research :Molecular Systematics Studies	:	400 :
:	13 :NRP	:Research :Molecular Systematics and Evolution	:	2 196 :
:	14 :NHAF	:Research :Photographic Archives	:	1 40 :
:	15 :MMNH	:Research :Evolution of Terrestrial Ecosystems	:	2 100 :
:	16 :STRI	:Research :Staffing for administrative support	:	2 40 :
:	17 :SAO	:Research :Increased Rental Costs	:	120 :
:	18 :SIL	:Research :Serial Inflation	:	55 :
Subtotal.....			30	\$3,533

ASSISTANT SECRETARY FOR MUSEUMS

Prior-	Bureau:	Area of ity :Name :Emphasis :	Item of Increase	: INCREASES :
				:FTE \$(000s) :
:	1 :NHWH	:Coll.Mgmt.	:Collections Management Support	: 6 430 :
:	2 :NMAH	:Coll.Mgmt.	:Collections Information System	: 3 215 :
:	3 :MSC	:Coll.Mgmt.	:Asbestos contamination evaluation	: 6 150 :
:	4 :FGA	:Coll.Mgmt.	:Collections Storage Equipment	: 300 :
:	5 :AAA	:Coll.Mgmt.	:Archivist (Registration)	: 1 39 :
:	6 :NMHH	:Pub.Svc.	:Renovation of Permanent Exhibit Halls	: 4 100 :
:	7 :NMAH	:Pub.Svc.	:Exhibit reinst.(\$100)/electrical (\$100)	: 200 :
:	8 :NMHH	:Pub.Svc.	:American Indian Outreach Program	: 75 :
:	9 :NMHAFA	:Coll.Mgmt.	:Asst. Objects Conservator	: 1 44 :
:	10 :NMAA	:Coll.Mgmt.	:Objects Conservator	: 1 70 :
:	11 :NMAH	:Coll.Mgmt.	:Conservator for general backlog	: 1 60 :
:	12 :NMAH	:Pub.Svc.	:Staff Asst.for American Ind.Outreach Pgm	: 1 24 :
:	13 :C-H	:Research	:Asst Curator Drawings/Prints	: 1 35 :
:	14 :C-H	:Coll.Mgmt.	:Collect. Mgt.-- Data Entry	: 30 :
:	15 :NASM	:Coll.Mgmt.	:Collections management projects	: 2 125 :
:	16 :NPG	:Coll.Mgmt.	:Comp. Sys. Mgr.& Storage	: 1 65 :
:	17 :AM	:Coll.Mgmt.	:Registrar and Librarian	: 2 70 :
:	18 :NMHHH	:Internatl.	:Quincentenary	: 50 :
:	19 :NASM	:Internatl.	:Quincentenary	: 11 :
:	20 :NMAH	:Internatl.	:Quincentenary	: 1 45 :
:	21 :NMAA	:Internatl.	:Quincentenary	: 25 :
:	22 :C-H	:Internatl.	:Quincentenary	: 24 :
:	23 :SITES	:Internatl.	:Quincentenary	: 30 :
<hr/>				
Subtotal.....				31 \$2,217

ASSISTANT SECRETARY FOR PUBLIC SERVICE

Prior-	Bureau:	Area of ity :Name :Emphasis :	Item of Increase	: INCREASES :
				:FTE \$(000s) :
:	1 :HSRC	:Pub.Svc.	:Resource Ctr/Educa Lab Staff	: 1 35 :
:	2 :OPF	:Pub.Svc.	:Folklife Program Archives Staff	: 2 54 :
:	3 :OIS	:Pub.Svc.	:Expand Ongoing Seminar Series	: 15 :
:	4 :OESE	:Internatl.	:Quincent: Hispan/bi-cult Curr Kits	: 38 :
:	5 :OPF	:Internatl.	:Quincent: Symposia programs	: 50 :
<hr/>				
Subtotal.....				3 \$192

ASSISTANT SECRETARY FOR ADMINISTRATION

Prior-	Bureau:	Area of ity :Name :Emphasis :	Item of Increase	: INCREASES :
				:FTE \$(000s) :
:	1 :OPersA:Admin.		:Staffing Requirements	: 4 126 :
:	2 :OE&S :Admin.		:Environmental and safety programs	: 6 400 :
:	3 :OPPM :Admin.		:Staffing	: 2 126 :
:	4 :OPPlant:Admin.		:Staffing Requirements - General	: 11 390 :
:	5 :OPS :Admin.		:Staffing Requirements - Quad	: 10 221 :
:	6 :OFS :Admin.		:Staffing Requirement	: 1 66 :

ASSISTANT SECRETARY FOR ADMINISTRATION

: Prior-	:Bureau:Area of	:Item of Increase	: INCREASES :
: Ity	:Name	:Emphasis	:FTE \$ (000s) :
	7 :Audits:Admin.	:Base Shortage Correction/Staffing	: 30 :
	8 :Archit:Admin.	:Staffing Requirements	: 1 29 :
	9 :OIRH :Admin.	:Staffing Requirements	: 2 68 :
	10 :OPS :Admin.	:Base deficiency	: 310 :
	11 (*):OPlant:Admin.	:Maintenance/Staffing GPO Building	: 2 60 :
	12 (**):OPS :Admin.	:Staffing Requirements - GPO	: 12 282 :
	13(**):ODC :Admin.	:Staffing for expanded R&R program	: 13 691 :
	14(**):OPPM :Admin.	:Staffing for expanded R&R program	: 8 425 :
	15(**):OEM&S :Admin.	:Staffing for expanded R&R program	: 2 106 :
	16(**):Audits:Admin.	:Staffing for expanded R&R program	: 1 46 :
	17(**):OPersA:Admin.	:Staffing for expanded R&R program	: 1 42 :
Subtotal.....			76 \$3,418

TREASURER

: Prior-	:Bureau:Area of	:Item of Increase	: INCREASES :
: Ity	:Name	:Emphasis	:FTE \$ (000s) :
	1 :OFMP :Admin.	:Base Deficiency-Dep.Dir. OFM&P	: 1 100 :
	2 :OAFS :Admin.	:Staffing for existing workload	: 5 94 :
	3 :OAFS :Admin.	:Personnel Payroll System (Phase IV)	: 100
	4 :OFMP :Admin.	:Financial Systems	: 400
	5 (**):OAFS :Admin.	:Staffing for expanded R&R program	: 1 20 :
Subtotal.....			7 \$714
Less one-time costs.....			(801)
TOTAL 147			\$9,273

Notes:

(*) The relatively low placement of the request for caretaker staffing of the General Post Office (GPO) building reflects the possibility of continued GSA use and operations of that building.

(**) These items, while of high priority, are directly associated with the request for increased funding for the Repair and Restoration of Buildings.

Funding For New Positions

Question: Please provide a listing of all new positions, and the associated funding, requested in the FY 1989 budget. Indicate whether the funding requested covers the full-year cost of the position or only some portion of the year.

Answer: This information is provided in the following chart.

