



SI 2093

Senate Hearings

Department of the Interior and Related Agencies Appropriations

H.R. 9029

90th CONGRESS, FIRST SESSION

Fiscal Year 1968

Part 2—Pages 1333 through 2695

Thursday, March 9, 1967, through Tuesday, March 21, 1967

THURSDAY, MARCH 16, 1967.

SMITHSONIAN INSTITUTION

STATEMENT OF S. DILLON RIPLEY, SECRETARY; ACCOMPANIED BY JAMES BRADLEY, ASSISTANT SECRETARY; SIDNEY R. GALLER, ASSISTANT SECRETARY (SCIENCE); WILLIAM W. WARNER, DIRECTOR, OFFICE OF INTERNATIONAL ACTIVITIES; AND EDWARD H. KOHN, DIRECTOR, OFFICE OF PROGRAMING AND BUDGET

BUDGET REQUEST

Chairman HAYDEN. The Smithsonian Institution.

Mr. RIPLEY. Mr. Chairman, good morning.

Chairman HAYDEN. Good morning, sir. There will be placed in the record the general statement submitted with the budget justification of the Smithsonian Institution, together with a number of other statements containing information about the Institution.

(The statements follow:)

GENERAL STATEMENT

The Smithsonian Institution, established by the Act of August 10, 1846, is devoted to public education, basic research, and national service in science, learning, and the arts. The Institution, with its wide array of research and education facilities for both the scholar and the general public, is richly endowed with many of the resources that can create a fuller and more meaningful life for the American people.

In dedication to the high purposes of its founder, "the increase and diffusion of knowledge among men," the Smithsonian for well over a century has been concerned with the nature of man, the organization of life, and the nature of the physical universe.

The Institution performs fundamental research and publishes the results of studies, explorations, and investigations. In the National Collections it holds for study over 60 million valuable items of scientific, cultural, and historical interest. It presents public exhibitions in the arts, history, and science.

The museums and art galleries are a powerful but still little understood force for the free education of approximately thirteen million of our fellow citizens who visit these exhibitions every year. The rewarding experience of these visits is made possible only because, in our conception, this Institution constitutes a company of scholars, brought together to use and to interpret the National Collections and to pursue original investigations and research. One of our concerns is the study of what constitutes the creation of awareness and interest in people as a result of viewing exhibits. We believe the solution of this problem can represent a significant contribution to the educational process.

The "Salaries and Expenses" appropriation finances the continuing operations of the Smithsonian Institution. The Institution maintains public exhibits representative of the arts, American history, aeronautics, space, technology, anthropology, geology, and biology; preserves for reference and study purposes millions of valuable objects of scientific, cultural, and historic interest; conducts research in the natural and physical sciences and in the history of cultures, technology, and the arts in the United States and in many foreign coun-

tries; and participates in the international exchange of scientific literature and art. The areas of research in the sciences include anthropology, biology, earth sciences, solar radiations, and astrophysics. The Smithsonian is also undertaking an extensive program of classification and study of marine organisms collected in connection with the Government's expanded oceanographic program.

The Institution administers 3 museums, 5 scientific programs, 4 art galleries, the Armed Forces Museum Advisory Board, and associated international programs. It is responsible for the operation and maintenance of 7 main exhibition buildings; the Astrophysical Observatory in Cambridge, Massachusetts; the Tropical Research Institute in the Canal Zone; the River Basin Surveys in Lincoln, Nebraska; and seven other research, storage and service facilities.

Under the "Salaries and Expenses" appropriation, funds in the amount of \$25,100,000, an increase of \$2,577,000, are requested in order to fulfill more adequately our two primary objectives—

The education and inspiration of the Public through museum and art gallery presentations and services; and

The advancement of knowledge through original research and scholarship in history, art and science.

The United States National Museum requires an increase to serve the accelerating national interest in the preservation and study of natural and man-made objects as a basis of understanding our history, our civilization, and man's environment. An expanded program of museum training, publication and consultation will be supported. The care of permanent exhibits and preservation of valuable objects will be made more adequate, and the effectiveness of museum presentations will be studied.

The Museum of History and Technology, with its emphasis on the development of the United States, requires an increase to step up its preparation for the commemoration of the Bicentennial of the American Revolution. Additional specialists and technicians are required in order that this museum may utilize its collections as a living center for exhibition and research on American cultural growth.

The Museum of Natural History, an international center for the natural sciences with the Nation's largest collections of scientific material and specimens, requires an increase to alleviate substandard levels of technical staffing support. Access to its great stores of data must be modernized to meet a growing demand for cooperative research and education with national and international agencies and universities.

The National Air and Space Museum, in carrying out its responsibilities under the Act of July 19, 1966, requires an increase to develop exhibits to reflect space flight accomplishment, update present exhibits and acquire notable representations for its planned new building.

The National Collection of Fine Arts and the National Portrait Gallery respectively charged with the missions of establishing in the Nation's Capital a permanent survey and presentation of American art and of portraiture and statuary of the contributors to the Nation's history and development, require increases to prepare notable openings of their great new galleries to the American Public in 1968.

The Joseph H. Hirshhorn Museum and Sculpture Garden requires a small initial staff to commence planning for the newly authorized Museum to house the gift to the American people of the Hirshhorn collection of paintings and sculpture.

The Astrophysical Observatory, in continuing its basic research program on the origin and the matter of the solar system and the universe, needs additional funds for planned stages of growth in the fields of radio and gamma-ray astronomy, meteorites, meteors and comets, theoretical astrophysics, optical observations, and planetary and lunar studies.

At the Tropical Research Institute in the Canal Zone small increases in staff and technical support are needed to continue its program of research and inter-American cooperation for tropical research in environmental biology and other natural sciences.

The Radiation Biology Laboratory requires funds to alleviate marked deficiencies in supporting staff and equipment while carrying on its pioneering research on the effects and controls of radiation on the functions of living organisms.

In order to engage more efficiently the many resources of the Smithsonian in

the national and world effort to study man and his environment, a small increase is sought for the coordinating efforts of our Office of Ecology.

The Smithsonian's program in marine science serves growing national and international requirements for research on the future harvest of the food and mineral resources of the seas. Efforts to determine what the crops are and where they will grow require faster identification of specimens from ocean surveys and expeditions. Increased funds are sought so that the Smithsonian Oceanographic Sorting Center can meet this growing demand.

The Buildings Management Department, with forty percent of the Smithsonian's employees, requires added funds to perform its operation, maintenance and protection of more than 3,000,000 square feet of laboratory, service and exhibition areas, with their priceless collections, in 15 different sites.

The Office of Education and Training's increase would allow measured growth in the use of the Smithsonian's extensive collections and laboratories by visiting scholars, students and for school programs.

In International Activities an increase is sought to administer an accelerated Excess Foreign Currency Program and to meet increased costs and volume for international exchange of publications.

The Administrative and Technical Support divisions require increases to overcome deficiencies to meet existing demands, particularly in the library, press and automatic data processing areas, and to keep pace with the substantive programs of the Institution.

Provision has also been made in the 1968 estimates of appropriations for an expanded Special Foreign Currency Program to accommodate the strong interests of American universities and museums to finance research overseas though the advantageous use of foreign currencies excess to the needs of the United States.

In the construction program for 1968, emphasis has been placed on planning; construction proposals have been held to a minimum in accord with present austerity and the need for economies.

Funds are requested for the planning of the Joseph H. Hirshhorn Museum and Sculpture Garden, and for planning of the continuation of a twelve-year capital improvement program at the National Zoological Park and for rectifying a water pollution problem in one of its areas.

The Restoration and Renovation of Buildings appropriation includes necessary modifications to existing buildings and sites at a level of 40% under 1967.

SALARIES AND EXPENSES

Report of the number of permanent positions by organization unit

	1966 actual	1967 estimate	1968 estimate	Increase, 1968 over 1967
United States National Museum.....	202	208	220	12
Museum of History and Technology.....	149	150	155	5
Museum of Natural History.....	236	252	272	20
National Air and Space Museum.....	34	37	45	8
National Armed Forces Museum Advisory Board.....	4	7	8	1
Freer Gallery of Art.....	5	5	7	2
National Collection of Fine Arts.....	30	45	57	12
National Portrait Gallery.....	15	19	27	8
Joseph H. Hirshhorn Museum and Sculpture Garden.....	0	0	3	3
Astrophysical Observatory.....	46	51	53	2
Tropical Research Institute.....	18	21	28	7
Radiation Biology Laboratory.....	24	25	33	8
Office of Ecology.....	5	5	10	5
Office of Oceanography and Limnology.....	18	18	35	17
Buildings Management Department.....	730	723	809	86
Education and Training.....	0	10	15	5
International Activities.....	16	18	24	6
Administrative and technical support.....	165	198	244	46
Grand total.....	1,697	1,792	2,045	253

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Report of obligations by objects

	1966 actual	1967 estimate	1968 estimate	Increase 1968 over 1967
11 Personnel compensation.....	\$12,161,000	\$13,957,000	\$15,129,000	\$1,172,000
12 Personnel benefits.....	858,000	1,016,000	1,109,000	93,000
21 Travel and transportation of persons.....	239,000	240,000	322,000	82,000
22 Transportation of things.....	117,000	135,000	169,000	34,000
23 Rent, communications, and utilities.....	1,155,000	1,273,000	1,363,000	90,000
24 Printing and reproduction.....	400,000	470,000	546,000	76,000
25 Other services.....	1,674,000	2,731,000	3,168,000	437,000
26 Supplies and materials.....	852,000	920,000	1,054,000	134,000
31 Equipment.....	1,439,000	1,956,000	2,239,000	283,000
42 Insurance claims and indemnities.....	0	1,000	1,000	0
Total obligations.....	18,895,000	22,699,000	25,100,000	2,401,000
Appropriation adjustments:				
Proposed supplemental for cost of wage-board salary increases.....	0	-176,000	0	+176,000
Unobligated balance lapsing.....	+26,000	0	0	0
Appropriation or estimate.....	18,921,000	22,523,000	25,100,000	2,577,000

EXHIBITS PROGRAM, MUSEUM OF HISTORY AND TECHNOLOGY, FISCAL YEARS THROUGH 1966 AND 1968

A. Halls installed and opened to the public as of June 30, 1966 :

- | | |
|---|--|
| 1. Flag Hall | 14. Watercraft |
| 2. First Ladies Hall | 15. Philately and Postal History |
| Everyday Life in the American Past: | 16. Glass |
| 3. 17th Century Furnishings | 17. Graphic Arts: Hand Processes |
| 4. 18th and 19th Century Furnishings. | 18. Graphic Arts: Photomechanical Processes |
| 5. Historic Americans | 19. Graphic Arts Salon |
| 6. American Costume | 20 & 21. History of the Armed Forces I (through Civil War) |
| 7. Light Machinery (Timekeeping, Typewriters, Phonographs, and Locks) | 22. Ordnance, and the gunboat <i>Philadelphia</i> |
| 8. Tools | 23. Special Exhibits (third floor) |
| 9. Farm Machinery | 24. Medicine, Dentistry and Pharmacy (Medical Sciences) |
| 10. Autos and Coaches (partial) | 25. Physics |
| 11. Railroads | 26. Ceramics |
| 12. Temporary Exhibits Gallery (first floor) | 27. Electricity I |
| 13. Civil Engineering (Bridges and Tunnels) | |

B. Additional Halls to be installed and opened to the public by June 30, 1967 :

- | | |
|---|---|
| 1. Heavy Machinery | 4. Underwater History |
| 2. Growth of the United States II and III | 5. Automobiles and Coaches (completion) |
| 3. Petroleum | |

C. Additional Halls to be installed and opened to the public by June 30, 1968 :

- | | |
|--------------------|-------------------|
| 1. Photography | 3. Textiles |
| 2. Armed Forces II | 4. Electricity II |

RENOVATION OF EXHIBITS

In 1968 the Smithsonian will continue its program of revitalizing the exhibits in the United States National Museum.

A. Completed and opened to the public in 1966 :

1. Gem and Jade Sections of Gems and Minerals Hall.
2. Reptile Section of Cold-blooded Vertebrates Hall.

- B. Halls to be completed and opened to the public by the end of 1967 :
 1. Osteology Hall (Completion).
 2. Meteorite Section of Physical Geology Hall.
 3. Peoples of Asia and Africa Hall (Completion).
 4. Fish Section of Cold-blooded Vertebrates Hall.

- C. Construction partially completed by the end of 1967 :
 1. Physical Geology Hall (6 units).
 2. Classical Archeology.
 3. Life in the Sea.

D. During 1967, drawings for the Hall of Insects will be partially completed and contracts will be awarded for certain individual cases and units for this hall.

E. During 1968, contract will be awarded for the Hall of Insects, and the Botany Hall will be architecturally designed.

TEMPORARY AND SPECIAL EXHIBITS

Fiscal year 1967

Fiscal year 1968

Australian Prints World Exposition of Photography Victorian Needlework Rembrandt Landscape Prints Vinland Map Six Danish Graphic Artists Irish Architecture World War Posters and Art Wedgwood Exhibit The Face of Chile Washington Beautification	Early Chicago Architecture Copp Textiles Urban Planning Presidents' Pastimes Genteel Female Alexander Graham Bell Revolutionary Bicentennial Slavery exhibit Part 1 Slavery exhibit Part 2 A Panorama on the Arts and Crafts Tunisian Mosaics
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Grants to the Smithsonian Institution, fiscal year 1966

<i>Granting agency and title of grant</i>	<i>Actual amount</i>
Department of Defense: Potential vectors and reservoirs of disease in Africa -----	\$21,000
National Aeronautics and Space Administration :	
Study of meteorites-----	100,000
Satellite tracking program-----	5,300,000
Prairie network -----	230,000
Environmental -----	135,000
Miscellaneous small grants-----	70,000
Total, National Aeronautics and Space Administration-----	5,835,000
National Science Foundation :	
Undergraduate research program-----	20,000
Studies of Antarctic biology-----	50,000
Recording of data for specimens collected during the U.S. Antarctic program -----	43,000
Sorting of U.S. Antarctic research program biological collections-----	67,000
Mineral collection -----	43,000
Miscellaneous small grants-----	27,000
Total, National Science Foundation-----	250,000
Total grants, fiscal year 1966-----	6,106,000

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Research by the Smithsonian Institution on contracts, fiscal year 1966

<i>Contracting agency and research field</i>	<i>Actual amount</i>
Atomic Energy Commission: Plant physiology-----	\$83,000
Department of Defense:	
Astrophysics -----	185,000
Oceanography -----	50,000
Zoology -----	250,000
Miscellaneous -----	90,000
Total, Department of Defense-----	575,000
National Science Foundation: Science information exchange-----	1,900,000
National Aeronautics and Space Administration:	
Telescope -----	3,174,000
Astrophysics -----	797,000
Total, National Aeronautics and Space Administration-----	3,971,000
Total, research contracts, fiscal year 1966-----	6,529,000

Grants to the Smithsonian Institution, fiscal year 1967

<i>Granting agency and title of grant</i>	<i>Estimated amount</i>
National Aeronautics and Space Administration:	
Study of meteorites-----	\$175,000
Prairie network-----	150,000
Satellite tracking program-----	5,500,000
Miscellaneous small grants-----	100,000
Total, National Aeronautics and Space Administration-----	5,925,000
National Science Foundation: Estimated miscellaneous grants-----	50,000
Total grants, fiscal year 1967-----	5,975,000

Research by the Smithsonian Institution on contracts, fiscal year 1967

<i>Contracting agency and research field</i>	<i>Estimated amount</i>
Health, Education, and Welfare: Various research projects-----	\$200,000
Atomic Energy Commission: Plant physiology-----	90,000
Department of Defense: Various research projects-----	1,000,000
National Science Foundation: Science information exchange-----	2,000,000
National Aeronautics and Space Administration: Astrophysics-----	4,000,000
Total research contracts, fiscal year 1967-----	7,290,000

SMITHSONIAN INSTITUTION
SCHEDULE OF BUILDING PROJECTS

Fiscal Years	1961 and prior years	1962	1963	1964	1965	1966	1967	1968	1969	1970
Remodeling of Civil Service Commission Bldg. (for Art Galleries)	Pre-planning studies	Planning apprn. received, \$400,000		Apprn. received, \$5,465,000	Under Construction Apprn. received, \$1,000,000		April 1967 completion	April 1968 opening		
National Air and Space Museum Building	Pre-planning studies			Planning apprn. received, \$511,000	Remainder of planning apprn. received, \$1,364,000				Scheduled to be under construction	Request apprn. \$44,300,000
Construction and Improvements, National Zoological Park		Planning apprn. rec'd.(DC) \$85,000		Apprn. received, \$1,275,000	Apprn. received, \$1,525,000	Apprn. received, \$1,539,000	Apprn. received, \$1,589,000	Apprn. requested, \$485,000	Request apprn. of various amounts for twelve-year program	
Restoration and Renovation of Buildings						Apprn. received, \$2,248,000	Apprn. received, \$2,300,000	Apprn. requested, \$1,353,000	Request apprn. of various amounts	
Joseph H. Hirshhorn Museum and Sculpture Garden								Planning apprn. requested, \$803,000	Scheduled to be under construction	Request construction apprn. \$13,200,000

PREPARED STATEMENT

Chairman HAYDEN. Dr. Ripley, would you please file your written statement for the record, and then summarize it for the committee?

Dr. RIPLEY. Thank you, sir; I would be very happy to.
(The statement follows.)

HIGHLIGHTS OF 1968 APPROPRIATION REQUEST

The Smithsonian's total request of \$33,841,000 for the fiscal year 1968 is an increase of \$5,113,000 over the current level of \$28,728,000.

SALARIES AND EXPENSES

For Salaries and Expenses, the increase is \$2,577,000 over the present level of \$22,523,000.

The increase will permit a start on the training and consultation program authorized by the National Museum Act of 1966.

In the Museum of Natural History we will be able to add supporting staff for better utilization of our research scientists.

For the National Collection of Fine Arts and the National Portrait Gallery, \$398,000 are required to prepare these two major galleries for the public opening of the Fine Arts and Portrait Galleries next year.

For research in astrophysics, in tropical biology, radiation biology, ecology, and oceanography, an increase of \$421,000 will provide additional instrumentation and additional research workers in these important fields of Smithsonian scientific interest, now at the level of \$2,703,000.

The Smithsonian operates and maintains its own buildings. The Buildings Management Department requires an increase of \$530,000 over the current allotment of \$6,740,000 to provide for the operation of additional building space. The Fine Arts and Portrait Galleries is scheduled for public opening in April of 1968. In addition to the cost of operating this building, four new exhibition halls will be opened in the Museum of History and Technology. Service in all buildings was curtailed by the need to offset the pay raise cost in 1967. It is now planned to bring the buildings up to normal levels of cleaning and maintenance.

The administrative and technical services which are necessary to support the substantive programs require an increase of \$467,000.

The Smithsonian would like to persuade this Committee that it needs automatic data processing, as other Governmental agencies and industrial concerns use the process. We have the same administrative operations, such as payroll, fund accounting, and property inventory, as does any other organization. But we have never had the opportunity to employ an appropriate, small-scale, automatic data processing system to our needs. (We have now three positions and \$55,000. We need as a minimum an increase of five positions and \$80,000.)

In addition to our administrative load, we have a truly massive collection of scientific specimens which can only be utilized to their full value by being known to the scientific community. In lieu of the employment of a great body of cataloguers, subprofessionals and professional employees, automatic data processing provides an effective and economical means for the storage and retrieval of information that today is locked into these scientific and historical collections. I trust that the Committee will allow us this increase for automatic data processing, on a small scale.

FOREIGN CURRENCY PROGRAM

In our foreign currency program, the strong interests of American universities and museums for archeological research, systematic and environmental biology, and related museum programs, is reflected in an increase from the 1967 level of \$2,316,000 to the 1968 request of \$6,100,000.

Initiated in 1966, this program of grants to American universities and other institutions of learning utilizes foreign currencies in countries where the supply will be greater than the normal requirements of this country, namely, Burma, Ceylon, Guinea, India, Israel, Pakistan, Poland, Tunisia, United Arab Republic, and Yugoslavia. The use of these currencies for these purposes is of benefit to the United States as well as to the countries concerned. We are ad-

vised by the Budget Director that these currencies would not otherwise be used and their use in these proposed programs will provide benefits to the United States at no increased cost to the American taxpayer. The benefit to this country results from increased exploration concessions and research opportunities for American institutions in the host countries. This results also in the increased sharing of knowledge of archeological treasures and in the enrichment of collections. Secondly, the preservation and restoration of ancient monuments makes a positive contribution to United States relations with the host countries and directly supports foreign aid objectives, since properly restored monuments are a stimulus to tourist industries and also represents aid which goes to all sectors of society, from the considerable number of laborers employed in the larger projects, to the foreign scholars and scientists working side by side with Americans.

