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SMITHSONIAN INSTITUTION

Fiscal Year 1977

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



ADMINISTRATIVELY CONFIDENTIAL

(Information not to be released until after the President's Budget is submitted to the Congress in January 1976.)

September 1975

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NASM (2)
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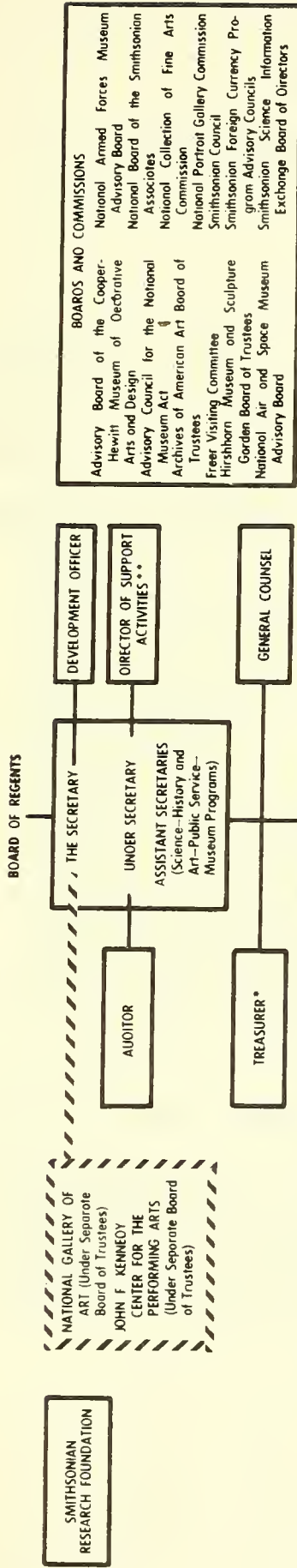
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SMITHSONIAN INSTITUTION



BUREAUS AND ACTIVITIES

- WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS (Under Separate Board of Trustees)
- SCIENCE
 - Center for the Study of Man
 - Chesapeake Bay Center for Environmental Studies
 - Fort Pierce Bureau
 - National Air and Space Museum
 - National Museum of Natural History
 - National Zoological Park
 - Office of International and Environmental Programs
 - Center for Short-Lived Phenomena
 - Smithsonian Oceanographic Sorting Center
 - Radiation Biology Laboratory
 - Smithsonian Astrophysical Observatory
 - Smithsonian Science Information Exchange, Inc.
 - Smithsonian Tropical Research Institute
- HISTORY AND ART
 - Archives of American Art
 - Cooper-Hewitt Museum of Decorative Arts and Design
 - Freer Gallery of Art
 - Hillwood Museum and Sculpture Garden
 - Joseph Henry Papers
 - National Armed Forces Museum Advisory Board
 - National Collection of Fine Arts
 - Renwick Gallery
 - National Museum of History and Technology
 - National Portrait Gallery
 - Office of Academic Studies
 - Office of American Studies
- PUBLIC SERVICE
 - Anacostia Neighborhood Museum
 - Division of Performing Arts
 - Office of Elementary and Secondary Education
 - Office of Public Affairs
 - Office of Seminars
 - Smithsonian Associates
 - Smithsonian Institution Press
 - Smithsonian Magazine
- MUSEUM PROGRAMS
 - Conservation Analytical Laboratory
 - National Museum Act Programs
 - Office of Exhibits Central
 - Office of Museum Programs
 - Office of the Registrar
 - Smithsonian Archives
 - Smithsonian Institution Libraries
 - Smithsonian Institution Traveling Exhibition Service

* FINANCIAL SERVICES

- Accounting
- Business Management
- Belmont Conference Center
- Product Program
- Smithsonian Museum Shops
- Grants and Insurance Administration
- Investments
- Programming and Budget

** SUPPORT ACTIVITIES

- Contracts
- Equal Opportunity
- Facilities Planning and Engineering Services
- Information Systems (ADP)
- International Exchange Service
- Management Analysis
- Personal Administration
- Plant Services
- Printing and Photographic Services
- Protection Services
- Supply Services
- Travel Services

Approved June 13, 1974

S. Dillon Ripley

S. Dillon Ripley
Secretary

SMITHSONIAN INSTITUTION

FISCAL YEAR 1977 ESTIMATES OF APPROPRIATIONS

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SMITHSONIAN INSTITUTION

(\$1,000s)

SUMMARY OF APPROPRIATIONS

Account	FY 1975	Est. FY 1976	FY 1977 Budget Request (Cumulative Increments)				Total Request
			Target Level Increase	Subtotal	Uncontrollable Increase	Subtotal	
Salaries and Expenses	70706	77908	1727	79635	3910	83545	85884
Supplemental		4200		4200		4200	4200
Science Information Exchange	1805	1875	125	2000	45	2045	2045
Supplemental		85		85		85	85
Museum Programs & Related Research (Special Foreign Currency Program)	2000	500	1500	2000	-	2000	4500
Restoration and Renovation of Buildings	1490	1467	2298	3765	-	3765	13015
Construction & Improvements, National Zoological Park	9420	8390	610	9000	-	9000	21350
Construction	$\frac{1}{7000}$	$\frac{1}{2500}$	(2500)	-	-	-	$2300\frac{1}{2}$
Totals - Regular	92421	92640	3760	96400	3955	100355	129094
Totals - Supplemental		4285		4285		4285	4285

/1 Liquidation of contract authority.

/2 Includes \$500 to fund National Air and Space Museum contract authority.

GENERAL STATEMENT

Founded in 1846, the Smithsonian Institution is an independent establishment devoted to basic research, care and documentation of the collections, public education, and national service in the arts, sciences, and history. Its work is conducted in the United States and in many foreign countries. It is the world's largest museum complex, attracting more than 20 million visits yearly to its museums, galleries, and zoological park, as well as additional millions who view its annual folklife festival and its traveling exhibitions appearing across the United States and abroad. As custodian of the National Collections, it possesses more than 70 million natural history specimens, artifacts, and art objects, only a few percent of which are on public display. The rest are available for scholarly study by the staff of the Institution and by many hundreds of visiting students, scientists, and historians each year. A wide range of programs, including grant-supported activities, are conducted with other museums and similar institutions, with colleges and universities, and with Federal, State, and foreign government agencies and activities. Active education programs are conducted from the elementary to the senior postdoctoral levels. Major museum buildings, laboratories, collections spaces, and wildlife preserves provide facilities for these purposes.

Smithsonian conferences on goals and priorities held over the past three years have helped to identify and reaffirm areas of budget priority, explored new organizational and management approaches that would result in more effective use of existing resources, and led to improvements in the development and exchange of information on program and project status. Among the conclusions reached at these sessions and further developed through the Institution's planning, budgeting, and other management processes are the following:

--Basic scientific and historical research is the foundation of the Institution's accomplishments and potential in its principal areas of output: the preparation and dissemination of scholarly research works and educational exhibits. Studies of man, his natural environment, and his cultural and technological progress must be given high priority.

--Museum collections at the Smithsonian and in other museums in this country are extraordinarily valuable national resources. Consequently, the Institution has an important responsibility to ensure the careful registration, conservation, documentation, storage, and accessibility of its own collections. It must also take a leadership role in the development of techniques and processes in collections management and preservation that will have applicability and benefit to all museums.

--The Institution's museums and laboratories are rich resources for education at all levels of public and academic interest. Concerted efforts must be given to reach new local and national audiences by means of teacher-training workshops, school tours and extension services to schools, fellowships, opportunities for training in museum and laboratory skills, new publications, television, and traveling exhibitions.

--Self-help measures to provide a portion of the resources required to implement Smithsonian programs must be developed. The magazine Smithsonian, museum shops, commercial publishing and national television arrangements, and the development of educational products to be marketed are examples of sound such ventures.

--Support resources (such as those applied to buildings maintenance, registration, and exhibits preparation) currently available must be organized and used to provide more responsive delivery of services to program needs and must be augmented when study indicates that current levels are deficient for acceptable response.

The application of base resources and request for additional resources in FY 1977 have been predicated on furthering these objectives. The FY 1977 budget is presented at various funding levels within the several appropriation accounts. Anticipated, essential supplemental appropriations for legislated pay raises and for escalating utility, communication, and other costs have been included in the FY 1976 base amounts reflected on appropriate appropriation summary sheets. Exclusive of these base adjustments, the requested funding levels for FY 1977 are:

--Budget authority of \$96,400,000 which would provide funds for National Air and Space Museum and other new facilities buildings management and protection (including annualizing part-time funding); for high priority research program development, including special research project grants; for augmenting fellowship programs; for further development of an adequate funding base for collections acquisitions; and for continuing the phased correction of identified support service deficiencies. It would also allow the Science Information Exchange to keep pace with an increased workload and continued inflation, fund a minimum level of Special Foreign Currency Program grants, provide for the most essential repairs and improvements to buildings and facilities, and continue the National Zoological Park's renovation program. This level, which incorporates a substantial reduction in funds appropriated for Bicentennial commitments, is within the target established by the Office of Management and Budget.

--Budget authority of \$100,355,000 which reflects an essential increment of funds for "uncontrollable" costs such as legislated pay increases, utility and communication rate hikes, and general inflation.

--Budget authority of \$129,094,000 which would further strengthen traditional and important program and support activities, including the funding of additional worthy grant proposals under the National Museum Act; production of four "mini-festivals," each concentrating on a single theme presented in the Bicentennial Festival of American Folklife; and limited expansion of the Traveling Exhibition Service's production capability. It would also fund additional worthwhile grants under the Foreign Currency Program, allow the Institution to perform more adequate maintenance and improvement of a valuable physical plant, advance the completion date of the General Service and Parking Facility at the National Zoological Park, begin detailed planning for the Museum Support Facility, and meet the final payment liquidating the contract authority for the construction of the National Air and Space Museum.

Details on these requirements are in the following sections of this budget, arranged by appropriation account.

SALARIES AND EXPENSES

1975 Appropriation.....	\$70,706,000
1976 Estimate.....	\$82,108,000 ^{/1}
Transition Quarter Estimate.....	\$21,767,000
1977 Estimate:	
Within Target.....	\$83,835,000 ^{/1}
Over Target.....	\$90,084,000 ^{/1}

The Smithsonian's operating program includes as major components four history museums: the combined National Museum of Natural History and National Museum of Man, the National Museum of History and Technology, and the National Air and Space Museum. There are six art museums: the National Collection of Fine Arts, the National Portrait Gallery, the Renwick Gallery, the Freer Gallery of Art, the Cooper-Hewitt Museum of Decorative Arts and Design in New York City, and the Hirshhorn Museum and Sculpture Garden. Each of these museums and galleries has extensive research, exhibition, and public service activities.

There are other major components of the Smithsonian in the Washington area. The Radiation Biology Laboratory in Rockville, Maryland, studies the effects of solar radiation. The National Zoological Park provides research and exhibition facilities in Rock Creek Valley, as well as animal conservation facilities near Front Royal, Virginia. Hillwood, the 25-acre estate bequeathed to the Smithsonian by Marjorie Merriweather Post, offers the potential for important public uses. Also in Washington, the Anacostia Neighborhood Museum operates in a low-income area of the city in cooperation with the local community. There is an oceanographic sorting center at the Washington Navy Yard.

Other facilities and activities are located throughout the Nation and around the world. Chief among these are the 2,500-acre Chesapeake Bay Center for Environmental Studies in Edgewater, Maryland, the Tropical Research Institute centered in Panama, and the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts. The Observatory also operates major installations in other parts of the United States and field stations in several nations. Other facilities include the 350-acre Belmont Conference Center in nearby Maryland and the Washington-based Archives of American Art with supporting centers in New York, Boston, Detroit, and San Francisco.

The work of these and other program activities is supported by a variety of administrative and technical staffs, some functioning as central organizations, others operating under the supervision of a specific museum or research program director.

The Salaries and Expenses budget justification is presented in four major sections--program activities, support activities, the American Revolution Bicentennial Program, and uncontrollable increases. The program activities section is subdivided into six categories: Research, Collections Acquisition, Collections Management, Exhibitions and Performances, Education and Public Orientation, and Other Services. Each of these categories represents a major program objective of the Smithsonian Institution and its various bureaus. Similarly, support activities are divided for budget presentation purposes into the following eight categories: Conservation, Libraries, Automatic Data Processing, Photography, Printing and Reproduction, Protection, Buildings and Facilities Management, and General Administration. This budget continues to give high priority to the effort begun in FY 1974 to strengthen these support areas. In the third section, the American Revolution Bicentennial Program, the final requirements of the special program of exhibitions and scholarship called "The American Experience" are presented; and, finally, the uncontrollable section cites special budgetary requirements imposed by inflation in salaries, services, and goods.

Details of the requested increases for Salaries and Expenses are provided on the following pages.

^{/1} Includes proposed \$4,200,000 supplemental appropriation.

SALARIES AND EXPENSES

(\$1,000s)

Program Categories	FY 1975		Estimated FY 1976		FY 1977 Target Request		FY 1977 Target Request		FY 1977 Above Target Request		Total	
	\$		\$		Increase		Total		Increase		Total	
	MY		MY		MY		MY		MY		MY	
Research	494	13549	513	13774	28	1038	541	14812	0	92	541	14904
Collections Acquisition	21	1035	25	1152	0	221	25	1373	0	280	25	1653
Collections Management	294	5166	332	6061	20	243	352	6304	13	168	365	6472
Exhibitions & Performances	251	6740	309	8037	1	(235)	310	7802	0	480	310	8282
Education & Public Orientation	135	2397	147	3045	8	609	155	3654	6	370	161	4024
Other Services	17	1122	16	1091	0	0	16	1091	0	235	16	1326
Total Program	1212	30009	1342	33160	57	1876	1399	35036	19	1625	1418	36661
<u>Support Categories</u>												
Conservation	61	1286	66	1336	1	27	67	1363	0	0	67	1363
Libraries	83	1635	102	1828	6	180	108	2008	0	0	108	2008
Automatic Data Processing	26	860	29	935	3	108	32	1043	5	90	37	1133
Photography	40	801	44	776	0	6	44	782	3	35	47	817
Printing & Reproduction	36	1350	38	1345	2	71	40	1416	0	30	40	1446
Protection	454	5683	537	6839	78	884	615	7723	32	341	647	8064
Buildings & Facilities Management	701	17725	848	19084	120	2130	968	21214	13	218	981	21432
General Administration	345	7502	357	8349	15	312	372	8661	0	0	372	8661
Total Support	1746	36842	2021	40492	225	3718	2246	44210	53	714	2299	44924
Bicentennial of American Revolution	58	3855	110	4256	(72)	(3867)	38	389	0	0	38	389
Uncontrollable									0	3910	0	3910
Total, Salaries and Expenses	3016	70706	3473	77908 ^{/1}	210	1727	3683	79635 ^{/1}	72	6249	3755	85884 ^{/1}

^{/1} Excludes proposed supplemental of \$4,200,000.

Research

FY 1976 Estimate.....	\$13,774,000
Within Target Increase.....	\$1,038,000
Over Target Increase.....	\$92,000
FY 1977 Estimate.....	\$14,904,000

Research is much more than the scholarly communication of experts; it is the essential work that produces program results in many other areas of Smithsonian responsibility. New exhibits are created and made meaningful by the strong underpinning of scientific, historical, and curatorial research. The National Collections become important, useful resources through the application of research. The act of collecting is made selective and rational by on-going research. Publications of scholarly and public interest would not materialize without research.

Since its establishment 129 years ago, the Smithsonian Institution has maintained original research as the keystone of its efforts to increase knowledge. The characteristics of this activity include work of the highest quality, primarily long-term basic and fundamental research. This tradition of continuity enables the Smithsonian to provide the Nation with a unique and invaluable series of baseline data. To ensure that the results of this research are widely disseminated and put to practical applications as rapidly as possible, increasing effort is being made to strengthen Institutional ties with universities, state, and Federal agencies.

Research is carried out at specialized major research centers in six states (Virginia, Maryland, New York, Massachusetts, Arizona, and Florida), the District of Columbia, and the Canal Zone (Panama). Studies are also conducted at smaller stations and field sites throughout the world. A priority is to provide the research staff with maximum support in pursuing their specialized studies, to provide facilities with the most effective equipment and protection, and to encourage the widest possible availability of the Institution's scientific resources to students, organizations, and the public.

Since the appointment of Joseph Henry as the Institution's first Secretary, Smithsonian scientists have conducted research studies in the biological and physical sciences. The Smithsonian has long concentrated on those areas of basic research which do not conflict with the mission-oriented agencies and more importantly has provided the necessary long-term baseline data useful for policy planners in applied areas. Scientific research at the Smithsonian covers a broad spectrum from research into distant space to investigations of the ocean's crust. The research bureaus, themselves separate entities, combine to view environmental problems in a holistic approach. Several non-bureau programs aid in this unification process. The International Environmental Program (IEP) and the Environmental Sciences Program (ESP) are complementary programs with the long-term goal of integrating the data gathered in an attempt to better understand and compare ecosystems throughout the world. ESP is an interbureau, interdisciplinary effort sited at the Chesapeake Bay Center for Environmental Studies and the Smithsonian Tropical Research Institute. The Smithsonian's long interest in international environmental work has been aided by the development of the IEP. IEP like ESP is an interbureau, inter-

disciplinary effort aimed at studying various ecosystems in the tropics and subtropics. The program is designed to maximize the Smithsonian's limited resources in just a few regions of the globe. Currently long-term projects are being undertaken at the Galapagos Islands, Ecuador; the Fly River region in Papua, New Guinea; the Amazonian region surrounding Manaus, Brazil; the savannas and forest sites south of Maracay, Venezuela; and the Chitawan National Park in the terai of Nepal. The researchers are paying particular attention to the identification and study of critical natural habitats important in the preservation of endangered species.

The National Museum of Natural History through its collections provides a large data base of indicator species for use in studying endangered habitats. For example, in FY 1975, the Museum's Department of Botany provided the first comprehensive list of endangered flora of the continental United States. Work will continue in FY 1976 on revising the list and identifying endangered flora in the territories and Puerto Rico. The National Zoological Park continued research and breeding activity on endangered species at its Research and Conservation Center at Front Royal, Virginia. The research will ultimately lead to better management of captive animals and provide greater knowledge in the fields of animal behavior and reproduction.

Development of land-use policy, a growing national concern, is being assisted by scientific information provided by the Chesapeake Bay Center for Environmental Studies. This Smithsonian facility located in Edgewater, Maryland, concentrates on estuarine research. The Center's research on the Chesapeake Bay will ultimately aid in preserving economically important waterways elsewhere in the United States. Research on tropical ecosystems remains of great interest to the Smithsonian Tropical Research Institute. Intensive focus this year will be made on the construction of tropical dams especially in Panama which will offer an excellent opportunity to examine the ecological changes in a large man-made tropical lake incorporating river systems with diverse fauna. Such research will assist planners in the future siting of dams and aid in the understanding of fresh-water ecosystems.