SMITHSONIAN INSTITUTION
 NEW POSITIONS REQUESTED IN THE FY 1989 BUDGET

BUREAU/ POSITION TITLE	# of FTE Pos.	FULL YEAR COST FTE \$ (000s)	HIRE DATE	FUNDING REQUESTED IN THE FY 1989 BUDGET				
				LAPSE RATE (1F appl.)	FTE \$ (000s)			
ASTROPHYSICAL OBSERVATORY								
SUBMILLIMETER WAVELENGTH TELESCOPE ARRAY								
Receiver Leader	1	1.00	70	10/1/88	1.00			
Digital Leader	1	1.00	70	10/1/88	1.00			
Software Leader	1	1.00	59	10/1/88	1.00			
TOTAL, SAW	3	3.00	199		3.00			
TROPICAL RESEARCH INSTITUTE								
STAFFING FOR ADMIN. SUPPORT								
Accounting Technician	1	1.00	19	10/1/88	1.00			
Secretary (Admin. Ass't.)	1	1.00	21	10/1/88	1.00			
TOTAL, STRI	2	2.00	40		2.00			
NATIONAL ZOOLOGICAL PARK								
SUPPORT OF EXISTING PROGRAMS								
Curator (Animal Dept.)	1	1.00	42	10/1/88	1.00			
Animal Keeper (3 pos.)	3	3.00	81	10/1/88	3.00			
Medical Technician	1	1.00	29	10/1/88	1.00			
Trades and Craft Specialist	1	1.00	32	10/1/88	1.00			
Police Officer	1	1.00	24	10/1/88	1.00			
General Maintenance	1	1.00	19	10/1/88	1.00			
Subtotal	8	8.00	227		8.00			
MOLECULAR SYSTEMATICS & EVOLUTION PROGRAM								
Laboratory Supervisor	1	1.00	59	10/1/88	1.00			
Laboratory Technician	1	1.00	29	10/1/88	1.00			
Subtotal	2	2.00	88		2.00			
TOTAL, NATIONAL ZOO	10	10.00	315		10.00			
SMITHSONIAN INSTITUTION LIBRARIES								
EXPANDED SUPPORT FOR INTERLIBRARY LOAN SYS.								
Library Technician	1	1.00	19	10/1/88	1.00			
NATIONAL MUSEUM OF NATURAL HISTORY								
BIOLOGICAL DIVERSITY PROGRAM								
Research Entomologist	1	1.00	35	10/1/88	1.00			
Research Assistant	1	1.00	24	10/1/88	1.00			
Field Manager	1	1.00	29	10/1/88	1.00			
Museum Technician	1	1.00	24	10/1/88	1.00			
Subtotal	4	4.00	112		4.00			
MOLECULAR SYSTEMATICS LABORATORY								
Scientists (2 pos.)	2	2.00	84	10/1/88	2.00			
Technicians (3 pos.)	3	3.00	72	10/1/88	3.00			
Subtotal	5	5.00	156		5.00			
EVOLUTION OF TERRESTRIAL ECOSYSTEMS								
Research Assistant	1	1.00	29	10/1/88	1.00			
Data Entry/Administrative Technician	1	1.00	24	10/1/88	1.00			
Subtotal	2	2.00	53		2.00			
COLLECTIONS MANAGEMENT SUPPORT								
Museum Information Specialist	1	1.00	50	10/1/88	1.00			
Museum Information Specialist	2	2.00	70	10/1/88	2.00			
Museum Information Specialist	1	1.00	29	10/1/88	1.00			
Museum Information Specialist	2	2.00	38	10/1/88	2.00			
Subtotal	6	6.00	187		6.00			
RENOVATION OF PERMANENT EXHIBIT HALLS								
Senior Designer	1	1.00	24	10/1/88	1.00			
Cabinet Maker	1	1.00	24	10/1/88	1.00			
Exhibits Technician	1	1.00	24	10/1/88	1.00			
Exhibits Technician	1	1.00	19	10/1/88	1.00			
Subtotal	4	4.00	91		4.00			
TOTAL, MNMH	21	21.00	599		21.00			

BUREAU/ POSITION TITLE	# of FTE Pos.	FULL YEAR FTE \$ (000s)	HIRE DATE	LAPSE RATE (if appl.)	FUNDING REQUESTED IN THE FY 1989 BUDGET	
					FTE \$ (000s)	
NATIONAL AIR AND SPACE MUSEUM HISTORICAL RESEARCH - AERONAUTICS						
Senior Curator/Historian	1	1.00	50	10/1/88	1.00	50
Senior Curator	1	1.00	50	10/1/88	1.00	50
Subtotal	2	2.00	100		2.00	100
COLLECTIONS MANAGEMENT						
Museum Technician	1	1.00	29	10/1/88	1.00	29
Museum Technician	1	1.00	19	10/1/88	1.00	19
Subtotal	2	2.00	48		2.00	48
TOTAL, NASH	4	4.00	148	10/1/88	4.00	148
NATIONAL MUSEUM OF AMERICAN HISTORY COLLECTIONS INFORMATION SYSTEM						
Museum Registration Technicians (2 pos.)	2	2.00	38	10/1/88	2.00	38
Analyst/Programmer	1	1.00	35	10/1/88	1.00	35
Subtotal	3	3.00	73		3.00	73
COLUMBUS QUINCENTENARY PROGRAMS Hispanic Programs Coordinator	1	1.00	24	10/1/88	1.00	24
CONSERVATOR Object Conservator	1	1.00	35	10/1/88	1.00	35
NATIVE AMERICAN INDIAN PROGRAM Program Assistant	1	1.00	24	10/1/88	1.00	24
TOTAL, NMNH	6	6.00	156		6.00	156
NATIONAL MUSEUM OF AMERICAN ART COLLECTIONS MANAGEMENT						
Object Conservator	1	1.00	35	10/1/88	1.00	35
NATIONAL PORTRAIT GALLERY COMPUTER SPECIALIST						
Computer Systems Manager	1	1.00	35	10/1/88	1.00	35
ARCHIVES OF AMERICAN ART COLLECTIONS MANAGEMENT STAFF & SUPPORT						
Archivist (Registration)	1	1.00	29	10/1/88	1.00	29
COOPER-HEWITT MUSEUM ASSISTANT CURATOR OF DRAWINGS AND PRINTS						
Assistant Curator of Drawings & Prints	1	1.00	35	10/1/88	1.00	35
NATIONAL MUSEUM OF AFRICAN ART CONSERVATION						
Assistant Conservator	1	1.00	29	10/1/88	1.00	29
PHOTOGRAPHIC ARCHIVES						
Archivist	1	1.00	35	10/1/88	1.00	35
TOTAL, NMATA	2	2.00	64		2.00	64
ANACOSTIA MUSEUM REGISTRAR AND LIBRARIAN						
Museum Registrar	1	1.00	29	10/1/88	1.00	29
Librarian	1	1.00	24	10/1/88	1.00	24
TOTAL, ANACOSTIA	2	2.00	53		2.00	53
OFFICE OF FOLK LIFE PROGRAMS FOLKLIFE ARCHIVES						
Archivist	1	1.00	24	10/1/88	1.00	24
Archives Technician	1	1.00	19	10/1/88	1.00	19
TOTAL, ODFP	2	2.00	43		2.00	43

BUREAU/ POSITION TITLE	# of FTE Pos.	FULL YEAR COST FTE \$ (000s)	HIRE DATE	FUNDING REQUESTED IN THE FY 1989 BUDGET	
				LAPSE RATE (if appl.)	FTE \$ (000s)
NATIONAL SCIENCE RESOURCES CENTER					
ESTABLISH NSRC TEACHING RESOURCE COLLECTION					
Data Base Specialist/Resource Center Librarian	1	1.00	35	10/1/88	1.00
					35
MUSEUM SUPPORT CENTER					
EVALUATION OF ASBESTOS CONTAMINATION					
Safety Specialist (temp pos.)	0	1.00	28	10/1/88	1.00
Safety Specialist (temp pos.)	0	1.00	19	10/1/88	1.00
Museum Technicians (4 pos.)	0	4.00	67	10/1/88	4.00
					67
TOTAL, MSC	0	6.00	114		6.00
					114
ADMINISTRATION					
DIR. OF FACILITIES SERVICES					
Computer System Administrator	1	1.00	50	10/1/88	1.00
					50
OFFICE OF AUDITS & INVESTIGATIONS					
R&R SUPPORT					
Auditor	1	1.00	42	10/1/88	1.00
					42
OFFICE OF ARCHITECTURAL HISTORIAN					
Architectural Historian	1	1.00	29	10/1/88	1.00
					29
OFFICE OF FINANCIAL MANAGEMENT AND PLANNING					
Deputy Director - OFM&P	1	1.00	70	10/1/88	1.00
					70
OFFICE OF ACCOUNTING AND FINANCIAL SERVICES					
Accounting Technician	1	1.00	19	10/1/88	1.00
File Clerk	1	1.00	16	10/1/88	1.00
Data Transcriber	1	1.00	19	10/1/88	1.00
Accountants (2 pos.)	2	2.00	38	10/1/88	2.00
R&R SUPPORT					
Accounting Technician	1	1.00	19	10/1/88	1.00
TOTAL, ACCOUNTING	6	6.00	111		6.00
					111
OFFICE OF INFORMATION RESOURCE MANAGEMENT					
System Software Specialist	1	1.00	35	10/1/88	1.00
System Software Specialist	1	1.00	25	10/1/88	1.00
TOTAL, OIRM	2	2.00	60		2.00
					60
OFFICE OF PERSONNEL ADMINISTRATION					
Personnel Management Specialist	1	1.00	42	10/1/88	1.00
Senior Computer Specialist	1	1.00	42	10/1/88	1.00
Personnel Clerks (2 pos.)	2	2.00	38	10/1/88	2.00
R&R SUPPORT					
Personnel Specialist	1	1.00	42	10/1/88	1.00
TOTAL, OPERSA	5	5.00	164		5.00
					164
OFFICE OF PROCUREMENT AND PROPERTY MANAGEMENT					
Contract Specialist	1	1.00	59	10/1/88	1.00
ADP Contract Specialist	1	1.00	35	10/1/88	1.00
R&R SUPPORT					
Contract Specialists (4 pos.)	4	4.00	200	10/1/88	4.00
Computer Specialist	1	1.00	29	10/1/88	1.00
Administrative Clerk	1	1.00	29	10/1/88	1.00
Administrative Clerk	1	1.00	19	10/1/88	1.00
Administrative Clerk	1	1.00	17	10/1/88	1.00
TOTAL, OPPM	10	10.00	388		10.00
					388
OFFICE OF ENVIRONMENTAL MANAGEMENT AND SAFETY					
Supervisory Environmental Engineer	1	1.00	59	10/1/88	1.00
Safety Specialist	1	1.00	42	10/1/88	1.00
Health Physicist	1	1.00	42	10/1/88	1.00
Environmental Specialist	1	1.00	35	10/1/88	1.00
Fire Protection Engineer	1	1.00	42	10/1/88	1.00
Training Specialist	1	1.00	42	10/1/88	1.00
R&R SUPPORT					
Fire Protection Engineer	1	1.00	42	10/1/88	1.00
Environmental/Safety Specialist	1	1.00	42	10/1/88	1.00
TOTAL, OEMS	8	8.00	346		8.00
					346