The requested increase from \$2,316,000 to \$6,100,000 will be used as follows:

Increased archeological research-----	\$468, 000
Systematic and Environmental biology-----	2, 537, 000
Museum programs -----	500, 000
Astrophysics -----	130, 000
Scientific publications -----	17, 000
Program administration -----	132, 000
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Total -----	3, 784, 000

Among the archeological projects are the Lawrence Radiation Laboratory of the University of California which is undertaking to X-ray Egyptian pyramids to discover unknown interior chambers. The University of Missouri, working with the Corning Museum of Glass, is excavating Phoenician glass factories along the Israeli coast. The American Academy of Benares is conducting long-range studies to document and photograph archeological sites throughout India.

Included in the request is \$3,553,000 for systematic and environmental biology projects. This will contribute to the objectives of the international biological programs. Included will be such projects as the establishment of an oceanographic sorting facility in India and additions to the national collects in entomology, botany, and zoology.

CONSTRUCTION

The construction program has been reduced below this year's level of \$3,889,000. \$2,641,000 is requested. Of this amount \$485,000 will continue the program of improvements at the National Zoological Park, providing principally for the construction of the waterfowl area and the elimination of a source of pollution of Rock Creek.

For the renovation of building \$1,353,000 is requested, principally to complete the renovation of the Smithsonian Institution Building, for additional improvements to the Fine Arts and Portrait Galleries, and to relocate the Radiation Biology Laboratory at the old Bureau of Standards site.

\$803,000 is requested for the preparation of plans and specifications for the Hirshhorn Museum and Sculpture Garden. The authorization of this new gallery was enacted into law on November 7, 1966. It is planned during the fiscal year to prepare drawings and specifications for this gallery to be located on the Mall between 7th and 9th Streets. The Gallery and Sculpture Garden will house more than 1500 pieces of sculpture and 4,000 paintings and drawings, which have been given by Mr. Hirshhorn to the American people through the Smithsonian.

SALARIES AND EXPENSES

Dr. RIPLEY. The Institution is requesting, this year, a total request of \$33,841,000, which represents an increase of \$5,113,000 over the current level of \$28,728,000.

This increase represents about \$2½ million in "Salaries and expenses" over our present level. One of the purposes of this increase, sir, is to give us a start on a new program which was authorized by the Congress last year, known as the National Museum Act of 1966. We

will have a chance to start on training and consultation under this program.

TECHNICAL SUPPORT FOR SCIENTISTS

In the Museum of Natural History, sir, we would be able to add what I have been particularly keen to develop during my brief tenure here of 3 years, and that is the appropriate support for our scientists. It is quite difficult to employ high-grade scientists in an institution like the Smithsonian, unless we can give them the research assistance and the laboratory backup support which are equivalent, at least, or partially equivalent, to what goes on in present-day laboratories and universities, not only in the private universities around the country, but in the Federal Government laboratories.

Now the Smithsonian, because of lack of this support, has difficulty, often, in recruiting high-level people to work for us, and I have been anxious each year to try and make up, as it were, for this shortage which I consider to be an area of hardship and neglect in the Institution's payroll situation.

We are at about one-third of what is considered to be the optimal position for support for senior scientists in the Institution, compared to universities and Federal laboratories on an ideal scale. The Federal laboratories are now close to two-thirds of what they should be in the way of the ideal support, and universities are around 80 percent of what they should be.

FINE ARTS AND PORTRAIT GALLERIES OPENING

We are going to have one principal cultural event in the year 1968, which will be the major one, I believe, in Washington, D.C., during that entire year, the year of the next election. This will be the opening of that magnificent building on F and Eighth Streets, the old Patent Office Building, where the first patent office models were displayed in the basement, in the 1840's, and which by the kindness of the Congress was authorized in 1958 to be transferred to the Smithsonian.

As you know, sir, we have been scheduling, every year, a gradual increase in the attempt to renovate and restore this building for two purposes: One is the National Portrait Gallery, and the other is the National Collection of Fine Arts. These two museums, we hope, can open in 1968, in April. It should be a very distinguished event. It should be, in fact, a revelation to the cultural world of the resources and the facilities of the Capital, and will represent the other great major art resource that the Federal Government is responsible for, in addition to the National Gallery.

We are particularly keen that these galleries should be opened, and for them, the absolute minimal support that we need is just under \$400,000. I know that this is a year of tremendous austerity, and that the problems of the war and the difficulties with getting new programs underway have placed a tremendous strain on our national resources; but I make a special plea for the opening of these two new galleries in the F Street building, because I feel that this is part of a cumulative

plan which has been developing over 6 years, and has been faced each year in stages. If we cannot do this, we will be letting down our side.

SCIENTIFIC RESEARCH RESPONSIBILITIES

For research in various types of science which the Smithsonian pursues: astrophysics, biology in the tropics, radiation biology, ecology, and oceanography, we request an increase of \$421,000, to add instrumentation and additional research workers in these fields. In a number of these fields we are specifically charged with and perform unique responsibilities of particular value to related Government agencies which are concerned that we maintain appropriate capability to provide information and data from our collections and research. Such service is often essential to their purposes.

BUILDINGS OPERATION AND MAINTENANCE

We operate and maintain our own buildings, sir, as you know, and we request an increase of half a million dollars for the maintenance and operation of the existing buildings, and particularly for the opening of these two new galleries, the Fine Arts Collection and the Portrait Gallery, in April 1968.

We are also gradually phasing the opening of new halls in the wonderful new Museum of History and Technology, which continues to be, next to the Capitol of the United States, the largest single tourist attraction in Washington. Last year, it is estimated that about 7 million people visited the Capitol, and about 5 million people visited the new Museum of History and Technology. This building has been a winner, and has, I think, made a tremendous impact on the American people; and we are gradually, each year, opening just a little bit more in the way of new halls.

We have had to curtail maintenance services in that building because of the freeze in employment in 1967 to offset the pay raises. But we would like to continue gradually this phased opening of the building's halls.

AUTOMATIC DATA PROCESS FOR COLLECTIONS

We are keen to get into the important area of automatic data processing for our millions of specimens. Last year, the Senate supported us in our request for these funds. This year again I have made a very strong plea, as strong as I could, to the House that we make a start. The kinds of specific and utilitarian services which we can perform for other agencies of the Government can be greatly speeded up in terms of information retrieval by the use of some of these systems. There is absolutely no comparison to the degree of service which we could perform if we make a good start in automatic data processing. We feel this is quite proved and demonstrated now, and we therefore request a small increase in this area.

USE OF EXCESS FOREIGN CURRENCIES

The main part of our budget, in a sense, reflects the very strong interest that has developed in the 3 years since we have been administering a segment of the foreign currency appropriation, and we

request a major increase of over \$3 million above the fiscal year 1967 level for these purposes. The success of this program has been great. We are the sole, concerned agency in the Government which has been stimulating archeology abroad, and allowing American institutions to participate in major programs, particularly in the Middle East and the Mediterranean Basin. As I often note, the young citizens of the countries where we work under this foreign currency appropriation tend to be greatly interested in their own history, their own national history, and in archeology. The foreign ministers and the prime ministers of tomorrow, in many of these cases, are people who are graduate students in universities in these areas, working with American scientists under American institutions in the field on historical archeology. This is a fascinating area, one in which there is no stress from adverse American publicity, or anything of this sort. It is purely a people-to-people program, which I think has enormous potential effect—a scholar-to-scholar program. The dominant political figures, so often, in countries like, let us say, Tunisia, are people who participated as students in strong cultural programs in their own national history.

Senator YOUNG. They have a lot of history, there, too.

Dr. RIPLEY. Yes, sir.

Senator YOUNG. I think it is fascinating. Would you hire me sometime?

Dr. RIPLEY. Some of the work is perfectly fascinating. At the moment, the Lawrence Radiation Laboratory in California has received a grant, through this program, to X-ray by special techniques the interior of the Great Pyramid in Egypt, to find out if there are those hidden chambers which people have always assumed there were and which have never been discovered. By new techniques, with radiation X-ray, they are hoping to penetrate through the stones and be able to get soundings on whether the chambers are there.

In another case, the University of Missouri is working with the Corning Museum of Glass in New York on Phoenician glass factories, along the Israeli coast, a subject which is very little understood, the whole evolution of the making of glass in the Eastern Mediterranean. And in India, we have been helping the American Academy in Benares to study, document, and conserve sculpture and very fragile, early cultural and historical objects.

LIMITED BUILDINGS RESTORATION AND FUTURE PLANNING

We have a rather small and modest construction program this year, sir. We request \$2,641,000. This is 32 percent below the level of 1967. About one-half a million dollars of this would permit construction to protect against the zoo's contributing to water pollution, and planning to continue in future years, the approved reconstruction program for the national zoo. We have had to cut down this materially. Normally, this has been funded at a rate of about \$1.5 million a year. Now we are asking for half a million, which will keep the program going along, despite the cutback in construction. We request a renovation sum of about \$1.3 million, principally to complete the restoration of our wonderful old red stone castle on the Mall, and

for undertaking improvements for the Radiation Biology Laboratory's new site in a building released to us at the National Bureau of Standards previous site on Connecticut Avenue. And we request \$803,000, sir, for the preparation of plans and specifications for the Hirshhorn Museum. The legislative authorization of this gallery was approved on November 7, 1966. We hope during the fiscal year 1968 to prepare drawings and specifications for the new building and sculpture garden. As you know, sir, this has to be done within a stated period of time, under the agreement with the donor.

Thank you, sir.

Chairman HAYDEN. There will be printed in the record the justification submitted in support of the 1968 budget estimate of \$25,100,000 for "Salaries and Expenses" of the Smithsonian Institution. This is an increase of \$2,577,000 over the amount of the appropriation for fiscal year 1967.

(The justification follows:)

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES, SUMMARY STATEMENT

Appropriation Act, 1967-----	\$22, 523, 000
Budget estimate, 1968-----	25, 100, 000
	<hr/>
Increase, 1968-----	\$2, 577, 000

¹ Excluding \$176,000 anticipated supplemental.

SALARIES AND EXPENSES, SUMMARY OF INCREASES, 1968

	<i>Amount</i>
1. U.S. National Museum—to support a program of training, publication, consultation, and study; to meet increasing demands on its exhibits, conservation, and registrar activities-----	\$175, 000
2. Museum of History and Technology—to plan and develop permanent and special exhibitions and educational activities based on the National Collections; and to step up planning for the commemoration of the Bicentennial of American Revolution-----	58, 000
3. Museum of Natural History—to alleviate shortages in technical staffing support; to strengthen research programs in scientific areas of National importance; to improve access to research and collection data; to obtain adequate scientific equipment; and to increase support for short-term research opportunities-----	285, 000
4. National Air and Space Museum—for undertaking responsibilities of the Act of July 19, 1966 (P.L. 89-509), updating exhibits to reflect space flight accomplishments, cataloging of collections, and acquiring significant objects for the planned museum building-----	70, 000
5. National Armed Forces Museum Advisory Board—for research in the contributions of the Armed Forces in peace and war-----	10, 000
6. Freer Gallery of Art—for increased support of its administration and maintenance of exhibits-----	11, 000
7. National Collection of Fine Arts—for preparing its exhibition and other spaces in the Fine Arts and Portrait Galleries for public opening; and strengthening the International Art Program-----	218, 000
8. National Portrait Gallery—for build-up of professional staff, acquisition of portraiture, and other minimal preparations prior to the opening of the Fine Arts and Portrait Galleries-----	180, 000
9. Joseph H. Hirshhorn Museum and Sculpture Garden—to begin work of planning for the new Museum authorized by Public Law 89-788 approved November 7, 1966-----	57, 000

2106 INTERIOR AND RELATED AGENCIES APPROPRIATIONS, 1968

SALARIES AND EXPENSES, SUMMARY OF INCREASES, 1968—continued

	<i>Amount</i>
10. Astrophysical Observatory—for additional instrumentation and computer time in furthering its 10-year budgetary plan, embracing the fields of radio and gamma-ray astronomy, meteorites, meteors and comets, theoretical astrophysics, optical observations, and planetary and lunar studies-----	\$100,000
11. Smithsonian Tropical Research Institute—to alleviate shortages in technical and support staff in continuing its program of research and inter-American cooperation in environmental biology and other natural sciences-----	78,000
12. Radiation Biology Laboratory—to alleviate shortages in technical support in order to strengthen its pioneering research on the effects and controls of radiation on living organisms-----	80,000
13. Office of Ecology—for planning and developing programs of fundamental research on the interrelationships of living organisms, including man, with their total environment-----	42,000
14. Office of Oceanography and Limnology—to allow the Oceanographic Sorting Center to meet growing national and international requirements for biological and geological specimen identification services in support of research on the food and mineral resources of the sea-----	121,000
✓ 15. Buildings Management—for providing minimum acceptable levels of maintenance, operation and protection, including services for additional building space in the museums, galleries, and laboratories-----	530,000
16. Office of Education and Training—to extend programs of cooperative research and education through the use of the national collections and laboratories by scientists, students, and school groups-----	50,000
17. International Activities—to administer an accelerated special foreign currency program and increased cooperation with international efforts of other Government agencies; and to meet increased costs and volume for international exchange of publications-----	45,000
18. Administrative and Technical Support—for additional administrative assistance and specialized services to enable the program activities of the Smithsonian to perform productively and efficiently-----	467,000
Total increase, 1968-----	2,577,000

Absorption of Increased Pay Costs in 1967

In order to reduce inflationary pressures, Government-wide restrictions were placed on employment in the summer of 1966. The impact of the employment ceiling was to curtail the authorized strength of a number of units. In particular, the Buildings Management Department was reduced an authorized strength by 147 positions. As a result of these reductions, no supplemental appropriation is being sought in 1967 for the cost of salary increases granted the General Schedule employees under the "Federal Employees Salary and Fringe Benefits Act of 1966."

Supplemental appropriation of \$176,000 is being sought for the cost in 1967 of authorized increased wages to wage board employees which were made effective on December 5, 1965 and on December 4, 1966. (Salaries and Expenses increases for 1968 are described in relation to the 1967 base amounts for each activity, not including the requested wage board supplemental.)

Since the 1967 base amounts for 1968 include absorption of increased pay costs for General Schedule employees, no portion of the increases are described as related to the effects in 1968 of wage and salary increases effected prior to that year.

	1966 appropriation		1967 appropriation		1968 estimate		Analysis of increase	
	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount
1. Museums of science and history (including research):								
U.S. National Museum.....	202	\$2,243,000	208	\$2,589,000	221	\$2,744,000	13	\$175,000
Museum of History and Technology.....	149	1,793,000	150	1,732,000	165	1,790,000	5	58,000
Museum of Natural History.....	236	3,062,000	232	3,476,000	272	3,761,000	20	285,000
National Air and Space Museum.....	34	388,000	37	488,000	46	608,000	8	70,000
National Armed Forces Museum Advisory Board.....	4	91,000	7	127,000	8	137,000	1	10,000
Total, museums of science and history.....	625	7,514,000	654	8,342,000	701	8,940,000	47	598,000
2. Art galleries:								
Freer Gallery of Art.....	5	32,000	5	32,000	7	43,000	2	11,000
National Collection of Fine Arts.....	30	388,000	45	739,000	57	957,000	12	218,000
National Portrait Gallery.....	15	288,000	19	610,000	27	790,000	8	180,000
Joseph H. Hirshhorn Museum and Sculpture Garden.....	0	0	0	0	3	57,000	3	57,000
Total, art galleries.....	50	688,000	69	1,381,000	94	1,847,000	25	466,000
3. Research bureaus (other than museums):								
Astrophysical Observatory.....	46	1,169,000	51	1,086,000	63	1,786,000	2	100,000
Tropical Research Institute.....	18	213,000	21	307,000	28	385,000	7	78,000
Radiation Biology Laboratory.....	24	336,000	25	338,000	33	418,000	8	80,000
Office of Ecology.....	5	97,000	5	118,000	9	160,000	4	42,000
Office of Oceanography and Limnology.....	18	218,000	18	254,000	35	375,000	17	121,000
Total, research bureaus.....	111	2,033,000	120	2,703,000	168	3,124,000	38	421,000
4. Buildings management:								
Museum of History and Technology.....	242	1,959,000	240	2,107,000	242	2,157,000	2	50,000
Museum of Natural History.....	275	2,503,000	264	2,584,000	266	2,642,000	2	58,000
Fine Arts and Portrait Galleries.....	0	0	10	180,000	91	490,000	81	316,000
Smithsonian Institution.....	50	378,000	47	371,000	48	401,000	1	30,000
Arts and Industries.....	77	561,000	72	557,000	72	591,000	0	38,000
All other.....	86	596,000	90	716,000	90	754,000	0	38,000
Rehabilitation of buildings.....		92,000		225,000		225,000		0
Total, buildings management.....	730	6,089,000	723	6,740,000	809	7,270,000	86	580,000
5. Other activities (including administrative and technical support):								
Education and Training.....	0	0	10	990,000	15	260,000	5	50,000
International activities.....	16	152,000	18	206,000	24	251,000	6	45,000
Administrative and technical support.....	166	2,445,000	198	2,951,000	244	3,418,000	46	467,000
Total, other activities.....	181	2,597,000	226	3,357,000	283	3,919,000	57	562,000
Grand total, salaries and expenses.....	1,697	18,921,000	1,792	22,623,000	2,045	25,100,000	283	2,577,000

1. UNITED STATES NATIONAL MUSEUM

1966 appropriation-----	\$2, 243, 000
1967 appropriation-----	2, 569, 000
1968 estimate-----	2, 744, 000

The U.S. National Museum has the fundamental responsibility to advance knowledge in science and history, and to convey to the Nation and the world knowledge about the growth of science and the history and development of our civilization. It is comprised of the Museum of History and Technology and the Museum of Natural History, which are presented in separate justifications; and the centralized services which are presented under this heading, namely, the Office of the Director, the Office of Exhibits, the Conservation Analytical Laboratory, and the Office of the Registrar. These centralized services need an increase of \$175,000, as follows:

- (a) \$80,000 for the Office of the Director,
- (b) \$60,000 for the Office of Exhibits,
- (c) \$25,000 for the Conservation Analytical Laboratory, and
- (d) \$10,000 for the Office of the Registrar.

Office of the Director

The Office of the Director provides guidance, direction, program planning and review of the U.S. National Museum's programs of exhibition, education and public information, education and training in museum techniques, advice and assistance to museums and community institutions, and museum research and scholarship.

An increase of \$80,000 is needed to support an expanded program of training, publication, consultation, and study.

Need for increase

On an increasing scale national interest is growing in the preservation and study of natural and manmade objects as a basis of understanding our history, our civilization, and man's environment. The Congress in the National Museum Act of 1966 recognized museums as important educational and cultural assets of their communities. The testimony at hearings on this Act pointed up the need for more professional and technical personnel in museums in the United States and for up-to-date, authoritative manuals on museum practices, including exhibition, conservation, registration, administration, and safeguarding. The Act directs the Smithsonian Institution to engage its experience, laboratories, and collections in programs to benefit all museums.

Education and training of museum personnel.—The National Museum Act recognized the need for the Smithsonian to provide training for career museum personnel. Since the passage of the Act, scores of requests have been received from museums in all parts of the country for training of technicians and curators. Funds are needed to establish a program of grants so that the training of museum staff members will no longer be limited to the facilities of the Smithsonian but may be extended to other museums where specialized opportunities exist. The increase would allow for six trainee grants and associated expenses.

Cooperative publication of museum manuals.—The National Museum Act reaffirmed the Smithsonian's program of publications conducted in cooperation with other museums and their associations. Funds are requested to extend this program through matching grants to such museums or their associations to engage specialists to write manuals and to publish them. Shared publication of two manuals will be accomplished with the increase.

Support of regional museum advisory panels.—The Smithsonian Institution receives several hundred requests a year for administrative and technical advice on plans for museum buildings and programs designed to meet community, education, and cultural requirements. A direct and economical method to provide this needed service is to obtain the cooperation of museum professionals throughout the country, establish regional rosters of available and capable advisers, and support museums in engaging their services. Travel and contractual funds are requested for the Institution to advance this program, providing for 200 man-days of consultation on a matching fund basis.

Study of museum visitors' response to exhibits.—Millions of dollars are spent nationally on the preparation of museum exhibits. Very little is spent in understanding how the museum visitor responds. An exhibits research specialist will be added to the Office of the Director to further the study of how exhibits are actually experienced by the viewer so that design and communication guidelines can be developed to increase the value to the public of future investments in exhibits.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	9	\$67,000	\$5,000	\$3,000			0	\$25,000	\$2,000	\$23,000		\$105,000
Increase requested.....	1	9,000	1,000	10,000			\$10,000	50,000	0	0		\$80,000
1968 estimate.....	10	76,000	6,000	13,000			10,000	145,000	2,000	23,000		275,000

NOTES

Personnel compensation and benefits (1 position, \$10,000).—1 exhibits research specialist (GS-11) to further study of how exhibits are actually experienced by the visitor.
Travel (\$10,000).—For museum specialists throughout the United States to travel to regional panel meetings to discuss plans for museum buildings and programs.
Printing and reproduction (\$10,000).—Smithsonian's share of publishing two manuals on museum practices.
Other services (\$50,000).—6 grants at an average of \$7,500 for education and training of personnel (\$45,000); support of regional advisory panels-consultant services (\$5,000).