The link between studies of terrestrial and marine environments by the aforementioned bureaus and research in the space environment is the research conducted by the Radiation Biology Laboratory and the Smithsonian Astrophysical Observatory. Studies were continued at the Radiation Biology Laboratory this past year on the reaction of organisms to light and the monitoring of ultraviolet rays on the earth. Such studies are important in the development of alternate food sources, prediction of the potential for crop destruction by increased ultraviolet rays penetrating the atmosphere, and the incidence of skin cancer by light. The Smithsonian Astrophysical Observatory continued its work on solar physics and high-energy astrophysics in order to bring a clearer comprehension to the origin of the universe. Additionally, research has provided preliminary data which may be useful in the harnessing of alternate sources of energy. With the completion of the National Air and Space Museum, research into air and space achievements and artifacts will be undertaken.

While recognizing the utility of interdisciplinary work and bureau-oriented research, the Smithsonian maintains its tradition of excellence for independent investigation through the Research Awards Program. The work supported by the Program is often the most productive and imaginative of the Institution's research. The program offers an opportunity for researchers to engage in

collaborative field research with colleagues in other institutions. Many opportunities for participation in expeditions and other field projects would be lost were it not for the Research Awards Program.

The Smithsonian's history and art activities serve the public through exhibits, demonstrations, lectures, publications, and performances on the strength of prior and on-going research into the history of art, science and technology, government, industries, American culture, and the applied arts. The scope of this research ranges from the detailed analysis of individual paintings and sculptures to the study of the entire works of various artists and schools of art, from the history of a particular stamp to the history of our postal system, from the papers of an individual statesman to his portraits to his proper place in American history. In each instance these researches, whether specific or general, are firmly grounded in artifacts and works of art in the National Collections.

During FY 1975, history and art research pursued many different and important lines of inquiry. A short synopsis of the high points would include the work of the Archives of American Art in preparing a comprehensive checklist of their holdings to be published for distribution to libraries and art history departments of colleges and universities as a major new research tool for study in American art history. The Archives also completed and taped oral history interviews with many American art figures including Robert Motherwell and Claes Oldenburg. In an entirely different arena, the Cooper-Hewitt Museum researched the architectural and design history of many of the historic landmarks of lower Manhattan, leading to an outdoor walking exhibition, "Immovable Objects," bringing the Museum literally into the workaday world.

The Freer Gallery completed research preparatory to their major exhibition "Art of the Arab World" including an extensive catalogue. In addition, important new work with Freer's American holdings of the works of James McNeill Whistler was begun in anticipation of a 1976 exhibit of these paintings. The Hirshhorn Museum's research activities were also devoted largely to forthcoming exhibitions, including a Bicentennial exhibit of "Artists-Immigrants of America, 1876-1976." In another activity, staff historians working with the papers of the eminent American scientist of the 19th century, Joseph Henry, completed their preparation of the second volume of his work which has gone to press.

Research in American art history at the National Collection of Fine Arts was devoted largely to the 18 special exhibitions held there and at the Renwick Gallery during FY 1975. Similarly, the National Portrait Gallery devoted their principal research effort to two Bicentennial exhibitions of the important figures in American history from 1760-1776. Major catalogues accompanied both of these shows.

Largest in professional staff and exhibits space among the history and art activities of the Smithsonian, the National Museum of History and Technology was heavily engaged in the preparation of six major exhibits. Two of these opened during the year, an exhibit on the history of clothing in the United States--its design, production, and marketing--and a large hall on U.S. government history, "We the People." Two more Bicentennial exhibits to be opened in FY 1976, "A Nation of Nations" and "Centennial, 1876," and major halls depicting U.S. maritime history and U.S. banking history consumed much of the Museum's remaining research effort. The acquisition in FY 1975 of the

Dibner Library of the history of science and technology, a rare book collection of over 20,000 volumes represents an important new research resource for the Museum. Volumes include original works and many first editions of Newton, Darwin, Copernicus, Pliny, Galileo, Faraday, Kepler, Boyle, Priestley, Pasteur, and other leaders in the history of scientific inquiry.

In FY 1975, base resources devoted to all aspects of research consisted of 494 man-years and \$13,549,000. Of this amount, 198 man-years and \$5,182,000 were directed to research by the National Museum of Natural History, encompassing all the natural sciences and anthropology; 22 man-years and \$616,000 to tropical biology; 12 man-years and \$256,000 to zoology; 50 man-years and \$1,240,000 to regulatory and environmental biology; 55 man-years and \$2,750,000 to astrophysics; and 157 man-years and \$3,030,000 to historical and cultural research. An amount of \$475,000 was directed to Research Awards.

In FY 1976, resources in the amount of 513 man-years and \$13,774,000 are expected to be used in research in essentially the same pattern. Salaries and benefits for the 513 man-years are estimated to cost \$10,362,000 with \$3,412,000 to be spent in all other object classes.

Increase: For FY 1977, an increase of 28 man-years and \$1,038,000 is requested within target and an additional \$92,000 is requested above target. The Smithsonian's non-bureau environmental programs are designed to provide maximum flexibility in field research on endangered species and critical-habitats within a multi-disciplinary context. The research undertaken by the ESP and IEP fills many of the gaps left by the bureaus in the area of long-term baseline data plus environmental indicators. The requested increase of \$65,000 within target and \$35,000 over target will allow the ESP to develop and extend projects on the chemical analysis of nutrient decomposition of litter, impact of invertebrate herbivores, human land use, and the impact on natural environment.

The International Environmental Program's increase of \$35,000 within target will enable development of the five principal sites providing opportunities to more Smithsonian bureau scientists to participate in short-term environmental research projects especially on endangered species and critical habitats. It will also provide opportunities to qualified university professionals and students to undertake international environmental research. Additionally, the increase will allow for the training and participation of host country scientists at the five program sites.

The National Museum of Natural History will place increasing emphasis on the study of endangered species and critical habitats this fiscal year. Three man-years and \$42,000 are requested within target for the continuation of work on endangered flora. The publication of the Smithsonian's Report on Endangered and Threatened Plant Species of the United States in early 1975 has brought wide recognition of the problems of endangered flora in this country. The increase will be applied to updating and improving the national lists. The Smithsonian will provide assistance to the Department of the Interior which is charged with the management aspects of endangered flora. A project to aid in the understanding of island birds, many of them endangered species, will require an increase of 3 man-years and \$55,000 within target for completion. This work will enable better prediction of future potential extinctions and will develop guidelines for timely action to preserve endangered populations. Coral reefs are among the most highly diversified and most delicately adapted communities of animals and plants to be found anywhere in the world. They are severely endangered by the actions of man in many areas. The National Museum of Natural

History requests within target one man-year and \$30,000 to undertake a study of the systematics and ecology of corals and related animals in coral reefs. This study will aid in the understanding of natural forces in order to predict harmful and beneficial consequences of man's activities on the environment. The information gathered will aid in maintenance, water quality, control of beach erosion, and the creation of modern ports and harbors.

The study and identification of endangered species are each only a step in the process of conserving these valuable species. The propagation of these species in breeding areas such as the National Zoological Park is essential if they are ever to be returned to the wild. One man-year and \$20,000 are requested within target for the National Zoological Park to conduct nutrition studies on captive animals to improve the health and propagation of species. Funds (\$5,000) also within target are sought for the support of other on-going programs in ecological and behavioral problems.

The tropics are increasingly under pressure from human influence; and critical habitats for species, many of them endangered, are being destroyed. The Smithsonian's Tropical Research Institute is conducting research on the marine and terrestrial aspects of the tropics. Two man-years and \$61,000 are requested within target to support research in tropical biology. One study will be devoted to the investigation of fresh water ecosystems and their relationships to the siting of hydroelectric dams. The other study will be devoted to an analysis of different enzymes and proteins in organisms in order to understand the evolutionary process of species on both sides of the isthmus in Panama. This research will hopefully provide a major breakthrough by evaluating how much genetic differentiation is correlated with ecological and behavioral differences in populations. An amount of \$9,000 within target is sought for the replacement of a spectrophotometer essential in the monitoring of sunlight in the tropics.

The Chesapeake Bay Center for Environmental Studies has concentrated its efforts on land-use policy planning and the scientific information upon which to make these determinations. The development of a permanent resident scientific staff is important to carry out this work and provide continuity to programs previously supported by other sources. Two man-years and \$75,000 sought within target will be allocated for research in plant ecology and land use at the Center.

The Smithsonian's Research Institute on Immigration and Ethnic Studies has concentrated its work on studies of culture and their relationship to population movement, i.e. immigration from the Caribbean to the United States. Such research is important in providing the link between anthropological studies of certain cultures and the effect of a culturalization of modern people. Mobility of populations is important in the determination of environmental parameters for urban and rural planners. An increase of one man-year and \$35,000 within target is sought for this research.

The National Air and Space Museum will begin to provide greater focus on research this fiscal year as the new building is completed. One man-year and \$20,000 are sought within target for the preparation of a study on the benefits of space technology. The research will provide an assessment of the pitfalls and success of research in the space environment undertaken within the recent past in order to provide useful benchmarks for policy planners in the preparation of future research priorities.

Increased emphasis in the search to unlock the mysteries of the space environment and the search for alternate forms of energy will be the highest priority for the Smithsonian Astrophysical Observatory. Within target, eight man-years and \$182,000 are sought to strengthen the scientific staff in order to meet the urgent need for information in energy and space by policy planners. The advancements in the field are tied integrally to the availability and development of the highest caliber of instrumentation and equipment. Funds in the amount of \$90,000 are sought to accomplish this task.

The ability to devote a portion of their time to independent research is essential to research staff in order to bring a fresh and imaginative insight to the diversity of Smithsonian research fields. The Research Awards Program provides an opportunity to the Smithsonian staff to engage in independent research in new areas of science which cannot immediately be funded out of bureau funds. The Program, because of its competitive nature and limited resources, has had in the past to discourage researchers from submitting proposals which with additional monies would have been funded. The proposals are reviewed by a distinguished outside review panel in order to maintain a high standard of quality and diversity of research. An amount of \$203,000 is requested within target to provide expanded opportunity to this innovative Program.

The excellence of research at the Smithsonian can only be maintained by the constant exposure of the staff to new ideas from outside scientists. Funds are requested in the amount of \$57,000 over target to bring distinguished senior scientists to the Institution on a short-term basis to collaborate with the staff on on-going research programs. The program will be of extreme value to the Institution, not only in terms of exposing younger staff to new methods, but also in assessing future priorities for research.

Two man-years and \$32,000 requested within target are for the purpose of collecting and studying photographs and films of notable Americans since the mid-19th century by the National Portrait Gallery.

One man-year and \$14,000 are requested within target for a translator of Oriental languages. The Freer Gallery of Art contains many objects of art, pictures, and other materials on which ancient inscriptions are written that need to be translated.

Finally, three man-years and \$65,000 within target are to be used for the Inventory of American Paintings Prior to 1914, which was established with Bicentennial of American Revolution funds. By 1977, there will be 150,000 paintings indexed in the Inventory. These funds will be used to employ staff to answer public inquiries concerning the Inventory and to index additional American paintings.

Collections Acquisition

FY 1976 Estimate.....\$1,152,000
Within Target Increase.....\$221,000
Over Target Increase.....\$280,000
FY 1977 Estimate.....\$1,653,000

The Smithsonian Institution has over 70 million objects and specimens in the fields of art, history, and science. Even with this impressive number of items, however, it is essential to add selectively to the collections to improve their depth and breadth.

The collections have come to the Institution in several ways. Most were acquired during field research and collecting by Smithsonian and other anthropologists, biologists, and geologists. Public-spirited American and foreign citizens and organizations have also donated objects or funds. To a very limited extent, they have come as a result of the expenditure of Federal funds.

Since its establishment in 1846, the Institution--under the Board of Regents and statutory authorization (including 20 U.S.C. 50, 55, 59, and 60)--has been the recipient of hundreds of thousands of donations and bequests to the National Collections. These gifts have filled gaps in our collections and reflect the confidence and support the general public has for us. The gifts vary from entire collections of art works (e.g. Charles Lang Freer and Joseph H. Hirshhorn collections), to airplanes (e.g. the Wright Brothers' Flyer, and the Spirit of St. Louis), to major and minor biological collections, and recently a rare book library. Although many gifts are accepted each year, an equally impressive number are declined. In accepting a gift, a number of criteria are used to measure applicability for inclusion at the Smithsonian. The first question asked is whether the donation pertains to the Smithsonian's broad interests. Secondly, is it something that could be protected and maintained elsewhere? And thirdly, does the gift duplicate or expand collections already on hand?

Although many donated items in the collections cannot be assessed monetarily, their value as national treasures (the Star-Spangled Banner, for example) far exceeds the amount of public funds that have been spent on their care, study, or exhibition. Furthermore, each year there are some 20 million visits made to the Smithsonian's museums, galleries, and zoological park. The visitors' pleasure and education are enhanced greatly by the opportunity to see rare specimens, important historical artifacts, and great national treasures that have come from private sources.

While the Smithsonian will continue to rely heavily on donated objects and specimens, it is very important that such acquisitions be supplemented with purchases. Such funds are required to replace and upgrade the quality of objects already in the collections, as well as to acquire particular objects in order to establish fully representative reference collections or to display in a new exhibition. Frequently, these objects are available only from dealers, particularly works of art. Prices continue to rise as competition for scarce artifacts and specimens intensifies. The history and art museums have committees of experts which approve items prior to purchase. This procedure helps to ensure that only important objects are acquired.

Purchase funds are limited at the Smithsonian in comparison with many other museums. For example, the Metropolitan Museum recently paid \$5.1 million for a collection of Japanese art. In contrast, in FY 1975, a total of only \$1,035,000 were available to the Smithsonian for the acquisition of collections. However, this includes personnel costs of \$422,000 for some 21 man-years of curatorial and support personnel engaged in field collection and development of contacts with potential donors. Non-Federal funds in the amount of \$850,000 were also applied to the purchase of objects. In FY 1976, 25 man-years and \$1,152,000 will be budgeted in this category. Salaries and benefits are expected to cost \$517,000, with \$635,000 available for purchases and other related needs.

Increase: For FY 1977 acquisition purchase funds in the amount of \$221,000 are requested within target and an additional \$280,000 over target. Of these totals, \$150,000 within target and \$150,000 over target are requested for art purchases. The art museums of the Smithsonian are among the more recently established bureaus. In order to have representative collections it is essential that funds be available for the purchase of some works of art. Although the art museums attract many gifts each year, purchasing some critical items is essential.

A further \$50,000 within target and \$50,000 over target are sought for the purchase of historical material. For example, early work and everyday clothing, American ceramics and glass, early automobiles and carriages, and Shaker furniture all need to be added to make the collections more representative.

Funding of \$21,000 within target is sought to continue on a permanent basis a jazz oral history and archives project. With funds from the National Endowment for the Arts, the Institution undertook to interview many of the older musicians and their associates who contributed to the early development of jazz--America's most important contribution to music. The funds would be used to continue the program of interviews to be transcribed for use by scholars and historians.

An amount of \$65,000 over target is sought for the purchase of anthropological and ethnological items. Most of the items in the current collections were obtained in earlier major collection programs. More recently we have had to depend upon gifts. For collection balance, funds are needed to purchase contemporary native and folk crafts and older American material.

Finally, \$15,000 are sought over target to acquire animals for display, especially extraordinary, endangered, and exotic animals.

With the funds expected to be available in FY 1976 plus the increases requested both within and over target, \$1,136,000 will be available against a goal of \$1,600,000 for actual acquisitions by 1980.

Collections Management

FY 1976 Estimate.....	\$6,061,000
Within Target Increase.....	\$243,000
Over Target Increase.....	\$168,000
FY 1977 Estimate.....	\$6,472,000

Museums are distinguished from other institutions of learning or other cultural establishments by their collections. The millions of man-made objects and natural history specimens in our collections, including the animals of the National Zoological Park, require a great deal of highly skilled care.

Collections management includes the receipt, accessioning, documentation, and care of specimens and objects. Component activities include registering, cataloguing, labeling, storing, cleaning, preserving, fumigating, and related work. Also included in collections management is the maintenance of archives to provide support and background materials to the collections.

Collections management interfaces with conservation when specimens require special treatment and with research and scholarship when specimens are made available to scholars for their examination and study.

The centralized registration staff has been replaced with registration staffs in the various museums. This will ensure proper documentation of all acquisitions in each museum and gallery. Each registrar is knowledgeable in a particular subject area. Registrars from the various museums meet as a Registrars' Council to discuss common problems and to seek solutions to those problems.

Major strides have been made in the overall management of collections at the Smithsonian with the development of a generalized computer system for the collecting, indexing, and retrieving of data. Benefits from this system will include continuously updated catalogues, cross-referencing indices by categories, and more accurate and timely inventory control.

In the natural history areas the appointment of collections managers has proven very successful. One person has been appointed to serve as collections manager for each department. Storage areas are placed under limited access and controlled by the collections manager, who is responsible for the care and preservation of the specimens under his control. Relieved of this duty, the scientists are able to devote more time to essential research.

The animal collections of the Zoo present many additional and unique aspects of collections management. In order to maintain the collections through reproduction and to conserve endangered species, new programs of animal care and propagation are being developed. Much of this effort goes into the determination of the needs in captivity of each species for both proper maintenance and effective reproduction. The latter is particularly important as the laws of the United States and many other countries have made the importation of animals virtually impossible, a trend that will continue.

Archival records are collected and maintained to support the collections and are situated in many locations throughout the Institution. Principal among

these are the Central Archives, which document the history of the Institution and the history of American science in the 19th and 20th centuries; museum and gallery archives, which document objects, specimens, field and laboratory studies; and research and specialized archives. Examples of such archives are the National Anthropological Archives, which contain extensive manuscript and photographic collections primarily on North American Indian history and cultures, and the Archives of American Art, which holds the personal and official papers and other documentation of painters, sculptors, critics, collectors, galleries, museums, and art societies. Current holdings in the Central Archives amount to almost five million documents dating from the 1830's to the present. Bureau and office holdings are estimated to contain at least another ten million documents covering a similar time span.

In FY 1975, base resources directed to this area totalled 294 man-years and \$5,166,000. This included personnel costs of \$4,263,000 for 31 collections managers and curators, 140 museum technicians and aids, 10 commissary stewards and farm workers, 52 animal keepers, 10 registrars and assistant registrars, 20 archival personnel, and 31 administrative assistants, secretaries, and clerks. Support funds of \$903,000 were used for animal food (\$245,000); storage containers (\$250,000); equipment and other miscellany, i.e. alcohol, preservatives, mounting pins, picture mounts, etc. (\$408,000).

In FY 1976, 332 man-years and \$6,061,000 will be devoted to collections management. Salaries and benefits are expected to cost \$4,928,000, while \$1,133,000 will be available for other object class expenditures.

Increase: For FY 1977, an increase of 20 man-years and \$243,000 is requested within target, and 13 man-years and \$168,000 are requested over target. Of the increase, 8 man-years and \$80,000 within target and 8 man-years and \$93,000 over target will be used to provide collection area and laboratory assistants to the National Museum of Natural History. These assistants will be assigned to care for the National Collections by adding preservative fluids, relabeling specimens, and replacing deteriorating containers. A request over target for 5 man-years and \$75,000 for the same museum is made to employ technicians to document collections that are expected to be relocated to the proposed new Museum Support Facility. This program will enable the scientists to locate items after they are moved.