BUREAU/ POSITION TITLE	# of FTP Pos.	FULL YEAR COST FTE \$ (000s)	HIRE DATE	FUNDING REQUESTED IN THE FY 1989 BUDGET				
				LAPSE RATE (if appl.)	FTE \$ (000s)			
OFFICE OF DESIGN & CONSTRUCTION								
R&R SUPPORT								
Supervisory Engineer	1	1.00	59	10/1/88	1.00 59			
Senior Engineer	1	1.00	50	10/1/88	1.00 50			
Facilities Planners (2 pos.)	2	2.00	100	10/1/88	2.00 100			
Construction Cost Estimator	1	1.00	42	10/1/88	1.00 42			
Mechanical Engineer	1	1.00	42	10/1/88	1.00 42			
Electrical Engineer	1	1.00	42	10/1/88	1.00 42			
Computer Technician	1	1.00	24	10/1/88	1.00 24			
Engineering Technician	1	1.00	24	10/1/88	1.00 24			
Cost Estimator Technician	1	1.00	24	10/1/88	1.00 24			
Secretary	1	1.00	21	10/1/88	1.00 21			
Clerk-Typists (2 pos.)	2	2.00	34	10/1/88	2.00 34			
	13	13.00	462		13.00 462			
OFFICE OF PROTECTION SERVICES								
QUADRANGLE STAFFING								
Museum Protection Officers (3 pos.)	3	3.00	57	10/1/88	3.00 57			
Gallery Guards (7 pos.)	7	7.00	119	10/1/88	7.00 119			
Premium Pay Allowance			15		15			
Subtotal	10	10.00	191		10.00 191			
GENERAL POST OFFICE BLDG.								
Sergeants (2 pos.)	2	2.00	48	10/1/88	2.00 48			
Museum Protection Officers (10 pos.)	10	10.00	190	10/1/88	10.00 190			
Premium Pay Allowance			18		18			
Subtotal	12	12.00	256		12.00 256			
TOTAL, OPS	22	22.00	447		22.00 447			
OFFICE OF PLANT SERVICES								
FACILITIES MAINTENANCE PROGRAM								
Maintenance Mechanics (11 pos.)	11	11.00	330	10/1/88	11.00 330			
GENERAL POST OFFICE BLDG.								
Maintenance Mechanics (2 pos.)	2	2.00	60	10/1/88	2.00 60			
TOTAL, OPLANTS	13	13.00	390		13.00 390			
TOTAL SMITHSONIAN	114	120.00	3,564		120.00 3,564			

Change In Allocation Methods For Space Costs

Question: Your budget, on page 31, describes a new method you are now using to allocate the cost of rental office space. The budget also includes an additional \$337,000 for space rental in 1989. What increase would you have requested in FY 1989 if you had used the previous method to compute your FY 1989 costs?

Answer: Using the previous method of computing the Federal share of rental costs, an amount of \$301,000 would be needed.

New Budget Formulation Process

Question: Your budget, on page 2, discusses the new formulation process used for FY 1989. Please provide some examples of collaborative efforts among bureaus which were identified as part of the new process. Would these opportunities have been identified under your previous budgeting system?

Answer: The new process has integrated planning and budgeting processes that were previously carried out independently. The new

process is initiated with a "priority call" to the bureaus. During this planning phase, bureaus are asked to develop goals and objectives for the next five years, and managerial and programmatic strategies and priorities are established at a conceptual level. As these proposed priorities are identified and discussed at a conceptual level by the Assistant Secretaries, areas of mutual interest become apparent prior to the development of budget proposals. A representative from the Office of Facilities Services participates in these discussions, so that potential programmatic impacts on space requirements are considered. Previously, each bureau developed its budget proposals first, and there was less opportunity to refine both long term and short term plans to reflect coordinated efforts and intra-Institutional impacts.

The new process has facilitated the coordination of planning efforts for the Columbus Quincentenary, the development of the Collections Inventory System, public service activities directed at a more diverse audience and administrative, facilities and other support activities which are directly impacted by certain program initiatives and are required to be responsive to the demands for assistance placed on them.

Question: Please discuss the priority setting aspects of the new process. Does it give you the ability to set priorities Institution-wide?

Answer: Since the planning and budget process is structured around a set of long-term Institutional goals and objectives that reflect requirements and opportunities on various fronts, priorities are not established on an Institution-wide, or co-mingled, basis. Instead, each Assistant Secretary and the Treasurer develops programmatic and operational priorities based upon the Secretary's "Areas of Emphasis" for bureaus and offices that report to him/her.

Minority Employment Opportunities

Questions: It has come to the Subcommittee's attention that the Smithsonian has been examining the role of minorities in senior-level administrative and professional positions within the Institution. While the results of this examination indicate an absence of minorities in these positions, the Subcommittee commends the Smithsonian for its voluntary self-examination and encourages the Smithsonian to adopt measures to correct this situation. Also at issue, however, is the lack of opportunities for women at the Smithsonian. While it is apparent from figures gathered by the Smithsonian's Cultural Equity Subcommittee that the Institution needs to take steps to encourage minority hiring, these same figures indicate similar steps need to be taken with regard to women. What is the Smithsonian doing to encourage minority hiring?

Answer: The Secretary has met with all the bureau directors to reaffirm his commitment to improving the Institution's minority staff profile. A 23-point action plan was issued describing several of the strategies the Institution plans to implement and a memorandum describing ways and means of employing previously identified qualified minority and women candidates through the use of a central fund was widely circulated. Search processes are being strengthened to locate qualified candidates. A brochure is being designed which

will consolidate information on all programs aimed at increasing the participation of minorities and women at the Smithsonian, both internally and externally. These programs include fellowships, upward mobility, advanced educational and training opportunities, etc. In addition, the Institution continues to make use of its Committee for a Wider Audience and Cultural Education Committees to increase its network of contacts in minority communities, both locally and nationally.

Question: Has the Smithsonian taken action to better balance the number of men and the number of women in administrative and professional positions?

Answer: All of the affirmative action plans outlined above include women as well as minorities. The Institution has had a Women's Council (under the auspices of the Office of Equal Opportunity) for the past 16 years to advise upper management on issues and concerns which are of importance to women. Their efforts have led to the creation of the Institution's first on-site child care center, which should in turn attract more qualified women employees.

The proportion of women in administrative positions and professional positions in the art fields at the Smithsonian is rather high, and the Institution is making some inroads in attracting more women to its professional scientists ranks. For women, a decisive shift in the number of available candidates is occurring fairly rapidly. The proportion of women who enter the applicant pool in the sciences can be expected to increase steadily in the coming years.