Office of Exhibits

The Office of Exhibits designs, produces, installs, and modernizes permanent exhibits in the United States National Museum; prepares special temporary exhibits on important and timely subjects in art, history, and science; maintains exhibits in sound and attractive appearance; and assists and advises in exhibits work throughout the Smithsonian Institution.

An increase of \$60,000 is required to employ seven exhibits workers for the preparation and maintenance of permanent exhibits; for production of special exhibits; and for continued requirements for explanatory labels for all exhibits.

Need for increase

The permanent exhibits of the Museum of History and Technology and of the Museum of Natural History suffer wear and abrasion caused by the close attention of millions of visitors each year. Visitor participation devices, projectors, and audio systems receive constant use. The Office of Exhibits must make continuous inspections, adjustments, revisions in the security of exhibits, repairs, painting, and other forms of preventive maintenance to forestall breakdowns and progressive deterioration; to avoid costly overhauls and rebuilding of exhibits; and to keep the exhibitions in a condition to provide each visitor with maximum pleasure and education.

In addition to maintaining its schedule of producing permanent exhibits, the Office of Exhibits prepares frequently changing educational, and informative special exhibits. Many of these possess a timely and important national interest such as the "Profile of Poverty," the "Alaska Centennial," and the "Bill of Rights Commemorative Exhibit." Through special exhibits, it is possible also to show significant objects from the Smithsonian's reserve collections and from the collections of other museums in the United States and other countries.

There are increasing demands for traveling exhibits on history, science, and art requested by schools, colleges, libraries, historical societies, museums, and community centers. Increased funding is requested to meet this need.

To meet the requirement that all explanatory labels reflect the most current available information and are maintained in good condition, additional funds are needed for printing and other reproduction.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	166	\$1,264,000	\$94,000	\$7,000			\$30,000	\$146,000	\$127,000	\$366,000		\$2,034,000
Increase requested.....	7	36,000	2,000	0			22,000	0	0	0		60,000
1968 estimate.....	173	1,300,000	96,000	7,000			52,000	146,000	127,000	366,000		2,094,000

NOTES

Personnel compensation and benefits (7 positions, (\$38,000))—7 exhibits workers (GS-5 and GS-7) to maintain exhibits and prepare special exhibits.

Printing and reproduction (\$22,000)—For explanatory labels for new and varied exhibits, both permanent and temporary.

Conservation Analytical Laboratory

The Conservation Analytical Laboratory performs research in the science and techniques of the conservation of museum and art gallery objects and conducts analysis, examination, treatment, restoration and preservation of the National Collections.

Analytical service is rendered by the laboratory to all Smithsonian bureaus in the specific areas in which it has the equipment and professional capability as well as in other areas in which analytical techniques might be beneficial. The Laboratory collects and disseminates information on conservation techniques and materials for use throughout the Smithsonian and in other museums.

An increase of \$25,000 is needed to employ additional personnel to train members of the museum staff in the best methods of conservation treatment; to analyze and resolve problems of damage from lighting, heat, humidity and temperature fluctuation; and to control damaging organisms by fumigation and other methods.

Need for increase

Hundreds of significant and valuable objects in the large collection of the Smithsonian are in poor condition. Many of the new accessions each year also require repair, cleaning, conservation, and preservation treatment. Additional conservators are needed to prevent the progressive deterioration of the collections.

Techniques such as neutron activation analysis, metallographic examination, and X-ray fluorescence analysis will be used to identify the source of materials recovered from archeological excavations, to study metallurgical problems, and perform other studies in support of the curatorial staff. The Laboratory will develop plans for an information retrieval system which will centralize data on work performed in other laboratories. This system will assist the Laboratory's work and constitute a valuable National reference.

	Personnel compensation		Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount									
1967 base.....	9	\$65,000	\$2,000				\$3,000	\$5,000	\$26,000		\$107,000
Increase requested.....	3	16,000	1,000				7,000	0	0		25,000
1968 estimate.....	12	81,000	3,000				10,000	6,000	26,000		132,000

NOTES

Personnel compensation and benefits (\$ positions, \$17,000)—2 conservators (GS-9) and 1 technician (GS-7) to train museum staff in methods of conservation; to analyze and resolve problems of damage from lighting, heat, etc.; and to develop fumigation control of damaging organisms.

Travel (\$1,000)—Visits by staff of other laboratories to observe experimental procedures and techniques for application in Smithsonian's laboratory.
Other services (\$7,000)—Contracts for special analyses which cannot be performed at Smithsonian.

Office of the Registrar

The Office of the Registrar records all accessions to the U.S. National Museum and provides mail, transportation, and other services which are essential to the productive operation of all bureaus of the Smithsonian.

An increase of \$10,000 is required for adequate control of the expanding mail activities and for insurance requirements in connection with privately owned objects.

Need for increase

The volume of official mail has more than doubled during the past three years as a result of increased awareness of Smithsonian activities throughout the world. The two new positions requested would absorb the impact of the increased mail volume and would service the National Collection of Fine Arts and the National Portrait Gallery in their new quarters in the Fine Arts and Portrait Galleries.

The increasing demand of other museums, art galleries, and individuals for insurance coverage on items lent by private citizens and institutions for temporary exhibit, emphasizes the need for a central operating fund for payment of premiums.

	Personnel compensation		Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount									
1967 base.....	24	\$135,000		\$85,000			0	\$1,000	\$2,000		\$233,000
Increase requested.....	2	8,000		0			\$1,000	0	0		10,000
1968 estimate.....	26	143,000		85,000			1,000	1,000	2,000		243,000

NOTES

Personnel compensation and benefits (2 positions, \$9,000).—2 mail clerks (GS-2 and GS-4) to service the National Collection of Fine Arts and the National Portrait Gallery in their new quarters and assist with the increased volume of mail throughout the Institution.

Other services (\$1,000).—Insurance coverage on items loaned to the Smithsonian for temporary exhibit.

Summary

	1966		1967		1968	
	Posi- tions	Amount	Posi- tions	Amount	Posi- tions	Amount
Office of Director	5	\$46,000	9	\$195,000	10	\$275,000
Office of Exhibits	168	1,947,000	166	2,034,000	173	2,094,000
Conservation Analytical Laboratory	8	76,000	9	107,000	12	132,000
Office of the Registrar	21	174,000	24	233,000	26	243,000
Total, U.S. National Museum	202	2,243,000	208	2,569,000	221	2,744,000

2. MUSEUM OF HISTORY AND TECHNOLOGY

1966 appropriation	\$1,793,000
1967 appropriation	1,732,000
1968 estimate	1,790,000

The Museum of History and Technology, which is visited by more than five million persons each year, presents permanent and special exhibitions of the National Collections depicting our national heritage and culture. These collections cover such diverse fields as the physical sciences; mechanical and civil engineering; transportation; medical sciences; music; political, cultural, and armed forces history; underwater archeology; philately; and numismatics. Emphasis is placed upon the development of the United States. Thirty-two major exhibition halls will be opened to the public by fiscal year 1968. Eighteen additional halls remain to be planned and developed by research scholars who are experts in United States history. The balance of the collections are cataloged and stored as a priceless source of authentic reference materials for national and international use. Of increasing significance are special educational and cultural activities based on these collections.

An increase of \$58,000 is requested, including \$27,000 for additional research and supportive personnel and benefits; \$6,000 for public events, including performances of music; and \$25,000 for planning the Bicentennial of the American Revolution exhibitions.

Need for increase

Five additional positions are required to search out and acquire items of historical and technological significance; to document and publish information on the collections for scholarly and public education and interest; to plan and develop permanent and special exhibitions in subject areas for which we now have no professional staff; and to add new dimensions to the collections through their use in special public events. For instance, the Museum of History and Technology has pioneered in interpreting the history and techniques of music through performances on rare and valuable instruments in its collections. This music program has entertained and inspired many thousands of visitors and has been enthusiastically received by the general public. The attendant research accomplished for exhibits and publications has received encouraging recognition from scholars.

Activity must be stepped up in planning for the commemoration of the Bicentennial of the American Revolution in 1976, an event of major national and international importance. The museum is developing preliminary long-range plans for important exhibitions and other events celebrating this historic period in the Nation's history. During 1968, substantial research on this project must be accomplished in consultation and cooperation with those historians and other persons in museums, galleries, historical societies, and the National Park Service and other Government agencies involved in achieving a fully representative exhibit. The curatorial staff has already opened two exhibits, one on the Stamp Act and the other on the Bill of Rights, to pilot this long-range program. A third exhibition on the Townshend Act will be opened in the summer of 1967. To create the large-scale exhibits befitting the observance of the 200th anniversary of the American Revolution, much significant material must be acquired either as permanent accessions or as long-term loans. Additional travel is needed so that the curators may examine and acquire objects and collections in various parts of the United States, study sites and documents associated with the period, and develop effective cooperation with other organizations and collectors in order to realize an educational and inspirational series of exhibits, publications, and other special activities.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	150	\$1,244,000	\$91,000	\$36,000	-----	\$7,000	-----	\$140,000	\$40,000	\$174,000	-----	\$1,732,000
Increase requested.....	5	25,000	2,000	2,000	-----	0	-----	14,000	0	15,000	-----	58,000
1968 estimate.....	155	1,269,000	93,000	38,000	-----	7,000	-----	154,000	40,000	189,000	-----	1,790,000

NOTES

Personnel compensation and benefits (5 positions, \$27,000).—1 curator of medicine (GS-13) 1 curator of chemistry (GS-12), 1 curator of music (GS-11), 2 technicians (GS-7) for continuation of several programs, including music performances, and plans for the commemoration of the Bicentennial of the American Revolution.

Travel (\$2,000).—For curators to travel to various parts of the United States to examine and acquire collections for exhibition in connection with the observance of the Bicentennial of the American Revolution.

Other services (\$14,000).—To contract with musicians (\$6,000) and for special studies related to the Bicentennial of the American Revolution (\$8,000).

Equipment (\$15,000).—Purchase of significant collections for exhibitions in connection with Bicentennial of American Revolution.

3. MUSEUM OF NATURAL HISTORY

1966 appropriation-----	\$3,002,000
1967 appropriation-----	3,476,000
1968 estimate-----	3,761,000

The Museum of Natural History is an international center for the natural sciences, maintaining the largest reference collections of scientific material and specimens in the Nation, as well as a comprehensive scientific program of original research on man, plants, animals, rocks and minerals, and fossil organisms—their classification, distribution, and relationship to the environment. The reference collections and the resident scientists provide an important focal point for cooperative research and educational activities among Federal agencies, universities, and other scientific institutions. Its studies of living and fossil plants and animals provide critical data for problems of pollution, medicine, development of food sources, and earth sciences pursued by Federal agencies.

An increase of \$285,000 is needed for the following purposes:

(a) \$89,000 to provide adequate supportive assistance (research assistants, clerical personnel, and museum aids) to the scientific staff in order that these scarce professional resources may be effectively used in productive work and to assure better care for the National Collections;

(b) \$41,000 to develop further high priority research programs in the study of fossil plants, to increase capability for cooperative study of the first lunar samples and other nonterrestrial bodies (with the National Aeronautics and Space Administration), and to encourage studies in the histology of sea animals;

(c) \$35,000 to provide specialists in data processing to continue development and application of techniques for the more efficient handling of the growing masses of data accruing from biological studies in the United States, data for which the Museum of Natural History, as the National natural history repository, has an important responsibility;

(d) \$10,000 to improve our program in education through increased training of students at all levels, especially in critical scientific areas in which an adequate number of professionals are not being trained otherwise;

(e) \$35,000 to obtain adequate equipment and to replace obsolete scientific tools being employed in current research programs;

(f) \$75,000 to increase a program of competitive research awards to Smithsonian scientists for short-term field research.

Need for increase

The professional research staff now expends large amounts of time on non-scientific tasks such as handling collections and specimen preparation. The addition of supportive personnel will enable researchers to be more scientifically productive and thereby increase the effectiveness of the scientific staff now employed. The increase requested will also provide for replacement of obsolete or worn equipment and, in selected research areas, for modernization of tools required for priority programs.

Two hundred sixty research publications were issued in fiscal year 1966 alone. Many of these have direct bearing on applied problems of rational utilization of our natural resources in the sea and on the land, as well as those concerned with biomedicine, pollution, and space exploration.

Great progress has been made in obtaining and recording scientific information about the collections, which increase at the rate of about one million specimens annually, through an active program of field study in many parts of the world and through exchange relationships with other scientific research institutions and with universities.

The programs of the Museum of Natural History are closely related to those of several of the mission-oriented Federal agencies, notably National Aeronautics and Space Administration, National Institutes of Health, and the Departments of Agriculture, Interior, and Defense. Scientists in the Museum's Entomology and Paleobiology departments work side by side in a complementary fashion with their counterparts in the Department of Agriculture and in the Geological Survey, each providing specialists in a closely coordinated program of cooperative research based on the National Collections. In Mineral Sciences the research of meteorite specialists on extraterrestrial materials is carried on cooperatively with NASA. In Vertebrate Zoology the research undertakings of

mammalogists and ichthyologists provide basic information useful to applied science projects in the Department of Defense and the Bureau of Commercial Fisheries, as well as contributing to the National Oceanographic Program. Agreements have been reached also with the National Institutes of Health for cooperative studies of biomedically important rodents and primates.

A major portion of the scientific effort of the specialists in Invertebrate Zoology, especially concerning marine forms, adds significantly to the National program to understand and utilize the resources of the seas around us. A cooperative program with NIH is underway on the occurrence of abnormal tissues among invertebrates. Identifications by the specialists in the Museum are often of critical importance to Federal plant and animal quarantine inspectors, and pest and disease control programs in the Department of Agriculture. The efforts of the Department of Interior and other Federal agencies concerned with pollution of the environment are also materially aided by the basic data presented in the research products of many of the scientific staff.

Through cooperative educational programs, the Museum is becoming increasingly interrelated with universities all over the country. The Museum of Natural History engages in basic support of research by scientists all over the world, based to a significant extent on specimens loaned for study from the National Collections. Duplicate specimens are exchanged with scientific institutions wherever they are located, especially in North America and Europe.

The increase for the Research Awards Program, together with the base amount of \$400,000 appropriated for 1967, copes with the serious problem of taking advantage of unexpected opportunities to investigate short-lived biological and natural events occurring in the field. The Program employs review panels and the same standard of excellence used by the National Science Foundation in its consideration and previous support of such efforts. The Program also serves as a means whereby scientists of the Smithsonian may engage in collaborative field research projects in timely fashion with colleagues located in other institutions.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	252	\$2,366,000	\$173,000	\$61,000	0	\$10,000	-----	\$594,000	\$132,000	\$140,000	-----	\$3,476,000
Increase requested.....	20	134,000	8,000	11,000	\$10,000	0	-----	94,000	13,000	15,000	-----	285,000
1968 estimate.....	272	2,500,000	181,000	72,000	10,000	10,000	-----	688,000	145,000	155,000	-----	3,761,000

NOTES

*Personnel compensation and benefits (90 positions, \$1,400,000).—*1 chemist (GS-12), 1 paleobotanist (GS-12), 1 biologist (GS-11), 2 program-analysts (GS-12), 4 clerks (GS-5), 6 museum aids (GS-5), 4 museum technicians (GS-7), and 1 education assistant (GS-9), to develop research programs in the study of fossil plants, lunar samples, and history of sea animals; provide scientists with supportive staff; continue development and application of techniques for more efficient handling of biological data; and improve the Museum of Natural History's program in education.

*Travel (\$11,000).—*For scientists to conduct more field research, participate in significant national and international meetings, and strengthen professional ties with their colleagues throughout the world.

*Transportation of things (\$10,000).—*Shipment of natural history specimens to be added to the national collections.

*Other services (\$94,000).—*For the program of competitive research awards to Smithsonian scientists for short-term research and for special studies related to overall natural history programs.

*Supplies and materials (\$13,000).—*Scientific supplies for stepped-up programs.

*Equipment (\$15,000).—*Replacement of obsolete and worn equipment and provide necessary equipment for new staff.

4. NATIONAL AIR AND SPACE MUSEUM

1966 appropriation -----	\$385,000
1967 appropriation -----	438,000
1968 estimate -----	508,000

The National Air and Space Museum is the Nation's exhibition and educational center for air and space flight, science, and history. The Museum collects, restores, and preserves the world's greatest collection of air and space craft, engines, rockets, instruments, personal memorabilia, and other historical objects. Scholars, writers, historians, engineers, and other interested persons work with the Museum's collections and extensive reference library. Within the limited existing exhibition facilities, selected air and space objects are meaningfully displayed for the education of millions of visitors each year.

An increase of \$70,000 is required for the following purposes:

- (a) \$37,000 for exhibits specialists to renovate and update air and space exhibits;
- (b) \$9,000 for a technician to continue cataloging and reorganization of the air and space collections; and
- (c) \$24,000 for a curator and for travel and transportation costs to acquire historically and technically significant objects while available.

Need for increase

The Act of July 19, 1966, authorizes the construction of the National Air and Space Museum and directs the Smithsonian to record and exhibit the history of air and space flight and to provide educational facilities and programs for the public and the scholar in the underlying science and technology of aeronautics and astronautics. The legislation broadens the stated purpose of the Museum to include the history and science of *space flights*. Although no request for construction funds is made at this time, minimum increases are necessary in order to undertake the responsibilities contained in the recent authorizing Act.

The existing facilities of the National Air and Space Museum must continue to serve the public for at least five years until a new building can be provided. The current popular attraction of air and space exploration generates a lively personal interest on the part of the visitor in seeing objects associated with it. Existing exhibits must be redesigned and continuously updated, employing the latest exhibition and educational techniques of the Smithsonian, to satisfy this interest.

The Museum has many priceless aviation and space objects and memorabilia. As an indispensable resource for the new Museum, work must be advanced on the proper restoration, preservation, indexing, and storage, in exhibitable condition, of the present collection of models and memorabilia and those acquired by the Museum during the year. An additional technician is needed for this work.

In this rapidly developing field, the Museum must acquire material that is now available and will be invaluable to the public. To delay would result in deterioration and disappearance of historically and technologically important objects which are the central responsibility and reason for being of this Museum. Field research is essential to locate objects and to guarantee their quality. In addition, continual liaison with industrial firms and Government agencies is necessary. Increased curatorial staff and travel and transportation funds are required to accomplish the necessary acquisitions in 1968.

The National Air and Space Museum collaborates and cooperates with other museums. Close relationships are maintained with the Air Force Museum at Wright-Patterson Air Force Base, in Dayton, Ohio, and the Naval Aviation Museum, Pensacola, Florida. Within the past year the Museum has lent one of its Mercury capsules to the Science Museum in London and the Royal Scottish Museum in Edinburgh. Arrangements are being made also to lend a capsule to the U.S. Information Agency for the United States display in the Canadian Exposition of 1967.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	37	\$340,000	\$25,000	\$4,000	0			\$37,000	\$14,000	\$18,000		\$438,000
Increase requested.....	8	55,000	4,000	10,000	\$1,000			0	0	0		70,000
1968 estimate.....	45	395,000	29,000	14,000	1,000			37,000	14,000	18,000		508,000

NOTES

Personnel compensation and benefits (8 positions \$59,000).—1 curator (GS-14), 6 exhibits specialists (GS-9 and GS-7), and 1 technician (GS-7) to search out significant collections; to renovate and update air and space collections; and to restore, preserve, index, and store aviation and space models and memorabilia.

Travel (\$10,000).—For curatorial staff to accomplish necessary acquisitions.

Transportation of things (\$1,000).—For shipment to the Smithsonian Institution of collections acquired by the Museum.

5. NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

1966 appropriation -----	\$91,000
1967 appropriation -----	127,000
1968 estimate -----	137,000

The National Armed Forces Museum Advisory Board, as specified in Public Law 89-186, provides advice and assistance to the Board of Regents of the Smithsonian Institution on matters concerned with the establishment of a National Armed Forces Museum. The objective of the Advisory Board is to portray the valor and personal sacrifice of the men and women of the Armed Forces and their extensive peacetime contributions; to provide a study center for scholarly research into the meaning of war and the role of the Armed Forces in maintaining a just and lasting peace; and to collect and exhibit military objects of historical interest.

An increase of \$10,000 is needed to employ a historian to conduct research into the contribution of the Armed Forces in war and peace.

Need for increase

The Board of Regents has approved recommendations of the Advisory Board that the Fort Foote-Smoot Bay Area of Prince Georges County, Maryland, be selected as the location of a National Armed Forces Museum Park. Development of plans to implement these recommendations is being coordinated with the National Capital Planning Commission, the Maryland National Capital Park and Planning Commission, the General Services Administration, the Department of the Interior, the Commission of Fine Arts, and interested private institutions.