The Lion and Tiger Exhibit at the Zoo requires 1 man-year and \$19,000 within target to maintain the additional animals to be exhibited in this area. By FY 1977 the Zoo anticipates caring for 175 animals at its Front Royal Conservation Facility. An increase of 3 man-years and \$29,000 is sought within target to care for the additional 125 animals to be placed at Front Royal.

In FY 1975, with financing from non-Smithsonian sources, an Anthropological Film Archives was begun. One man-year and \$20,000 are sought within target to maintain this program.

Work is underway to inventory and catalogue all the collections of the National Museum of History and Technology using computer systems. Five man-years and \$37,000 are requested within target to establish a team that would be rotated through the Museum to catalogue uniformly the collections of over 14,000,000 objects.

An amount of \$12,000 within target is sought to microfilm the central collections management file of the Freer Gallery of Art. For over fifty years the staff has annotated their research on individual objects on a card record,

creating a valuable tool for both staff and scholars. A microfilm record would safeguard the contents of these fifty years of research in case of damage, loss, or destruction of the original.

An increase of 1 man-year and \$7,000 is requested for an oral history project. In recent years, archival material has been extended to include interviews with various individuals. One such project already underway is the documentation of the history of natural sciences in America, an area in which the Smithsonian has been a major contributor. A clerk-typist is needed to transcribe the interviews.

One man-year and \$39,000 are requested to enlarge the collecting area of the Archives of American Art. Even though the Archives main administrative offices are located in Washington, no personnel are available to seek out additional material here. Since it is virtually an untouched region, many outstanding entries will be added to the Archives by the addition of one field representative.

Exhibitions and Performances

FY 1976 Estimate.....	\$8,037,000
Within Target Increase.....	(\$235,000)
Over Target Increase.....	\$480,000
FY 1977 Estimate.....	\$8,282,000

Exhibitions and performances are an important function of museums. No activity undertaken by the Smithsonian has more public visibility than our permanent and temporary exhibits and various performances.

The exhibits are as varied as the National Collections, covering art, sculpture, natural history specimens (including many live animals), and objects of historical significance. Exhibits are currently on continuous display in eight buildings and at the Zoological Park. Four new buildings are expected to be opened by FY 1977: the new National Air and Space Museum, the new lion and tiger facility in the Zoo, the renovated Arts and Industries Building, and the Cooper-Hewitt Museum of Decorative Arts. The Institution also circulates traveling exhibits for use by local groups.

Including the development of the script and the design and construction period, a major exhibit takes several years to complete. Major exhibits are on display for a number of years, but with the number of exhibit halls at the Smithsonian, exhibits renovation is constantly underway. In order to ensure the timely completion of quality exhibits, a special exhibits report is prepared annually. This report enables Institutional management to have a comprehensive review of the exhibits being undertaken and a review of the cost of exhibits completed in the past fiscal year and those contemplated for the current year.

The majority of exhibits in both the National Museum of Natural History and the National Museum of History and Technology are now over ten years old. In the ten-year period 1964-1974, these exhibits have been viewed by over 92.5 million visitors. The National Museum of Natural History started a major renovation program in FY 1974. In replacing exhibits, new exhibit techniques as well as the mixing of scientific disciplines in a hall will provide more interesting and educational exhibits. If the completion rate of new halls can be sustained at 1-1/2 to 2 per year, it will take twenty years to complete the exhibits cycle in the Natural History Building.

The new National Air and Space Museum, which will open July 4, 1976, will have twenty-five exhibit halls and two presentation facilities. Objects will be on display in all exhibit halls at the time of the public opening, but only 40 to 50 percent of the halls will be fully finished with permanent exhibits. By the end of FY 1978 all exhibits are to be completed.

Major exhibits that are expected to open in FY 1976 are: South America--Continent and its Culture; Lunar Geology; The Anacostia Story; and new elephant and lion and tiger exhibits. As a part of our Bicentennial celebration the following exhibits will also be opened to the public: Our Changing Land; Nation of Nations; 1876--A Centennial Exhibition; Americas--The Decorative Arts in Latin America in the Era of the Revolution; Arts of Asia at the Time of American Independence; City with a Plan; Sculpture--American Directions, 1945-1975; Signs of Life--Symbols in the City; and The World's Artists and America.

Exhibits are no longer the simple display of inanimate objects. A variety of techniques has been employed to make the exhibits more interesting and have a more lasting impact on the audience. Two of the exhibits that are currently available in the Museum of Natural History feature live animals: the Insect Zoo, which shows a live colony of local insects, and a bee hive, which displays the internal working of a bee colony. In the past, museums have discouraged visitors from touching anything on display, but now areas have also been arranged to allow the visitor to pick up and examine objects. In two of the natural history exhibits animal skins are placed near the displays so that at the same time a visitor is viewing a tiger or elephant he can touch a piece of hide and learn how it actually feels, and another area is stocked with a variety of natural history specimens that the visitor can handle. A history exhibit shows the everyday life of the citizen-soldier during the American Revolution through the display of clothing, munitions, food and equipment.

Further extensions of exhibits are performances and demonstrations. Demonstrations are carried out in exhibit halls to provide an additional dimension to the objects. Not only does the public see an object, but now also has the opportunity to learn how it works. Currently there are demonstrations in spinning and weaving, musical instruments, and machine tools. As part of the Bicentennial, one major hall of late 19th century heavy machinery will be displayed, much of it working. Technicians will be available to explain the working of the machines on display.

Of special interest to the Washington community is the annual Festival of American Folklife which has in the few years since its inception become one of the most popular events of the summer season with its presentations of America's folk arts and ethnic origins. An extension of the Folk Festival to the national scene is a touring performance division which takes the foreign performer troupes from the Folk Festival to other cities. In 1975, 50 performances were held in 26 cities. The Smithsonian presents concerts, films, lectures, and a puppet theater to add to the visitors' enjoyment.

The Institution also has recognized the need to assist other museums and institutions to bring quality exhibitions to their communities. For over twenty years the Institution through its Traveling Exhibition Service has circulated shows around the country. These shows represent exhibits from the Smithsonian as well as other museums, numerous government agencies, and individuals. It is estimated that the shows circulated to every state in the union are viewed by five million people annually. For international exposure of American art, shows are organized for exhibition overseas.

In FY 1975, 251 man-years and \$6,740,000 were used for exhibitions and presentations exclusive of exhibits being financed from the Bicentennial of the American Revolution. This included personnel costs of \$3,861,000--22 man-years for administrative and clerical personnel and 229 man-years expended in designing, film making, illustrating, editing, cabinetmaking, painting, and other exhibit production and maintenance tasks. Expenditures of \$2,879,000 were made in other objects for contracts for exhibits design and production for air and space exhibits. Funds were also used to purchase paint, lumber, Plexiglas, and other construction supplies and materials for exhibits work.

In FY 1976, 309 man-years and \$8,037,000 are expected to be used for exhibits and presentations. Of this total, \$4,554,000 will be used for salaries and benefits and \$3,483,000 for other objects of expense.

Increase: One man-year and \$25,000 within target are requested for an exhibits project coordinator who will plan, develop, and administer the day-to-day operations of the Anacostia Museum exhibits program.

The Festival of American Folklife has been produced for ten years. In FY 1976, this festival will be twelve weeks long with major funding from the Bicentennial Program and outside sources. Starting in FY 1977, production of four "mini-festivals" has been proposed. Three hundred thousand dollars (\$300,000) over target is sought to produce these "mini-festivals." Each festival will run four or five days, concentrating on one theme from the Bicentennial Festival--e.g., Old Ways in the New World, Regional Americans, Native Americans, and Working Americans. One festival a month would be held from Memorial Day to Labor Day.

The Smithsonian Astrophysical Observatory currently does not have an exhibit representative of its work in any of the Mall museums. In conjunction with the National Air and Space Museum, a preliminary concept for such an exhibit could be developed with \$10,000 sought over target.

With funding from the Bicentennial of the American Revolution, the Smithsonian Traveling Exhibition Service has doubled, from 100 to 200, the number of shows it circulates annually. The overwhelming response to these exhibits has focused attention on the need for the Smithsonian to continue to offer numerous additional shows after the Bicentennial period. A request of \$170,000 over target will produce 7 additional shows each year. The exhibitions will be based on Smithsonian collections, especially those of the National Museum of History and Technology, the National Air and Space Museum, and the Cooper-Hewitt Museum.

A program decrease of \$260,000 for the Major Exhibition Program has been reflected in FY 1977. The National Air and Space Museum had one major exhibit which was funded under this program. That exhibition will be completed in FY 1976.

Education and Public Orientation

FY 1976 Estimate.....	\$3,045,000
Within Target Increase.....	\$609,000
Over Target Increase.....	\$370,000
FY 1977 Estimate.....	\$4,024,000

Education and public orientation are a natural extension of other Smithsonian programs. In order to make the exhibits and research of the Institution meaningful to visitors and to a larger national audience, a variety of educational activities and materials have been developed. Education and public orientation programs are aimed at individuals and groups ranging from pre-school children to the most advanced scholar, and from the casual museum visitor to the specialized collector.

At the elementary and secondary school levels, tours of the museums' most popular exhibits are conducted. During FY 1975, 2,396 teachers participated in training workshops, and 1,791 docent-conducted instruction tours were provided for an estimated 74,542 elementary and secondary school students. To extend education opportunities to local school children who cannot come to the Institution, a variety of audio-visual aids and three-dimensional object kits have been developed. For example, the Anacostia Neighborhood Museum operates a van which takes small loan exhibits, speakers, and demonstrations to schools as well as to churches and community organizations. The emphasis is on the history and culture of people of African descent.

An Exhibits Training Laboratory also has been established as part of the Anacostia Neighborhood Museum with two goals in mind: to produce Bicentennial exhibits, and to train minority inner city persons in exhibits skills.

At the university level, programs of pre- and post-doctoral fellowships are conducted. The fellowships are granted to young scholars and scientists majoring in areas of Smithsonian concern to allow them to collaborate and study with Smithsonian scientists and historians and to use the libraries, collections, and laboratories. The Institution's resources are available in many specialized areas where the combination of staff expertise and specimen collections is not available in universities.

At the Chesapeake Bay Center for Environmental Studies a series of field programs in biology are offered at the elementary school level. Public programs for adult groups such as civic and social organizations also are conducted on an occasional basis. Efforts are being made to develop a model outdoor environmental education program for adults.

National and international seminars and symposia are held on timely and important topics and the results published. Scheduled for late FY 1976 is a five-day symposium titled, "Kin and Communities: The Peopling of America."

For the general public, building guides are written and distributed. Attractive posters and signs are placed to tell the visitor of special activities, exhibits, and about other parts of the Institution. Various pamphlets, bulletins, and news releases are published and circulated.

Leaflets and letters are used to respond to specific inquiries from the public, mostly school children, but also scholars and collectors. The Institution, also as a public service, will identify objects brought in by the general public.

Radio Smithsonian, aired weekly in Washington, D.C., presents interviews with staff specialists, music based on the collections and the Folklife Festival, and other topics of general interest. Tapes are made available to radio stations around the country. In the winter of 1974-1975, three successful television programs were shown on national television. Efforts will continue in the television area, but will probably be directed to production for Public Broadcasting.

Free films are also shown on a scheduled basis. The recently-opened Hirshhorn Museum has a twice-weekly film and lecture series dealing with art. The Museum of History and Technology and the Museum of Natural History both have weekly film showings. The Renwick Gallery of Art has illustrated lectures that augment its changing exhibits. Special lectures and films are presented in various locations from time to time, and other films, for which a small charge is made, are shown as part of the Smithsonian Associates program.

In FY 1975, 135 man-years and \$2,397,000 were directed to Education and Public Orientation. Salaries and benefits totaling \$1,911,000 were used as follows: 26 man-years were devoted at the elementary and secondary level; 19 man-years were applied at the higher education level; 7 man-years were used for publications exchange; 36 man-years were devoted to public orientation through the various media; 8 man-years went to demonstrations; 19 man-years were for education programs for the museum profession; 16 man-years were used for answering public inquiries; and 4 man-years were used for developing additional education programs for the public. The other object spending amounted to \$486,000 and went for pre- and post-doctoral stipends; development and production of radio and video-tape programs; and related expenses, i.e. travel, supplies, and equipment. In FY 1976, 147 man-years and \$3,045,000 will be devoted to this activity. Salaries and benefits are estimated to cost \$2,069,000 with the balance for other objects.

Increase: For FY 1977, an increase of 8 man-years and \$609,000 is requested within target, and 6 man-years and \$370,000 are requested over target. Included within target are one man-year and \$72,000 to produce various outreach materials including films, audio-visual aids, guides, pamphlets, and brochures. These funds would be used by the Freer Gallery of Art, the Chesapeake Bay Center, and the central public affairs office. Over target, 2 man-years and \$60,000 are sought for similar materials to be used by the National Zoological Park and the National Air and Space Museum.

The Fellowship Program is seeking an increase of \$300,000 within target. This would allow 23 additional fellows each year and also a higher stipend for each fellow. An additional \$240,000 over target would provide for 22 additional fellows. The fellowship program is a small but important national supplement to the academic community which cannot duplicate the resources available in the museums and research centers comprising the Smithsonian Institution. The program is viewed as a vital ancillary resource by the academic community and a significant supplement by the research staff of the Institution. At small cost per individual fellow it is possible each year to bring young scientists and scholars to the Institution for research training.

The Institution is now able to support approximately 40 predoctoral and postdoctoral fellows yearly. There has been no increase in this number for several years, during which period demands from the academic and research community have grown increasingly urgent. New museums opened during this period offer expanded areas for study by fellows.

To continue the Anacostia Museum's program of training inner city persons in exhibits skills, within target two man-years and \$88,000 are being sought. These funds would replace outside grants previously available for the professional staff. The funds for the training would continue to be non-Federal.

Training and information programs have been developed by the Smithsonian. In order to research additional programs and to prepare materials for workshops and seminars, 2 man-years and \$52,000 are requested within target. This would provide training for museum professionals and teachers. Video tapes of the workshops of broad interest would be made available to other museums and school teachers. One man-year and \$28,000 are sought for visitor evaluation studies. In order to make exhibitions and presentations within target more effective to the visitor, investigations are essential to discover how much and what kind of information is gained by the viewer from current exhibits. These additional funds will be used to gather and analyze this information.

One man-year and \$12,000 are requested within target for a program assistant in the Office of Symposia and Seminars to assist with one major and several minor programs scheduled each year.

To produce two kits per year containing reproductions of pictures and biographical sketches of figures in the National Portrait Gallery exhibits would require \$12,000 a year within target. These kits would then be made available for use in schools.

The National Museum of Natural History receives a large number of questions from across the country. Four man-years and \$70,000 are sought over target to give each of the Museum's departments about one-half a man-year to assist in the answering of mail.

The Division of Performing Arts has a number of outreach activities which include education programs outside the Washington area. Tours, charters, and recordings are among the activities. One man-year and \$45,000 are requested to coordinate all these activities within target.

Other Services

FY 1976 Estimate.....	\$1,091,000
Within Target Increase.....	\$0
Over Target Increase.....	\$235,000
FY 1977 Estimate.....	\$1,326,000

The Smithsonian has several programs that benefit groups outside the Institution and are largely independent of other Smithsonian activities. Included in this category are the National Museum Act, the International Exchange Service, and the Center for Short-Lived Phenomena.

The National Museum Act is a technical assistance program designed to strengthen and advance museum programs and the museum profession throughout the country. The Act makes it possible to provide funds in the form of grants to support projects which: expand and improve professional training opportunities at many levels for museum personnel; conduct research or undertake special studies in matters of importance to the profession; disseminate valuable information through increased publications activities; and offer professional assistance, in many forms, to the profession. Grants are awarded to institutions and individuals only for those proposals which are well-defined and clearly address themselves to the major objectives set forth in the Act.

Support provided under the Act in past fiscal years has been of great value to the nation's museum community. It has encouraged the raising of standards of performance of museums in all areas of their responsibility; it has enabled the profession to address itself systematically to such areas of concern as conservation of cultural, natural, and historical collections; computerization of museum data; and establishment of educational and training programs of constantly improving quality.

During the 1975 Grants Program, 149 applications seeking support in the amount of \$2,459,423 were submitted. Of these, only 55 projects could be funded for a total of \$718,174. Because of the limited appropriation in FY 1975, many of the supported projects could not be funded in full and were reduced either in scope or in duration. Many of the projects not supported were worthwhile and would have made a positive contribution to the museum profession.

In 1975, under the general category of Education and Training Programs, a series of 38 grants were made to enable 16 museum professionals to travel to other museums for in-depth study of collections and operations; to allow 1,210 persons to attend special seminars and workshops on various aspects of museum work; and to provide 68 stipends and fellowships for formal museum training and education courses.

Seven grants were made for special studies and research projects ranging from new and advanced conservation techniques to methods of improving programs in youth-oriented museums, and ten grants were awarded to support projects which include coordination of conservation activities on a national scale, circulation of audio-visual museum instructional materials, providing consultants and field representatives to museums both regionally and nationally, and increasing the distribution of information on systematics collections.

The International Exchange Service is involved with the exchange of publications between the United States Government and private institutions and like institutions abroad. The Exchange Service was established in 1849 by the Smithsonian. Its responsibilities were formalized when the Brussels Convention of 1886 was adopted by the United States and the Smithsonian Institution became the official exchange bureau in the United States for the international exchange of literary, scientific, and cultural publications. In addition, a resolution to provide for the exchange of certain public documents (14 Stat. 573; as amended) also named the Institution as the official agent.

The Center for Short-Lived Phenomena operates a global environmental alert network for rapid communication of scientific data on biological and geological environmental events of short duration to scientists and officials with monitoring responsibilities.

Base resources consisted of 17 man-years and \$1,122,000 in FY 1975. The personnel costs in FY 1975 totaled \$231,000 for 2 program managers, 1 administrative assistant, 2 clerk-typists, 2 events assistants, and 10 shipping clerks.

In FY 1976, \$1,091,000 and 16 man-years will be applied to this category. Salaries and benefits are estimated to cost \$197,000 with an estimated \$894,000 available in other objects, most of which is for the National Museum Act grants.

Increase: \$235,000 is sought over target for the purposes of the National Museum Act. No increase is sought for the other two programs.

In order to extend the benefits of this important program to a larger number of museum personnel and to include those areas of museum work in which much research and study remains to be done, it is requested that the full authorization of \$1,000,000 for the National Museum Act, as provided in Public Law 93-345, be appropriated for FY 1977. The \$235,000 increase will be applied to grants for projects in keeping with the purposes of the Act.