Question: What future, long-range plans does the Smithsonian have to further the status of minorities and women?

Answer: As mentioned above, the applicant pool for women can be expected to increase steadily, which means the Institution may well move toward something approaching parity in the numbers of men and women scientists in the years ahead. The historical focus of research specialty have been determined by the Institution's collections, which are not areas which normally attract minorities as much as the more applied fields. This distinction means that the applicant pool is small at best. One of the Smithsonian's long-range strategies is to open the definition of the fields to include health-related sciences, or agriculture and resource-related fields. This should eventually lead to an increased minority applicant pool.

The Institution has initiated a Minority Internship Program designed to get more minority students interested in the fields of research conducted at the Smithsonian. This program should yield long-range benefits by not only increasing the pool, but also by giving minorities first-hand knowledge of the Institution itself.

In both its programming and hiring the Institution is highlighting the role of minorities. Since 1983, the Smithsonian has established a Black American Culture Program, a Native American Program, and a Hispanic American Program. The Quincentenary Program is taking a decidedly Latin American focus. The Secretary's long-term goal is to reflect the cultural diversity of the Nation in the representation of minorities and women on the Smithsonian staff. This is the challenge he has put to the management of the various

bureaus and to which he has committed himself both publicly and privately.

Construction Obligations

Question: For the record, provide a chart showing FY 1986-1988 construction projects and the amount obligated each year.

Answer: The following chart shows obligations for construction in FY 1986 through FY 1988.

	FY 1986	FY 1987	FY 1988 <u>(thru 2/28)</u>
Quadrangle Project	\$3,355,754	\$3,424,181	\$92,208
Hirshhorn Museum	165,074	117,470	0
Museum Support Center	0	14,572	0
Tupper Center	NA	2,780,000	0
FLWO Base Camp	NA	NA	0 ¹
TOTAL OBLIGATIONS	\$3,520,828	\$6,336,223	\$92,208

¹ Appropriation received mid-December, 1987. Negotiations currently underway for design contract.

Fred L. Whipple Observatory

Question: For the Fred L. Whipple Observatory you are requesting \$350,000 for cost escalation. Don't your estimates already reflect 1989 prices?

Answer: Cost estimates normally have an escalation factor which represents estimated cost increases from the time the estimate was made to the projected mid-point of construction. The construction estimate provided in the budget justification was done in 1987 in conjunction with development of the first phase of the Master Plan. The escalation amount (which should have been reported as \$335,000 in the justification), represents an anticipated 8.7% increase in cost from 1987 (when the estimate was prepared) to 1989, (the mid-point of construction). The rate used to calculate anticipated escalation is provided by the U.S. Army Controller General.

Appropriated Versus Nonappropriated Funding

Question: Your budget, on page 17, indicates that your nonappropriated funding represents approximately 26 percent of net operating revenues in FY 1988. Would you describe generally the

relationship between appropriated and nonappropriated funding in recent years and how that relationship might be expected to change in the future?

Answer: The relationship between appropriated and nonappropriated funds is a complex one with many variables contributing to the percentage split of net operating revenues. Some of the major factors include general economic conditions, tax laws, the level of success of our auxiliary activities, interest rates, the stock market, the effectiveness of fund raising strategies and the level of Federal appropriation each year.

Since fiscal year 1960 there has been a relatively steady increase in the percentage of net operating revenues provided by nonappropriated funds, from approximately 5% in the 1950's to a projected 20% in 1988. (The 26% stated in the question includes 6% from federal grants and contracts from other agencies.) This increase can be generally attributed to the expansion and success of our auxiliary activities since the early 1970's. We have had the benefit of a strong stock market in the 1980's (until Black Monday). Furthermore, fundraising efforts have showed strong increases in the last couple of years. On the other hand, it is important to note with the growth of both Federal and Trust funding, the Smithsonian has become less dependent upon Federal grants and contracts which prior to the mid-1970's funded much of the Institution's scientific efforts. Federal and Trust funds have supplanted such contracts and allowed for the growth of research in fields, especially social history and the arts, previously not explored.

Net operating revenues exclude the cost of generating revenues by our auxiliary activities, although such expenditures as those for the Smithsonian Magazine and SI Press can be said to contribute significantly to the "increase and diffusion of knowledge." If gross operating revenues are looked at rather than net, the change over the years is even more dramatic. The fiscal year 1988 budget in terms of gross operating revenues breaks down as follows versus 1960:

Gross Operating Revenues

	<u>1960</u>	<u>1988</u>
Federal Appropriation	64%	48%
Federal Grants/Contracts	30%	4%
All Trust Sources	<u>6%</u>	<u>48%</u>
	100%	100%

In answer to the query, how the relationship might change in the future, we cannot say anything with certainty. Too many external factors, over which we have little control, impact the Federal and Trust relationship. Some general comments, however, might be made as to factors that could effect the relationship or current trends.

With respect to auxiliary activities it is unlikely that market conditions will allow for the kind of sustained and meteoric growth that we have experienced over the last 10-15 years. Our competition has increased as other non-profits have entered the publishing and merchandising fields. In addition possible changes to the Unrelated Business Income Tax could have a significant dampening effect on the net income generated by these activities.

Fundraising has been given an ever increasing emphasis at the Smithsonian. The effort to decentralize bureau fundraising efforts and to increase staff involved in fundraising initiated by Secretary Adams is still in its nascent stage, but may already be showing some results. A further emphasis in this area, signified by the establishment of the position of Assistant Secretary for External Affairs, gives promise for future success. Consideration is being given to a major capital campaign to enhance endowment.

In sum, the trends observed are evidence of the strong Federal/Trust partnership that allows the Smithsonian to increase and diffuse knowledge each year to its multiple constituencies.

Question: For the record, please provide the percentage of net operating revenues funded from nonappropriated funds for fiscal years 1960, 1965, 1970, 1975, 1980, and 1985.

Answer:

Net Operating Revenues

	Total	Federal Appropriation	Federal Grants and Contracts	All Trust Sources
1960	100%	64%	30%	6%
1965	100%	58%	37%	5%
1970	100%	71%	21%	7%
1975	100%	76%	11%	13%
1980	100%	78%	9%	13%
1985	100%	75%	7%	18%
¹ 1988	100%	74%	6%	20%

1 Total of "Federal Grant and Contracts" and "All Trust Sources" equals 26% referred to on page 17 of the budget submission.

Overall Budget Structure

Question: In reviewing your FY 89 base adjustments, I notice that you received an upward adjustment of \$2.2 million for within-grade step increases that other agencies in the department of the Interior did not. In addition, you do not have a downward adjustment for the re-estimate of the Federal Employees Retirement System. Why were your base adjustments calculated differently? Please provide for the record the amount of the base reduction if the Smithsonian would have recalculated the FERS contribution in a manner similar to that of other agencies.

Answer: As in the prior years, OMB allowed the Institution to include in its FY 1989 budget to the Congress an increase for the cost of within-grade increases. With regard to the Institution's request for FERS, original assumptions and guidance provided by the Office of Management and Budget were used in determining the initial estimate of FY 1989 FERS costs. While the estimate based on these assumptions and guidance indicated an increase would be required for

FY 1989, the Institution determined it was not necessary to request an increase over the FY 1988 level. After OMB approval of the Smithsonian's straight-lined FY 1989 budget for FERS, cost estimates were reevaluated using revised OMB assumptions to reflect a lower "switch" rate. The most recent estimate for the increased cost of the FERS contribution in FY 1989 is \$3,688,000, which is \$2,493,000 less than the requested level.

After the submission of our FY 1989 budget to Congress, we learned that OMB has proposed that appropriations for water and sewer payments be made directly to various user agencies in the District, rather than to the District of Columbia on behalf of all such users. We contacted OMB to confirm the proposed change; our OMB examiner confirmed the change and informed us that the impact on the Smithsonian had not been taken into consideration because of an oversight on OMB's part. We estimate that the unfunded cost to the Smithsonian for FY 1989 will be approximately \$3.3 million. It is anticipated that the Institution will request a reprogramming of the FERS excess in FY 1989 to help defray this unbudgeted cost.

Annualized Costs for FY 1988 Positions

Question: As an adjustment to the base, you have requested an additional \$779,000 to annualize the partial-year funding of new positions approved in the FY 88 budget (pg. 26). How many new positions were approved in FY 88? What is their annual cost? How much was included in FY 88 budget for those positions?