Plans call for the acquisition and development, subject to future authorization and appropriations by the Congress, of suitable lands and buildings for the outdoor display of military and naval facilities characteristic of historic American military and naval operations, together with a study center and other enclosures necessary to carry out the objectives of the Act of August 30, 1961.

The proposed acquisition of land for a National Armed Forces Museum Park demands an acceleration in the research work required in planning such a Museum.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	7	\$64,000	\$5,000	\$10,000				\$35,000	\$1,000	\$12,000		\$127,000
Increase requested.....	1	9,000	1,000	0				0	0	0		10,000
1968 estimate.....	8	73,000	6,000	10,000				35,000	1,000	12,000		137,000

NOTE.—*Personnel compensation and benefits (1 position, \$10,000).—1 historian (GS-11) to conduct research into the contribution of the Armed Forces in war and peace.*

6. FREER GALLERY OF ART

1966 appropriation -----	\$32,000
1967 appropriation -----	32,000
1968 estimate -----	48,000

The Freer Gallery of Art exhibits one of the most outstanding collections of Oriental art in the world. It furthers scholarship in the areas of Oriental Art history and promotes studies relative to the collections, thus contributing to a better understanding of the artistic achievements of Near and Far Eastern civilizations. The Gallery includes a library, photographic laboratory, conservation laboratory, and supporting shops.

An increase of \$11,000 is requested for staff requirements in the conservation laboratory and the cabinet shop.

Need for increase

Research at the Freer has set international standards for studies in Oriental Art history. This reputation combined with a greatly increased interest in Oriental culture has imposed a greater program workload. The most critical needs are a secretary for the conservation laboratory, which is responsible for the technical analysis and preservation of objects; and a cabinetmaker, to make and repair exhibit furnishings and installations for the Gallery.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	5	\$30,000	\$2,000									\$32,000
Increase requested.....	2	10,000	1,000									11,000
1968 estimate.....	7	40,000	3,000									43,000

NOTE.—Personnel compensation and benefits (2 positions, \$11,999).—1 secretary for the conservation laboratory (GS-5), and 1 cabinetmaker for the cabinet shop (W-10).

7. NATIONAL COLLECTION OF FINE ARTS

1966 appropriation-----	\$398,000
1967 appropriation-----	739,000
1968 estimate-----	957,000

The National Collection of Fine Arts, the oldest gallery of art directly related to the United States Government, exhibits American art in the Nation's Capital and other parts of the United States and abroad. The Gallery is directed by its founding Act to develop the appreciation of art, both past and present, to encourage contemporary creative effort, and to provide a safe repository for art belonging to the Government.

An increase of \$218,000 is needed for the following purposes:

(a) \$176,000 for necessary preparations to open to the public the National Collection of Fine Arts' major national art museum in the remodeled Old Patent Office building.

(b) \$40,000 for increased support of the International Art Program which has been transferred to the Smithsonian from the United States Information Agency, and

(c) \$2,000 to augment the present level of support for art lending activities and cooperation with other institutions.

Need for increase

The opening of the new Fine Arts and Portrait Galleries building to the public in April, 1968, requires additional funds at this time to prepare the galleries and collections for this significant event. Expanded exhibition areas will require furnishings and necessary settings for the public viewing of art objects. Storage areas must be provided with racks, screens, and bins to safeguard adequately public art treasures; work areas must be properly equipped for the photographing, conservation, and renovation of paintings and will require appropriate supplies and materials for the restoration of objects; and a minimal increase in staff will be needed to develop and perform the National Collection of Fine Arts' program of public service.

Prior to the move into the new Gallery and continuing after it, increased travel is required of the curatorial personnel to establish and strengthen professional ties with other museums, to pursue significant acquisitions, and to arrange for the loans of exhibit materials.

Included in the responsibilities of the National Collection of Fine Arts is the International Art Program which circulates 20-30 traveling exhibitions of work by United States' artists annually through diplomatic posts and galleries in all parts of the world. The Smithsonian assumed responsibility for this Program from the United States Information Agency in 1966 and professional staff and supporting services are required to achieve the build-up needed to continue this successful program beyond the planned expiration of USIA funding of the activity.

A minimal addition of funds will permit increased lending activity, such as loans of art to the White House and other Government departments, and assist in halting the potential dispersal of the most comprehensive research collection of art and design material in America currently held by the Cooper Union Museum.

The National Collection of Fine Arts differs from other Federal art museums in that it is primarily concerned with American art with an emphasis on living artists. Related art of the past in its collections provide a basis for understanding and appreciating the relation of the present to that past. Professional assistance is also provided other Government and nongovernment agencies as requested, utilizing, too, their facilities when possible.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	45	\$355,000	\$26,000	\$13,000				\$152,000	\$24,000	\$169,000		\$739,000
Increase requested.....	12	83,000	5,000	4,000				60,000	1,000	55,000		218,000
1968 estimate.....	57	448,000	31,000	17,000				212,000	25,000	224,000		957,000

NOTES

Personnel compensation and benefits (\$2,908,000)—1 assistant director (GS-15), 2 curators (GS-13 and GS-11), 1 archivist (GS-12), 1 conservator (GS-11), 1 research assistant (GS-9), 1 library assistant (GS-5), 1 clerk-typist (GS-5), and 4 museum aids (GS-7 and GS-3), for preparation for opening to the public of the National Collection of Fine Arts Galleries in the remodeled Old Patent Office building; and for continuation of the USIA art program.

Travel (\$14,000)—For curatorial staff to establish and strengthen professional ties with other galleries, to meet and encourage potential donors, and to arrange for the loans of exhibit material to the Gallery and to the International Art Program.

Other services (\$60,000)—For collecting and procuring exhibits materials and planning and design of exhibits; conservation and renovation of paintings.

Supplies and materials (\$1,000)—For restoration of objects.

Equipment (\$55,000)—Racks, screens, and bins for storage areas; equipment for photographing; conservation, and renovation of paintings; furnishings for exhibition areas; and works of art.

8. NATIONAL PORTRAIT GALLERY

1966 appropriation-----	\$258,000
1967 appropriation-----	610,000
1968 estimate-----	790,000

The National Portrait Gallery is charged with the unique mission of educating and inspiring the public through the exhibition of portraiture and statuary depicting men and women who have made significant contributions to the history, development, and culture of the United States. This program will be presented to the public with the opening in September 1968 of the Gallery in the remodeled Fine Arts and Portrait Galleries.

The primary objective of the Gallery in fiscal 1968 is to prepare for the opening of one of the world's major galleries of portraiture.

An increase of \$180,000 is needed for build-up of professional staff, acquisition of portraiture, and other minimal preparations.

Need for increase

Professional staff increases are essential to carry out the complex program of acquisition, accessioning, documentation, exhibition design, and assembly of portraits and statuary. Furnishing and equipping of the public spaces and galleries, offices, laboratories, library, and storage facilities of the new quarters must be completed.

During the next several years the permanent collection, now numbering only some 300 likenesses, must be greatly expanded and temporary exhibitions relating to the American scene organized and put on display. The Gallery operates against the considerable hardship of building a great collection belatedly in a steadily rising market. Notable progress has been made but a growing acquisition effort is required. Significant increases in gifts may not be anticipated until the Gallery is open and established and has become favorably known for the distinction of its holdings and the manner in which they are exhibited. Therefore, the Gallery is in need of funds for purchase when desirable portraits are available for acquisition.

The renovation, conservation, and photographing of portraits and statuary must be accelerated so that adequate numbers of objects will be available for exhibition and study. Contracts with experts will be necessary for framing, exhibit panels, dioramas, pedestals, and cases for all exhibitions.

Professionals are needed to assemble historical data on the works of art, the historical figure, and the artist for informing the public and for use by scholars.

Funds are also requested to begin the collection of fine color photographs of distinguished personages such as the President, the Cabinet, Members of the Supreme Court, and all Members of both Houses of Congress.

The exhibition areas will require additional furnishings and specialized treatment to enhance the portraiture displayed. Offices and public lounges will require adequate furnishings. Storage areas must be provided with racks and bins. Specialized laboratory and study areas must be minimally equipped. The additional staff will require adequate supplies, materials, and equipment.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base-----	19	\$202,000	\$14,000	\$8,000				\$200,000	\$14,000	\$172,000		\$610,000
Increase requested-----	8	50,000	3,000	4,000				28,000	20,000	75,000		180,000
1968 estimate-----	27	252,000	17,000	12,000				228,000	34,000	247,000		790,000

NOTES

Personnel compensation and benefits (\$ positions, \$59,000).—2 historians (GS-11 and GS-13), 2 museum technicians (GS-7), 1 secretary (GS-7), 2 museum aids (GS-5), and 1 clerk-typist (GS-4) for the complex program of acquiring, accessioning, documenting, designing, and assembling portraits and statuary in preparation for the move to the Fine Arts and Portrait Galleries building.

Travel (\$4,000).—For curatorial staff to establish and strengthen professional ties with other galleries, to meet and encourage donors, and to arrange for loans of exhibit material to the gallery.

Other services (\$28,000).—Acceleration of renovation, conservation, and photographing of portraits and statuary; contracts with experts for framing, exhibit panels, dioramas, pedestals, and cases.

Supplies and materials (\$20,000).—For conservation and restoration supplies.

Equipment (\$75,000).—Furnishings for exhibition areas, offices, public lounges; storage areas; specialized laboratories, and study areas.

9. JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

1968 estimate----- \$57,000

The Joseph H. Hirshhorn Museum and Sculpture Garden will be the permanent home of the collection of art of Joseph H. Hirshhorn and the Joseph H. Hirshhorn Foundation, donated to the Smithsonian Institution for the benefit of the people of the United States. This Museum will be used for the exhibition, study, and storage of this unique collection of art.

An initial request of \$57,000 is being sought to recruit a small staff to begin the work of planning this Museum.

Need for increase

Public Law 89-788, approved by the President on November 7, 1966, provides for the establishment of the Joseph H. Hirshhorn Museum and Sculpture Garden. Preliminary architectural planning will be initiated early in 1967 for a new museum building and sculpture garden to be located on the approved Mall site between Seventh and Ninth Streets, Independence Avenue and Madison Drive.

It is necessary now to employ a curator, technician, and a secretary to inventory and catalog the collection, now located in New York; plan for its shipment; establish criteria for arrangement and operation of the Museum and Garden; and to consult with and advise the architects and engineers throughout the planning stage.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	0	0	0	0		0		0	0	0		0
Increase requested.....	3	\$30,000	\$2,000	\$7,000		\$1,000		\$5,000	\$2,000	\$10,000		\$57,000
1968 estimate.....	3	30,000	2,000	7,000		1,000		5,000	2,000	10,000		57,000

NOTES

Personnel compensation and benefits (\$ pos.—\$32,000).—1 curator (GS-14), 1 museum technician (GS-11), and 1 secretary (GS-7), to inventory the collection of art being donated by Joseph H. Hirschhorn and the Joseph H. Hirschhorn Foundation.
Travel (\$7,000).—To undertake studies and surveys related to the planning of the museum and sculpture garden.
Rent, communications, and utilities (\$1,000).—To rent office copy equipment needed to inventory and catalog this collection.
Other services (\$5,000).—For special studies in connection with the arrangement and operation of the museum and sculpture garden and for documentation of the collection.
Supplies and materials (\$2,000).—Purchase of reference books and materials and office supplies for staff.
Equipment (\$10,000).—Furniture and office equipment for new staff and for racks and shelving for storage of the collections.

10. SMITHSONIAN ASTROPHYSICAL OBSERVATORY

1966 appropriation -----	\$1,169,000
1967 appropriation -----	1,686,000
1968 estimate -----	1,786,000

The Smithsonian Astrophysical Observatory carries out basic research in astrophysics, the science concerned with the origin and matter of the solar system and the universe. An increase of \$100,000 is requested to continue its 10-year budgetary plan embracing the fields of radio and gamma-ray astronomy, meteorites, meteors and comets, theoretical astrophysics, optical observations, and planetary and lunar studies. These funds are required for the purchase of an electron probe microanalyzer, for additional computer time to permit studies in theoretical astrophysics, and for equipment to be used at the Arizona observational station.

Need for increase

To promote collaboration and mutual support, the Observatory maintains a constant exchange of information and people with other Government organizations, especially with the National Aeronautics and Space Administration (NASA), the Department of Defense (DOD), and the National Science Foundation (NSF). The Observatory participates actively with these groups in the planning and execution of national scientific programs, such as the United States participation in the International Quiet Sun Year and the 1966 solar eclipse expeditions to South America, both coordinated by NSF; and the United States geodetic satellite program, under NASA.

As a by-product of its primary effort in pure research, the Observatory provides many services to other organizations. Its round-the-world network of astrophysical observing stations continually responds to special requests from NASA and DOD, providing information for which there is usually no other source. The U.S. Coast and Geodetic Survey, and American and foreign universities and observatories, also use the facilities of the stations and of the headquarters in Cambridge. A post-doctoral fellowship program administered by the National Academy of Sciences brings outside scholars to the Observatory, and each year a number of graduate and undergraduate students are awarded assistantships related to their studies. As a service to the International Association of Geodesy and to the International Astronomical Union, respectively, the Observatory operates the Central Bureau for Satellite Geodesy and the Bureau of Astronomical Telegrams. Both are international clearing-houses for scientific information.

The request for fiscal year 1968 is lower than the estimate in the 10-year plan because of budgetary limitations. It is designed to provide continuity to the basic research programs carried on during 1966 and 1967. The 10-year scientific program remains a valid guide for the future of the Observatory. It is comparable to the Observatory's record of achievements over the past 10-year period.

Radio astronomy has produced some of the most exciting results in modern science, including the recent discovery of the extremely strong radio sources called quasars, which indicate an unknown source of energy. The radio astronomy allotment will be reduced \$50,000 in equipment, the major equipment having now been acquired. An additional radio astronomer will be employed, at \$17,000 including benefits. Increased travel for observing and attendance of professional meetings will require \$3,000. Other contractual services will require \$3,000. Total net decrease: —\$27,000.

Gamma-ray astronomy utilizes that part of the spectrum which includes light, X-rays, and radio waves, and may therefore permit observation of objects or effects heretofore invisible. The allotment will be reduced \$20,000 for other contractual services and reduced \$40,000 for equipment. An additional astronomer will be employed at \$12,000. Additional travel to Arizona for installation and use of the large reflector acquired in 1967 will require an increase of \$5,000. Total net decrease: —\$43,000.

Meteorites and cosmic dust are analyzed to reveal the history and evolution of the solar system. Also, they vitally affect spaceflight. Lunar samples will provide a new challenge in this research. An electron probe microanalyzer, which is similar to an electron microscope, will be purchased at \$70,000 for analysis of samples. Total increase: \$70,000.

The Observatory is widely recognized in *theoretical astrophysics*, particularly where modern electronic computing has led to new techniques for studying stellar atmospheres and interiors. The computing allotment will be increased \$30,000 to permit additional machine time for computations of extreme complexity.

Optical observing remains a bulwark of astronomy. In addition to its satellite tracking stations (which are supported by NASA grants), Smithsonian has a major astronomical observing site at Mt. Hopkins, Arizona, with excellent seeing conditions. Contractual services for limited site development will require an increase of \$20,000. Technical accessories and equipment for the Arizona field observatory will require \$40,000. Total increase: \$60,000.

Flight experiments, both balloon and satellite borne, supplement ground-based observing when the shielding effect on the atmosphere must be avoided. No major changes in funding are contemplated in 1968.

Planetary and lunar studies are an inseparable part of space science. Smithsonian's worldwide data-gathering network, which is probably unique among basic research institutions, supports research in geophysics, lunar research, and exobiology. No major changes in funding are contemplated.

Meteors and comets are also important to an understanding of the solar system, and to the national space program as well. Additional transportation funds will be required to cover shipment of optical equipment to observing sites. Total increase: \$10,000.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	51	\$700,000	\$52,000	\$29,000	\$5,000	\$82,000	\$4,000	\$284,000	\$50,000	\$500,000	-----	\$1,686,000
Increase requested.....	2	27,000	2,000	8,000	10,000	0	0	33,000	0	20,000	-----	100,000
1968 estimate.....	53	727,000	54,000	37,000	15,000	82,000	4,000	297,000	50,000	520,000	-----	1,786,000

NOTES

Personnel compensation and benefits (2 positions, \$29,000).—To employ 1 radio astronomer (GS-15) for radio astronomy and 1 astronomer (GS-13) for gamma-ray astronomy. *Travel (\$8,000).*—Increased travel for observing and attending professional meetings in connection with radio astronomy program (\$3,000) and for travel to Arizona for installation and use of large reflector for gamma-ray astronomy (\$5,000). *Transportation of things (\$10,000).*—For shipment of optical equipment to observing sites under the meteors and comets program.

Other services (\$33,000).—Special studies for radio astronomy (\$3,000); additional machine computations for Theoretical Astrophysics (\$30,000); limited site development at Mt. Hopkins, Ariz. for optical observing (\$20,000); for a total increase of \$53,000; offset by decrease in Earth-ray program, —\$20,000; net increase, \$33,000. *Equipment (\$20,000).*—Electron probe microanalyzer for meteorites and cosmic dust (\$70,000); technical accessories and equipment for Arizona field observatory (\$40,000); for a total increase of \$110,000; offset by decreases in programs of gamma-ray and cosmic dust, \$90,000; net increase, \$20,000.

Smithsonian Astrophysical Observatory, budget projection, fiscal years 1967-76 ¹

1977

Project	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	Total
Radio astronomy.....	\$238,000	\$211,000	\$241,000	\$142,000	\$299,000	\$274,000	\$483,000	\$492,000	\$452,000	\$512,000	\$3,444,000
Gamma-ray astronomy.....	256,000	213,000	142,000	164,000	170,000	176,000	182,000	185,000	196,000	203,000	1,888,000
Meteorites and cosmic dust.....	209,000	279,000	285,000	252,000	293,000	307,000	333,000	307,000	396,000	415,000	3,136,000
Theoretical astrophysics.....	324,000	354,000	447,000	479,000	448,000	479,000	511,000	544,000	577,000	611,000	4,774,000
Optical observatory.....	141,000	201,000	31,000	93,000	456,000	59,000	122,000	220,000	880,000	84,000	2,293,000
Flight experiments.....	118,000	118,000	107,000	169,000	144,000	177,000	104,000	140,000	245,000	295,000	1,627,000
Planetary and lunar science.....	90,000	90,000	213,000	249,000	279,000	311,000	326,000	353,000	370,000	389,000	2,670,000
Meteoroids and comets.....	88,000	88,000	95,000	101,000	115,000	138,000	143,000	161,000	169,000	178,000	1,270,000
General scientific and administration.....	222,000	232,000	377,000	405,000	442,000	482,000	512,000	553,000	573,000	588,000	4,388,000
Total.....	1,685,000	1,786,000	1,939,000	2,054,000	2,646,000	2,503,000	2,778,000	3,042,000	3,860,000	3,205,000	25,499,000
Scientific and administrative positions:											
Scientists.....	40	41	44	55	62	65	71	75	79	87	75
Technicians.....	4	4	4	5	7	7	8	9	10	10	10
Administrative.....	7	7	8	6	6	6	8	7	8	8	10
Total.....	51	53	56	66	75	78	87	99	97	105	113

¹ Original 10-year projection of September 1965 with adjustments for 1967 actual and 1968 budget submitted to Congress. ² Includes P.B. D.'s, engineers, and graduate summer students. ³ Includes Drs. Whipple and Lundquist.

⁴ Formerly geophysics, exobiology, and lunar research.

11. SMITHSONIAN TROPICAL RESEARCH INSTITUTE

1966 appropriation -----	\$213,000
1967 appropriation -----	307,000
1968 estimate -----	385,000

The Smithsonian Tropical Research Institute (STRI), incorporating the Canal Zone Biological Area, represents the principal springboard for inter-American cooperation in environmental biology, oceanography, and the biological and natural sciences relating to the tropical Western Hemisphere. It provides scientists from the Smithsonian, universities, and other institutions in the United States with both the opportunity and the physical facilities and environmental resources necessary for their tropical research projects.

An increase of \$78,000 is needed to add scientific and supporting staff in order to continue the STRI's on-going program in Tropical Biology at a critical juncture in the evolution of the program.

Need for increase

The proximity of the Atlantic and Pacific oceans and the enormously rich Central and South American plant and animal life make the STRI uniquely located for biological research and training. The STRI serves as an international center for tropical research and is receiving a rapidly increasing number of demands for service and research. If the STRI is to fulfill its role in tropical research, it must analyze as many aspects of the tropics as possible. Thus far its research program has been oriented toward vertebrates and certain problems of evolution and behavior. It is vitally important that this program be expanded to include other groups of organisms and other approaches to the life sciences (for example, quantitative ecology and biological climatology). A small increase in scientists and supporting staff will enable the STRI to undertake this important work and increase the efficiency and raise the productivity of the existing staff. This increase will also permit strengthening contacts and cooperative efforts with other Federal agencies.