Conservation

FY 1976 Estimate.....	\$1,336,000
Within Target Increase.....	\$27,000
Over Target Increase.....	\$0
FY 1977 Estimate.....	\$1,363,000

Objects deposited in museums are fundamental resources for museum activity: for displays, education, interpretation, and research. Yet, neglected, they decay from innumerable causes and, cared for, they may deteriorate from too much attention of a well-meaning but ill-advised kind. Therefore, conservators seek to forestall neglect, yet also to control their acts of care in order not to destroy those details of objects that the modern scholar observes in his search for information.

Conservation involves techniques carefully developed and applied to prevent or correct alteration or deterioration. These begin with records of condition (registration), continue with control of environment (humidity, dust, light, insects, rodents--buildings and facilities management), regular observation and careful handling (curators and museum specialists), then conservators may be called in to clean, mend, correct alteration and restore, while maintaining the record for posterity.

Conservation-scientists assist by analyzing products of alteration ("disease spots" on a book-binding turned out to be a plasticizer chemical migrating out of the plastic material that covered it) and materials proposed for long-term contact with objects from the collections (an elegant black molding proposed for support of a metallic object in a display case was found to contain substances that could cause corrosion during prolonged association). Organic acids in the corrosion products found on a leaden object were identified as coming from wood in a display case.

Conservation-scientists also analyze and test materials for research purposes (analysis of a series of pewter pots enabled them to be grouped, a grouping which was found to correspond with their English, Scottish, and French origins). They also devise analytical methods suited to museum objects which must not be damaged by analysis (X-ray techniques are adapted to analyze objects without sampling. This involves computer techniques for separating closely adjacent peaks in a spectrum). Neutron activation techniques followed by multi-variate statistical analysis have been applied to the study of Spanish-American pottery in order to support attributions from stylistic considerations. Thus the conservation-scientists assist by discovering hitherto unrecognized causes of deterioration and by establishing data-bases for technical historians. Conservators extend their influence and skills through training programs, lectures, and video-tape presentations. Efforts are being made to increase productivity by automation. A computerized data-bank, already containing 13,500 lines of analytical data prepared by conservation-scientists, is available for use.

In FY 1975, 61 man-years and \$1,286,000 were devoted to conservation. Salaries and benefits of \$894,000 were used for 5 administrative and clerical personnel, 12 conservators and analytical scientists, 21 technicians and mechanics for air and space craft restoration, and 23 other technicians. Other object spending in FY 1975 amounted to \$392,000 of which \$248,000 was obligated for new equipment for the central conservation facility. FY 1976 resources applied to conservation are expected to be 66 man-years and \$1,336,000. Salaries and benefits will cost approximately \$989,000, leaving \$347,000 for spending in other objects.

Increase: Although conservation of the National Collections is a priority concern, the limitations of space and trained personnel prevent seeking a large increase in FY 1977. One man-year and \$27,000 are sought to work on textile conservation at the Cooper-Hewitt Museum. Its collections of textiles are internationally known but currently have no conservator to repair and clean them. A grant was recently received to equip the textile conservation laboratory at the Cooper-Hewitt.

Libraries

FY 1976 Estimate.....\$1,828,000
Within Target Increase....\$180,000
Over Target Increase.....\$0
FY 1977 Estimate.....\$2,008,000

The Smithsonian Institution Libraries support the Institution's programs by providing library materials and information services to the research, exhibits, public service, and administrative staff of the Smithsonian and to qualified scholars and interested public. The Libraries consists of a system of 12 bureau and branch libraries and a strong central facility which coordinates system-wide planning and policy making and provides those services which are most effectively performed centrally. Among the central services are administrative support; technical support (acquisitions, cataloguing, binding, and preservation); and general reference and circulation services. The Libraries collections are widely dispersed (with bureau libraries in Panama; Cambridge, Massachusetts; and New York City as well as many locations in Washington, D.C.), maximizing the accessibility of the library materials to their users.

The FY 1975 base consisted of 83 man-years and \$1,635,000. This included personnel costs of \$1,089,000 for a staff of 30 librarians, 41 technicians and specialists, and 12 administrative and clerical persons. Major allocations of the remaining \$546,000 included \$365,000 for library materials; \$50,000 for binding and preservation; \$18,000 for library supplies; \$45,000 for library equipment and furnishings; and \$32,000 for shelving. During FY 1975 the first full year of computerized cataloguing was completed, resulting in significant improvement of cataloguing efficiency. The percentage of titles catalogued using the computerized data base increased from 23 percent in April, 1974 to 66 percent in June, 1975. Approximately 14,000 volumes were added to the Libraries collection in addition to the gift of the valuable and extensive Dibner Collection which contains over 25,000 rare books and manuscripts on scientific and technological development. Priority was placed upon improving collection management and information delivery to the bureaus with 13 of 21 new positions received in FY 1975 being assigned to bureau and branch library locations.

In FY 1976, base resources will include 102 man-years and \$1,828,000. This amount includes \$1,399,000 for personnel costs and \$429,000 for support costs. The increase will be used to improve the program for the conservation and preservation of the Libraries collections including the aforementioned Dibner Library; to complete the cataloguing of approximately 12,000 uncat-alogued titles in the National Air and Space Museum bureau library in preparation for the opening of the new building; to restore some of the purchasing power for library materials; and to provide additional staff for bureau libraries.

Increase: For FY 1977, an increase of 6 man-years and \$180,000 is requested within target. Of this increase, one man-year and \$100,000 will enable the libraries to continue toward the goal of developing a fully adequate collection of library materials. The achievement of this goal has been seriously impaired by high inflation rates. In FY 1975 the inflation rate for monographs, alone, was approximately 14 percent. The requested increase will allow a base for

library acquisitions of \$310,000 (hopefully augmented, as in FY 1975, by savings in other areas). This is sufficient to keep pace with current needs of staff presently served and to allow minimal support of programs not presently supported by the Libraries, such as the National Zoological Park, Cooper-Hewitt, and Horticultural services.

Two man-years and \$50,000 are required to help keep pace with increased preservation and conservation costs, and to initiate on a small scale, a project for the preservation of deteriorating paper. Due to inadequate resources, serious backlogs have developed in all areas of preservation. Present resources allow for the binding of only 80 percent of currently received materials. The addition of two library technicians will expedite the preparation of materials for commercial binding and permit increased performance of handwork, minor repairs, and pamphlet work.

In recent years, the Institution has been the recipient of several outstanding collections of rare and valuable materials. An additional man-year and \$10,000 will provide technical support in the cataloguing of these materials.

Finally, two man-years and \$20,000 will be used to augment on-site services to users. On-site services not only assist users in obtaining information but also improve the security and the management of Library collections. The additional personnel will make it possible to increase from 80 percent to 100 percent the on-site services provided to the Radiation Biology Laboratory and the National Zoological Park, and will enable the Libraries' staff to provide some on-site assistance to the Chesapeake Bay Center for Environmental Studies which presently receives none. In addition, services will be extended to two major collections within the Museum of Natural History which presently receive no on-site services and also will expand on-site staffing in the Anthropology Library. This library, which consists of 55,000 volumes and is the most diverse and heavily used of all the Museum's libraries, requires full-time attention for adequate control.

Automatic Data Processing

FY 1976 Estimate.....	\$935,000
Within Target Increase.....	\$108,000
Over Target Increase.....	\$90,000
FY 1977 Estimate.....	\$1,133,000

As collections continue to grow and demands of scientific and historical inquiry expand in scope and complexity, the computer has developed as an indispensable tool for the Institution's scientists, curators, and historians. Originally, computer activity was concentrated largely on management support activities. Today, however, 90 percent of the Institution's ADP resources are being utilized in the application of mathematical and statistical techniques to research problems and to develop automated collections management systems. The diversity of application areas in the Institution and attendant hardware requirements require the maintenance of a computer program library of some 500 active programs. Recent improvements to maximize the use of ADP resources include a generalized data analysis system that enables the researcher to interface with the computer more readily. In addition, remote job entry capabilities have been added to provide greater flexibility for the user.

To assist in the management of the National Collections, the Institution has developed a general purpose information processing system called SELGEM. Although still under development, SELGEM has become widely recognized, particularly in the museum community, as a reliable vehicle for information processing. Data from 95 collections have been entered into the system. In FY 1975 efforts were directed toward entering additional information from the individual collections, optimizing computer programs to increase operating efficiency, and giving the users greater flexibility in their use of the system.

In FY 1975 base resources consisted of 26 man-years and \$860,000. This included personnel costs of \$463,000 for 21 computer specialists and mathematicians, four of whom work primarily on National Museum of Natural History (NMNH) programs for the SELGEM system; 2 computer technicians; and 3 key punch personnel. Support funds of \$397,000 were allocated primarily for the purchase of computer time. Base resources in FY 1976 will total 29 man-years and \$935,000 of which \$516,000 will be applied to personnel costs and \$419,000 to support costs. This increase in resources reflects the continued growth in computer usage for scientific computation, and the steadily increasing requirements of collections inventory and registration. Efforts will continue to be directed toward developing systems that avoid duplication and that fit the needs of many users.

Increase: For FY 1977 an increase of 3 man-years and \$108,000 is requested within target and 5 man-years and \$90,000 is requested above target. The increase will be used to support and expand services to activities throughout the Institution in the scientific, collections management, and administrative areas. As a result of a recent update of the Institution's five-year ADP plan, we project that in addition to the 8 man-years requested, a 7 man-year backlog of work will still exist.

Of the 3 man-years requested within target, 2 man-years and \$36,000 will provide mathematical and statistical services to the research and curatorial¹ staff. Diversity of assistance to curators and researchers will include the ecological programs of the Chesapeake Bay Center, Ft. Pierce Bureau, and Smithsonian Tropical Research Institute; animal behavior studies at the National Zoo and breeding farm; and support for the various departments of the Museum of Natural History, plus other research activities such as the Radiation Biology Laboratory and the Conservation-Analytical Laboratory. Particularly important to research at the Museum of Natural History is an experienced individual, well-trained in the methods of biometrics and in the statistical and probabilistic approaches of data analysis.

The remaining 6 man-years (1 man-year and \$11,000 within target and 5 man-years and \$80,000 above target) will be devoted to improving programming services in the collections management and administrative support areas. The use of automation for cataloguing, indexing, and retrieving specimen data continues to grow in the museums and galleries. In direct relationship to this growth is the need for computer specialists to assist the individual curators, scientists, and technicians to plan and implement the processing of their data. Administrative support areas need to update and develop new methods to handle increased workloads in their individual areas. Additional services will be provided for security management, facilities monitoring, power management, warehouse storage and inventory control, accounting, payroll, personnel, library processing, and exhibits management. Finally, the additional personnel will allow for the expansion of source automation services, remote terminal processing, telecommunication services, and computer output microfilming.

The Smithsonian Libraries currently participate with other Federal Libraries in a program of cooperative computer cataloguing. An amount of \$32,000 requested within target will enable the Libraries to make full use of the computerized catalogue system for monograph cataloguing and, in addition, will make it possible to begin the conversion of serial records to machine-readable form. This conversion will greatly improve efficiency and control of serials cataloguing.

Finally, an amount of \$39,000 (\$29,000 within target and \$10,000 over target) will be used to purchase computer time, various computer supplies, and a remote job entry terminal. Using this terminal, scientific and collections management staffs will have direct contact with a variety of computer resources, thus eliminating time-consuming delays experienced in hand-carrying materials for processing to the central computer facility. More importantly, this terminal will allow access to additional statistical and mathematical computer programs at facilities outside the Smithsonian where such programs are already operational.

Photography

FY 1976 Estimate.....	\$776,000
Within Target Increase.....	\$6,000
Over Target Increase.....	\$35,000
FY 1977 Estimate.....	\$817,000

Photography includes the taking of photographs, both in the studio and in the field, and the processing, developing, and printing of film to obtain negatives, photographs, slides, viewgraphs, and other photographic products in black and white and color. Virtually all bureaus and offices within the Smithsonian as well as outsiders benefit from this photographic support. The Institution maintains in-house photographic capability in order to produce the high-quality photographic materials needed to support research, collections management, exhibits, and education programs. Photographs are used in scholarly reports, exhibition and associated catalogues, illustrated lectures, accession and registration records, and administrative documents.

In FY 1975, 40 man-years and \$801,000 were used for photography. This amount included \$636,000 for salaries and benefits for photographers, laboratory technicians, supervisory personnel, and clerical assistants. The \$165,000 of spending in other objects was for supplies, materials, and equipment.

In FY 1976, 44 man-years and \$776,000 will be used for photography. Of this total, \$672,000 will be applied to salaries and benefits. The slight decline between FY 1975 and FY 1976 is a reflection of the one-time purchase of equipment in FY 1975.

Increase: Within target, an amount of \$6,000 is sought for the Hirshhorn Museum photographic laboratory. These funds will be used to purchase supplies and materials for the lab which will be photographing the entire collection as well as new exhibitions.

Over target, 3 man-years and \$35,000 are sought for photographic services. One man-year would be for a photojournalist to cover exhibits openings, the presentation of major gifts, and other special events. One man-year would be used to support natural history photography, which is highly technical and time-consuming and cannot be done in other labs or by commercial firms. Some of this photography is done now by scientists. With the additional photographer, they would be relieved for other work. One man-year will be assigned to a lab technician in the newly established Smithsonian color laboratory. Since its inception, the use of the color lab has expanded to such a degree that the two existing technicians have reached their maximum in output. The continual need on the part of the museums to document photographically their collections and the increased use of color film in this documentation has made it necessary to request an additional lab technician to assist in the processing of ektachrome film, duplicating color slides, and color copying of museum materials.

Printing and Reproduction

FY 1976 Estimate.....	\$1,345,000
Within Target Increase.....	\$71,000
Over Target Increase.....	\$30,000
FY 1977 Estimate.....	\$1,446,000

The Smithsonian Institution carries out an active publications program. Smithsonian publications include a continuing series of scientific research reports in anthropology, astrophysics, biology, geology, and the earth sciences; reports on the history and development of man's major technical and cultural achievements; exhibits catalogues for museum and art galleries; education pamphlets; information brochures; and a detailed annual report covering all Smithsonian activities. Many items are distributed free to the visiting public and to libraries and scientific institutions around the world. In addition, requirements exist for the printing and reproduction of a variety of manuals, reports, specimen labels, and administrative directives.

In FY 1975, thirty-six man-years and \$1,350,000 went to printing and reproduction. This included personnel costs of \$632,000 for 2 administrative and clerical personnel, 17 editors and printing specialists, 7 publications and distribution clerks, and 10 duplicating equipment operators. Major allocations of the \$718,000 in program funds were for production costs including the purchase of supplies and equipment, maintenance of equipment, and payments to the Government Printing Office. Resources expected to be used in FY 1976 include 38 man-years and \$1,345,000.

Increase: For FY 1977, an increase within target of \$71,000 and 2 man-years is requested with an additional \$30,000 over target. Two editors (\$36,000) are requested to prepare materials for publication, one for the Joseph Henry Papers and one for the Office of Public Affairs. The balance of the within target increase, \$35,000, as well as the \$30,000 over target, is requested for printing costs. The Office of Elementary and Secondary Education requires funds to publish a national newsletter that would be mailed periodically to interested teachers announcing tours and other educational opportunities available at the Smithsonian. Other new funds are required to publish a growing volume of manuscripts attributed to greater professional staff productivity (resulting from additional technicians and other assistants provided in recent budgets) and to many new exhibitions.

Protection

FY 1976 Estimate.....\$6,839,000
Within Target Increase.....\$884,000
Over Target Increase.....\$341,000
FY 1977 Request.....\$8,064,000

The Smithsonian provides protection services for ten major museums and art galleries; the National Zoological Park (NZP); the Smithsonian Tropical Research Institute (STRI), which is located in the Panama Canal Zone; the Chesapeake Bay Center for Environmental Studies (CBCES); and various other Smithsonian facilities. These services encompass both the security of the buildings and the collections and the health and safety of visitors and employees.

The major portion of protection resources is applied to the guarding of exhibits and collections in buildings open to the public. Manpower and budget requirements for guarding are based on the designation of "posts." A post may be either one point (e.g., an entrance to a museum) or an area, varying in size, based upon: the use of the area; crowd conditions; the value of objects on display; the vulnerability of those objects to accidental damage, theft, and vandalism; the effective field of vision of the assigned protection personnel; and the ability to employ other protective devices. The number of persons required to man one post may vary from one (the post must be manned eight hours a day, five days a week) to five (the post must be manned 24 hours a day, seven days a week).

Other functions of protection include fire and safety inspection; safety management; automatic detection for fire and burglary; and police operations to prevent or detect violation of regulations of the Institution as well as Federal, state, and local laws. In addition, health units and first aid facilities are located in various buildings to provide assistance and aid to the visiting public as well as employees.

The FY 1975 base resources consisted of 454 man-years and \$5,683,000. This represents an increase over FY 1974 of 63 man-years and \$972,000. Man-year resources in FY 1975 were comprised of 16 technical, clerical, and administrative personnel, 422 protection officers, 12 health and safety personnel, and 4 game wardens at a cost of \$5,301,000. Support funds in the amount of \$382,000 were used primarily to: (1) rent and maintain automatic burglar alarms and fire detection and suppression devices, \$215,000; (2) acquire and maintain uniforms, \$92,000; (3) purchase communication alarm system/radio equipment, \$30,000; and (4) for safety equipment and health related costs, \$20,000. The increase in manpower was used in upgrading health and safety standards, augmenting the plainclothes squad, and generally improving overall protection through the assignment of guards to posts which previously were unmanned due to a lack of resources.

While the number of felonies and misdemeanors at or near the Mall remains at an unacceptably high level, the rate of increase has been sharply reduced since 1973. The number of criminal incidents in calendar year 1972 totalled 229; 364 in 1973; 365 in 1974; and 187 for the first six months of 1975. This success in controlling the rate of increase is attributed primarily to the recent employment of plainclothesmen and canine-handling officers in high crime areas and the timely on-scene investigation of reported offenses. Additional training in police procedures has resulted in more professional response by all protection officers.

In FY 1975, twenty-four classes were held on safety and fire prevention; ten new or upgraded fire detection/suppression systems were brought on line; and careful review was made of all contemplated construction changes to assure conformance with fire and safety considerations. Initial purchases of electronic protection and detection equipment for the establishment of a Smithsonian-owned alarm system control center were made. Although initially limited to South Mall museums, this system will eventually cover all Smithsonian museums in the District. By converting from the current use of leased, externally-maintained equipment and systems, the Institution will enhance its ability to detect and handle emergency situations in the fastest possible time.

The FY 1976 resources for protection services will total 537 man-years and \$6,839,000. Of this amount, \$6,136,000 is for personnel costs and \$703,000 is for support costs. A major portion of the increase in resources is related to protection of new facilities, including the new National Air and Space Museum which will open on July 4, 1976, and the Cooper-Hewitt Museum in New York which will open early in 1976. In addition, the increase will enable further progress to be made in filling the gap between recognized protection requirements and available resources.

Increase: For FY 1977, an increase of 78 man-years and \$884,000 is requested within target and an additional 32 man-years and \$341,000 are requested over target. Included in the within target increase is \$505,000 to annualize the final increment of 55 positions (3/4 of a year, 41 man-years) required for protection of the new National Air and Space Museum building and \$26,000 to annualize the 14 guards (1/4 of a year, 4 man-years) to be hired preparatory to the opening of the Cooper-Hewitt Museum in New York. Two man-years and \$26,000 will be used to hire a full-time nurse for the health unit being established in the new NASM building and an electronics technician to maintain and repair electronic protection/detection systems in the new Air and Space building and throughout the Institution.