Answer: There were 118 full-time permanent positions and 3 temporary positions approved in FY 1988. These positions have a total annual cost of \$2,707,000 (and 120.5 workyears). Personnel funding of \$1,928,000 (and 83.68 workyears) was provided in the FY 1988 budget for the partial-year costs of these new positions, leaving additional funding of \$779,000 (and 36.82 workyears) required to annualize these costs in FY 1989.

Two Extra Work Days

Question: In FY 88 you requested an additional \$458,000 because this fiscal year contained one additional pay day when compared to FY 87. The FY 89 Justification indicates that there are two less pay days in FY 89 than in FY 88 and you have reduced your budget by \$916,000 or \$458,000 a day (pg. 26). The FY 89 per day decrease is the same as the FY 88 per day increase but the FY 88 budget contained funds for the annualization of pay raises and within-grade step increases. Shouldn't the per day calculation increase in FY 89 when compared to FY 88? If so, why wasn't this part of the base calculation? If not, why not?

Answer: The per day calculation should have included an adjustment to reflect the effects of the annualization of pay raises and within-grade step increases for FY 1988. The original estimate of \$458,000 was not revised to take this adjustment into account. The recalculation of these costs with this adjustment results in a revised per day calculation of \$482,000 (for a total decrease of \$964,000).

Submillimeter Telescope Array

Question: You have requested an additional \$800,000 in FY 89 for the design of a submillimeter telescope array for the Smithsonian Astrophysical Observatory (SAO). Part of this increase (\$199,000) is proposed to hire a project scientist, a digital leader and a software leader to initiate the design of a submillimeter telescope array (pg. 47). The remainder (\$611,000) is proposed to fund the design study. Is anybody else in the world building something similar? Does the Smithsonian currently have a smaller array telescope?

Answer: No one else in the world is building a submillimeter telescope array. The Smithsonian array would be unique. The Smithsonian does not have a smaller telescope array. However, many Smithsonian scientists have had years of experience in the construction, operation, and use of telescope arrays that view radiation at radio wavelengths. Telescope arrays for operation at the shorter submillimeter waves provide the next logical application of the same techniques. At these latter wavelengths the technology needed for two key components -- the precisely curved reflector and the receiver -- has only in the last few years progressed to the point where construction of such telescopes is possible.

Question: The chart on page 84 of your justification indicates that the total projected funding for the submillimeter telescope array is \$20 million from FY 89-FY 93. The narrative on the same page, however, indicates that the completion of the array is expected to take an additional two years after 1993 and to cost an additional \$10 million over the \$20 million. Reading the narrative further indicates that construction on a prime non-continental site would cost about 25 percent more. What makes up the \$20 million estimate?

Answer: A detailed analysis of the components of the estimate of the full construction costs of the array was given in the 145-page SAO study of the array, published in July 1984, and sent to the Senate in the spring of 1987. A more recent estimate of the costs follows.

**SAO Submillimeter Wavelength Telescope Array:
Projected Annual Personnel Cost - Salaries and Benefits
(in thousands of 1987 dollars)**

Position (Grade)	Design		Construction				Operation		
	FY89	90	91	92	93	94	95	96	97
A. At SAO (Cambridge, Massachusetts)									
Project Scientist (15)	70	70	75	75	80	80	85	85	90
Secretary (6)		21	21	21	21	21	21	21	21
Project Manager (14)			59	59	64	64	69	69	74
Contract Specialist (13)		80	80	55	55	60	60	65	65
Purchasing Agent (6)			21	21	21	21	21		
Shipping Clerk (8)				19	10				
Receiver Tech (9)		29	29	29	29	29	29	29	29
Digital Leader (15)	70	70	75	75	80	80	85	85	90
Digital Engineer (13)			50	50	55	55	60	60	65
Digital Tech (9)		29	29	29	29	29	29	29	29
Software Leader (14)	69	69	64	64	69	69	74	74	79
Programmer (13)			50	50	55	55	60	60	65
Mechanical Engineer (14)	59	59	64	64	69	69	69		
Post Doc (11)	35	35	35	35	35	40	40	40	40
TOTAL at SAO	199	422	617	646	676	672	702	617	647
B. At Array Site									
Site Manager (14)			59	59	64	64	69	69	69
Site Secretary (6)			21	21	21	21	21	21	21
Shipping Clerk (6)			21	21	21	21	21	21	21
Receiver Engineer (14)		89	89	64	64	69	69	69	74
Receiver Tech (9)					29	29	29	29	29
Digital Engineer (14)		89	89	64	64	69	69	69	74
Digital Tech (9)			29	29	29	29	29	29	29
Senior Systems/Prog (14)		89	89	64	64	69	69	69	74
Programmer (13)			80	80	85	85	80	80	80
Mechanical Engineer (14)		69	59	64	64	69	69	69	74
Mechanical Tech (9)			29	29	29	29	29	29	29
Mechanical Tech (9)				29	29	29	29		
Electrical Engineer (14)		89	89	64	64	69	69	69	74
Electrical Tech (9)			29	29	29	29	29	29	29
Electrical Tech (9)				29	29	29	29		
General Technician (9)			20	20	29	29	29	29	29
General Labor (5)		19	19	19	19	19	19	19	19
General Labor (5)				19	19	19	19	19	19
Cook/Cleaning (5)					10	10	10	10	10
Cook/Cleaning (5)							10	10	
Chief Operator (14)					89	89	64	64	
Telescope Operator (11)							35	35	
Telescope Operator (11)							35	35	
Telescope Operator (11)							35	35	
Telescope Operator (11)							35	35	
TOTAL (all personnel at SAO and at array site)	199	422	912	1227	1359	1472	1627	1688	1613
FTEs	3	9	18	28	31	33	38	34	34

1. The initial-year personnel cost is based on the 1987 salary schedule for step 1 of the indicated grade, incremented by 8% for benefits and FERS retirement contributions. For simplicity, raises and inflation are represented by an increase of \$5K every two years, for each employee with grade higher than 11. Other employees have no scheduled raises, as a way to allow for turnover.

2. Receiver personnel specified here will work in conjunction with those in the SAO receiver development laboratory (3 FTEs).

SAO Submillimeter Wavelength Telescope Array:
Projected Annual Nonpersonnel Cost
(in thousands of 1987 dollars)

A. Site, Antennas, Receivers, and I.P. Distribution

	Design		Construction				Operation	
	FY89	90	91	92	93	94	95	96
SITE PLAN								
Site visits	6	10	20					
Site testing	15	140	85					
Site preparation				350				
Vehicles				35				
Antenna transporter					60			
Local office building			190					
Control/lab building				800				
Antenna pads/electrical				400	400			
Maintenance (1% of capital)				5	20	20	20	20
SUBTOTAL	21	150	295	1200	480	20	20	20
ANTENNAS/ENCLOSURES								
Pre design study	60							
Detailed specification		850						
Antenna testing			400	400	400			
Purchase			1750	1750	1750	1750	1750	
Maintenance (1% of capital)				15	30	45	60	60
SUBTOTAL	60	850	2150	2185	2180	1795	1810	60
RECEIVERS/IQs								
Lab set up	180							
First receiver								
develop first	150	150						180
build 5 more			125	125				125
Second receiver				175	175			175
develop first						125	125	
build 6 more						175	175	
Third receiver								
develop first						200	200	
build 6 more						15	15	20
Maintenance (1% of capital)				5	5	10		
SUBTOTAL	300	150	300	305	305	810	215	320
I.P. DISTRIBUTION								
Design			125					
Construct				280	350	280		
Maintenance (1% of capital)				8	8	8	8	8
SUBTOTAL	125	285	355	285	285	8	8	8

B. Correlator, Computer, Contingency, and Operations

	Correlator		Computer				Contingency	
	Study	Lab set up	Prototype	Construct	Maint.	(1% of capital)	(20% of budget)	
Study	60							
Lab set up	120	60	50					
Prototype		150	150					
Construct				250	250	250	300	
Maintenance (1% of capital)				8	5	8	10	10
SUBTOTAL	180	200	200	285	285	285	810	10
COMPUTER								
Study	50	50						
Correlator control	100		125					
Telescope control	100	125	125					
Off-line analysis 1 (site)				200				
Off-line analysis 2 (CfA)					100	100	100	
Maintenance (10% contract)				15	30	65	105	105
SUBTOTAL	50	280	250	140	250	185	285	105
CONTINGENCY								
(20% of budget)				800	800	800	800	150
SUBTOTAL	800	800	800	850	850	850	180	180