The most important product of the STRI's research programs is basic knowledge about tropical environment. These research programs are providing fundamental information of direct application in health-oriented research programs, including those being conducted by the National Institutes of Health through the Gorgas Memorial Laboratory. The Navy's Bureau of Yards and Docks is utilizing basic information provided by the STRI about the resistance of tropical wood to marine boring and fouling organisms. A further example of the importance of the STRI's research activities is the reliance placed by the U.S. Army Tropical Test Center on basic information pertaining to identification and description of vegetational succession, which is critical to the Test Center's investigations.

Through a fellowship program with the Organization of American States, the STRI is providing training in tropical field biology to graduate students and teachers from Latin America. Also, members of the STRI marine biology staff are acting as consultants to the Central American Marine Training Program which is under the sponsorship of UNESCO.

Most recently the prime contractor for the Atlantic-Pacific Inter Oceanic Sea Level Canal Commission and the U.S. Army Corps of Engineers have called upon the STRI for fundamental data to assist in the feasibility study for the planned canal.

	Personnel compensation		Travel	Transportation of things	Rent, communications and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount									
1967 base-----	21	\$299,000	\$8,000	\$2,000	\$10,000		\$21,000	\$13,000	\$31,000		\$307,000
Increase requested-----	7	62,000	8,000	3,000	0		0	1,000	0		78,000
1968 estimate-----	28	271,000	16,000	5,000	10,000		21,000	14,000	31,000		385,000

NOTES

Personnel compensation and benefits (7 positions, \$62,000).—3 biologists (NM-12), 1 administrative officer (GS-13), 1 technician (NM-4), 1 secretary (GS-4), and 1 laborer (M5) to expand the program to include research in marine and terrestrial invertebrates, quantitative ecology, and biological climatology.

Travel (\$8,000).—For transportation of new scientists and their families to the Canal Zone; official travel of new staff; more trips by present staff because of stepped-up research; and for administrative travel between Canal Zone and Washington headquarters. *Transportation of things (\$3,000).*—For shipment of household goods of new scientists. *Supplies and materials (\$1,000).*—Scientific supplies for new scientists.

12. RADIATION BIOLOGY LABORATORY

1966 appropriation -----	\$336, 000
1967 appropriation -----	338, 000
1968 estimate -----	418, 000

The Radiation Biology Laboratory conducts pioneering research on the effects and controls of radiation on the functions of living organisms. This broad spectrum of investigation includes studies on the transmittal of solar energy into metabolic response of living organisms; biophysics and physiology of regulatory photo-responses; relationships of energy cycling in natural biological systems to human populations; measurement of solar radiation; calibration of primary solar radiation standards; and carbon dating.

An increase of \$80,000 is needed to alleviate deficiencies in professional, technical, and subprofessional support and to ease the shortage of critical equipment and supplies. The increase will serve the following purposes:

(a) \$44,000 for necessary scientific and technical support (physicist, biologist, and technicians to continue to provide leadership in measuring the spectral quality of sunlight and its influence on organisms, to strengthen environmental biology studies on the effects of variations in light quality, quantity, and duration on plant growth; and for the maintenance of solar radiation instrumentation calibration standards for worldwide use.

(b) \$24,000 to provide subprofessional assistance and computer services for extracting, recording, and computing scientific data resulting from research projects, thereby releasing the scientific staff for more productive work; and

(c) \$12,000 to obtain necessary supplies and to replace inadequate or obsolete scientific equipment.

Need for increase

Demands for solar radiation information by biologists, ecologists, plant physiologists, and other specialists in the United States and from around the world are increasing at an enormous rate. Many significant problems in biology cannot be solved until such data have been acquired. For example: Can the production of food in the ocean and on land be altered by controlling solar radiation? Is there a correlation between solar radiation and patterns of animal behavior? Similarly, the correlations between these solar radiation data and laboratory-controlled experiments to verify the significance of spectral changes on plant growth under natural field conditions are urgently needed. Several new responses have been observed during the preliminary development of the Laboratory's present facilities and greatly improved and modified solar radiation measuring instruments have been designed and constructed for these programs. Due to the inherent difficulties and long-term nature of these programs, no other known laboratory in the world is presently attempting to make a combined attack upon these problems.

At present, computation of scientific data, drafting, editing, bibliographic searches, and typing of manuscripts are handled largely by the scientists. Research productivity of the scientific staff can be increased significantly by employing available computer techniques and by the addition of editorial and clerical staff to perform these routine tasks.

Much of the instrumentation used by the Laboratory represents the product and effort of the scientific staff during the early experimentation stage of a research project. Many of these pieces of equipment are outmoded. Replacement and upgrading of these essential tools are required.

The Laboratory's research and calibration activities are of underlying importance in insuring the success of environmental and ecological research studies sponsored by many agencies, universities, and other laboratories throughout the United States and abroad. As the responsible center for solar radiation calibration standards, the Laboratory must be able to maintain, improve, and adjust those instruments it receives from throughout the country and world.

Carbon dating techniques have been extended recently to activities such as dating of soils and water table recharging, and requests for service from other agencies and universities are outstripping the present capabilities of the Laboratory.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	25	\$227,000	\$18,000	\$4,000	-----	-----	-----	\$13,000	\$24,000	\$42,000	-----	\$338,000
Increase requested.....	8	53,000	4,000	1,000	-----	-----	-----	10,000	6,000	6,000	-----	80,000
1968 estimate.....	33	290,000	22,000	5,000	-----	-----	-----	23,000	30,000	48,000	-----	418,000

NOTES

Personnel compensation and benefits (8 positions, \$57,000).—1 biologist (GS-12), 1 physicist (GS-11), 1 editorial assistant (GS-6), 4 laboratory technicians (GS-4, 2 GS-7, and GS-9), and 1 clerk-stenographer (GS-5) to alleviate deficiencies in professional, technical, and subprofessional support.

Travel (\$1,000).—To permit each senior staff scientist to attend 1 major scientific meeting in the United States annually.

Other services (\$9,000). To provide computer services in handling rapidly and accurately huge volumes of data from environmental control and solar radiation experiments.

Supplies (\$3,000).—To offset rapid rise in costs of isotopes and other supplies for experiments.

Equipment (\$6,000).—To meet rising costs of scientific equipment and to replace inadequate or obsolete equipment.

13. OFFICE OF ECOLOGY

1966 appropriation-----	\$97, 000
1967 appropriation-----	118, 000
1968 estimate-----	160, 000

The Smithsonian Office of Ecology plans and oversees a program of fundamental research on the interrelationships of living organisms, including man, with their total environment. This program emphasizes the effects of rapidly changing environments on natural resources and on human societies. Its work brings into concerted action efforts under way in the Smithsonian's research bureaus with those of other public and private agencies, and with activities such as the International Biological Program.

An increase of \$42,000 is needed for additional staff to meet minimal needs for the development of national and international projects.

Need for increase

The improvement of man's environment depends largely on the manner and level at which human societies can harmonize with their environment. Success in adjusting human populations to the resources that support them rests primarily on developing new tools of understanding. The momentum of population increase and the side effects of modern technology present mankind with ever-increasing problems of pollution of air, water, and soil. The need is critical to seek a deeper understanding of man's total impact on his environment including the consequences to future generations; to establish baselines for measuring further impacts; and to provide the foundations for a program of research and education to help assure the continued existence of favorable environmental balances for civilization. For these goals the Smithsonian Program in Ecology helps to integrate action between the physical and life sciences on one hand, and the behavioral sciences (economics, psychology, ethology, and anthropology) and humanities on the other.

The Smithsonian Office of Ecology operates the Chesapeake Bay Center for Field Biology, a 700-acre preserve owned by the Smithsonian and, in cooperation with the University of Maryland and Johns Hopkins University, devoted to ecological research and conservation education. A survey of the flora is nearly completed, providing the groundwork for a study of principles of vegetation change, the basis for the management of vegetation for forestry, wildlife production, beautification of highways and open spaces, and right-of-way maintenance. Research on the social behavior and dynamics of bird and mammal populations have been initiated at the Bay Center. Planning is under way for studies of estuarian pollution. The increase will allow immediate progress in using present natural conditions for developing principles of long-range vegetation change—a requirement for sound conservation practices as well as for fundamental understanding of environmental modification.

The Smithsonian is a participant on the United States National Committee of the International Biological Program (IBP) and is assisting in the development of a world network of nature reserves and a program of world conservation of natural resources. A professional ecologist with broad education in general ecology and human environmental relationships will be added, along with minimal administrative support for the Office, to further Smithsonian contributions to the IBP and the management of Smithsonian ecology programs in Latin America, Ceylon and Korea.

Additional accomplishments of the Smithsonian Program in Ecology, since its inception in July 1965, include:

Aiding development of plans for a conference on "Rational Use of the World's Biosphere" for which the Smithsonian is to be host in 1968;

A long-range program of university education and research in the biological sciences is being developed in Korea, using the study area immediately south of the demilitarized zone, where vegetation and animal life have been rigidly protected for 14 years, as a base line for understanding the impact of man on his natural resources;

Excess foreign currencies are used in Ceylon for combined studies of wildlife and vegetation to provide a foundation for natural resources management. Four scientists will be assisted by Ceylonese students;

Plans for a world program in tropical biology with a network of selected sites for comparative studies, and for the development of a network of research areas within the United States to establish long-term research programs;

Plans for summer institutes for university teachers to upgrade university education in ecology;

The conducting of conferences on "The Avifauna of Northern Latin America" and "Panama Conference on Tropical Biology"; and

Establishment of a consortium between the Johns Hopkins University, the University of Maryland, and Smithsonian Institution for research and education in ecology.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base-----	5	\$63,000	\$5,000	\$5,000	-----	-----	-----	\$35,000	\$5,000	\$5,000	-----	\$118,000
Increase requested-----	4	37,000	3,000	0	-----	-----	-----	0	1,000	1,000	-----	42,000
1968 estimate-----	9	100,000	8,000	5,000	-----	-----	-----	35,000	6,000	6,000	-----	160,000

NOTES

Personnel compensation and benefits (4 positions, \$40,000).—1 biologist (GS-14), 1 administrative assistant (GS-11), 1 assistant curator (GS-9), and 1 secretary (GS-5) to meet present obligations for developing national and international projects of ecological research.

Supplies and materials (\$1,000).—To purchase supplies and materials for research.

Equipment (\$1,000).—Equipment for new staff.

14. OFFICE OF OCEANOGRAPHY AND LIMNOLOGY

1966 appropriation -----	\$218,000
1967 appropriation -----	254,000
1968 estimate -----	375,000

The Office of Oceanography and Limnology operates the Smithsonian Oceanographic Sorting Center which provides essential identification services for the biological and geological specimens collected by oceanographic expeditions and surveys of Federal agencies and private institutions. It directs the contributions of the Smithsonian's marine sciences toward the accomplishing of national goals in oceanography and is a focal point for the development of biological oceanography. The Office furthers limnological studies on prediction and assessment of biological changes, especially in the major U.S. inland bodies of water.

An increase of \$121,000 is required in order that the Sorting Center may develop a staff adequate to meet the greatly increasing demands for service necessitated by the growing national programs for understanding and utilizing the food and mineral resources of the seas.

Need for increase

Demands for service are increasing and volumes of specimens are being amassed that require sorting and identification so that planned surveys and expeditions can avoid duplication and concentrate on filling critical gaps. An increased technical staff is necessary to cope with these increasing volumes. Additional student technicians will be trained at the Sorting Center to supplement scarce professional personnel in the Smithsonian and other marine facilities. A plankton specialist and supporting technicians will be added to assist in the high priority need of understanding the distribution of fish larvae as they contribute to food production in the sea. An increase in the requests for assisting in national and international efforts in biological oceanography requires the addition of a biological oceanographer as Deputy Head of the Office, with appropriate administrative assistance.

The Sorting Center services the National Science Foundation, the Bureau of Commercial Fisheries, the National Oceanographic Office, Intergovernmental Oceanographic Commission, the scientists of the Smithsonian, and many private institutions and universities in the processing of marine collections. As an operating agent of the U.S. Government, the Sorting Center provides essential services to the processing of international collections of the Intergovernmental Oceanographic Commission. Collections of the International Indian Ocean Expedition, the International Cooperative Investigations of the Tropical Atlantic, the Guinean Trawling Survey, the Cooperative Studies of the KUROSHIO, and the proposed Cooperative Studies in the Mediterranean require identification work by the Sorting Center to achieve their purposes. The Sorting Center's information is sought for its contributions to the obtaining of food and mineral resources from the sea; national defense interest in shark occurrences, biological fouling, bioluminescent organisms, and in sound attenuating organisms; biomedical research on occurrences of cancerous organisms, utilization of unique experimental animal and plant life, and determining antibiotic properties; water quality studies on the elimination of species from polluted areas; and for similar contributions to basic research on the organisms of the marine environment.

Recently the results of the Sorting Center's efforts caused a major rescheduling of research vessels of the Bureau of Commercial Fisheries into areas proven to have larvae of commercial species of fishes. The cataloging of numbers of marine specimens will make continued contributions to future research planning.

Processing of the collections by this central laboratory represents a service to more than 250 scientists throughout the United States. Before the Sorting Center was established four years ago, each of the scientists had to establish his own sorting capability. Thus the Smithsonian Sorting Center represents a net saving in operating costs within a planned oceanography program. Nearly 100 technicians have participated in the training program at the Sorting Center and many have carried their taxonomic skills into other Government and private laboratories.

The Smithsonian further contributes to national oceanographic planning by participation in review and coordinating groups, by offering information on national oceanic research programs through the services of the Science Information Exchange, and by providing information and assistance on collection efforts and commitments of marine biology specialists worldwide.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	18	\$159,000	\$11,000	\$4,000	-----	\$3,000	-----	\$25,000	\$29,000	\$23,000	-----	\$254,000
Increase requested.....	17	110,000	7,000	4,000	-----	0	-----	0	0	0	-----	121,000
1968 estimate.....	35	269,000	18,000	8,000	-----	3,000	-----	25,000	29,000	23,000	-----	375,000

NOTES

Personnel compensation and benefits (18 positions, \$17,000).—1 oceanographer (GS-14), 1 training supervisor (GS-13), 1 biologist (GS-12), 1 administrative assistant (GS-11), 1 secretary (GS-7), and 12 technicians (GS-4 to GS-7) to meet increasing demands for service necessitated by growing national programs for understanding and utilizing the food and mineral resources of the seas.

Travel (\$4,000).—To transport people and pay per diem costs to make or supervise collections, to provide field support services to other collectors, to coordinate the identifications and descriptions of species, to arrange for the use of local resources where the collecting will occur, and to transport individuals to save needed collections not otherwise preserved by those on the spot because of their special interests.

15. BUILDINGS MANAGEMENT DEPARTMENT

1966 appropriation-----	\$6,089,000
1967 appropriation-----	6,740,000
1968 estimate-----	7,270,000

The Buildings Management Department protects, maintains, and operates eight major Smithsonian buildings, including the original Smithsonian building, the Museum of Natural History, the Museum of History and Technology, the Arts and Industries building, the Freer Gallery of Art, the National Air and Space building, the Fine Arts and Portrait Galleries, and the Gallery of American Arts, Crafts, and Design. It performs all or a combination of these functions for some seven other research, collection and service facilities, for example, the Chesapeake Bay Center for Field Biology, the Belmont Conference Center, the Oceanographic Sorting Center, and the Silver Hill facility for restoration and storage of air and space craft.

The Department provides utilities, transportation, and communications services; plans and supervises construction projects; performs alterations, repairs, and improvements; furnishes guard, custodial, fire protection, safety, and security services; participates in the installation of new or renovated exhibition halls; repairs and refinishes museum objects and furnishings; and provides supporting services for the research, scientific, cultural, and public education programs.

An increase of 86 positions and \$530,000 is required to approach acceptable levels of performance in the maintenance, operation, and protection of the existing facilities of the Smithsonian Institution, and to provide minimum protection, security, safety, and maintenance services for new building spaces, exhibition halls, laboratories, and public-use areas.

Need for increase

In order to reduce inflationary pressures, Government-wide restrictions were placed on employment in the summer of 1966. The impact of the employment ceiling was to curtail the authorized strength of the Buildings Management Department by 147 positions. These positions were equivalent to partial year's cost of \$400,000. Our capability for service has been reduced below acceptable limits in light of the specialized use of our museum, gallery, and laboratory resources. These facilities are unique in respect to receiving over 13 million visitors, researchers, and students annually and being the repository of extremely valuable National Collections in art, history and science. As a result of this curtailment in employment, no supplemental appropriation is being sought in 1967 for the cost of salary increases granted the general schedule employees under the "Federal Employees Salary and Fringe Benefits Act of 1966." The cost of this raise is estimated at \$462,000.

This Department must increase its basic capabilities in direct proportion to the acquisition by the Smithsonian of authorized new or renovated building spaces and exhibition halls; new approved educational, research, and cultural programs; and increased, continuing use of all buildings, grounds, and facilities by the visiting public, students, and scholars. Services must be provided not only during the regular hours when the buildings are open but also for special activities in the evenings and on weekends and holidays as well as during the spring and summer when the museum and gallery exhibitions are open until 10:00 p.m.

The Fine Arts and Portrait Galleries building is scheduled for public opening in April 1968. To meet this commitment, the Department must operate, maintain, and protect the building during fiscal year 1968, while final renovation work is being completed and exhibition halls, research laboratories and equipment, library facilities, offices, and heating, air conditioning, and humidity control systems are being installed and activated.

The opening of four new major exhibition halls in the Museum of History and Technology and the plan for an experimental "Store Front Museum" in one of the culturally-deprived neighborhoods in Washington require additional funds and personnel to service these new activities.

Additional guards are needed to man new posts or patrol new areas as they are open to the public. The irreplaceable National Collections must be given

added protection to prevent loss or damage through theft or vandalism. The incidence of such acts in other museums and galleries has been publicized throughout the world. There have been several recent incidents in Washington museums and galleries. Every effort must now be expended to protect the specimens and objects which constitute the material evidence of America's history and accomplishments in the arts, history, and science.

Funds are needed to furnish required utilities and to procure commensurately larger quantities of maintenance, operation, and cleaning materials, supplies, and equipment replacements for the additional space being operated.

Periodic review of our buildings management operations assures that work methods are effective and training is fully utilized to improve the effectiveness of internal and public services at a minimum cost.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	723	\$4,289,000	\$313,000	\$4,000	-----	\$995,000	-----	\$771,000	\$268,000	\$100,000	-----	\$6,740,000
Increase requested.....	86	229,000	14,000	0	-----	77,000	-----	73,000	72,000	65,000	-----	530,000
1968 estimate.....	809	4,518,000	327,000	4,000	-----	1,072,000	-----	\$844,000	340,000	165,000	-----	7,270,000

NOTES

Personnel compensation and benefits (\$243,000).—33 guards (GS-3 to GS-9); 9 operating engineers (W-7 and W-10); 5 electricians (W-5 and W-10); 2 instrument makers (GS-11); 1 communications specialist (GS-11); 1 buildings manager (GS-11); 2 foremen (W-8); 5 elevator operators (W-1); 28 laborers (W-1 to W-3) to provide maximum acceptable levels of maintenance, operation, and protection. Fine Arts and Portrait Galleries *Peel, communication, and utilities (\$17,999).*—For Fine Arts and Portrait Galleries Building (\$80,900) and for increased usage in other Smithsonian Institution buildings (\$17,000).

Other services (\$73,000).—Installation of security, fire, and smoke detection systems;

additional cost of security and protective services for additional areas; inspection and maintenance of additional elevators; and repairs to heavy equipment, machinery, and motor vehicles.

Supplies and materials (\$72,000).—Supplies for cleaning additional restrooms and work shops; uniforms for new staff, and supplies for care and upkeep of areas surrounding the buildings.

Equipment (\$55,000).—Cleaning, safety, mechanical, and gardening equipment for additional public exhibition areas, offices, laboratories, and shops; and 1 additional "carry-all" truck and replacement of 3 trucks.

16. OFFICE OF EDUCATION AND TRAINING

1966 appropriation-----	0
1967 appropriation-----	\$200, 000
1968 estimate-----	250, 000

The programs of the Office of Education and Training fall into two broad categories reflecting the major activities of the Institution. The first category includes those programs directly related to Smithsonian research in science, history, and the arts. The research-related programs consist primarily of visiting research appointments for post-doctoral scholars and scientists, graduate students, and short-term consultants. The second category includes those programs directly related to the exhibit and public education functions of our museums. Particular attention will be given to programs designed for the educationally and culturally deprived. An example of these is the experimental "Store Front Museum" proposed for opening in the Spring of 1968 in a poor neighborhood in Washington, D.C. In all cases, the programs of the Office are designed to support and strengthen continuing and fundamental Smithsonian activities and, at the same time, to make the results of these activities more widely available to the appropriate groups.