One man-year and \$10,000 are required to provide a back-up to the present security guard serving the Chesapeake Bay Center; \$16,000 is required to purchase safety equipment for boats (including life rafts, navigational aids, emergency radio equipment) based at the Tropical Research Institute.

Beginning later this calendar year, and continuing into the next year, new halls, galleries, and exhibitions will be opening for the Bicentennial observance. Since they are not in existence now as open galleries, there is no protection manpower devoted to them. During the summer months and continuing through the Transition Quarter, Bicentennial Program funding and temporary employment will help to cover the new areas. But as this temporary support is terminated, the need to provide protection coverage for these areas will continue to exist. An increase of 30 man-years and \$301,000 are requested within target for this purpose.

Aside from the need created by new halls and galleries, roughly 133 additional positions are needed to provide effective coverage of areas which now have a limited and inadequate degree of protection. In FY 1977, 32 man-years and \$341,000 are requested above target to continue efforts to reduce this shortfall.

Buildings and Facilities Management

FY 1976 Estimate.....	\$19,084,000
Within Target Increase.....	\$2,130,000
Over Target Increase.....	\$218,000
FY 1977 Estimate.....	\$21,432,000

This category includes the resources required to operate and maintain a large and growing complex of buildings and facilities centered in Washington, D.C., but with important components in Cambridge, Massachusetts; Mt. Hopkins, Arizona; Panama; New York City; Front Royal, Virginia; Rockville, Maryland; on the Chesapeake Bay; and elsewhere. In FY 1974, a survey was completed of the Smithsonian holdings. The following statistics are in part from this report:

--3.5 million net square feet in some 200 buildings including 18 major public museums, art galleries, and zoological exhibition buildings, as well as other facilities for research, collections storage and restoration, and administrative and technical services.

--About 20,000 acres of natural preserve and parkland used for research, public education, and assistance to zoological parks throughout the United States (through the establishment of a conservation facility where endangered species can be bred).

--A physical plant requiring constant attention, with buildings ranging from "under construction" to about 170 years with the average being over 50 years old, with a replacement cost of perhaps \$330 million.

Primary responsibility for the operation and maintenance of Smithsonian buildings and facilities is concentrated in two central offices. The Office of Plant Services has overall responsibility for building operations, maintenance, and minor repairs. The range of services includes cleaning, labor, and related housekeeping services to facilities lacking their own custodial force, operation of temperature and humidity control units, transportation, communications, minor repairs and alterations to buildings, moving and rigging services, landscaping and grounds maintenance, and mail/messenger service. Trade and craft assistance, such as carpentry, painting, and electrical work, is also provided. The National Zoological Park provides the same range of services for its current and planned new facilities and for its extensive natural areas.

In the larger galleries and museums, custodial and labor personnel together with a small number of trade and craft personnel have been administratively assigned to the museum and office directors who have direct responsibility for the appearance of their buildings.

Planning and design, engineering, architectural, and construction supervision functions also are important components of buildings and facilities management. Approximately 300 requests are processed annually by the Office of Facilities Planning and Engineering Services, ranging from architectural/engineering consultation to full planning, engineering, and construction management services. Services may either be provided by staff professionals or by consultants. Projects include: major repair and maintenance; restoration and renovation; improvement and alterations including those needs associated with

new exhibitions; site development; new construction; and long-range planning. In addition, a small construction management office has been established at the Zoo to enable close supervision and immediate response to a large and complex construction program. Close to 30 major contracts will be managed in FY 1976.

FY 1975 resources consisted of 701 man-years and \$17,725,000. Included in the FY 1975 base are personnel costs of \$8,726,000 for 91 administrative and clerical personnel, 295 custodial and labor employees, 243 mechanical and trades personnel, 44 gardeners and grounds keepers, and 28 vehicle and equipment operators. Of these employees, 40 percent were assigned to the Office of Plant Services, 20 percent to the National Zoological Park and the balance of 40 percent (almost all custodial personnel), were assigned directly to the bureaus. Support funds of \$8,999,000 were spent primarily as follows: utilities (steam, electricity, gas, water, and heating fuel), \$3,130,000; telephone and telegraph service including Federal Telecommunications System, \$750,000; space rental, \$1,450,000; penalty mail, \$446,000; service contracts, such as elevator maintenance and inspection, uniform cleaning, and pest control, \$191,000; repairs, maintenance, and gas for motor vehicles, \$45,000; supplies, materials and equipment for the repair, maintenance, alteration, and improvement of grounds, mechanical systems and building space, \$681,000; custodial supplies and materials, \$80,000.

In FY 1975, the Institution experienced large unexpected increases in the cost of utilities. Funds made available by postponing new hires and the purchase of supplies and materials were reprogrammed from other areas into the buildings and facilities management area. These funds will not again be available for this emergency use in FY 1976 as inventories must be replenished, obsolete equipment replaced, and staff applied to meet Bicentennial visitor needs.

In FY 1976, resources are expected to be 848 man-years and \$19,084,000 of which \$10,406,000 will be used for personnel and \$8,678,000 will be applied to other object expenses. This increase in personnel will be used primarily to prepare for the opening of the new Air and Space Museum Building, to improve custodial services in the bureaus, and to expand the preventive and corrective maintenance program. In addition, approximately \$1.5 million will be used to fund the additional cost of utilities and communications resulting both from inflation and requirements of the Air and Space Museum.

Increase: The base for buildings and facilities management may seem large, but inflation, particularly in items such as utilities and rent, has eroded the effectiveness of increases awarded in recent years. Important needs remain to be met to serve adequately a growing but aging plant, active and productive research, exhibition, and education programs, and the huge influx of visitors. For FY 1977, the Institution is seeking additional support within target of 120 man-years and \$2,130,000 and above target of 13 man-years and \$218,000. The staffing increases requested within target would cost \$1,377,000 and would be applied as follows:

--51 man-years to annualize 57 custodial personnel (3/4 of the year) and 25 mechanic, laborer, and other support personnel (1/3 of the year for the new National Air and Space [NASM] building).

--25 man-years to complete initial NASM staffing in the area of custodial, mechanical, and related facilities maintenance personnel. This includes 22 mechanics to operate and maintain heating, air-conditioning and humidity control systems and perform preventive maintenance on all installed mechanical equipment, 2 gardeners for maintenance of plantings, and 1 additional window washer to handle extensive cleaning requirements in this heavily-glassed building.

--3 man-years of custodial personnel to permit the Hirshhorn Museum and Sculpture Garden to remain open in the evenings during the tourist season.

--4 man-years to improve capability in planning, architectural, engineering, and contract supervision services for multi-faceted construction, alteration, exhibit, improvement, and repair projects. These positions include: a planner/designer to identify effective and efficient methods for facilities development that will meet program objectives while maintaining historical accuracies and aesthetics; an engineer/estimator to assist in the development and protection of construction costs; a planner/architect to provide professional support for development of long-range and master plans; and one clerical position to assist with cost control and administrative functions.

--7 man-years of which four will be used to extend custodial services to facilities either not presently served or inadequately served; one, to institute a rodent and insect control program for museum and warehouse areas, and two positions, to maintain the four-acre Victorian Garden in the South Yard area and the Arts and Industries Building conservatory.

--2 man-years to maintain new and complex mechanical systems being installed in renovated exhibits areas at the National Zoological Park.

--28 man-years to raise bureau custodial and minor maintenance trade and craft capabilities to a more acceptable standard. This includes 8 man-years for the Natural History Museum and 11 man-years for the History and Technology Museum to raise the custodial staff of each to a level of 85 percent of recommended strength; 2 man-years to provide adequate custodial personnel for the Cooper-Hewitt Museum which is opening to the public in 1976; and 7 man-years to increase services for the original Smithsonian Building and the Arts and Industries Building, a need partially attributable to the expanded exhibits area being opened in the Arts and Industries Building.

Also within target is an increase of \$753,000 for other object expenses. The major portion of this increase (\$314,000) is related to mechanical, custodial, and farming supplies and various maintenance and service contracts. Of the remainder, \$100,000 is required for increased utility usage created by new and renovated facilities at the National Zoological Park and the Radiation Biology Laboratory and \$150,000 for additional costs associated with leased space. Space consolidations planned for FY 1975 and FY 1976 have resulted in economies and efficiencies of operation. Nonetheless, operational requirements of new space and projected rent increases create the need for additional funding. An amount of \$62,000 will be used to replace worn carpeting and purchase a paint spray booth for the Hirshhorn Museum; and \$50,000 will be used to purchase dust collectors and a paint spray waterfall for the Fine Arts and Portrait Galleries to improve safety and health conditions in the cabinet and paint shops.

Finally, an amount of \$25,000 will be used to install a back-up radio-telephone for safety purposes on Barro Colorado Island (Tropical Research Institute) and \$52,000 will be used for the purchase and repair of vehicles and equipment and the performance of minor changes to mechanical systems and structures at the National Zoological Park.

Above target, 13 man-years and \$218,000 would provide additional custodial services for the Zoo and replace antiquated farm equipment at Front Royal; employ an additional architectural draftsman and planner/architect to assist with the formulation of long-range plans for facilities development; outfit and staff a second research vessel at the Tropical Research Institute; and finally, to provide full custodial services to the Smithsonian Service Center and more adequate horticultural support for grounds and interior plantings.

General Administration

FY 1976 Estimate.....	\$8,349,000
Within Target Increase.....	\$312,000
Over Target Increase.....	\$0
FY 1977 Estimate.....	\$8,661,000

General Administration includes the Offices of the Secretary and the Assistant Secretaries, and some 50 bureau and office directors and their immediate staffs. Also included under this heading are the staff specialists essential to an operation as large and complex as the Smithsonian, such as accountants, attorneys, auditors, budget personnel, management analysts, personnel and equal opportunity specialists, procurement and supply personnel, and travel assistants. The personnel in these areas provide guidance and assistance to the Secretary and his principal assistants and to the bureaus and offices. They are responsible for the overall management, administration, control, and review of over 50 major program and support activities located in many parts of the world; for solution of complex legal problems, including those arising from the operations of a private, university-like, corporation, as well as those common to government organizations; for personnel administration, including training, counseling, and upward mobility for over 3,000 Federal employees; and for about 13,000 annual procurement transactions, totaling close to \$33 million. In addition, they perform the budgeting, expenditure control, and auditing of close to \$100 million of operating, special project, and construction funds from all sources. Recent efforts designed to strengthen and improve the information flow and decision-making process include the establishment of a Council of Directors and an Administrative Officers Council.

In FY 1975, base resources applied to general administration consisted of 345 man-years and \$7,502,000. This included personnel costs of \$6,450,000 for 46 administrative assistants and officers, 6 attorneys, 38 man-years in financial management, 36 man-years in personnel administration including equal opportunity, 10 man-years in management analysis including forms control, 3 man-years in travel services, 7 man-years in auditing services, 24 man-years in supply services, 46 man-years in executive management or advisory assignments, and 129 man-years in clerical and other supportive services.

Other object spending of \$1,052,000 included as major items \$131,000 for the purchase of office supplies and materials stocked by the central Office Supply Services; \$27,000 for expenses associated with boards or groups established to advise the Secretary, such as the Foreign Currency Advisory Board, the Smithsonian Council, the Research Awards Advisory Committee, and the National Museum Act Advisory Board; \$61,000 for consultant service contracts; \$75,000 for employee training; \$340,000 for the rental and purchase of copying equipment; and \$98,000 in payments for workmen's compensation. The balance was used for specialized supplies and materials, books and equipment for use in offices, travel, and outside legal counsel.

In FY 1976, 357 man-years and \$8,349,000 will be devoted to general administration. An amount of \$6,790,000 will be devoted to salaries and benefits, with the balance, \$1,559,000, devoted to other object spending similar to last year.

Increase: In FY 1977, an increase of 15 man-years and \$312,000 is requested within target. This additional personnel will provide assistance in purchasing (1 man-year), personnel administration (5 man-years), payroll administration (1 man-year), supply management (1 man-year), property administration (1 man-year), and management analysis (1 man-year). In addition, 5 man-years will be designated specifically for Upward Mobility programs throughout the Institution. Presently, 6 bureaus (with a total of 18 positions) are actively involved in this program to offer employees occupying dead-end positions the opportunity to acquire progressive occupational skills leading to career advancement. Funds are also being sought for office equipment, including \$20,000 for a centralized filing system in the personnel office to conserve space and provide better security control; outside legal counsel; and supplies for central distribution.

American Revolution Bicentennial Program

FY 1976 Estimate.....\$4,256,000
Recommended Decrease.....(\$3,867,000)
FY 1977 Estimate.....\$389,000

During FY 1976 and the Transition Quarter, the Smithsonian Institution will open twenty-two special exhibitions occupying more than 230,000 square feet in ten museums or buildings. These are in addition to the New National Air and Space Museum which will open July 4, 1976 with a theater and a spectacular 70mm film presentation on flying, the Albert Einstein Spacearium, and twenty-six halls containing innovative exhibitions on the national development of aviation and space flight. The Bicentennial exhibitions explore men and women in this country over the past two-hundred years--where they came from and what they did when they got here, how they used and developed the land they found, the products they made, and the many ways they expressed themselves, both to each other and to peoples around the world. There are also exhibitions which look at the contributions from other nations toward the building of this one, and at some of the events that were happening elsewhere at the time of the American Revolution. A full listing of Bicentennial exhibitions with opening dates is included at the end of this statement.

Outside of Washington, the Smithsonian is circulating more than 200 exhibitions in every state in the country. The exhibitions cover a broad range of subject matter relating to American history and heritage as well as a special selection of material organized by foreign nations in recognition of America's Bicentennial. Of particular interest are two exhibit and information systems developed by the Smithsonian to make some of its resources and research available to others and to provide, at a minimal cost, exhibitions which will enable local communities to participate in creating their own Bicentennial observances. Also, as a result of the increasingly popular Festival of American Folklife on the Mall in Washington, some thirty foreign folk groups will tour the country performing for local festivals throughout the summer of 1976.

Finally, the Smithsonian has conducted intensive research in the fields of art history, anthropology, and American cultural history. There will be major publications on North American Indians and on American art. There will be a directory to the Inventory of American Paintings and its more than 150,000 listings of works all over the country. There will be workshops and symposia on the United States and its relationship to the world over the past two-hundred years, and on kin and communities, or the peopling of America, including recent immigrations.

Funding: In FY 1977, the request for special Bicentennial funding is \$389,000. This request represents a decrease of \$3,867,000 from FY 1976. It will be the last request for Bicentennial funding.

For exhibitions in Washington, the total request is \$208,000 which will cover, in part, minimum personnel required to run and maintain those exhibitions which will remain open in 1977. In addition, many objects have been borrowed for the Smithsonian's Bicentennial Program from institutions across the country and around the world. These must be returned to lenders, and funding is required to cover the cost of shipping and insurance.

For traveling exhibitions, \$24,000 is requested to pay the salaries of a small staff to manage the Bicentennial exhibitions still circulating across the country. Staff is also required to organize the volumes of material collected in the process of research for the Festival of American Folklife and to close down the production operation for this summer-long program involving more than 4,500 participants. For this, an amount of \$63,000 is requested.

Fiscal Year 1977 will also see the publication of the Bibliography of American Art and the final processing of data collected for the Inventory of American Paintings as a result of the Bicentennial. Publishing and staff costs for these activities require funding of \$55,000.

Finally, an amount of \$39,000 is requested to cover salaries of staff to administer the closing down of the Smithsonian's Bicentennial Program and the organization of relevant material for Archives.

OPENING DATES

September 14	1975	<u>*Blacks in the Westward Movement</u>	Anacostia Neighborhood Museum
September 18		<u>Banking in America</u>	National Museum of History and Technology
October 3		<u>Sculpture: American Directions, 1945-1975</u>	National Collection of Fine Arts
November 20		<u>*Ecology 200--Our Changing Land</u>	National Museum of Natural History
December 5		<u>Peggy Bacon</u>	National Collection of Fine Arts
December 15		<u>Arts of Asia</u>	Freer Gallery of Art
January 16	1976	<u>Emanuel Leutze</u>	National Collection of Fine Arts
January 18		<u>*The Black Woman</u>	Anacostia Neighborhood Museum
January 23		<u>Abraham Rattner</u>	National Collection of Fine Arts
February 6		<u>*Signs of Life: Symbols in the City</u>	Renwick Gallery
February 19		<u>Wedgwood Portrait Medallions</u>	National Portrait Gallery
February 23		<u>*The Federal City: Plans and Realities</u>	Smithsonian Institution Building
March 12		<u>*A Nation of Nations</u>	National Museum of History and Technology
April 9		<u>*Abroad in America: Visitors to the New Nation--1776-1914</u>	National Portrait Gallery
April 30		<u>*America as Art</u>	National Collection of Fine Arts
April 11		<u>*1876: A Centennial Exhibition</u>	Arts and Industries Building
May 11		<u>Portraits by Christian Gullagher</u>	National Portrait Gallery
May 20		<u>Artist-Immigrants of America, 1876-1976</u>	Hirshhorn Museum and Sculpture Garden
June 4		<u>*Americas--The Decorative Arts in Latin America in the Era of the Revolution</u>	Renwick Gallery
June 14		<u>Kin and Communities: The Peopling of America--Workshop</u>	Office of Seminars
June 16		<u>*Festival of American Folklife</u>	Division of Performing Arts
July 4		<u>National Air and Space Museum</u>	Anacostia Neighborhood Museum
July 5		<u>*The Anacostia Story</u>	Office of Seminars
September 26		<u>*The United States in the World--Conference</u>	National Museum of History and Technology
October 12		<u>Columbus and His Time</u>	National Collection of Fine Arts
October 28		<u>Robert Rauchenberg</u>	

SPECIAL PUBLICATIONS

Summer	1976	<u>*Directory: Inventory of American Paintings before 1914</u>	National Collection of Fine Arts
Winter	1977	<u>*Bibliography of American Art</u>	Archives of American Art
Fall	1977	<u>*Encyclopedia of North American Indians</u>	Center for the Study of Man

*Indicates projects funded by special Bicentennial appropriation.