SAO Submillimeter Wavelength Telescope Array:
Projected Annual Nonpersonnel Cost
 (in thousands of 1987 dollars)

	Design		Construction				Operation		
	FY89	90	91	92	93	94	95	96	97
OPERATIONS									
Travel			20	40	60	60	60	60	80
Site Meals, Lodging, Services			50	50	50	50	50	50	60
Utilities/phone/mile/c			40	80	80	160	160	160	180
SUBTOTAL			110	170	190	200	260	260	260
TOTAL (nonpersonnel, A + B)	611	1300	4120	5320	4676	8540	8428	975	930
TOTAL (all personnel - (from page 2)	199	422	912	1227	1359	1472	1527	1558	1618
TOTAL	810	1722	5032	6547	6034	5012	4982	2833	2643

TOTAL DESIGN: 2632; TOTAL CONSTRUCTION: 27,877. All costs assume a developed site in the continental United States. Construction and operation in Hawaii will cost more than given here by about 25 percent.

Question: Is the 25 percent increase on a prime location an estimate above the \$20 million or the \$30 million?

Answer: The 25 percent increase is on the total cost of construction of the array, i.e., on \$30 million.

Question: Why is there a difference between the chart and the narrative?

Answer: We regret the confusion introduced by the chart on page 84. It was based on our understanding that we should include in its projections only for the next five years, because the Institution's prospectus is limited to that period of time. However, we felt it important to describe the remainder of the project, too. As a compromise, the chart was confined to five years with the narrative following it outlining the remainder of the project.

Question: Operating expenses are 8 percent of which construction figure? \$20 million? \$30 million?

Answer: The annual operating expenses are 8 percent of the total cost for construction, which is \$30 million for a continental site.

Question: If Congress determined that there were not adequate funds for construction but were adequate funds for design, how would the Smithsonian proceed?

Answer: The Smithsonian would proceed with the design and would await such time as funds for the construction were to become available. Without modern facilities, research organizations cannot long survive. The proposed submillimeter wavelength telescope array is considered the most vital component of SAO's program for the future. The array will allow SAO to carry out its fundamental mandate to increase knowledge and to maintain its eminence in research and its present excellent international reputation.

Question: Since you say that the array would be a major scientific instrument of international stature, have you sought contributions from other nations?

Answer: Yes. However, there is no strong possibility of

sharing significant direct funding with other nations. Those nations engaged in related research are involved in their own projects.

Smithsonian Tropical Research Institute

Question: For FY 89 you have requested an increase of \$400,000 to continue the development of a program in molecular evolution and plant physiology at the Smithsonian Tropical Research Institute (STRI). How far along is the development of this program?

- Answer:
- a. A highly-qualified researcher in molecular revolution has been hired.
 - b. An internationally-recognized researcher in plant physiology has been identified as the strongest candidate in that discipline.
 - c. The laboratories of three current STRI scientists are currently being equipped for their work on the molecular evolution and physiology program.
 - d. Candidates will be interviewed during April 1988 for the senior laboratory technician position for the STRI general-use electrophoresis laboratory.
 - e. A major physiological study of tropical forest plant adaptations to drought has been initiated.

Question: What are the anticipated out year costs for this program?

Answer: The anticipated annual out-year costs for this program is \$800,000. STRI's goal is to establish substantial new programs in molecular evolution and plant physiology. With this initiative, STRI will have the first modern research programs in these disciplines located in the tropics. In combination with ongoing programs, this initiative will revolutionize our understanding of tropical biology. FY 1988 and 1989 expenditures will be used to supply the needs of existing staff and attract new staff with research interests in these disciplines. In the aggregate, we will have a sophisticated group of researchers and their long-term productivity will be assured by the continuation of support from this initiative in the STRI base.

Question: STRI is also in the third year of a major experimental study of how seasonal drought affects growth and reproduction of forest trees and understory plants. Two tracts of forest have been irrigated during the annual dry season to maintain wet season moisture levels, and these tracts have been compared with non-irrigated controls. A major finding in the study is that many species do not respond significantly to increased soil moisture during the dry season, contrary to expectation. Have you found a reason why many species have not responded?

Answer: The timing of growth and reproduction has not been affected by irrigation for most species of trees and vines which reach the upper canopy. In contrast, shrubs and herbs which grow in the forest understory show dramatic effects, including improved rates

of carbon gain during the dry season. We believe that humidity is the key to this difference. Irrigation raises humidity of the air in the sheltered understory, but not in the exposed upper canopy where strong winds maintain low humidities throughout the dry season. The finding that humidity may be as important as soil moisture in controlling plant responses to drought will be useful in designing irrigation programs for agroforestry systems.

Question: Is there a particular species affected more than others?

Answer: Irrigation has delayed leaf and flower production by four months in one canopy tree species, guayacan, (*Tabebuia guayacan*). We are investigating how future reproduction, growth and mortality are affected in this commercially important source of high-quality timber.

Question: Are there any other major findings you wish to discuss?

Answer: a. Irrigation increases the number of small insects present during the dry season. Under natural conditions, insect abundance drops during the dry season with associated drop in pest damage to plants. This suggests that irrigation may increase pest problems if applied to agroforestry systems.

b. The availability of soil nitrogen for plant growth is constant throughout the year under irrigation, but undergoes a strong annual cycle elsewhere, with low availability in the dry season. This result is of interest because improved distribution of soil nutrients throughout the year is desirable in agroforestry systems.

c. We have found that photosynthetic rates of forest plants, and hence growth rates, are limited by low CO₂ levels in the air, even during severe drought. This is an important result, because global CO₂ levels are rising, suggesting that the growth of tropical forest plants may change over time. Increased CO₂ levels are likely to be associated with increased temperatures and altered rainfall patterns, making it difficult to predict the net impact on plant growth.

Question: The Smithsonian Tropical Research Institute in conjunction with the Minerals Management Service are in the second year of a five year program to study an oil spill in Panama which affected a coastal research facility of the Smithsonian Institution (pg. 51). One of the unique aspects of this study is the amount of pre-spill data the Smithsonian had of the area. Is there any preliminary data from this study that you could discuss with the Committee?

Answer: We are just completing a manuscript summarizing the biological effects within the first 18 months of the oil spill. Two results are particularly noteworthy:

a. Quantitative survey of subtidal reefs showed extensive

mortality and injury of stony corals at heavily oiled sites. Total coral cover decreased by as much as 79% in shallow depths. In addition, most surviving corals showed signs of stress, including bleaching and lesion of tissues. These sublethal effects are still disproportionately common on heavily oiled reefs. Recruitment of new corals and coral growth are typically slow on Caribbean reefs. Thus changes in coral populations due to the oil spill are likely to persist for many years. Extensive mortality of subtidal corals in relation to an oil spill had not been demonstrated previously.

- b. Red mangrove (Rhizophora mangle) forms nearly all of the fringing forest along the affected coast, just as it does along much of Florida. Trees began dying where oil washed ashore within 5 months of the oil spill, and by November 1987 a band 20-100 meters wide of dead mangroves occurred along an estimated 27 km of coast. Seedlings transplanted to heavily oiled sites did not produce new leaves in contrast to seedlings transplanted to an unoiled site. In addition, most mussels and oysters growing on mangrove roots died soon after the spill and populations have since recovered little. Most roots were dead and broken or rotting by August 1987. We are concerned that this mortality may allow accelerating coastal erosion with further negative effects for coral reefs.

Major Scientific Instrumentation

Question: With \$525,000 provided in FY 88, the Smithsonian proceeded with design work to convert the Multiple Mirror Telescope (MMT). This five year conversion effort is expected to cost approximately \$10 million (pg. 85). Once converted, the MMT will have twice the collecting area of the present instrument and be able to observe nearly one hundred times more of the sky at any one time. Is anybody else in the world building something similar?

Answer: Yes. There are a number of institutions and consortia that are building, or planning to build, larger telescopes. In order for SAO to maintain a reasonably competitive position in the future in optical astronomy, it will be necessary for the conversion of the Multiple Mirror Telescope to be carried out.