While maintaining research-related activities at the present level, an increase of \$50,000 is needed to fulfill more adequately the Institution's obligations in education for the general public, and so that schools and children can make maximum use of the museum's educational potential.

Need for increase

By employing a small staff of individuals who are experts in the museums' subject fields and are trained in the techniques of teaching, we can ensure more effective educational use of the exhibits. Programs under the direction of the museums' instructional staff will include—

Workshops and seminars for classroom teachers in the use of the museums;

Preparation of educational materials based on the museums' collections for use in the schools;

Preparation of bibliographies and information leaflets to provide replies to the thousands of inquiries received annually about the museum exhibits;

Research on the educational effectiveness of museum exhibits and formulation of special exhibit programs;

Development of tour programs and special informational programs to aid the millions of persons who visit the museums.

The general Smithsonian charter for "the increase and diffusion of knowledge among men" applies fully to the work of the Office of Education and Training. In its research-related activities, the Office makes visiting research appointments at the post-doctoral, pre-doctoral, and consultant level to support original research based on the unique resources of the Institution. Evidence of the need met by these programs is to be found in numbers of applications already received for the current fiscal year—150 applications after preliminary screening. It is in the diffusion of knowledge through programs of education for the general public, however, that the need for an increasing program effort seems greatest. Both for the Washington, D.C. area and for the Nation as a whole, the Institution's collections can serve as invaluable supplements for the educational curriculum. The expanded programs proposed by this Office will explore means of making optimum use of the Institution's potential for education.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base-----	10	\$93,000	\$7,000	\$2,000	-----	-----	\$2,000	\$94,000	\$1,000	\$1,000	-----	\$200,000
Increase requested.....	5	25,000	2,000	2,000	-----	-----	0	21,000	0	0	-----	50,000
1968 estimate.....	15	118,000	9,000	4,000	-----	-----	2,000	115,000	1,000	1,000	-----	250,000

NOTES

Personnel compensation and benefits (5 positions, \$27,000.—1 education specialist (GS-9), 2 education technicians (GS-7) and 2 secretaries (GS-4), to fulfill the Institution's obligations in education of the general public and to enable schools, teachers and children to make maximum use of the museums' educational potential.

Travel (\$2,000).—To arrange for educational programs with schools, universities, and other institutions.

Other services (\$21,000).—Special studies and workshops to insure that museum resources are used in the most effective manner for educational programs.

17. INTERNATIONAL ACTIVITIES

1966 appropriation-----	\$152,000
1967 appropriation-----	206,000
1968 estimate-----	251,000

The International Activities program focuses on the Smithsonian's traditional commitments to basic research and international exchange of information in the sciences and the humanities. The Office of International Activities serves as a catalyst for international research and developmental efforts by American institutions in archeology, systematic and environmental biology, and museum sciences through the Special Foreign Currency Program which the Office administers. In addition, the Office determines the international projects which will best advance the Smithsonian's and thus the Government's interests; advises the State Department and private organizations and individuals on international exchange of persons in fields of Smithsonian concern; and assists the Institution's scientific and curatorial staff in establishing research projects and exhibits programs which require substantial international cooperation.

The International Exchange Service is the official instrument for exchange of Government documents and private institutions' scientific and literary publications with foreign governments and institutions. Today the Service forwards over one million pounds of publications annually to governmental and private organizations overseas and, in turn, receives publications from foreign countries for distribution to scientific and educational organizations in the United States. The Service is receiving numerous worthwhile additional requests for assistance in transmitting publications abroad. Examples include: reading materials for the Peace Corps Volunteers and textbooks for use in their school programs; law, medical, and dental journals are also being sought by ministers of justice and by universities in the developing countries.

An increase of \$45,000 is needed for additional staff and related expenses of these programs.

Need for increase

The Office of Director, International Activities, requires funds for additional staff and related expenses to administer the accelerated Special Foreign Currency Program, requiring considerable Smithsonian staff assistance to both American and foreign institutions; and to conduct cooperative programs with the State Department, the Department of the Interior, the Pan American Union, and the Peace Corps. Also the International Exchange Service needs an additional freight clerk to handle an increased volume of shipping, more funds to meet rising transportation costs, and a small increase for packing and shipping supplies.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total*
	Number of positions (permanent)	Amount										
1967 base.....	6	\$64,000	\$5,000	\$6,000				\$15,000		\$1,000		\$91,000
Increase requested.....	5	25,000	2,000	2,000				0		1,000		30,000
1968 estimate.....	11	\$9,000	7,000	8,000				15,000		2,000		121,000

NOTES

*Excludes International Exchange Service.

Personnel compensation and benefits, \$27,000.—2 administrative assistants (GS-9), 1 secretary (GS-7), and 2 typists (GS-4) for administration of accelerated Special Foreign Currency Program and to conduct cooperative programs with the State Department, the Department of the Interior, the Pan-American Union, and the Peace Corps.

Travel (\$2,000).—For internationally renowned scientists who are members of the advisory council to review research proposals in the natural sciences.

Equipment (\$1,000).—Office equipment of new staff.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total ¹
	Number of positions (permanent)	Amount										
1967 base.....	12	\$63,000	\$4,000	0	\$43,000				\$4,000	\$1,000		\$115,000
Increase requested.....	1	4,000			10,000				1,000	0		15,000
1968 estimate.....	13	67,000	4,000		53,000				5,000	1,000		130,000

NOTES

¹ International Exchange Service.
 Personnel compensation and benefits (1 position, \$4,000).—1 freight clerk (GS-3) to handle increased volume of shipping.
 Transportation of things (\$10,000).—To cover rising transportation costs.
 Supplies and materials (\$1,000).—For packing and shipping supplies.

2154 INTERIOR AND RELATED AGENCIES APPROPRIATIONS, 1968

18. ADMINISTRATIVE AND TECHNICAL SUPPORT

1966 appropriation	\$2,445,000
1967 appropriation	2,951,000
1968 estimate	3,418,000

The administrative and technical offices and units of the Smithsonian provide the executive direction, administrative assistance, and specialized services that enable the program activities of the Smithsonian to work productively and efficiently toward identified objectives. Administrative services are provided by: the Office of the Secretary and the Divisions of Management Support, Fiscal, Museum Service, Personnel, Public Information, and Supply. Technical services are provided by Information Systems, the Library, Photographic Services, and the Press.

The increase is requested in order to meet the minimal requirements of the Institution's present "Salaries and Expenses" programs.

The increase is required in order to overcome deficiencies in the administrative service units which have been evidenced by increasing need for overtime, protracted procurement time, and backlogs in service areas despite continuing efforts to obtain efficiencies in operations. The increase is also required to provide administrative and technical support commensurate with the increased activity of the Institution.

The administrative and technical service units are requesting a total increase of 46 positions and \$467,000 for 1968, as summarized below and justified on the following pages:

Summary of increases requested for 1968

	1967 appropriation		Administrative		Technical		1968 estimate	
	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount
Office of the Secretary	23	\$332,000	8	\$50,000	-----	-----	31	\$382,000
Management support	26	303,000	8	52,000	-----	-----	34	355,000
Fiscal	21	320,000	5	40,000	-----	-----	26	360,000
Museum service	9	95,000	1	10,000	-----	-----	10	105,000
Personnel	16	227,000	2	30,000	-----	-----	18	257,000
Public information	7	85,000	2	25,000	-----	-----	9	110,000
Supply	17	257,000	3	18,000	-----	-----	20	275,000
Information systems	3	55,000	-----	-----	5	\$80,000	8	135,000
Library	40	510,000	-----	-----	7	75,000	47	585,000
Photographic services	18	198,000	-----	-----	2	17,000	20	215,000
Press	18	569,000	-----	-----	3	70,000	21	639,000
Total	198	2,951,000	29	225,000	17	242,000	244	3,418,000

Office of the Secretary

1966 appropriation	\$324,000
1967 appropriation	332,000
1968 estimate	382,000

The Office of the Secretary provides executive direction, program planning, and review of all activities of the Smithsonian Institution. This Office includes the Secretary, three Assistant Secretaries, and their respective staffs of assistants.

The increase requested, \$50,000, is required for technical and administrative services to assist the Secretary in the executive direction of the expanded programs of the Institution, to strengthen the Smithsonian's Equal Employment Opportunity Program, and to assist the Secretary in his duties as a member ex officio of the American Revolution Bicentennial Commission.

Need for increase

The Equal Employment Opportunity Program, established by Executive Order 11246, requires the Smithsonian to conduct a positive action program which will continue to provide true equality in all Smithsonian employment practices. The program includes regular evaluations of the effectiveness of the

total effort throughout the Institution, implementation of changes designed to eliminate any discriminatory practices, investigation of complaints of alleged discrimination, coordination of agency efforts to assure adequate housing for employees who are members of minority groups, and maintenance of a system to provide confidential, current, and continuing statistical employment information by race and national origin which will help to assure that the objectives of Executive Order 11246 are met. The services of a responsible administrator to carry out this program for the Secretary are required.

The Act of July 4, 1966 established the American Revolution Bicentennial Commission to coordinate nation-wide activities in commemoration of this historic event. The Secretary of the Smithsonian Institution is a member ex officio. Plans are under way by interested organizations to develop appropriate programs of celebration. The Smithsonian administers the leading United States museum and gallery complex and is the repository of many fine examples of memorabilia of this important era. In recognition of this, the Smithsonian has been called upon to advise and cooperate with this Commission. Studies must now be made of the resources and opportunities of the National Museum and other museums and galleries to assist the Commission in achieving a coordinated program involving museums, galleries, national institutions, and community organizations. One planning and coordinating assistant is now required to provide continuing study and coordinated action on this program.

The Institution has been a leader in the advancement of basic science for the last 120 years. In order to continue this leadership, new trends in science must be investigated and the development of appropriate new programs explored. The long-range objectives of the Institution need to be thoroughly explored and selective programs drafted to reach approved goals.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	23	\$297,000	\$20,000	\$12,000				\$13,000	\$5,000	\$14,000		\$332,000
Increase requested.....	8	46,000	3,000	1,000				0	0	0		50,000
1968 estimate.....	31	313,000	23,000	13,000				13,000	6,000	14,000		382,000

NOTES

Personnel compensation and benefits (\$ positions, \$49,000).—1 Equal Employment Opportunity Officer (GS-15), 1 planning and coordinating assistant, American Revolution Bicentennial Commission (GS-15), 2 special assistants (GS-15), 1 secretary (GS-8), and 3 secretaries (GS-5) for increased workload related to providing executive direction, policy guidance, program planning, review and evaluation of the various bureaus and programs. *Travel (\$1,000).*—To enable the staff to travel to various Smithsonian installations and to attend executive seminars.

MANAGEMENT SUPPORT

1966 appropriation -----	\$237,000
1967 appropriation -----	303,000
1968 estimate -----	355,000

Management Support provides specialized advice and assistance in support of the Secretary and Assistant Secretaries in the administrative requirements of the Smithsonian's programs. Included are Archives, Internal Audit, General Counsel, Organization and Methods, Programming and Budget, Secretary's Files, Travel Office, and Duplicating Services. (These functions previously were budgeted under the Office of the Secretary.)

An increase amounting to \$52,000 is requested for management support.

Need for increase

Additional funds are required to augment the staffs of certain of these units to meet the increased workload resulting from expansion of the programs of the Institution.

An increase in travel funds would make possible essential trips related to the administration of the Institution's varied activities. Certain travel for other administrative units (e.g., Fiscal, Personnel) also is financed by Management Support funds.

The Archives requires funds to rent a microfilm machine and employ an operator. It is essential that a program be initiated for microfilming the Institution's large collection of historically and scientifically valuable and irreplaceable records. Many of these papers dating from the early 19th Century are deteriorating.

An additional program analyst is needed for the Office of Programming and Budget which is responsible for the development and application of planning, programming, and budget principles and techniques to the needs of the Institution. This additional employee will strengthen this Office's capability to perform systematic and thorough analyses of program requirements.

The Organization and Methods Division, which is responsible for developing, coordinating, and maintaining programs for the continuing application of sound business administration and management improvement techniques, requires a clerk-typist.

The General Counsel's office requires an additional attorney to handle an increased volume of complex legal matters.

The Travel Office, established to expedite and provide specialized services to travelers in the several bureaus and to eliminate duplication of effort in making arrangements, requires a travel clerk and funds to rent a teletype ticketing machine.

The Duplicating Unit requires a multilith operator to perform duplicating, collating, and addressograph services; and also funds for repair of machines.

It is necessary to employ 2 typists as part of a pool from which the various units may obtain emergency typing assistance.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	25	\$243,000	\$19,000	\$3,000	-----	\$2,000	\$19,000	\$7,000	\$4,000	\$6,000	-----	\$303,000
Increase requested.....	8	39,000	3,000	6,000	-----	2,000	0	1,000	1,000	0	-----	52,000
1968 estimate.....	31	282,000	22,000	9,000	-----	4,000	19,000	8,000	5,000	6,000	-----	355,000

NOTES

Personnel compensation and benefits (S. positions, \$12,000).—1 attorney (4S-14), 1 program analyst (GS-9), 1 travel clerk (GS-7), 3 typists (GS-4), 1 microfilm operator (GS-1) and 1 multilith operator (GS-3) to meet increased workload.

Travel (\$7,000).—For essential trips related to administration of Institution's varied activities.

Rent, communications, and utilities (\$2,000).—Rental of a machine to microfilm, historically and scientifically valuable and irreplaceable records and a teletype ticketing machine for the travel office.

Other services (\$1,000).—To pay for services related to upkeep of duplicating machines.

Supplies and materials (\$1,000).—For the duplicating functions.

Fiscal Division

1966 appropriation -----	\$253,000
1967 appropriation -----	320,000
1968 estimate -----	360,000

The Fiscal Division is responsible for the administration and accounting of funds of the Smithsonian Institution. This includes payroll, accounting, auditing, reporting, and financial counseling.

An increase of \$40,000 is requested for 5 new clerical positions, to reimburse the Employees' Compensation Funds, and to finance the additional cost of postage indicia mail.

Need for increase

Acceleration of the various activities of the Smithsonian and initiation of new activities, resulting in higher levels of appropriations, have a direct bearing on the workload of the Fiscal Division. To cope with the extended volume of payroll, accounting, auditing, reporting, and counseling work, additional fiscal clerks are needed.

An additional \$10,000 is needed to reimburse the Employees' Compensation Fund as invoiced by the Department of Labor for payments made by the Fund to employees for job-related injuries in fiscal year 1966.

Costs of postage indicia mail are constantly rising as a result of the increased activities of the Smithsonian Institution and the greater influx of letters from the general public, students, scholars, and educators; and from research, museum, cultural, historical, educational, community, and similar organizations seeking information, advice, and assistance. An increase of \$10,000 to cover these costs is requested.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (Government)	Amount										
1967 base.....	21	\$177,000	\$13,000	-----	-----	\$120,000	\$3,000	-----	\$2,000	\$4,000	\$1,000	\$320,000
Increase requested.....	5	18,000	12,000	-----	-----	10,000	0	-----	0	0	0	40,000
1968 estimated.....	26	195,000	25,000	-----	-----	130,000	3,000	-----	2,000	4,000	1,000	360,000

NOTES

Personnel compensation and benefits (5 positions, \$30,000).—1 ledger clerk (GS-7), the Department of Labor for payments made to Smithsonian employees through the 1 travel clerk (GS-6), 1 time, leave and payroll clerk (GS-5), and 2 voucher clerks (GS-5), Employees' Compensation Fund.
 Rent, communications, and utilities (\$19,000).—Postage in lieu for the growing programs, to cope with the increased volume of payroll, accounting and auditing, and to reimburse

Museum Service

1966 appropriation-----	\$49,000
1967 appropriation-----	95,000
1968 estimate-----	105,000

The Museum Service is responsible for planning and developing special activities and events for the education and entertainment of the visiting public and others. These events are designed to enrich museum and gallery visits, to supplement traditional exhibitions, to enliven the Mall with colorful and dramatic performances, and to stimulate the public's cultural interests.

An increase of \$10,000 is requested to enable the Museum Service to expand its activities.

Need for increase

The Museum Service is originating new and coordinating existing performing arts programs such as Sound and Light Production, "Music Making—American Style" (a folk music program), a puppet theater, expanded concert programs, and a Youth Orchestra Festival.

An assistant is needed to help the Director of the Museum Service plan and produce these and other programs which will give added interest to museum visiting for the public.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base-----	9	\$69,000	\$5,000					\$8,000	\$7,000	\$6,000		\$95,000
Increase requested-----	1	9,000	1,000					0	0	0		10,000
1968 estimate-----	10	78,000	6,000					8,000	7,000	6,000		105,000

NOTE.—Personnel compensation and benefits (1 position, \$10,000).—Museum specialist (GS-11) to assist in the planning and production of special activities and events.

Personnel Division

1966 appropriation -----	\$217,000
1967 appropriation -----	227,000
1968 estimate -----	257,000

The Personnel Division supports the Smithsonian scientific, educational, exhibition, and management programs by providing specialized services in employment including position classification, employee relations, employee training, and salary and wage administration. The Division also administers the Health Services Unit.

An increase of \$30,000 is requested for fiscal year 1968.

Need for increase

Two technicians are needed to assist with the extra workload resulting from expanded Smithsonian programs. Additional travel funds are needed in connection with the employee training and development programs. Funds are requested for the Smithsonian Institution's share of the operation of Interagency Boards of Expert Examiners under the Civil Service Commission.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	16	\$180,000	\$13,000	\$8,000				\$23,000	\$2,000	\$1,000		\$227,000
Increase requested.....	2	12,000	1,000	1,000				16,000	0	0		30,000
1968 estimate.....	18	192,000	14,000	9,000				39,000	2,000	1,000		257,000

NOTES

Personnel compensation and benefits (2 positions, \$13,000).—2 personnel clerks (GS-7) to provide personnel technicians to assist with the extra workload resulting from expanded Smithsonian programs.

Travel (\$1,000).—For employee training and development.
Other services (\$16,000).—To finance the Smithsonian's share of the operation of Inter-agency Board of Expert Examiners under the Civil Service Commission.

Office of Public Information

1966 appropriation -----	\$47,000
1967 appropriation -----	85,000
1968 estimate -----	110,000

The Office of Public Information promotes public understanding of the Smithsonian's science, history, and art programs; responds to public inquiries concerning the work of the Institution; assists representatives of the mass communications media in their work with the scholars, scientists, and administrators of the Institution; broadens the impact of the Institution's educational resources through radio and TV programs; and improves communications within and without the Institution.

An increase of \$25,000 is required to employ a Director for the Office of Public Information and a Chief of Film and Broadcasting.

Need for increase

The Smithsonian continues to make significant contributions to the National effort to improve the educational and cultural aspects of American life. Our accomplishments to date have been received with marked success by the public. Among projects undertaken is *The Free Film Theatre*, whose diversity of topics included patriotism, meteorites, underwater exploring, history of civil rights, and psychology. This theatre program has proved to be very popular with our museum visitors. During 1966, the *Dial-A-Satellite* service provided 90,000 callers with the precise time and exact location of satellite passages visible to the naked eye. Since the *Dial-A-Museum* service was initiated on November 1, 1966, over 5,200 callers have been informed of the subject and times of new showings or special demonstrations in our buildings. Through our public information program, the National Broadcasting Company became interested in the real potential of our scientific, cultural, and historical resources for the education and pleasure of its audience. As a result, a number of half-hour shows were developed and the first was televised on October 10, 1966. This nation wide program, being viewed by an estimated 4 million people, is continuing.

To assure that the great resources of the Smithsonian are used to maximum effectiveness by American citizens and organizations throughout the country, the Smithsonian has a responsibility to continue projects such as described above and to evolve new programs responsive to the cultural, educational, and scientific needs and desires of all levels of our society. A small but talented staff of experts is necessary to develop and carry out programs to meet these objectives.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	7	\$62,000	\$4,000	\$1,000	-----	\$1,000	\$4,000	\$4,000	\$3,000	\$6,000	-----	\$85,000
Increase requested.....	2	23,000	2,000	0	-----	0	0	0	0	0	-----	25,000
1968 estimate.....	9	\$85,000	6,000	1,000	-----	1,000	4,000	4,000	3,000	6,000	-----	110,000

NOTE.—*Personnel compensation and benefits (2 positions, \$25,000).*—Director (GS-15) and Chief of Film and Broadcasting (GS-14) to strengthen the Smithsonian's capabilities in keeping the public informed about the programs and activities of the Institution.

Supply Division

1966 appropriation -----	\$249, 000
1967 appropriation -----	257, 000
1968 estimate -----	275, 000

The Supply Division is responsible for the procurement and utilization of supplies, materials, contractual services, and equipment. The Division stocks common supply items for the program and administrative offices and maintains an inventory of equipment for the entire Institution.