American Revolution Bicentennial Program

(\$1,000s)

Program	FY 1975 actual	FY 1976 est.	Transition Quarter	FY 1977 est.	
				Decrease	Total
<u>Exhibitions in Washington</u>					
A Nation of Nations	\$ 1,102	\$540	\$10	(\$495)	\$45
Ecology 200	335	-	-	-	-
Centennial 1876	478	360	35	(245)	115
Revolutionary Period Exhibitions	156	150	4	(135)	15
America as Art	37	65	8	(61)	4
Americas and Symbols in the City	79	99	2	(70)	29
The Federal City	23	50	8	(50)	-
<u>Traveling Exhibitions</u>					
Information and Exhibit Systems	312	380	-	(380)	-
Object-Oriented Exhibitions	172	200	16	(176)	24
Exhibits Design and Production Laboratory	84	50	38	(50)	-
<u>Special Project</u>					
Festival of American Folklife	526	1,000	835	(937)	63
<u>Major Scholarly Projects</u>					
Inventory of American Paintings before 1914	87	119	28	(94)	25
Bibliography of American Art	60	45	20	(15)	30
Encyclopedia of North American Indians	300	300	300	(300)	-
Sternwheeler Bertrand	1	75	-	(75)	-
1976 International Bicentennial Conference	-	60	-	(60)	-
Visitor Orientation and Services for the Bicentennial Year	50	301	6	(301)	-
<u>Support</u>					
Protection Buildings and Facilities Management	-	314	199	(314)	-
General Administration	53	84	12	(64)	-
				(45)	39
Total	\$3,855	\$4,256	\$1,585	(\$3,867)	\$389

Uncontrollable Increases

The following additional funds are requested for costs that are beyond the control of the Smithsonian Institution. These increases result from law, prevailing practices of wage setting, utility and postage rate increases, general inflation, and other uncontrollable forces. A total of \$3,910,000 is requested for the following increased costs.

Necessary Pay and Related Benefits.....	\$1,985,000
Utility Rate Increases.....	1,039,000
Postage Increases.....	211,000
Inflation in Other Objects.....	675,000
	<u>\$3,910,000</u>

NECESSARY PAY AND RELATED BENEFITS. An amount of \$1,985,000 is required for personnel compensation and personnel benefits for the projected higher costs in FY 1977 of FY 1976 staff. These increases accrue to employees because of: legislated pay raises, within-grade step increases, and special benefits for Canal Zone employees. These costs are calculated on a position-by-position analysis taking into consideration approved new hires in the current year and savings from turnover and filling of vacancies at lower grades where possible. Absorption of these costs from currently available funds seriously hurts approved program activity. First, for every \$12,000 that goes to these costs from funds already in salaries and benefits, one man-year of planned employment is lost. Second, if other object class funds must be applied to these costs, otherwise productive employees are left without the supplies, tools, and equipment they need to do their jobs well. These additional costs are attributed to the following externally-imposed factors.

(1) Within-Grade Step Increases. Necessary pay funding of \$930,000 is required in FY 1977 for General Schedule and Wage within-grade and periodic step increases. For General Schedule employees, such increases are required by P.L. 88-426, the Government Employees Salary Reform Act of 1964. This law also provided for employees performing at outstanding levels to be recognized by a "quality step." An average of 150 are granted each year. Wage employees are covered by law and prevailing practice. Such increases must be granted if employees are performing at acceptable levels of competence. In any one fiscal year the costs of within-grade increases are substantial. There is not only the annualized cost of periodics granted in the previous fiscal year but also the part-year costs of new such actions. FY 1977 also will include the annualized costs of within grades effected in the Transition Quarter.

The General Schedule portion of this request amounts to \$700,000. There are over 2,400 General Schedule positions with 1,829 scheduled to receive a new within grade in FY 1977. The Wage portion of this request amounts to \$230,000. There are over 800 Wage positions with 520 scheduled to receive new within-grade increases.

(2) Annualization of Legislated Pay Raises. Funds in the amount of \$1,200,000 are requested to annualize the General Schedule and Wage pay increases to be effected in October, 1975.

The General Schedule portion of this request amounts to \$940,000. General Schedule employees receive a salary adjustment every October. This results from E.O. 11811, issued pursuant to P.L. 91-656. The total cost of this raise (based on an 8.66 percent increase recommended by the Office of Management and Budget and the U.S. Civil Service Commission) is estimated to be \$3,226,000. A supplemental appropriation in the amount of \$2,286,000 will be sought in FY 1976. The balance is requested here for the additional costs in FY 1977.

The Wage portion of this request amounts to \$260,000. Prevailing practices call for the Wage pay scales to be reviewed by a Wage Finding Authority in each geographic area. In the Washington area this has resulted in the Wage employees receiving a pay raise in October of each year. Smithsonian Wage employees in Panama, Virginia, and elsewhere receive similar wage hikes at other times. Definite word on the amount of the raises in the D.C. area and elsewhere has not been received; therefore, the same percentage as was used for General Schedule employees has been used here. Total cost of these raises is estimated to be \$1,108,000. A supplemental of \$848,000 will be sought for the FY 1976 costs of these raises.

(3) Increases in Special Benefits for Overseas Employees. An amount of \$15,000 is requested to finance the additional costs of special benefits received by Smithsonian employees in Panama. The employees of the Smithsonian Tropical Research Institute (STRI) are eligible for a variety of benefits because of their location outside the United States and in Panama. United States citizens employed by STRI receive a 15 percent tropical differential and Overseas Tour Renewal Leave. All employees are eligible to send their children to Canal Zone schools and to receive free medical care. The costs of running the school system, through two years of college, and busing costs are pro-rated back to the agencies. The cost of running the hospitals and the other medical facilities are similarly pro-rated. These additional costs in FY 1977 are estimated at \$15,000.

(4) Reduction for one less working day. An amount of \$160,000 has been used to offset the above increases. FY 1977 has 261 paid work days, one less than in FY 1976. Therefore, \$160,000 can be saved.

UTILITY RATE INCREASES. An increase of \$1,039,000 is sought to finance the higher costs of utilities (steam, electricity, gas, and telephone) in FY 1977. A supplemental will be sought to finance these part-year costs in FY 1976. These increases have been effected since submission of the FY 1976 estimates to the Congress in January 1975. The higher prices of gas, coal, and oil have added substantially to the costs of utilities. Starting in FY 1974, the Institution began installing power management systems and other energy conservation programs. Even with these efforts at savings, costs rose significantly because of price adjustments.

The Office of Plant Services finances the utility bills for the buildings on and near the Mall. On page A-45 is shown this office's use and cost figures for steam and electricity since FY 1973 and projected through FY 1977. These figures are closely representative of similar funding problems faced by units which are away from the Mall area and finance their own bills. This table shows that the consumption of both steam and electricity has gone down in both FY 1974 and FY 1975 below that used in FY 1973. In fact, the reduction is greater than might appear at first glance because in FY 1975 the Smithsonian opened the Hirshhorn Museum and Sculpture Garden. The increases between FY 1975 and FY 1976 are

attributable to the National Air and Space Museum which will be occupied by staff and contractors for one year prior to public opening. The FY 1977 increase over FY 1976 reflects the public use of the Air and Space Museum Building partially offset by further savings from power management.

The General Services Administration sells steam to the Smithsonian. Since FY 1973 there have been eight price adjustments. During this period the price has gone from \$2.44 per thousand pounds to the current rate, \$5.75. It is anticipated that the price of steam will go up on January 1, 1976, to \$6.25 per thousand pounds, and by FY 1977 it will be selling for \$6.93 per thousand pounds. A request is made for \$265,000 to meet the higher cost in FY 1977.

The price of electricity also has risen drastically. Although the Potomac Electric Power Company has not had a rate increase since 1973 they have been allowed to pass a fuel surcharge on to the customer. For the Office of Plant Services this fuel surcharge amounted to \$2,416 in FY 1973, \$181,122 in FY 1974, and \$586,307 in FY 1975. They are currently requesting a 30 percent base rate increase as well as continuing the fuel surcharge. Other electric companies from whom we purchase power have similar increases already enacted or pending. A request is made here for \$612,000 to meet these additional costs in FY 1977 for the Office of Plant Services (\$454,000) and other units financing their electric bills (\$158,000).

Buildings at the National Zoological Park, as well as at several other field locations, are heated with gas. The cost of heating these buildings has also risen. An amount of \$63,000 is sought to finance this additional cost.

The Smithsonian Institution uses both local commercial telephone systems and the Federal Telecommunications System (FTS) operated by the General Services Administration. The cost of running FTS is affected by government employee pay raises and other cost increases. An increase is requested in the amount of \$99,000 to finance communications costs. This includes the increased cost of equipment installation which was part of the rate increase granted to the Chesapeake and Potomac Telephone Company in April 1975 as well as increased costs for the FTS.

POSTAGE RATE INCREASES. An increase of \$211,000 is sought for additional postal costs. The U.S. Postal Service is seeking an increase in rates effective January 1, 1976. Early information on these rate increases includes the following details: (1) air mail will be eliminated; (2) first class mail will cost three cents per ounce more than the current cost; and (3) the average rate increase for all classes of mail will be 30 percent, but some classes will be higher and others lower. Of the increase, \$145,000 is for rate increases and \$66,000 for the increased volume. Volume of mail is almost as uncontrollable as rate increases since it is based on requests for information received from the public.

INFLATION IN OTHER OBJECTS. An increase of \$675,000 is requested to restore buying power in selected other expense categories. The Institution has been absorbing price rises by a variety of means. Funds appropriated for nonrecurring items have been applied to operational expenses. Uneconomical small quantities have been purchased. Replacement of obsolete equipment has been deferred even though its prices are sure to be higher in the future. Such measures are no longer enough.

A request is made for a 5 percent increase in funds for certain expense items. Travel and Transportation of Persons has been excluded as well as spending for grants and contracts. Included are funds for supplies and materials, equipment,

and printing. Spending in these object classes is essential to the mission of the Institution, and all have been affected by rapid price increases. The consumer price index rose 9.7 percent from July 1974 to July 1975 and continues to increase.

The following examples of routine, but important, recurring types of expense are provided to show representative experience. These higher costs have been absorbed to date. The request is for funds to help offset further price increases in these and other items.

Animal food--Costs of feeding a reasonably stable animal population have increased from \$169,000 in FY 1973 to an estimated \$262,000 in FY 1976.

Natural history collection storage cases--About 600 cases of varying sizes are purchased in the average year. In FY 1972, the price of these cases averaged \$145.00 for a total cost of \$87,000. Recently the price jumped to \$148,000 or \$247.00 average per case (a 70 percent increase).

Buildings maintenance and custodial supplies--Price inflation on commonly-used supplies and materials for building repair and maintenance and for custodial supplies (including restroom) has averaged 30 percent over the past year. The Consumer Price Index is predicting an even higher percent increase in these items for the next year. Other items, such as copper wire, have increased in price by as much as 150 percent.

Printing of research reports and catalogues--Over 100 scholarly monographs, scientific reports, exhibits catalogues, and informational brochures are issued by the Smithsonian each year. Printing costs have gone up about 15 percent over the past 12 months (on top of a 12 percent increase the previous 12 months).

SMITHSONIAN SCIENCE INFORMATION EXCHANGE

	<u>Federal Appropriation</u>	<u>Output Revenues</u>	<u>Total Operating Budget</u>
1975	\$1,805,000	\$838,000	\$2,643,000
1976 Estimate	\$1,960,000 ^{/1}	\$1,163,000	\$3,123,000
Transition Quarter Estimate	\$500,000	\$298,000	\$798,000
1977 Estimate			
Within Target	\$2,085,000 ^{/1}	\$1,290,000	\$3,375,000
Over Target	<u>45,000</u>	----	<u>45,000</u>
Total	\$2,130,000	\$1,290,000	\$3,420,000

The Smithsonian Science Information Exchange (SSIE) was established in 1949 to provide a national collection and source of information on research in progress. Its purpose continues to be to facilitate research planning, management, and coordination through the dissemination of information designed to prevent the unnecessary duplication of research and to foster scientific communication within the nation's research community. The Exchange works closely with policy makers in an increasing number of Federal agencies to develop ways in which the SSIE data base might be more effectively applied to problems of national and international concern. As a result, a number of large-scale support activities have been initiated in areas such as energy, cancer, and pesticides research which are earning additional recognition for the Exchange and an increasing appreciation of the value of its services.

The operation of the Exchange has two principal components. The first is the collection, indexing, and entry into its computer system of information on research in progress in all fields of science. The extent of this effort is measured by the number of projects received each year from organizations which voluntarily register their research with the Exchange. The second major component of SSIE's operation is the delivery of information products and services through the retrieval of information from the data base. The Exchange not only provides services directly to users, but also supplies data to a growing number of specialized information centers. In addition, SSIE information is regularly used in the preparation of catalogues of research in progress in specific subject areas, such as pesticides, water resources, cancer treatment, and dental research. Distribution of these catalogues by the organizations which sponsor their compilation brings SSIE information to users on a significantly broader scale than would be possible through response to requests submitted by individuals directly to the Exchange. The fact that SSIE's processing workload has risen significantly in recent years (see Table 1) reflects the importance attached by a growing number of organizations to

^{/1} Includes proposed \$85,000 supplemental appropriation to cover costs of October General Schedule pay raise.

the purposes of the Exchange and indicates the comprehensiveness of SSIE's coverage, the effectiveness with which the data base can be applied to meeting user needs, and the extent to which the Exchange can continue to expand the use of its services.

Demand for SSIE output services, all of which are charged for, has increased dramatically over the past five years. As this demand has grown, SSIE has consistently pursued a policy designed to maximize user revenues and thereby minimize requirements for Federal support (see Table 1). The success with which it has done so is shown by the fact that, despite the increased costs of rapidly expanding input and output workloads, SSIE has been able to hold its requirements for Federal support to a level below the rate of inflation alone. SSIE expects to continue to improve its data base and thereby expand its user revenues in a manner designed to yield an increasing share of the total costs of operating the Exchange. This budget request has been prepared accordingly.

SSIE's budget for FY 1977 shows an additional \$170,000 in Federal support. Of the total, \$125,000 is requested within target to assist the Exchange in meeting a portion of expected increases in operating costs and in coping with continuing increases in the volume of input processed into the system. The balance of \$45,000 is requested for necessary pay.

This budget does not provide for reductions in SSIE input backlogs, nor does it include funds for new programs which SSIE would like to undertake, such as the development of an on-line capability to support direct service to Federal agencies or the conduct of a comprehensive study of possible changes to SSIE standard data elements which would improve the ability of the Exchange to support the research management needs of the government. Combined with increasing user revenues and the recent implementation of technical improvements and operating efficiencies, however, the Federal support requested for FY 1977 will allow SSIE to deal with further increases in its workload and continued inflation.

The contributions user revenues have made to the overall cost of SSIE's operations have risen steadily in recent years. Increases in user revenues have absorbed a growing share of fixed costs, such as facilities and computer equipment rental and virtually all increases in variable costs. SSIE operating expenses other than personnel costs, for example, have increased by \$403,000 since 1972. Of this increase, \$270,000, or 67 percent, will be offset by FY 1977 user revenues. User revenues are expected to continue to rise, although the dramatic rate of increase experienced in FY 1975 and 1976 cannot currently be projected into FY 1977.

Of the technical improvements which have been made; two stand out as having contributed significantly to the effectiveness with which SSIE has been able to control its costs and expand its services. The Exchange has successfully negotiated for larger percentages of its Federal input to be supplied in magnetic tape form, a change which has had the effect of reducing the overall cost per project registered. SSIE has also developed and implemented a system of machine-assisted indexing which has measurably reduced unit indexing costs. Both improvements have also had the effect of facilitating the entry of projects into the system and of significantly reducing the delay between receipt of a project summary and its availability for retrieval.

Table 1

SSIE Processing Workload and Sources of Revenue

	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>T.O.</u>	<u>FY 1977</u>
<u>Processing Workload</u>						
Input (Projects Indexed)	85,530	102,368	125,531	130,900	33,125	140,000
Output:						
Report Volume/ <u>1</u>	348,600	605,300	671,000	805,200	206,300	885,700
Active Contracts	15	13	18	20	21	21
<u>Sources of Revenue (\$1,000's)</u>						
Federal Support/ <u>2</u>	\$1,600	\$1,695	\$1,805	\$1,960	\$500	\$2,130
User Revenues	<u>430</u>	<u>416</u>	<u>838</u>	<u>1,163</u>	<u>298</u>	<u>1,290</u>
Total	\$2,030	\$2,111	\$2,643	\$3,123	\$798	\$3,420
Percent Federal	79	80	68	63	63	62
Percent User Revenues	21	20	32	37	37	38

/1 Number of Notices of Research Projects sent.

/2 Federal support per project entered into the SSIE system has been reduced by 19 percent during the period shown.

/3 Includes \$85,000 supplemental appropriation for October 1975 General Schedule pay raise.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1975 Appropriation.....\$2,000,000
 1976 Estimate.....\$500,000
 Transition Quarter Estimate.....\$0
 1977 Estimate
 Within Target.....\$2,000,000
 Over Target.....2,500,000
 Total.....\$4,500,000

Obligation of Funds by Program Area

(\$1,000s)	FY 1975 <u>Actual</u>	FY 1976 <u>Estimate</u> ^{/1}	FY 1977 <u>Estimate</u>
Archeology and Related Disciplines	\$952	\$644	\$2,695
Systematic and Environmental Biology	708	277	537
Astrophysics and Earth Sciences	213	11	328
Museum Programs	257	31	-
Grant Administration	100	67	40
Transfer to NSF	-	83	-
UNESCO Trust Fund ^{/2}	<u>1,000</u>	<u>-</u>	<u>1,000</u>
Totals	\$3,230	\$1,113 ^{/3}	\$4,600 ^{/4}

In FY 1975 the Smithsonian Foreign Currency Program (SFCP) continued to support basic research projects that directly yielded high quality science and indirectly enhanced the United States' presence abroad in relations between private individuals and institutions, at no cost to today's taxpayer. Nearly 75 projects were awarded new or continued support; these projects originated from 55 U.S. institutions in 25 states and the District of Columbia. In FY 1976 support will be provided to approximately 30 projects.

Recent research results include progress toward:

--Greater knowledge of the biology and ecology of the African freshwater snail genus Bulinus that is an important vector in the life cycle of a blood fluke that causes Schistosomiasis. This is a serious and widespread disease that spreads as new irrigation increases the habitats favorable to Bulinus. Greater knowledge may permit a more effective control of the disease. (University of Michigan)

^{/1} Includes the Transition Quarter.

^{/2} U.S. contributions of \$1,000,000 equivalent in excess Egyptian pounds to UNESCO Trust Fund for transfer to the International Campaign to Save the Monuments of Nubia.

^{/3} Estimated obligations for FY 1976 and the Transition Quarter will employ the anticipated appropriation of \$500,000 equivalent plus an estimated balance of \$333,000 from FY 1975 carryover and \$280,000 recovered from prior years' obligations through de-obligation during FY 1976.

^{/4} Estimated obligations for FY 1977 will employ the requested appropriation plus \$100,000 equivalent to be recovered from prior years' obligations during FY 1977.