Question: If Congress determined that there were not adequate funds for construction but were adequate funds for design, how would the Smithsonian proceed?

Answer: The Smithsonian would proceed with the design and would await such time as funds for the construction were to become available. The conversion of the MMT is the second component of SAO's program for the future designed to enable SAO to continue its forefront achievements in research through the end of this century and into the beginning of the next.

Question: Is there any financial interest from other nations?

Answer: No. Other nations are proceeding with their own optical telescope projects. For example, the Europeans have just

recently committed \$235 million to a set of four 8-meter-diameter optical telescopes to be constructed in the southern hemisphere.

Question: Please provide for the record a list of funds and projects in the FY 89 budget which are in the design phase which a request for construction funds is expected under the Major Scientific Instrumentation line-item in FY 90 or later.

Answer: The only projects now being considered by the Smithsonian for future funding under the Major Scientific Instrumentation line item are the submillimeter telescope array and the MMT conversion projects, as described in the Smithsonian FY 1989 budget submission to the Congress.

Biological Diversity

Question: In FY 87 and FY 88, \$250,000 was provided to conduct a series of multidisciplinary and integrated biological diversity studies (pg. 95). The purpose of these studies was to gain a better understanding of the composition, functioning, and evolution of natural biotas in tropical regions. In FY 89, you have requested an additional \$315,000 to expand the existing program and to include new sites. Can I assume that the \$250,000 is retained in the base budget and the \$315,000 increase is on top of that figure? If not, why not? If so, why is it necessary to more than double this program in one year?

Answer: The base of \$250,000 for biological diversity studies received in FY 1987 has been retained and dedicated to this program. The original program budget was almost \$1 million and was cut deeply to allow a pilot program to be established. The \$315,000 request is in addition to the base of \$250,000 and will allow more SI and other participants to go into the field, establish additional biodiversity sites in tropical Latin America, provide increased contract support for identification and processing of incoming specimens, and prepare monographs. The FY 1989 increase is small in comparison with the task of inventorying, assessing and long-term monitoring of the kinds of organisms of the most species-rich region of the world, in terms of both plants and animals.

Molecular Systematics Laboratory

Question: An additional \$650,000 is requested in FY 89 for the second year of funding to establish a permanent, sustainable research facility in the field of molecular systematics (pg. 97). This increase builds upon the base funding of \$250,000 and would enable the museum to purchase the necessary equipment and supplies to establish the laboratory at the Museum Support Center. The justification indicates that you anticipate all the equipment to be purchased by FY 90 and fully staffed by FY 93. What are you using the \$250,000 for in FY 88?

Answer: In FY 1988 Congress reduced the \$250,000 by \$33,000 for estimated personnel salary lapse. We are currently recruiting for the two scientific positions and expect to make selections by the first week in May. At that time, we will begin recruiting for the two technicians. As soon as the scientists are selected, we will use

the balance of the \$250,000 to purchase some of the basic equipment and supplies needed to establish a working laboratory.

Question: Can you provide for the record a breakdown of the anticipated funding by fiscal year from FY 89-FY 93 for equipment and supplies as well as the operating costs.

Answer: As the Molecular Systematics Laboratory staff are hired, we will be able to get a more definite list of equipment and operating support required in the future and revise our out-year budgets appropriately. The current projections are based on set-ups at other laboratories around the country, and can only be considered as estimates:

	FY 1989 FTE \$(000)	FY 1990 FTE \$(000)	FY 1991 FTE \$(000)	FY 1992 FTE \$(000)	FY 1993 FTE \$(000)
Personnel	9 288	9 288	14 462	17 552	17 552
Travel	12	12	120	120	120
Contracts			50	50	50
Stipends	50	50	100	100	100
Supplies	100	100	200	250	200
Equipment	450	450	268	178	78
Total	9 900	9 900	14 1200	17 1250	17 1100

National Zoo - Amazonia Exhibit

Question: You have requested \$3.2 million in FY 89 to begin construction of an aquatic habitats complex. This complex will utilize major structural components of the existing polar bear exhibit and will be a greenhouse-enclosed replica of a tropical river flowing through a forest. What will be the total cost of this facility? Is there a similar facility anywhere else in the world?

Answer: The total estimated cost for the Amazonia Exhibit (the first exhibition in the aquatic exhibits complex) is \$12,200,000. Our exhibit is unique in that it will be the first exhibit to show biodiversity in an exciting educational approach to emphasize conservation. There is no similar facility elsewhere.

Construction

Question: Within the Construction account, an additional distinction will be made in FY 89. Projects under \$1.0 million will be included in a new category titled "Minor Construction, Alterations and Modifications." Projects in this category will include minor alterations to existing space to accommodate changes in programmatic activities, or to prepare for new initiatives; and small new buildings needed to replace or expand space available for program use. Traditionally projects in the Construction account have required Congressional authorization, while the FY 89 justification does not contemplate formal authorization for projects in the Minor Construction, Alterations and Modifications category. Why isn't

authorization contemplated for these projects? How was this \$1.0 million threshold established?

Answer: Such work is authorized by 20 U.S.C. 53a which says "Appropriations are authorized for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere ...". Invariably these projects are changes to existing structures or minor new construction (sometimes replacing prior structures) on land owned by or otherwise made available to the Institution. The Smithsonian's authorizing committees are annually informed of these proposed projects.

This figure is analogous to GSA's current authority of \$500,000 for similar work which is proposed to be raised to \$1,500,000 or \$2,000,000 under pending amendments to the Public Buildings Act. At the \$1 million level it seems to us to be a good threshold between small projects of benefit to the Institution and larger ones requiring authorization. Inflation and other factors may dictate a future proposal to increase the threshold level.

Maintenance Backlog

Question: Last year's justification indicated that the Smithsonian had \$216 million of facilities maintenance and repair requirements in the coming years. \$19 million was provided in FY 88 in the Repair and Restoration of Buildings yet the FY 89 justification indicates that there is still a backlog of \$216 million. Was the \$216 million estimate updated prior to the printing of the document or are we simply not keeping up with the need?

Answer: The FY 1989 budget request went to press before completion of the cycle of annual inspections, which revised the current backlog to \$197 million as of February 1988.

Question: What are your plans to eliminate this backlog?

Answer: We plan to present an R & R request of \$35 - \$40 million annually to eliminate the backlog. At this rate, it is expected that it will take seven to ten years to eliminate the current backlog, although some projects such as the renovation of the HVAC system at Natural History may require higher funding some years than this level might ordinarily allow, and may extend beyond the span of years required to eliminate the rest of the backlog.

Question: At last year's hearing, in an effort to reduce this backlog, you indicated that you were going to increase the annual funding levels in the Restoration and Renovation account to \$30 million in FY 89 and \$45 million in FY 90. The FY 89 request for R & R account is \$20 million. New construction, however, is proposed to increase from \$1.3 million in FY 88 to over \$10 million in FY 89. Was there a change in priorities from R & R to construction?

Answer: The increase in the construction account from \$1.3 million to \$10 million is not a change in priorities from R & R to Construction. Most of the \$10 million in the construction request is to cover the remaining construction costs of the Whipple Base Camp which was deferred by Congressional action in FY 1988 (\$3.2 million) and the move of Alterations and Modifications projects from the R & R

account to the Construction account as a result of discussions with Congressional Committee staff (\$3.2 million).

There has not been a change in priorities from R & R to Construction. The Institution's policy is to provide a balance between resources required to keep the existing physical plant in good repair and preserve it for future generations, while also providing essential new or altered space to sustain ongoing or new program activities of the Smithsonian.

Question: Why isn't the FY 89 request for R & R as high as you testified last year?

Answer: Our request for R & R funding is not as high as projected last year because the Office of Management and Budget did not allow the full \$40 million requested for the FY 1989 budget.

Question: What was your FY 89 request to OMB for the R & R account? The new construction account?

Answer: The request to OMB for R & R work was \$40 million, for all categories of work included in the original R & R account, including projects now justified as Minor Construction, Alterations and Modifications under the Construction account, and Administrative Costs now justified as increases to the Salaries and Expenses account. The OMB passback level was \$23 million for these activities. The Institution shifted funding within the OMB allowance to increase the R & R account to \$25 million for the categories originally requested under R & R. As noted above, the requests for Minor Construction, Alterations and Modifications and for Administrative Costs were shifted to other accounts within the Congressional budget request.