An increase of \$18,000 is needed for additional procurement specialists and for supplies to meet the requirements of approved new or expanded programs.

Need for increase

The research, exhibit, and educational programs of the Smithsonian have steadily increased in scope and complexity. The Supply Division requires a commensurate increase in order to keep abreast of the demands placed on it for procuring specialized technical equipment and materials. The Supply Division is currently studying the application of semi-automated processing techniques to the preparation of purchase orders, the recording of goods received, and concurrent establishment of property control. Successful application of these techniques will enable the purchasing agents to spend more time on the important aspects of procurement, developing procurement specifications, and obtaining the most advantageous prices.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	17	\$133,000	\$9,000			\$13,000		\$13,000	\$76,000	\$13,000		\$257,000
Increase requested.....	3	14,000	1,000			0		0	3,000	0		18,000
1968 estimate.....	20	147,000	10,000			13,000		13,000	79,000	13,000		275,000

NOTES

Personnel compensation and benefits (3 positions; \$15,000)—3 procurement specialists (GS-4 and GS-5) to meet the requirements of new or expanded programs.
 Supplies and materials (\$3,000).—For additional stock items for new programs.

Information Systems Division

1966 appropriation-----	\$29, 000
1967 appropriaion-----	55, 000
1968 estimate-----	135, 000

The Information Systems Division provides systems for utilizing automatic data processing equipment in the storage, computation, and retrieval of information essential to the successful accomplishment of the scientific and educational programs and the management activities of the Smithsonian.

An increase of \$80,000 is necessary to strengthen our capability of applying the processing speed, capacity, and versatility of computers to the work of the Institution.

Need for increase

As the national repository for specimens of natural history, the Smithsonian is faced with increased demands for information to meet research, educational, and applied science requirements across the country and around the world. Manual methods for searching through identification and environmental data relating to over 60,000,000 plant and animal specimens have become inadequate because of the great volume of specimens and because questions cut across subject matter, time periods, and geographic areas. The development of imaginative, computer-supported information storage and retrieval systems will enable the Smithsonian to respond with the speed, accuracy, and completeness that the public needs from the National Museum.

Urbanization, air, and water pollution are dramatically changing the composition and relationships of plant and animal life. Many species are now endangered. New sources of food supplies must be found to meet exploding world populations. The simulation of ecological conditions and the study of terrestrial and ocean life are greatly enhanced by the application of computer science.

Sound administrative and financial management requires that the Smithsonian continue to explore and apply computer techniques to its fiscal, supply, library, and other activities where studies indicate that such applications improve performance and lower unit costs of work.

To provide computer services in the Smithsonian, a program director and technical specialists must be added to the nucleus of systems designers and programmers established in the Information Systems Division.

To minimize computer processing costs, the Smithsonian is exploring every possible source of cost reduction. For example, less expensive second and third shift computer time is being used and will be used whenever available at Government and private installations.

	Personnel compensation		Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount									
1967 base.....	3	\$31,000	\$3,000	-----	\$12,000	-----	0	\$5,000	\$2,000	-----	\$55,000
Increase requested.....	5	59,000	0	-----	0	-----	\$17,000	0	0	-----	80,000
1968 estimate.....	8	90,000	3,000	-----	12,000	-----	17,000	5,000	2,000	-----	135,000

NOTES

Personnel compensation and benefits (5 positions, \$63,000).—1 director (GS-15), 2 systems analysts (GS-13 and GS-14), and 2 programmers (GS-7 and GS-13) to provide computer services for the scientific, educational, and management activities of the Smithsonian Institution.

Other services (\$17,000).—Additional computer time to provide on a more timely basis information demanded by research, educational, and applied science requirements across the country and the world.

Library

1966 appropriation -----	\$363,000
1967 appropriation -----	510,000
1968 estimate -----	585,000

The Smithsonian Library performs an indispensable role in providing library and related informational services to the research, exhibit, and educational programs of the Smithsonian. Through its collection—one of the oldest and most carefully selected natural science and historical library collections in existence—its acquisition program, and reference services, the Library contributes to the quality of research, conserves research staff time by expediting acquisitions and reference services, and measurably heightens the creativity and productivity of the scientists and the scholars at the Smithsonian.

An increase of \$75,000 is needed for the following purposes:

(a) \$42,000 for 7 positions and photocopying services to meet an increasing reference services workload; and

(b) \$33,000 for the purchase of publications for new and expanding programs of the Smithsonian.

Need for increase

The number of reference and information queries showed an increase of over 60 percent in the last two years. Significant increases occurred also in the number of patrons coming personally to the Library for assistance, in inter-library borrowings, and in clerical support required for the reference and circulation functions. Previous studies by Library staff, special committees, and outside consultants support the conclusion that the Library still is unable to keep pace with cataloging, reference, circulation, and translating requirements. No new projects, such as recataloging, can be undertaken in 1968; but with the increases in workload, additional staff will be required to maintain an acceptable level of services to the Smithsonian's bureaus and offices.

Journal literature and technical volumes are of prime importance to the curatorial and research staff of the Smithsonian. Strengthening of existing programs, such as those in oceanography, radiation biology, and art, and the development of new programs in ecology, tropical biology, and American studies makes it necessary to add to the collections of the Library. The requested increase in funds will meet the costs of acquiring back issues of journals not previously included in subscriptions, as well as providing new publications.

Maintaining the Library's collection leadership in certain areas of history and science benefits more than the Smithsonian. Because of the uniqueness of the collection, the Library is called upon to serve the Library of Congress, other national libraries, educational institutions, the scholarly community at large, and the general public. In addition, daily requests are received and processed from scientists of other Federal agencies, such as the Department of Agriculture, the National Institutes of Health, Geological Survey, and the Fish and Wildlife Service.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	40	\$320,000	\$23,000	\$4,000	-----	\$15,000	\$25,000	\$2,000	\$33,000	\$88,000	-----	\$510,000
Increase requested.....	7	38,000	3,000	0	-----	0	0	1,000	13,000	20,000	-----	75,000
1968 estimate.....	47	358,000	26,000	4,000	-----	15,000	25,000	3,000	46,000	108,000	-----	585,000

NOTES

Personnel compensation and benefits (7 positions, \$41,000).—2 librarians (GS-7), 4 library assistants (GS-4 and GS-5), and 1 clerk-typist (GS-5) to meet an increasing reference services workload.

Other services (\$1,000).—Photocopying services for reference activities.

Supplies and materials (\$13,000).—For back issues of journals for the curatorial and research staff.

Equipment (\$90,000).—For purchase of books for new and expanding programs.

Photographic Services Division

1966 appropriation-----	\$159, 000
1967 appropriation-----	198, 000
1968 estimate-----	215, 000

This Division provides professional photography to aid the fields of exhibition, documentation, research, publication, conservation, restoration, preservation, and training; and the public service and educational programs of the Smithsonian Institution.

An increase of \$17,000 is requested to permit this Division to fill requests on a more timely basis; to reduce current backlogs of copying and printing historically important prints and negatives which should be processed on a current and scheduled basis to forestall their loss through deterioration; and to obtain contractual commercial services for photographic work which it is not economical to perform in house.

Need for increase

The diversity of objects photographed, the varied applications of these visual materials, and the high standards of quality demanded by the users of these services make the photographic responsibilities of this Division unparalleled. Subjects range from minute natural history specimens to huge space missiles; from delicate fabrics to live animals; from priceless gems to rock cores; and from copies of rare prints to contemporary photographs of national and international personages. These uses cover fields which demand scientifically and technically accurate reproductions in scale, density, color, shadings, highlights, and backgrounds. Timely, pleasing, and appropriate pictures of special events and programs are needed as they occur.

The photographers work directly with scientists in all disciplines; historians; technologists; exhibits specialists; conservators; and museum, gallery, and laboratory administrators to achieve desired results and to assure that services are promptly and fully responsive to professional requirements.

The demands for photography are scrutinized to reduce both volume and cost. Backlogs of requests have developed, however, and this increase will make it possible to provide an essential service with less delay.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base-----	18	\$135,000	\$10,000					\$20,000	\$25,000	\$8,000		\$198,000
Increase requested-----	2	11,000	1,000					5,000	0	0		17,000
1968 estimate-----	20	146,000	11,000					25,000	25,000	8,000		215,000

NOTES

Personnel compensation and benefits (2 positions, \$12,000).—1 photographer (GS-7) and 1 clerk-typist (GS-4) to reduce backlogs, to fill requests on a more timely basis, and to forestall loss of historically important prints and negatives through deterioration.

(Other services (\$5,000).—Commercial services for photographic work which is not economical to perform in house.

Smithsonian Press

1966 appropriation -----	\$518, 000
1967 appropriation -----	569, 000
1968 estimate -----	639, 000

The Smithsonian Press (formerly the Editorial and Publications Division) is an integral part of the Smithsonian Institution's efforts to extend the limits of man's knowledge. The Press, in direct support of the Smithsonian's research, exhibit, and educational programs and of special benefit to scholars and the public, is responsible for approving, editing, designing, arranging the printing, and distributing the research and popular publications of the Smithsonian.

An increase of \$70,000 is needed for the following purposes:

- (a) \$25,000 for two editors and a production assistant to eliminate a backlog and to remain abreast of the increasing number of scholarly manuscripts; and
- (b) \$45,000 for increases in printing costs.

Need for increase

In the past, reports of scientific research have lain dormant for periods up to a year owing to insufficient editorial staff and printing funds. Research is futile if not reported for the benefit of others. This intolerable situation has arisen, despite increases in Federal allotments, because of several factors which have combined to negate those increases. The number of scholars and scientists on the Smithsonian staff has increased in the past five years. Additional research programs and projects have been initiated. The per capita production of manuscripts from this staff has gone up markedly. The expansion of exhibit halls and addition or expansion of public service, cultural, and educational programs and activities have encouraged the demand for printed guides, information leaflets, catalogs, and popular publications for the visiting public. The additional output, combined with an increase in the cost of Government Printing Office services, has made this increase necessary.

Recognizing the problems of increasing workload and printing costs, the Smithsonian Press is taking steps to economize and improve efficiency wherever possible. Editorial, production, purchasing, and distributing practices are being critically examined. Such economies as setting straight copy in linotype instead of monotype and using typewriter composition for offset reproduction of tabular and mathematical material are being considered. Such techniques will help to hold down costs and speed up publication schedules.

	Personnel compensation		Personnel benefits	Travel	Transportation of things	Rent, communications, and utilities	Printing	Other services	Supplies	Equipment	Insurance claims and indemnities	Total
	Number of positions (permanent)	Amount										
1967 base.....	18	\$164,000	\$11,000	\$3,000	-----	\$3,000	\$383,000	\$1,000	\$2,000	\$2,000	-----	\$569,000
Increase requested.....	3	23,000	2,000	0	-----	0	44,000	1,000	0	0	-----	70,000
1968 estimate.....	21	187,000	13,000	3,000	-----	3,000	427,000	2,000	2,000	2,000	-----	639,000

NOTES

Personnel compensation and benefits (3 positions, \$5,000).—2 editors (GS-9 and GS-11) and 1 production assistant (GS-7) to eliminate a backlog and to remain abreast of the increasing number of scholarly manuscripts.

Printing and reproduction (\$44,000).—Increased printing costs.

Other services (\$1,000).—For indexing services.

GRANTS FOR MUSEUM TRAINING ACROSS THE COUNTRY

Chairman HAYDEN. I note on page B-9 of your justification that you are asking funds to establish a program of grants at locations other than the Smithsonian Institution for training museum staff members. Where will such training be carried on and how much are you asking?

Dr. RIPLEY. We are asking at the present time, sir, \$45,000, for six interns in this program. This is under the National Museum Act, which was passed last year. A number of museums would be selected as training sites. Our present thought is that we might be able to afford three science programs; that is, intern traineeships at three prominent science museums across the country: one on the east coast, probably; one in the Middle West; and one somewhere in the West. We are initiating conversations with the directors of some of the outstanding museums to give young people an opportunity to work as an intern in a museum, and learn the museum techniques. At the same time, they may be required to attend some local university and take a strong science course program, so that they will be able to prepare themselves for work in science museums.

We feel that it is a vital part of our mission to allow the Smithsonian to cooperate with science museums in training and to assist in replicating scientists who are willing to work in museum careers. The universities tend not to stimulate work in museums, and as a result we have been pinched for available manpower.

Chairman HAYDEN. Also, you are asking funds for matching grants to museums to employ specialists to write manuals and publish them. Do the matching funds have to equal the granted funds?

Dr. RIPLEY. The contributions from other museums will equally match these; yes, sir.

Chairman HAYDEN. Did you have such a program as this in fiscal year 1967 and, if so, how much was devoted to it?

Dr. RIPLEY. This is a new program, sir, under the National Museum Act.

NEW EXHIBITS

Chairman HAYDEN. For the Office of Exhibits, you are requesting an additional \$60,000 over the \$2,034,000 provided for you last year. This increase will be used to employ seven exhibit workers. How many exhibits workers do you have on your roll now?

Dr. RIPLEY. I would like to ask Mr. Bradley, Assistant Secretary, to answer the exhibits question.

Mr. BRADLEY. Mr. Chairman, we have 149 exhibits technicians on the roll today, out of a total of 166 positions in this unit.

Chairman HAYDEN. What permanent exhibits, if any, do you plan to prepare in fiscal year 1968?

Dr. RIPLEY. We plan to prepare four halls, sir, in the Museum of History and Technology, which as I mentioned earlier has been so successful. One we are working on now, I think will be quite exciting. I know that Mr. Humphrey, the Vice President, is very much interested in it, and that is the Photography Hall. The Vice President

feels that in the area of photography, the Smithsonian can perform a signal service in attempting to develop a series of exhibits and some delineation of the history and evolution of photography into the art form that it is now.

Another hall will have to do with Textiles. The third hall will be an Electricity Hall, and the history of science in electricity; and the fourth will strengthen our halls showing the history of the Armed Forces.

ALASKAN CENTENNIAL EXHIBIT

Chairman HAYDEN. Last year the conferees directed that you utilize \$50,000 of funds to prepare an Alaskan centenary exhibit. Has this been done?

Dr. RIPLEY. Yes, sir. We prepared an exhibit on the Alaskan centennial. I am happy to say that Senator Bartlett has seen it. It was shown down in our Museum of Natural History. It is a very handsome exhibit and is now being circulated in Alaska, prior to moving to Fairbanks for the centennial celebrations this year.

OFFICE OF REGISTRAR PERSONNEL

Chairman HAYDEN. You indicate a need for an additional two positions at a cost of \$9,000 in the coming fiscal year in the Office of Registrar. Would you please explain your need for this personnel?

Dr. RIPLEY. Would you answer that, please?

Mr. BRADLEY. Mr. Chairman, this arises from the need for a mail clerk, who will be a messenger in connection with the new Fine Arts and Portrait Galleries at Eighth and F Streets, which is removed from the Mall; and also the need for a mail clerk on the Mall in order to handle the steadily increasing volume of mail in our five buildings there.

MUSEUM OF HISTORY AND TECHNOLOGY

CURATORS OF CHEMISTRY, MEDICINE, AND MUSIC

Chairman HAYDEN. For the Museum of History and Technology you ask five new positions. Why will the 150 positions now available to you not be sufficient?

Dr. RIPLEY. Sir, this is part of our development program in the new museum. Three of these curators would be in areas of our collections where we do not now possess expertise. One would be in chemistry, one in medicine, and one in music.

The history of medicine is an extraordinarily interesting area, in which we have been unable, so far, to find a suitable candidate for, in three years of searching. I think, now, we may have one; and we would like very much to have this authorization for a new position in this area. Two technicians are needed in addition.

MUSEUM OF NATURAL HISTORY

EXPANDING EDUCATIONAL SERVICES

Chairman HAYDEN. With respect to the Museum of Natural History, I note your request for \$10,000 to improve your educational

program through increased training of students. What are you doing in this field now and what additional do you propose?

Dr. RIPLEY. This is an increase which is new, sir. We have no earmarked funds for this in fiscal year 1967. It is due to the need to meet the expanding educational activities in the museum. The most widely used educational service in the museum is the continuing function of consultant at large, in which we provide assistance to academic research programs at various levels, from students right up to postdoctorals, both in the United States and abroad. This is an activity which is becoming greatly increased, every year. We finally reached the breaking point, as far as we are concerned. We simply need help to be able to meet this demand.

Literally thousands of requests come each year on very specific topics, and we lack the staff capability at present to be able to answer many of them in time. We need to provide students and scholars with the various tools, such as access to particular collections, to plan their programs or conduct research, often on the premises. We fill thousands of requests each year, and we have finally gotten to the point where something has just got to give.

GRANTS FOR INDIVIDUAL RESEARCH PROJECTS

Chairman HAYDEN. Tell the committee about your competitive research awards to Smithsonian scientists. You are asking an additional \$75,000 for fiscal year 1968. Just what is this program?

Dr. RIPLEY. Each year, sir, we fund worthy, short-term research projects. It is a serious problem in the Smithsonian that our own scientists, who are organized to engage in field-oriented fundamental research, often lack the opportunity to take advantage of various unexpected possibilities to go out in the field or on short-lived biological trips. The support of field research projects often can't be anticipated in the normal course of science budget planning. As a result, we set up a research awards program with the approval of the Congress 2 years ago, to give us expeditious exploitation of these unanticipated research opportunities while continuing to maintain the long-term, basic long-term research projects. Through this central, essentially supplementary support, we can assist research and various kinds of science.

It is an important means for us, too, whereby scientists in the Smithsonian can engage in collaborative field projects in a timely way with colleagues in other institutions and universities. We employ a review panel of eminent scientists and the same standard of excellence, we believe, as used by the National Science Foundation in awarding these grants. The grants are mostly quite small. In the last year we had 66 of these small grants.

Chairman HAYDEN. Well, what is the size of the individual award made?

Dr. RIPLEY. Generally in the area of less than \$15,000.

NATIONAL AIR AND SPACE MUSEUM

PERSONNEL REQUEST

Chairman HAYDEN. For the National Air and Space Museum you propose an additional eight positions and an increase of \$70,000. Does this request have any direct relationship to the construction of the new National Air and Space Museum which was authorized last year, but for which you are not yet requesting construction funds?

Dr. RIPLEY. May I ask Mr. Bradley to answer this one, please?

Mr. BRADLEY. Not directly, Mr. Chairman, although the request is related to the very same act. The act authorizing the construction of the Air Museum also directed the Smithsonian to record the history of air and space flight and, more importantly, to provide educational facilities and programs for the public and for students in the underlying science and technology. The positions that we are requesting relate to the necessary preparation of catalogs, organizing air and space collections and materials, preparing exhibits, and to update the existing exhibits that we have, where we entertained 11½ million visitors last year. We need funds also for other necessary expenses, particularly to acquire historically and technologically important aircraft and spacecraft while they are still available around the country.

PERSONNEL FOR ARMED FORCES MUSEUM ADVISORY BOARD

Chairman HAYDEN. How many historians are now employed for the National Armed Forces Museum Advisory Board? I note that you are requesting one additional historian for the coming fiscal year.

Dr. RIPLEY. We have three, sir, who are presently employed as professionals in this activity. But we actually need, I would say, a strong caliber military historian in order to work with us in making studies and reports on the characteristics of the Armed Forces in war and peace. The present three professionals have been concerned with the planning of the Armed Forces Museum, negotiations with National and State of Maryland Planning Commissions, acquisition of military objects for ultimate display, and studies of the characteristics of the Armed Forces in war and peace as directed by the act. But we feel that this is a good moment to pause, when there is relatively little prospect at the moment of developing physical facilities, to have an ad hoc review, a symposium perhaps, on the purposes of such a museum: to have a chance to get together with historians around the country, and we would like to have this organized by our distinguished military historian.

MILITARY PARK NEAR FORT FOOTE, MD.

Chairman HAYDEN. Last fall the newspapers carried an item with respect to a military park planned on the Maryland shore of the Potomac River, apparently to be located between the Woodrow Wilson Bridge and Fort Foote. Would you please comment on this news item, indicating the status of such a proposal, the estimated cost of it, and whether or not specific substantive legislation is required?

Dr. RIPLEY. Sir, we believe that legislation is needed to authorize the Smithsonian to acquire a suitable tract of land in the vicinity of

Fort Foote, which is just south of the Woodrow Wilson Bridge. We selected this location because of the suitability of the terrain, the fact that it is near the District of Columbia as specified under the act in fiscal year 1961, and because it is adjacent to navigable waters where, in fact, historical ships can be displayed. We feel that the National Park Service has a very good point in recommending that we collaborate with them. They have some 85 acres which they would like to give us for these purposes.

FREER GALLERY OF ART

PERSONNEL REQUEST

Chairman HAYDEN. You are again asking for a secretary for the conservation laboratory in the Freer Gallery of Art, as well as a cabinetmaker for that activity. Would you please explain the need for these two positions?