--An increase in data obtained at the Astrophysical Observing Station at Naini Tal in India pertinent to research in geodesy, geophysics, celestial mechanics, and the upper atmosphere. This data will contribute to a greater understanding of earth structure and earthquake mechanisms, ocean circulation, and the general air-sea interaction which has such a large influence on weather and climate. (Smithsonian Astrophysical Observatory)

--Limited, but hitherto little explored, data on the gold coinage of the Muslim empire. This information may lead to greater understanding of the economic history of the Muslim empire, especially as it experienced the economic impact of the Crusades. (University of Michigan)

--Excavation and knowledge of ancient Carthage. An American team representing several universities commenced work alongside British, Bulgarian, French, German, Italian, and Scandinavian teams under supervision by the Tunisian Government. Information retrieved will make possible an accurate reconstruction of the city's religious and social life, economic and agricultural conditions, industry and town planning, and have wide implications for the history of the Mediterranean world from Israel to Morocco. (American Schools of Oriental Research)

Such projects yield an indirect benefit to the United States in its international relations. In the countries where the Program operates, the United States is represented generally by officials, businessmen, and tourists in relationships characterized predominantly by negotiations on behalf of various national or commercial interests. Smithsonian SFCP projects, on the other hand, introduce to these countries U.S. scientists who stay usually for several months to work together with host country scientists in a mutual effort to increase scientific and cultural knowledge. The resulting professional and personal friendships are a valuable supplement to other United States relationships.

The program produces the above scientific and international gains at no cost to today's taxpayers and at no increase to the Federal deficit. The program uses "excess" foreign currencies that the United States Government owns and accounts for as dollar equivalents, but which are not dollars. They cannot be used by Federal agencies for domestic programs fundable only in dollars. All regular U.S. government needs fundable in foreign currencies, such as maintenance of Embassies, are satisfied first before the balance of holdings are declared "excess" by the Department of the Treasury. The "excess" foreign currencies can be used only in the countries of origin. If they are not used, they are partially wasted each year as their purchasing power is eroded by inflation in these countries.

The program requests an appropriation of \$3,500,000 equivalent in foreign currencies for support of research grants in FY 1975, and \$1,000,000 equivalent in Egyptian pounds for possible channeling through UNESCO to the International Campaign to Save the Monuments of Nubia (Philae), against the contingency that the President may make the necessary certification to the Congress by FY 1977 to allow U.S. funds to flow through UNESCO. This would be the third of four equal contributions pledged by the United States to aid in the relocation of the temples on the Island of Philae now inundated by Nile River waters.

This appropriation request is a critical one for the future of the Smithsonian Special Foreign Currency Program. After receiving an average appropriation of more than \$3,000,000 annually for several years, it received only \$1,000,000 for research grants in FY 1975, and expects a maximum of \$500,000 in FY 1976. Through judicious planning for carryover of funds, and recovery of unused funds from past obligations, the program has been able during two lean years to maintain a marginally adequate level of awards. In FY 1975 the program funded both on-going and new projects in this way; in FY 1976 however, the program will be in a position to fund only the highest priority on-going projects which must be maintained to avoid waste of funds already invested in them. By the end of FY 1976, all funds available from prior years' appropriations will be essentially exhausted. Of the \$3,600,000 estimated for basic research in FY 1977, \$2,802,000 equivalent is essential to fund to conclusion on-going research. The remainder, \$798,000, will be devoted to projects approved in FY 1975 but postponed for lack of funds and to those whose feasibility has been tested under research development awards also made during FY 1975.

(\$1,000s)

Commitment of Funds by Country

	<u>FY 75 Actual</u>	<u>FY 76 Estimate</u> ^{/1}	<u>FY 77 Estimate</u>
Egypt	\$1,369 ^{/2}	\$319	\$2,806 ^{/2}
India	446	400	882
Pakistan	201	34	212
Poland	424	23	274
Tunisia	<u>790</u>	<u>337</u>	<u>426</u>
Totals	\$3,230	\$1,113	\$4,600

/1 Includes the Transition Quarter.

/2 Includes \$1,000,000 contribution to the International Campaign to Save the Monuments of Nubia.

FACILITIES PLANNING, RENOVATION, RESTORATION, AND CONSTRUCTION

Summary

Smithsonian requirements for facilities planning, renovation, restoration, and construction are summarized in the following table and succeeding brief descriptions by appropriation account.

(\$1,000s)

<u>Account</u>	<u>FY 1975</u>	<u>FY 1976 est.</u>	<u>Transition</u> <u>Quarter</u>	<u>FY 1977</u>		<u>Total</u>
				<u>Within</u> <u>Target</u>	<u>Over</u> <u>Target</u>	
Restoration and Renovation of Buildings	\$1,490	\$1,467	\$400	\$3,765	\$9,250	\$13,015
Construction and Improvements, National Zoolo- gical Park	9,420	8,390	1,440	9,000	12,350	21,350
Construction ^{/1}	-	-	-	-	1,800	1,800
Totals	\$10,910	\$9,857	\$1,840	\$12,765	\$23,400	\$36,165

The Restoration and Renovation of Buildings account includes \$3,765,000 within target which would allow \$1,500,000 of general repair and improvement funds, \$300,000 for the Mt. Hopkins Observatory road and water supply work, \$250,000 for Renwick Gallery facade repairs, \$200,000 for History and Technology Building terrace leak repairs, \$950,000 for Arts and Industries Building roof repairs, \$250,000 for the installation of building equipment monitoring systems, and \$315,000 for other projects. The over target budget request of \$9,250,000 would allow \$6,000,000 for construction of the History and Technology Building sixth floor library and research center, \$750,000 for completion of the Radiation Biology Laboratory's environmental facility, \$700,000 for South Yard development planning, \$610,000 for Fine Arts and Portrait Gallery Building garage space alterations, and \$1,190,000 for other projects.

Construction and Improvements, National Zoological Park funding of \$9,000,000 within target would be applied as follows: \$1,240,000 to Central Area exhibits, \$6,800,000 to Beaver Valley exhibits, and \$960,000 to graphics and repairs and renovations at the Rock Creek and Front Royal, Virginia, facilities. The amount of \$12,350,000 over target would be used to complete the General Service and Parking Facility.

Within the Construction account over target, \$1,800,000 is for detailed planning for the first phase of the Museum Support Facility.

Details of these accounts and component projects are presented on the following pages. A multi-year projection is shown on page D-15.

^{/1} Excludes appropriations to fund National Air and Space Museum contract authority: \$7,000,000 in FY 1975; \$2,500,000 in FY 1976; and \$500,000 in FY 1977.

RESTORATION AND RENOVATION OF BUILDINGS

1975 Appropriation.....	\$1,490,000
1976 Estimate.....	\$1,467,000
Transition Quarter Estimate.....	\$400,000
1977 Estimate:	
Within Target.....	\$3,765,000
Over Target.....	\$9,250,000
Total.....	\$13,015,000

This account is used to fund major repairs, alterations, and improvements of a long-term nature and benefit. It is used also for construction of major additions to existing facilities and for minor new temporary or permanent buildings or other facilities. Facilities planning and studies and related expenses are funded from this account. Projects undertaken are in support of research, care and protection of collections, public accommodation and safety, and maintenance and development of the physical plant and natural areas under the custody of the Institution.

The requested FY 1977 appropriation will be used for the following plan of work:

(\$1,000s)

<u>Project</u>	<u>Within Target</u>	<u>Over Target</u>	<u>Total</u>
General Repairs and Improvements	\$1,500	-	\$1,500
Natural History Building	75	-	75
Mt. Hopkins Observatory	300	\$425	725
Chesapeake Bay Center	140	215	355
Radiation Biology Laboratory	-	750	750
Hirshhorn Museum	100	125	225
Renwick Gallery	250	-	250
History and Technology Building	200	6,000	6,200
Fine Arts and Portrait Galleries Building	-	610	610
Cooper-Hewitt Museum	-	325	325
Arts and Industries Building	950	-	950
Silver Hill Facility	-	100	100
Smithsonian South Yard	-	700	700
Building Equipment Monitoring Systems	250	-	250
Totals	<u>\$3,765</u>	<u>\$9,250</u>	<u>\$13,015</u>

Details on these projects are provided in the following descriptions.

General Repairs and Improvements (\$1,500,000). The Smithsonian (exclusive of the National Zoological Park separately presented) has 10 major museum buildings (ranging in age from new to well over 100 years old) containing some 2.5 million net square feet and having a replacement value of several hundred million dollars. It also includes in its space inventory (not including rental properties) many lesser structures containing about 0.5 million square feet used for research, collections management, and administrative purposes. Several thousand acres of land are dedicated to research, conservation, and education. Heavy public use of these facilities, general deterioration because of age and weathering, visitor and staff safety requirements, and the need to make improvements to keep pace with program changes create a demand for regular, annual attention beyond the capability of in-house maintenance staffs.

Specific, generally major, projects are budgeted in this appropriation under individual building or other headings. There is a continuing need, however, for substantial annual funding for planning, engineering, repair, and improvement response to other projects including those that arise unexpectedly. An appropriation of \$1,500,000 within target (approximately \$0.50 a square foot) is requested for FY 1977 for repairs to roofs and exteriors of buildings to provide weather-tight interiors; maintenance of structural systems; modifications to mechanical and electrical gear, including the replacement of obsolete components; repairs to sidewalks, driveways, ramps, sewer lines, and storm drainage systems; installation of fire detection and suppression equipment; repairs to plumbing; and maintenance of elevators and escalators.

Natural History Building (\$75,000). As part of a continuing program to provide special service for the many handicapped visitors and generally to improve public accessibility to our museums and galleries, there is a need to renovate the Constitution Avenue entrance of the Natural History Building. This work involves improved ramping, automatic or power-assisted doors, and general upgrading of the vestibule area. An amount of \$75,000 within target is requested for this work.

Mt. Hopkins Observatory (\$725,000). For several years, the Smithsonian Astrophysical Observatory has been following a phased plan of physical site improvements to its Mt. Hopkins, Arizona, Observatory. This includes work to provide adequate and safe facilities for staff and visitors. An access road improvement program has been under implementation. By the end of FY 1976, the road to Observatory sites will have been partially improved to correct major unsafe conditions (many sections of the old road slope outward to precipitous drops). Work will have been started on regrading the road between the Santa Cruz Valley and Montosa Canyon. An appropriation of \$200,000 within target is sought in FY 1977 to continue this work.

Funding of \$100,000 within target is required to develop an adequate supply of water for drinking, sanitary, and fire protection needs. Water must now be brought in by trucks. The necessary work involves the selection of supply points, a catchment and cistern system, filtration, chlorination, and pumping and piping.

A further amount of \$425,000 over target is requested to provide dormitory and other space for scientists, engineers, and technicians using the multi-mirror telescope now nearing completion. This telescope site is located several miles from the main Mt. Hopkins facility and is expected to receive heavy use by staff and visiting researchers.

Chesapeake Bay Center (\$355,000). About 2,500 acres of highly varied land, forest, and marsh are maintained on the Chesapeake Bay, near Annapolis, Maryland, as a natural resource for research and public education on complex living systems in an estuarine environment. The center is used by several dozen scientists and several thousand students at all academic levels each year. Its physical plant consists primarily of an old farm building which has been renovated to provide administrative and limited laboratory space and a new education and dormitory building constructed with gift and other private funds. Funding of \$140,000 within target is requested to renovate an additional farm building to provide additional laboratory space for staff and visiting researchers. A further \$215,000 over target would permit the construction of an addition to the existing headquarters building for more adequate management of a growing program.

Radiation Biology Laboratory (\$750,000). The Laboratory studies the effects of natural and artificial light as well as temperature, humidity, and atmospheric content on biological systems in order to help understand their growth and development. Studies are conducted under laboratory controlled conditions as well as under natural conditions. To further such work, a need exists to equip the laboratory's greenhouse facility with glass environmental chambers having a full range of operation in terms of temperature, humidity, light, and air filtration. Control of these elements would be within tight tolerances over a wide range, such as varying air quality from pure to specified levels of impurities. An amount of \$750,000 over target is sought for this installation.

Hirshhorn Museum (\$225,000). Persons in wheelchairs now can gain access to the Hirshhorn Museum's sculpture garden only by being carried down a long flight of steps. Once in the garden, the handicapped person finds it difficult to move about on the gravel surface. In fact, a year's experience has shown that an improved surface is needed for greater durability. Funding of \$100,000 within target is required to accommodate the handicapped and to resurface the garden. A further appropriation of \$125,000 over target would allow the garden to be lighted adequately for visitor safety and improved collection security during the evening.

Renwick Gallery (\$250,000). A recent engineering survey has concluded that the restored Renwick gallery facade has been severely damaged by water entry through unprotected surfaces, mortar joints, deteriorated building sealants and cracks caused by temperature changes. Extensive repairs are required for appearance purposes, to guard against the hazards of falling stonework, and to protect the interior of the building. The total repair job is estimated at \$500,000 to \$600,000 of which \$250,000 is sought in the FY 1977 budget within target to accomplish the most urgent work.

History and Technology Building (\$6,200,000). An appropriation of \$6,000,000 over target is requested to construct a sixth floor research and library center on the History and Technology Building. Such a center would provide a focal point for scholarly work in the history of science and technology by allowing adequate space to centralize existing extensive library and archival materials (many of which are not now in accessible locations) to be used in association with professional staff resources and some eight million artifacts (about half of the Museum's holdings) related to these fields. The center would also house the recently-donated Dibner Collection, the largest single private library on the history of science and technology. This collection contains more than 25,000 rare books (including over 300 books printed before 1501), historic manuscripts, prints, letters, portraits, medals, and instruments. The gift was made on the basis that suitable accommodations would be provided. Planning funds have been provided in prior year appropriations and the design effort is scheduled for completion in 1976.

A further \$200,000 within target is required to begin a phased program of repairing the terrace of the History and Technology Building, which serves both as a pedestrian walkway around the building and the roof to interior basement work, machinery, and storage space. Apparent original construction deficiencies have led to general deterioration of the waterproofing under the paving material and consequent extensive leakage. Total cost of repairs are estimated at \$600,000.

Fine Arts and Portrait Galleries Building (\$610,000). The last usable area in the Fine Arts and Portrait Galleries Building is the 16,000 square foot parking garage. This space is needed for art and documentation storage and for related work purposes. It could also be used for custodial locker rooms, the building manager's office, and for protection personnel. Elimination of parking and permanent closing of this space would also curtail carbon monoxide that is damaging to the collections, improve building security, and reduce the consumption of steam for heating and electricity for cooling. Funding of \$610,000 over target is required for this space conversion.

Cooper-Hewitt Museum (\$325,000). An amount of \$325,000 over target is needed to repair the roof of the Carnegie Mansion in New York City now undergoing extensive interior renovation with private funds to house the exhibits of the Cooper-Hewitt Museum. These repairs are necessary to ensure protection of the collections and the refurbished interior from leaks.

Arts and Industries Building (\$950,000). Almost \$4,000,000 has been appropriated for the major portion of the renovation and restoration of the historic 1879 Arts and Industries Building. Major improvements include installing heating, ventilating, and air-conditioning systems; replacing obsolete, inadequate, and potentially hazardous electrical and utilities systems; installing additional restrooms; recreating the original appearance of the rotunda and four major exhibition halls; providing new entrances to the building for public safety and accessibility; and other renovations. This work was started in February 1974 and is expected to be completed in February 1976. Prior to this completion, exhibits installation has begun for a major presentation, Centennial--1876, funded as part of the Institution's Bicentennial Program.

About \$1,500,000 of additional work remains to be done to complete the renovation and to protect work already accomplished. Primarily this work involves the exterior of the building and is necessary to ensure water tightness and insulation to save on utility consumption. The FY 1977 budget includes \$950,000 within target to repair and replace the roof which has deteriorated badly. Temporary repairs have been made to get through the Bicentennial period but a complete, permanent job is needed to give long-term protection to the building and its contents. A future-year major job will be repair, replacement, double-glazing, and painting of windows.

Silver Hill Facility (\$100,000). This site, consisting of about 21 acres in Suitland, Maryland, contains a number of buildings used for exhibits preparation, air and space craft storage and restoration, other collections storage, and other purposes. About 50 employees work at this site. The existing sanitary and storm water drainage systems should be upgraded, for which \$100,000 over target is requested.

Smithsonian South Yard (\$700,000). This area, consisting of approximately four acres bounded by the Smithsonian, Arts and Industries, and Freer Gallery Buildings and Independence Avenue, is now undergoing limited renovation to meet the needs of the Bicentennial. Unattractive sheds, fences, roadways, and some staff parking are being eliminated, and the resulting cleared areas landscaped and planted. Long-term requirements envision the development of this area for research, public, and administrative purposes. An appropriation of \$700,000 over target is required to develop and examine the best uses for this area.

Building Equipment Monitoring Systems (\$250,000). Smithsonian buildings contain a vast array of pumps, chillers, condensers, fans, air-conditioning, dehumidifying, and other complex and costly mechanical equipment. Monitoring of this equipment's safe, efficient and economical (increasingly important as utility rates steadily rise) operation is currently done on a tour basis involving personal inspection by journeyman-level mechanics. About 47 man-years of effort (at about \$12,000 a man-year) are expended with results that vary depending on the care taken in observation and recording of results. Available manpower is almost totally consumed with inspections and emergency repairs. Although preventive maintenance schedules have been prepared in detail on much of this equipment, very little such work can now be performed. Equipment failures with potentially serious consequences for building and collection safety are becoming more frequent.

Industry systems now exist that can be installed in the Institution to monitor operating equipment by sensors and report results electronically to central control panels. The installation of such systems would reduce by 60 percent the number of watch engineers. This savings of 29 man-years could be reapplied to preventive maintenance work. Such a system is estimated to cost \$1,000,000 for buildings on the Mall. Funding of \$250,000 within target is sought in FY 1977 budget for the installation of equipment in one building. Manpower savings payoffs will begin to be realized following the second such installation.

CONSTRUCTION AND IMPROVEMENTS, NATIONAL ZOOLOGICAL PARK

1975 Appropriation.....	\$9,420,000
1976 Estimate.....	\$8,390,000
Transition Quarter Estimate.....	\$1,440,000
1977 Estimate:	
Within Target.....	\$9,000,000
Over Target.....	<u>\$12,350,000</u>
Total.....	\$21,350,000

This appropriation is used to fund repairs, alterations, and improvements to existing facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations, and new construction implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973.

The National Zoological Park was established in 1890 under the Board of Regents of the Smithsonian Institution, who have been authorized to "administer and improve" the Zoo for "the advancement of science and the instruction and recreation of the people" (20 U.S.C. 81). The Zoo has two locations. Exhibit and education functions have been centered since 1890 on some 150 acres in Washington, D.C.'s Rock Creek Valley. At present there are on display about 2,800 animals, reptiles, and birds of 600 different species. Complementary animal conservation and breeding functions (to be done in collaboration with other zoos) are being developed on about 3,000 acres of Smithsonian land near Front Royal, Virginia.

The Master Plan had been defined in previous budgets in terms of 41 major projects clustered into 14 groups for planning, budgeting, and management purposes. The FY 1976 budget justification stated that with cost estimates escalated to July 1976, the Master Plan improvement program would cost some \$112,000,000 through FY 1984, with another \$15,000,000 for renovations and repairs, for a total of \$127,000,000. The justification further stated that the possibility of acquiring and developing an animal conservation and research center at Front Royal, Virginia, would provide an opportunity for substantial reductions in Master Plan projects. The reason for this statement was that during preparation of the Master Plan deliberate efforts were made to provide greater open space for hoof stock and to incorporate breeding capabilities in all exhibits, needs which can now best be met at the recently acquired Front Royal site. Consequently, a comprehensive reevaluation of the Master Plan has been completed, resulting in the elimination of the following projects at a cost savings of over \$30,000,000: crocodile and Komodo Dragon facility, new monkey house, plains animals, North American animals, Klinge Street bridge, and large plains animals. The revised construction program as shown on page D-10 (including repairs and renovations and limited development of Front Royal) is now estimated at about \$95,000,000 through FY 1986. A map of the Rock Creek facility showing the revised Master Plan development is on page D-11.