The OMB request for Construction was \$7.2 million (\$2.9 million for the BCI Lab, \$3 million for design of the General Post Office Building, and \$1.3 million for construction planning). The passback allowed a request for \$2.75 million for the BCI Lab and \$1 million for Construction Planning, and the Institution appealed to OMB for an additional amount of \$3.2 million to cover the remaining construction costs of the Base Camp at the Fred L. Whipple Observatory which had been deferred by Congressional action in FY 1988.

Question: Did you appeal either of these?

Answer: The Institution did appeal the R & R level to OMB. OMB did not increase the allowance but encouraged the Institution to shift funds allowed from the S & E account to R & R (total of \$1.6 million was shifted to R & R). As noted above, a portion of the total amount allowed by OMB for R & R projects has been requested under the Construction and Salaries and Expenses accounts.

Because of Congressional action in FY 1988 to defer construction of the Base Camp at the Fred L. Whipple Observatory in Arizona, the Institution appealed to OMB to be permitted to request the balance of funds needed to complete construction of the Base Camp in FY 1989. The Institution's allowance was amended to include \$3.2 million to the Construction request to Congress for FY 1989.

Major Capital Renewal

Question: At the FY 88 hearing you also indicated that you were contemplating \$10 million for a new subaccount; Major Capital Renewal. Your FY 89 request, however, is \$3.7 million. What was your request to OMB for this subaccount? What happened to the \$10 million figure?

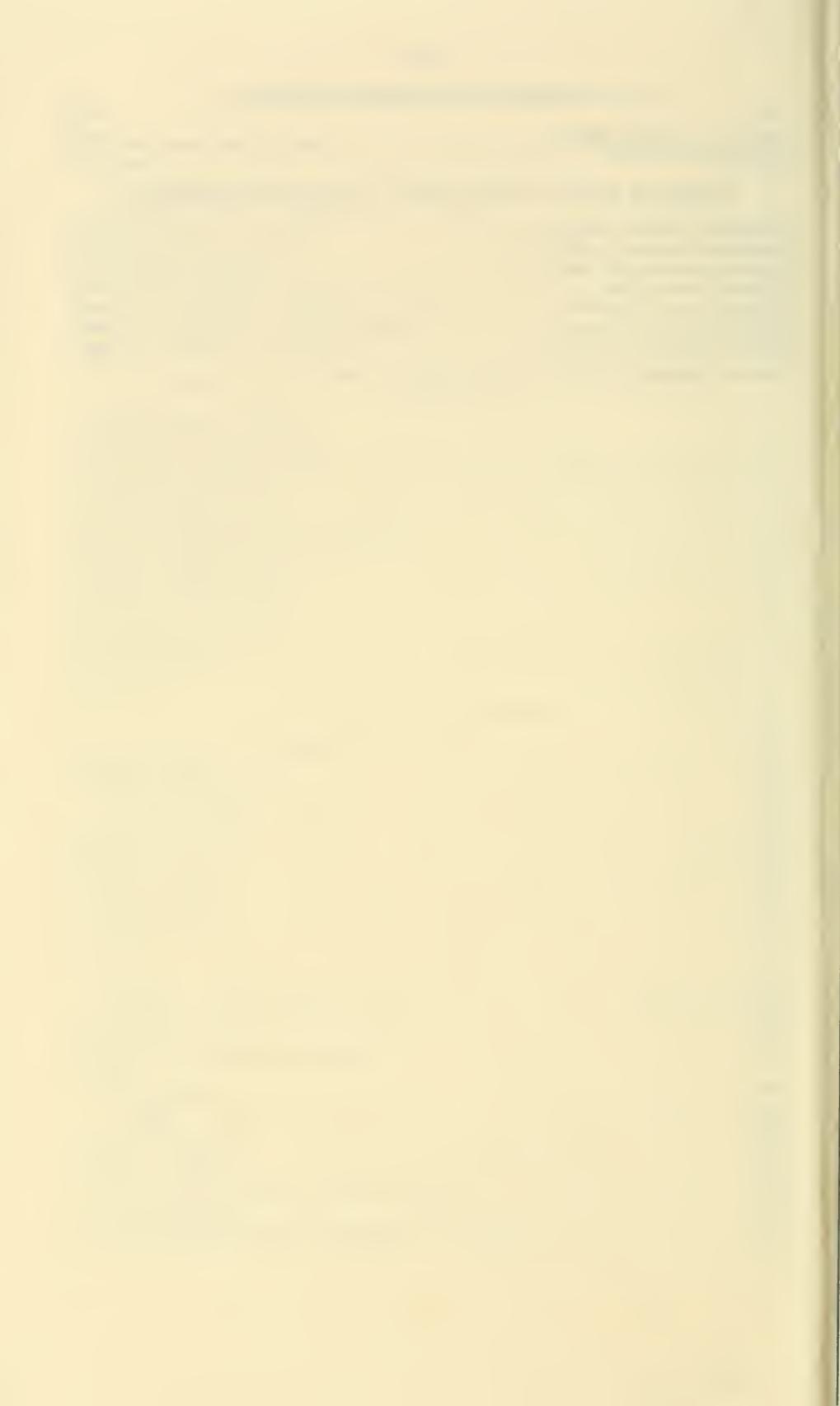
Answer: The estimate of \$10 million made last year was intended to be a planning number and we have since had a chance to refine our estimates of funding needed for the specific projects included in the FY 1989 request. This resulted in a request to OMB for this subaccount in the amount of \$7.66 million. OMB's allowance for the R & R account required a reduction in the Major Capital Renewal category in order to allow sufficient funding for other ongoing repair requirements of the Institution.

Question: At last year's hearing you provided a detailed description of the Smithsonian's plans for funding of the Columbus Quincentenary programs. The FY 89 increment was expected to be \$845,000. What is in the FY 89 budget for this program? Have your estimates changed substantially in total? Please provide for the record an updated version of that chart.

Answer: The amount requested in the FY 1989 budget for the Columbus Quincentenary Program is \$613,000, within our original estimate. However, the estimates for the entire Program have changed. Our original estimates included program and exhibition plans from nine Smithsonian bureaus. The current program includes six additional Smithsonian bureaus that have developed special programs for the Quincentenary which were only in the conceptual stage at the time the FY 1988 budget was submitted. The six new programs, together with better estimates of the other programs (where planning has substantially progressed) have resulted in the new budget estimates. As program planning continues, budgets have been refined, taking into account cooperative exhibitions between museums and factors such as obtaining many objects and resources from institutions throughout the United States, Europe and Latin America. The planned programs for the Quincentenary in each of the Smithsonian bureaus will be closely scrutinized during the development stage. Allocations to bureaus will be made within a total Institutional budget for the Quincentenary. Additional funds will be requested in future years as planning continues. An updated version of the chart is attached.

**SMITHSONIAN INSTITUTION
FUNDING FOR COLUMBUS QUINTCENTENARY PROGRAMS
FY 1987 - FY 1992**

(\$000s)	FY 1987 Approp.	FY 1988 Approp.	FY 1989 Request	FY 1990 Estimate	FY 1991 Estimate	FY 1992 Estimate	FY 1987 - 1992 TOTAL FUNDING
Tropical Research Institute	0	0	0	56	147	330	553
Office of Museum Programs	0	0	0	125	145	75	365
Museum of Natural History	42	80	150	630	1,130	200	2,212
Air and Space Museum	12	30	41	241	441	41	806
Museum of American History	53	80	125	625	1,125	1,125	3,133
Museum of American Art	0	0	25	50	150	150	375
National Portrait Gallery	11	15	15	15	15	15	86
Natural History Museum	4	20	20	20	20	20	104
Cooper-Hewitt Museum	0	0	24	24	24	0	72
SITES	0	25	55	235	.85	.85	485
SI Press	4	0	0	0	0	0	4
International Activities	33	50	50	177	1,050	1,050	2,410
Volkife Programs	11	40	90	174	240	401	956
Interdisciplinary Studies	0	0	0	0	49	79	128
Elementary & Secondary Educ.	0	0	38	38	0	0	76
TOTAL, SMITHSONIAN	170	340	613	2,410	4,621	3,571	11,725









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