Significant progress has been made in implementing the Master Plan. The Monkey House has been remodelled with larger cages and was reopened to the public in May 1975. The new lion and tiger facility, Elephant House Yards, and Bird House Plaza are under construction and will be completed and opened this fiscal year. The Education and General Service Buildings will be started this year and completed, respectively, in mid-FY 1977 and mid-FY 1978.

The requested FY 1977 appropriation will be applied as follows:

(\$1,000s)

<u>Project</u>	<u>Within Target</u>	<u>Over Target</u>	<u>Total</u>
Beaver Valley Development	\$6,800	-	\$6,800
Central Area Development	1,240	-	1,240
General Service and Parking Facility	-	\$12,350	12,350
Graphics	100	-	100
Renovations, Repairs and Improvements:			
Rock Creek	440	-	440
Front Royal	420	-	420
TOTAL	<u>\$9,000</u>	<u>\$12,350</u>	<u>\$21,350</u>

Details on these projects are provided in the following descriptions.

Beaver Valley Area (\$6,800,000). Plans and specifications are being completed with funds previously appropriated (\$80,000 in FY 1975 and \$490,000 in FY 1976) for exhibits in the Beaver Valley area of the Zoological Park. This development includes a beaver exhibit to be constructed with land and water areas; an exhibit of the North American otter with underwater viewing; a major exhibit for seals and sea lions including a spectator seating area and an underwater exhibit room; some renovation of old bear facilities; and an exhibit of timber wolves. The requested FY 1977 appropriation of \$6,800,000 within target will allow completion of construction by spring of 1978.

Central Area Complex (\$1,240,000). The FY 1975 and Transition Quarter budgets appropriated a total of \$1,000,000 to prepare plans and specifications and to start construction for projects in the central area of the Zoo. These projects include a complete renovation of the existing Small Mammal House (constructed in 1937) and the existing Reptile House (constructed in 1931). Renovation work will include new heating, ventilation, and lighting as well as structural improvements and a complete modernization of exhibits. This will be the first major renovation of these buildings since they were constructed. Other projects include a new great ape facility, a new monkey island, a crocodile exhibit, and a complete modernization of sidewalks, service roads, and small exhibit cages in the area. The requested FY 1977 appropriation of \$1,240,000 within target will permit portions of the overall project to start as soon as plans and specifications are completed rather than after all plans are complete and construction costs have escalated further. Each project started will be completed within the appropriation and will not be contingent on future appropriations. Future appropriations of about \$6,760,000, however, will be requested to complete projects in the central area.

General Service and Parking Facility (\$12,350,000). With funds previously appropriated for planning and the first phase of construction (\$300,000 in FY 1974; \$2,700,000 in FY 1975; and \$4,000,000 in FY 1976), the project is ready to move into construction by December 1975. The first phase will provide space for service facilities (including repair shops, transportation, garage, commissary, exhibits, employee facilities, and management administration facilities) which are now scattered throughout the Zoo. The roof of the service building will provide the first parking level of about 200 parking spaces. By the latter part of 1977, an additional appropriation of \$12,350,000 over target will be needed to contract the remaining parking levels to provide a total of 900 additional parking places. Its completion would free some 12 acres elsewhere in the Zoo for other uses.

Design and Installation of Graphics (\$100,000). With completion and approval by the Commission of Fine Arts of a graphics Master Plan for the Zoo, the FY 1976 appropriation of \$100,000 can be applied toward signage, street furniture, and exhibit graphics in a meaningful and organized manner. It is now possible to go back and catch up other areas of the Zoo to implement fully the new plan. An appropriation of \$100,000 is requested in FY 1977 within target for this purpose to be followed by an additional such request in FY 1978.

Rock Creek Renovation and Repairs (\$440,000). An amount of \$440,000 is required within target to continue the program of renovation, repairs, and preventive maintenance of existing facilities. This funding is required to keep the heavily used Zoo in safe condition for the visiting public, for the upkeep and improvement of animal enclosures and staff facilities, and to maintain new buildings in good condition so that in the future the Zoo will not be faced with a large backlog of repairs. Renovation work currently in progress at the Zoo, funded from FY 1975 funds, includes minimum renovation to the commissary to overcome years of neglect and decay; construction of wheelchair ramps at two building entrances; construction, repair, and expansion of primary electrical feeders; and paving improvements for streets and sidewalks. With FY 1976 renovation funds, the restaurant mechanical systems will be improved and structural repairs will be made; Bird House mechanical systems, lighting and painting will be done; mechanical systems serving the Panda food kiosk will be improved; and improvements will be made to the 75 year-old arch bridge across Rock Creek. Among the FY 1977 projects to be undertaken are heating plant and mechanical system renovations, replacement of cages, resurfacing of walks, and replacement of road guard-rails.

Front Royal Conservation and Research Center Renovation and Improvements (\$420,000). A appropriation of \$420,000 within target is sought to make repairs, modifications, and improvements to the Front Royal animal conservation center. The site is used by the Zoo for breeding endangered wild-life species and for associated conservation and research efforts. Breeding groups will be assembled in cooperation with other zoos. Other important uses include holding animals displaced temporarily by Master Plan construction at the Zoo (as well as animals obtained in anticipation of construction completions) and farming land to produce an ample supply of selenium-rich hay needed for animal health that must now be purchased from the Midwest.

During the past year, fencing has been installed and existing barns renovated to provide five animal enclosures of 30 to 50 acres each. Animals contained therein are Pere David's deer, Scimitar-Horned oryx, Bactrian camel, Red kangaroo, Bongo, Grants zebra, and Elds deer. Also, research pens and runs have been completed for Maned wolves, foxes, and Bush dogs. Minimum maintenance has been performed on buildings and utilities. Similar work will continue in FY 1976. With funds requested in FY 1977, work will be started on modifications to an existing building to provide inside and outside enclosures for Tree kangaroos, Binturongs, Golden marmosets, and Rothchild's mynah birds. Additional fencing will be purchased and installed for hoof stock paddocks; existing buildings will be renovated to house a commissary, birds and small cats; minimum improvements will be made to existing general purpose buildings to repair roofs, flooring, utilities, and painting; and topographical maps will be prepared. A new residence will be constructed within prescribed limitations and improvements to the electrical, water, and sewer systems will be made.

NATIONAL ZOOLOGICAL PARK

September 1975

Construction Program
1974-1986

(\$1,000s)

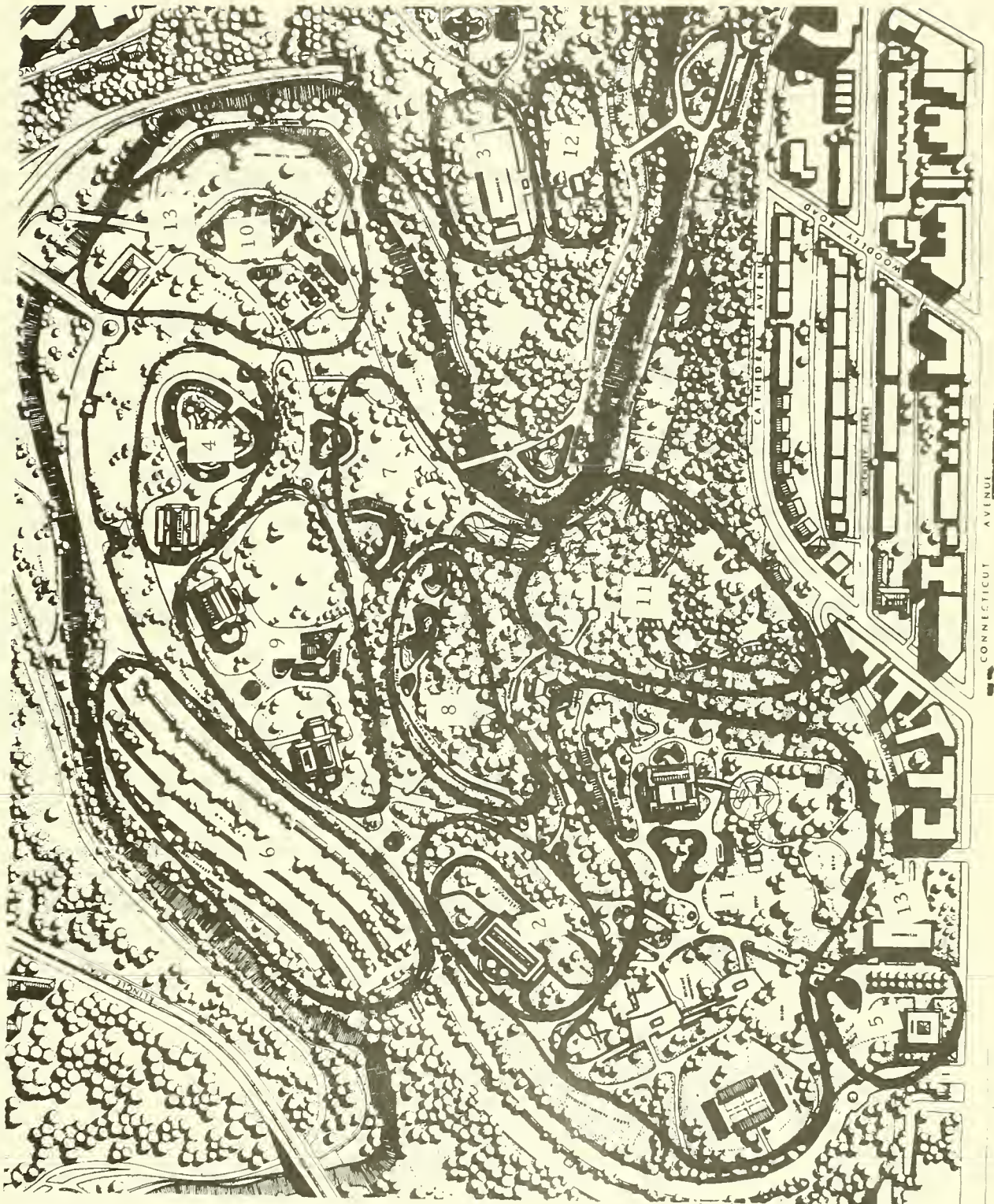
<u>Activity</u>	<u>Estimate</u> ^{/1}	<u>Budget Year</u>		<u>Estimated Completion</u>
		<u>Plans & Specs</u>	<u>Construction</u>	
I. Master Plan:				
Lion-Tiger Facility	\$3,000 ^{/2}	1973	1974	1/76
Elephant Yards and Bird House Plaza	3,130	1974	1975	11/75 to 3/76
Education-Admin- istration Building	2,500	1975	1975	1/77
General Service and Parking Facility	19,350	1974,75	1976,77	1/78, 1/81
Lower Rock Creek Valley	3,000	1974,75	1976	1/77
Beaver Valley	7,370	1975,76	1977	1/78
Central Area	9,000	1975, T.Q.	1977,78	6/79
Waterfowl Pond Area	3,620	1975,78	1979	1/80
Aquatic Habitats	13,000	1978,79	1980	1/82
Research Facilities, Holt and Elephant Houses Ren- ovation	6,600	1980	1981	1/82
Restaurants	6,500	1981	1982	1/83
Graphics	300		1976,77,78	1/78
Total	\$77,370			
II. Rock Creek Renov- ations	\$5,680			
III. Front Royal Renovations	\$11,900 ^{/3}			
Grand Total	\$94,950			

^{/1} Estimates from FY 1977 forward escalated to July 1977.

^{/2} Excludes \$275,000 for planning appropriated in FY 1973.

^{/3} Includes \$2,000,000 for a visitor and education center in FY 1980 and 1981. Estimates do not include a visitor transportation system.

NATIONAL ZOOLOGICAL PARK



LEGEND

1. Panda, hoof stock, and bird area largely completed. Bird House plaza to be completed in FY 1976.
2. Elephant House exterior yards to be completed in FY 1976.
3. Hospital-Research Building completed.
4. Monkey House completed. Lion-Tiger Facility to be completed in FY 1976.
5. Education-Administration Building to be under construction in FY 1976.
6. Service Facility to be under construction in FY 1976. Parking structure under construction in FY 1977.
7. Lower Rock Creek Valley area (bears, sheep, and other animals) to be under construction in FY 1976.
8. Beaver Valley area (beavers, seals, sea lions, and others) planning in FY 1976 and construction in FY 1977.
9. Central area (small mammals, reptiles, great apes, crocodiles, and others) planning in Transition Quarter and construction in FY 1977 and FY 1978.
10. Waterfowl Pond area (and small cats) planning in FY 1978 and construction in FY 1979.
11. Aquatic Habitats area (penguins, manatee, and others) planning in FY 1979 and construction in FY 1980.
12. Research/Nursery area planning in FY 1980 and construction in FY 1981.
13. Restaurant planning in FY 1981 and construction in FY 1982.

CONSTRUCTION

1975 Appropriation.....	\$7,000,000 ^{/1}
1976 Estimate.....	\$2,500,000 ^{/1}
Transition Quarter Estimate.....	\$0
1977 Estimate:	
Within Target.....	\$0
Over Target.....	\$2,300,000 ^{/2}
Total.....	\$2,300,000

This account is used for major planning and construction projects other than those of the National Zoological Park. Included at present are funds for the National Air and Space Museum and the proposed Museum Support Facility.

National Air and Space Museum (\$500,000 liquidation of contract authority). Construction of the National Air and Space Museum on the Mall between 4th and 7th Streets, S.W. is now completed except for the correction of imperfections and necessary additions and changes to the building. It is anticipated that many changes will be found necessary as exhibits are installed and as visitors begin to use the building at the rate of 7,000,000 a year.

The project's costs are within the authorized funding of \$40,000,000. Public Law 89-509, approved July 19, 1966 (20 U.S.C. 77), authorized construction of this Museum. Planning funds of \$1,900,000 were provided in the FY 1972 appropriation. The FY 1973 Appropriation Act provided \$13,000,000 plus additional contract authority of \$27,000,000. Appropriations to liquidate this contract authority have been provided in FY 1974 (\$17,000,000); FY 1975 (\$7,000,000); and in FY 1976 (\$2,500,000). An appropriation of \$500,000 is required in FY 1977 to complete contract authority liquidation.

Museum Support Facility (\$1,800,000). Legislation passed by the Congress on September 8, 1975, and sent to the President for approval authorizes the Smithsonian to plan museum support facilities and provides for the appropriation of such sums as may be necessary to carry out that authority.

These facilities would house and make more accessible for research purposes expanding National Collections of specimens and artifacts documenting the fields of natural science, American history and technology, and art. Although acquisitions are carefully screened for their long-term importance for research and exhibition purposes, their growth averages some one million objects a year. These facilities also would provide additional space for museum support and maintenance services including collections conservation and the training of conservators badly needed by the national museum community. Furthermore, these facilities would permit the return to exhibition and other public uses space in museum and gallery buildings now increasingly diverted to collections storage. Finally, the availability of these new facilities will allow the termination of costly rental properties.

^{/1} Appropriations to liquidate National Air and Space Museum contract authority.

^{/2} Includes \$500,000 contract authority liquidation.

The proposed site for these facilities is about 71 acres of Federal land approximately 7 miles from the Mall adjacent to land now owned by the Institution and used primarily for National Air and Space Museum storage and restoration purposes. This site is included in the General Services master plan for the area. A component parcel of 35 acres under GSA's jurisdiction is believed to be available promptly upon the Smithsonian's readiness to assume accountability. Other sites have been investigated but are not considered practical or feasible for development.

The long-range development of the Museum Support Facility would be undertaken in increments which in total would provide some 1.9 million gross square feet (1.3 million net assignable square feet) to meet projected space and program needs for the next 25 years. Alternatives to such development (such as rentals of additional space, if they could be found, and their subsequent renovation) are not programmatically or economically sound.

Details of the Museum Support Facility proposal are in the Smithsonian Institution Facilities Program provided to the Office of Management and Budget. For FY 1977, an appropriation of \$1,800,000 over target (reflecting the new legislation) is sought to provide plans and specifications for phase I (about 500,000 net assignable square feet) to meet the most urgent collections space needs of the National Museum of Natural History including the Oceanographic Sorting Center (now in rented space) and the National Museum of History and Technology and to serve conservation and library programs. The estimated construction cost of this phase is \$42,100,000.

(\$1,000s)

Smithsonian Institution
Facilities Planning, Renovation, Restoration, and Construction by Account and Project
Budget Authority FY 1977-1984

Estimates Include Cost
Escalation to July 1977

Account and Project	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Totals
I. Restoration and Renovation of Buildings											
General Repairs and Improvements	6,315	5,460	3,595	3,805	3,100	2,330	1,900	1,895	1,950	1,550	31,900
History and Technology Addition	6,000 ^{/1}										6,000
Smithsonian Bldg South Yard Development	700		11,000 ^{/2}								11,700
Totals	13,015	5,460	14,595	3,805	3,100	2,330	1,900	1,895	1,950	1,550	49,600
II. Construction and Improvements, National Zoological Park											
Master Plan:											
General Service-Parking Facility	12,350 ^{/1}										12,350
Beaver Valley Development	6,800 ^{/1}										6,800
Central Area Development	1,240 ^{/1}	6,760									8,000
Waterfowl Area Development		600	3,000								3,600
Aquatic Habitat Development		50	950	12,000							13,000
Research-Nursery Facilities				600	6,000						6,600
Restaurants					500		6,000				6,500
Graphics	100	100									200
Subtotals	20,490	7,510	3,950	12,600	6,500	6,000					57,050
Renovations and Improvements:											
Rock Creek Facilities	440	400	400	400	400	400	400	400	400	400	4,040
Front Royal Facilities	420	800	800	1,800	2,000	1,000	1,000	1,000	1,000	1,000	10,820
Totals	21,350	8,710	5,150	14,800	8,900	7,400	1,400	1,400	1,400	1,400	71,910
III. Construction											
Museum Support Facility	1,800		42,100 ^{/3}		1,200		21,400 ^{/3}		1,200		67,700 ^{/4}
Mall Site Development						600		10,000 ^{/2}			10,600
Astrophysical Observatory Bldg						180		3,500			3,680
Totals	1,800		42,100		1,200	780	21,400	13,500	1,200		81,980
Grand Totals	36,165 ^{/5}	14,170	61,845	18,605	13,200	10,510	24,700	16,795	4,550	2,950	203,490

^{/1} Planning funds appropriated in prior years.

^{/2} Potential for private funding.

^{/3} Contract authority not assumed.

^{/4} Future year requirements estimated at \$30,700,000 to complete project.

^{/5} Excludes \$500,000 for final NASM contract authority liquidation.

SMITHSONIAN INSTITUTION LIBRARIES



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