Dr. RIPLEY. Sir, we need a secretary for the conservation laboratory, which is responsible for the technical analysis and preservation of objects, and the cabinetmaker to repair and maintain exhibit furnishings and installations for the gallery, many of which are particularly precious and delicate, and which need a very skilled workman, indeed. We have at the present time a tremendous backlog of work which is being deferred because we don't have these people. Insufficient funds were appropriated in 1967 to allow their hire.

INTERNATIONAL ART PROGRAM

Chairman HAYDEN. How much are you now provided for the international art program which you have taken over from the U.S. Information Agency; and why do you believe that \$40,000 more is necessary for this program in the coming fiscal year?

Dr. RIPLEY. The international art program was given to us at their request by the U.S. Information Agency, with a small budget. Last year, during fiscal year 1967, there was about \$130,000 available. We feel that \$40,000 more is needed to allow us to prepare and tour through Europe a major exhibition, which would have great strength and which would reflect the vitality of American art today. This tour has been strongly recommended by the Department of State, the U.S. Information Agency and, through their cultural attachés, six European countries.

This is the second step in what we feel is an appropriate and necessary gradual buildup to provide the basis for services comparable to those of the fine arts program formerly conducted by the U.S. Information Agency. The present funding allows us approximately 12 small shows each year, related to the U.S. missions abroad, in USIA libraries and townhalls of communities in Asia, Africa, and South America.

NATIONAL COLLECTION OF FINE ARTS AND NATIONAL PORTRAIT GALLERY

Chairman HAYDEN. Please explain the approximately 30 percent increase in funds for the National Collection of Fine Arts which you are asking.

Dr. RIPLEY. This request relates to the fact that in April 1968, we hope to open the two new galleries in the old Patent Office Building. We have spent about \$7 million over a period of 5 or 6 years in order to make this building appropriate and suitable for these two great galleries. We feel that we can't open them properly without this increase in staff and personnel.

Chairman HAYDEN. I assume that the similar increase requested for the National Portrait Gallery is caused by the same set of circumstances. Do you have any further comment?

Dr. RIPLEY. That is true, sir.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Chairman HAYDEN. With respect to the new item entitled Joseph H. Hirshhorn Museum and Sculpture Garden, for which at a later place in your budget request you are asking planning funds for the construction of the museum, why is it necessary now to employ curators, technicians, and secretaries?

Dr. RIPLEY. Sir, we believe that we are justified in asking for this, because the Hirshhorn Museum is now officially a bureau of the Smithsonian. It therefore seems appropriate that in fiscal year 1968 we start with a nucleus staff of three people in order to prepare for assuming the responsibility for the collection and its display and protection.

Preliminary architectural studies are already underway, and the contract drawings and specifications, we hope, will proceed throughout the year 1968. In fact, I am hoping that if the architect, Mr. Bunschaft, has an appropriate design, we can actually submit a preliminary design to the Fine Arts Commission in May of this year. This is contingent on whether the design is appropriate, and is approved within our own thinking. But we are trying to make as rapid a start on this as possible, in order to meet the commitments of the agreement with the donor.

Chairman HAYDEN. Was not the art collection inventoried prior to your appearance before legislative committees in connection with legislation authorizing the construction of the museum?

Dr. RIPLEY. Yes, the collection was inventoried, and a copy of the inventory accompanied the legislation. But continually, now, Mr. Hirshhorn is adding and buying new objects of art. Yesterday, an extraordinarily interesting sculpture arrived from the west coast and is now being uncrated for placing on one of our terraces as a kind of earnest of things to come. This is a sculpture by Stern, which Mr. Hirshhorn has just bought on the west coast, which will be able to be shown out of doors. He has also just given us a Rickey, which we are going to place on the steps of the National History Building. Gradually, we will be placing outdoor sculpture around, as an advance indication of the Hirshhorn building's arrival—advance notice—like circus posters scattered around the town.

Senator BARTLETT. May I ask a question right there?

Dr. RIPLEY. Yes, sir.

OUTDOOR SCULPTURE PROTECTION

Senator BARTLETT. Are you concerned about possible defacement?

Dr. RIPLEY. Not particularly, at this point. I can say that I am not particularly concerned, because of the success, for example, that the city of Philadelphia has had with its outdoor contemporary art show, which has been going now for several months. No traces of vandalism have occurred. One steel cable snapped on one end of a suspended sculpture in one of the public areas in Philadelphia, and for all I know, this is only because a bolt broke. The statuary and other sculpture which is out on the grass, easily accessible, within reach of people's hands, isn't being scribbled on or being defaced at all. I toured the city of Philadelphia with the city planning group, 2 weeks ago, and was much impressed. In the same way, in Paris, in the Louvre Garden, there are no cases of vandalism that I have heard of. So I am fairly optimistic, Senator. Of course many of these will be on plinths or bases which will be relatively high, so it would be a little bit hard to reach them. We hope they will be in areas in general near the buildings, where people circulate.

Chairman HAYDEN. I note that part of your request is for racks and shelving for storage of the collections. Do I assume that the collections will actually be brought in to this area prior to construction of the building?

Dr. RIPLEY. Yes, sir. These will gradually be coming in. As I mentioned, a large sculpture arrived yesterday and was being uncrated yesterday. Small pieces are following, from a particular purchase in California. In the past year, I might say, Mr. Hirshhorn has purchased over \$900,000 of additional objects, not in the inventory. He hasn't stopped collecting.

ASTROPHYSICAL OBSERVATORY STATION IN ARIZONA

Chairman HAYDEN. What is the status of the Observational Station planned for Mount Hopkins by the Smithsonian Astrophysical Observatory?

Dr. RIPLEY. Mr. Bradley, would you answer that?

Mr. BRADLEY. Mr. Chairman, we are getting underway. We have a permit for the occupation of the mountaintop in the Coronado National Forest near Tucson, Ariz. We would like to emphasize that this would be a sort of small, "workingman's" type of optical observatory. It will not be a large mountaintop astronomical observatory in the classic sense. We will run this one with the same economy as the 12 optical satellite tracking stations that we operate around the world. Minimal overnight quarters will have to be installed, because we are out of town about 40 miles, and we plan with money that you have furnished us this year, to acquire a gamma ray mirror for the interception of gamma ray impulses. We are undertaking to improve the site with an access road and we hope to get into operation next year.

Chairman HAYDEN. Well, what is the total estimated cost of this installation?

Mr. BRADLEY. The total estimated cost for site preparation is \$220,000.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Chairman HAYDEN. With regard to the Smithsonian Tropical Research Institute, I note that you show your 1967 appropriation base as \$307,000. However, last year's budget estimate was \$277,000 for fiscal year 1967. How do you account for the additional \$30,000?

Dr. RIPLEY. I would like to ask Assistant Secretary Galler to speak to this, if I may, Mr. Chairman.

Dr. GALLER. Mr. Chairman, the need to direct the additional \$30,000 for 1967 to the Tropical Research Institute (STRI) is actually due to several conditions which were not originally anticipated, but which were of sufficient critical importance to require immediate attention. The lapse rate for the STRI had originally been estimated to be at a higher rate than was considered practicable when the estimates were reconsidered as the basis for the fiscal year 1967. To correct this situation, and to fund the increased pay for this bureau, \$5,000 was reallocated during fiscal year 1967.

PERSONNEL REQUEST

In addition to that, the Smithsonian Tropical Research Institute staff has been receiving a marked increase in requests for advice, research services, and support from both public and private organizations and agencies, scientists and visitors from a number of places, both in the Canal Zone and in the Republic of Panama. For example, scientific investigators and student visitors for the fiscal year 1966 increased over a hundred percent over the prior year. The unprecedented increase in requests for scientific information and assistance had exhausted the ability of the STRI to respond in a rapid, timely fashion. Therefore, to maintain its vital services to the users of STRI's resources in the tropics, funds had to be reallocated for the employment of part-time technicians, and support staff for the STRI professional staff.

Also, authorization for part-time employment and the necessary funds were granted during fiscal year 1967 to meet the critical needs resulting from the unanticipated success that was experienced in activating two new, very small, marine biological laboratories associated with the Smithsonian Tropical Research Institute. One of these laboratories is located at Fort Amador, on the Pacific coast, and the other on Galeta Island on the Atlantic coast, using land and buildings that had been formerly owned by the U.S. Navy. Outside grants provided the principal sources of funding in setting up these laboratories. By 1967, considerable progress had been made at the Pacific installation, so that it was considered fully operational considerably in advance of the time schedule that we had anticipated. This laboratory was immediately put to use, and the type of research conducted necessitates a 24-hour attendance to insure that nothing goes wrong with the aquarium equipment or the other facilities that we need to keep study animals alive. The interruption of this equipment for a very short period of time might actually destroy months of scientific research.

Funds were diverted, therefore, to permit the employment of part-time staff, and to meet the necessary utility, communications, and related expenses essential to continued operation of the laboratory.

RESEARCH AND SERVICES

Chairman HAYDEN. For the fiscal year 1968 you are requesting an additional \$78,000, most of which is for employment of seven additional personnel. Would you indicate to the committee specifically what you plan to do in addition to the work which you now carry on?

Dr. RIPLEY. Yes, sir, Mr. Chairman. The Smithsonian Tropical Research Institute needs an increase of \$78,000 to meet the rapidly increasing number of demands for research and services, and to expand its research to cover important aspects of the tropics that are now not under study. Beginning in November 1966, the Inter-oceanic Canal Commission and its principal contractors, Atomic Energy Commission and the Battelle Memorial Institute, have been requiring increased assistance and expanded scientific support services from the Smithsonian Tropical Research Institute to implement the feasibility study for the proposed sea level canal, as ordered by the President of the United States.

MARINE PLANTS AND ANIMAL SURVEY

The addition of a biologist, who will be a specialist in the marine sciences, will enable the Smithsonian Tropical Research Institute to initiate a survey of both the distribution and the kinds of marine plants and animals that are presently at both sides of the Isthmus of Panama, and within a wide radius of the present site of the Panama Canal. This survey will provide fundamental base line information to assess any changes that may occur in both the commercially important or sports-fishery-important organisms that might be attributable either to nuclear explosions that are being considered as a basis for excavating the new canal, or resulting from a free exchange of waters that would occur if and when the new sea level canal comes into existence.

BIOLOGISTS EDUCATION AND TRAINING

In addition, the Smithsonian Tropical Research Institute has received a substantial increase in requests from such organizations as the Organization of Tropical Studies, as well as from universities in the United States and elsewhere in the Americas, to aid in the education and training of undergraduate biologists from the United States and throughout the Americas.

PLANT AND ANIMAL BEHAVIORAL STUDY

For example, as we have noted, scientific investigators and student visitors in the fiscal year 1966 increased more than a hundred percent over fiscal year 1965. At the same time, the resident staff of the Smithsonian Tropical Research Institute is being requested to provide additional advice and research services to a number of public and private agencies located both in the Canal Zone and in the Republic of Panama. These increases will necessitate the employment of a botanist, who will aid in carrying out surveys of the plants in the area, and an animal behaviorist to fill the basic gaps in our knowledge of the tropical environment, and to provide the scientific information and assistance that are being required by the other agencies.

ADMINISTRATION

A direct consequence of the rapidly increasing need for advice and scientific information as well as specimens from the Smithsonian Tropical Research Institute has been a consequent increase in administrative responsibilities. This has resulted in a disproportionate increase in the amount of time that the few resident scientists at the Smithsonian Tropical Research Institute must devote to administration and a consequent decrease in the amount of time available for fundamental research.

The addition of an administrative officer and a technician and a secretary will help alleviate this increasingly serious situation.

FIELD AND LABORATORY RESEARCH

And finally, one laborer is required to assist in the conduct of the field and laboratory research.

RADIATION BIOLOGY LABORATORY

COMPUTER SERVICES

Chairman HAYDEN. A part of the increase asked for the Radiation Biology Laboratory is \$10,000 to provide computer services. How much did you expend for this purpose for the Radiation Biology Laboratory in fiscal year 1967?

Dr. RIPLEY. Sir, we expect to spend \$6,000 this year. We rent a small computer at the moment, which is largely for administrative data processing, and as time is available, the Radiation Biology Laboratory has been using time on the machine. But a growing segment of the Laboratory's research requires a larger capacity machine, and for this we will have to obtain the computer services under contract.

Chairman HAYDEN. Does any other Federal agency provide solar radiation information as does the Radiation Biology Laboratory?

Dr. RIPLEY. No, sir; this Laboratory's research—measurement of spectral quality of solar radiation every day of the year, and its maintenance of calibration standards for worldwide use—is unique.

OFFICE OF ECOLOGY

Chairman HAYDEN. How long has the Office of Ecology been established in the Smithsonian Institution?

Dr. RIPLEY. The science of ecology goes back to the beginnings of the Smithsonian. It is only that we have recently formulated the Office of Ecology as an evocation of what we have been doing since our earlier times.

Chairman HAYDEN. Would you please explain why an increase in the personnel and activities of this Office is desirable in fiscal year 1968?

Dr. RIPLEY. We request an increase in the area of ecology of five positions, and \$42,000. We now have five positions and \$118,000, which has been previously budgeted under the Museum of Natural History.

I believe that we have a pressing need for continuing to develop the interrelationships between the people who are working in this

office and the rest of the museum, and our laboratories. We operate, as you know, the Chesapeake Bay Center for Field Biology, at which studies are to be undertaken jointly with Johns Hopkins University and the University of Maryland. We are planning to make the fullest possible use of the Center. This is the finest natural laboratory available for any agency or university near Washington. We hope that the National Institutes of Health and other agencies will gradually develop an interest in this area. In order to prosecute the work and the running of this Center, for the benefit of our own scientists and outside scientists, we feel we need this small addition.

ECOLOGY STUDIES IN CEYLON USING EXCESS FOREIGN CURRENCY

Chairman HAYDEN. On page B-55 of your justifications you indicate that excess foreign currencies are to be used in Ceylon. I assume that this foreign currency is provided with the funds appropriated under the "Museum programs and related research activity."

Dr. RIPLEY. Yes, sir; all four of them will be salaried from the Smithsonian Institution, using a combination of private grant funds we anticipate from the World Wildlife Fund and excess foreign currencies.

This project is on-going now. Two of the scientists are in the field in Ceylon. We have had word from the Ambassador in Ceylon that he is very pleased that the project is finally off the ground, and I think it is going to be quite a distinguished project by the time it is finished.

Chairman HAYDEN. Off the record.
(Discussion off the record.)

OFFICE OF OCEANOGRAPHY AND LIMNOLOGY

PERSONNEL REQUEST

Senator BARTLETT (presiding). For the Office of Oceanography and Limnology you are asking an increase of \$121,000 for the sorting center. How many sorters do you employ now and how many more will be provided if the full amount of your budget estimate is allowed?

Dr. RIPLEY. Senator, we have 10 sorters on the staff now. The total staff of the sorting center is 18, and we hope that if the 1968 request is approved, we will undertake a training program in order to build the staff to 35, including 21 sorters. I may say that staff increase is directly in response to the tremendous volume of work which we receive from all over the world and from Government supported oceanographic expeditions. The request has been scaled down in response to budgetary stringency, while attempting to service the President's Commission on Marine Sciences' request.

Senator BARTLETT. Off the record.
(Discussion off the record.)

COORDINATION WITH GOVERNMENT PROGRAMS

Senator BARTLETT. Mr. Ripley, in regard to the Institution's work on oceanography, how closely is it coordinated with the many similar activities being taken by many departments of Government?

Dr. RIPLEY. Sir, I sit as an observer on the President's Council on Marine Sciences. Dr. Galler and Dr. Wallen, who is the head of our oceanographic program, are closely associated with me, and I believe that we are very closely coordinated with other programs. In fact, the Smithsonian is one of the benchmarks of this entire business. Small as we are, and relatively small as our budget is for these marine sciences, it is absolutely basic to the success of the entire program.

Senator BARTLETT. Have you discovered any duplication of effort on the part of the Federal Government in this activity?

DUPLICATION OF EFFORTS

Dr. RIPLEY. I have not discovered any duplication of efforts in the areas in which I am concerned, because, in fact, we are the only ones that are doing it. It is as simple as that.

OCEANOGRAPHY STUDY EXPANSION

Senator BARTLETT. All of us who are interested in this subject, and I have a very deep interest, were pleased to note that the President in a special message to Congress just a few days ago called for a greater national effort in this entire field of oceanography. I heartily applauded that, because I think that we need to do more, and need to do it soon, and need to do it in a more massive way than we have embarked upon as yet.

Dr. RIPLEY. You will note that in the President's message and in the reports providing the fundamental basic material that went into the President's message, as well as in the reports of the President's Science Advisory Committee and others, the Smithsonian has been urged to expand its efforts in this area, in a way which we cannot afford to do. Our total budget is so relatively small that we could not make these great leaps forward which other groups would like us to make.

Senator BARTLETT. Well, if this great leap forward were to be attempted, if you had sufficient money to seek to do this, are there enough competent people available?

Dr. RIPLEY. Part of the increase that we would have to get would be for a training program to make these people available. And I do believe, sir, that this would greatly speed up the process of getting such people.

Senator BARTLETT. There just are not enough now?

Dr. RIPLEY. There are not enough now. We have had to establish our own professional resources from all over the world, from 28 countries, of some approximately 200 specialists, to help us identify the organisms in the sea.

BUILDINGS, OPERATION AND MAINTENANCE

Senator BARTLETT. For your buildings management department, you are proposing an increase of \$530,000 over the \$6,740,000 available to you this year. Would you please discuss in detail the need for this increase?

Dr. RIPLEY. Mr. Bradley?

Mr. BRADLEY. Mr. Chairman, the need is directly related to the operation, protection, and maintenance of additional building floor area. The Smithsonian is somewhat unique from the rest of the Government in that we operate our own buildings. Such services normally are provided by the General Services Administration to other organizations. However, in our budget now before you about 30 percent of the total request is for the operation of buildings.

The Smithsonian now has in operation something over 3 million square feet—it is 3,185,000 square feet of floor area, in 11 separate buildings. We have to offer for the record, tabulations showing the floor area by building, the part devoted to exhibition for public use, the part for scientific laboratories, and so forth. We also have here, if you are interested Mr. Chairman, an historical record of the addition of the various areas in buildings of the Smithsonian, running to the total of over 3 million square feet.

We also have an evaluation that we asked to be made of our budget for one of the largest buildings, the Museum of History and Technology. In some detail, we went over that budget with the Public Buildings Service in order to appraise the adequacy and the reasonableness of this request.

I am glad to report to you that we found agreement with these people who do operate buildings, although they were not familiar with museum buildings and the special problem of 5 million people coming in and out. The appraisers were highly knowledgeable on building operations and represented the nearest thing we could get, we felt, to a reasonably knowledgeable appraisal of what we were proposing to submit to you. I can report that it worked out very well, and we are in reasonable agreement.

Senator BARTLETT. Those tables will be accepted, by the way. Thank you sir.

(The tables follow:)

SMITHSONIAN INSTITUTION BUILDINGS ¹

Buildings Management Department

Name of building	Gross square feet	Net square feet	Exhibit area	Science or laboratory area	Storage area
1. Museum of History and Technology	753,667	518,818	301,405	10,000	70,000
2. Museum of Natural History	1,220,581	896,034	220,027	² 150,000	² 300,000
3. Smithsonian Institution Building	150,388	87,273	11,000	20,000	-----
4. Arts and Industries Building	162,897	143,488	103,195	-----	-----
5. Fine Arts and Portrait Galleries	374,125	225,530	⁴ 48,202	-----	12,000
			⁵ 49,960	-----	-----
6. Smithsonian Gallery of American Arts, Crafts, and Design	38,000	(³)	(³)	-----	3,000
7. All other (Air and Space, Freer, 24th St., Oceanographic Sorting Center, Silver Hill, Lamont St., and 2 temporary sheds)	485,210	472,398	46,146	42,000	255,000
Total	3,184,868	2,343,541	779,935	222,000	640,000

¹ Excludes National Gallery of Art.

² Approximate.

³ Not available.

⁴ National Portrait Gallery.

⁵ National Collection of Fine Arts.

Buildings Management Department, fiscal year 1968

	Positions	Man-years
BUILDING		
Museum of History and Technology	242	230
Museum of Natural History	266	253
Fine Arts and Portrait Galleries	91	45
Smithsonian Institution	48	46
Art and Industries	72	68
All other	90	86
Total	809	728
ACTIVITY		
Guards	282	254
Mechanics	206	185
Laborers	286	257
Supervisory-clerical	35	32
Total	809	728

Summary of construction appropriations and increases in gross floor areas

Fiscal year	Construction appropriation	Gross floor area added (square feet)	Total floor area (square feet)
1956	\$2,288,000		1,425,665
1957	33,712,000		1,425,665
1958	800,000		1,425,665
1959			1,425,665
1960			1,425,665
1961	13,500,000	43,705	1,469,370
1962	4,836,000	753,667	2,223,037
1963	1,275,000		2,223,037
1964	7,251,000	259,903	2,482,940
1965	3,889,000	259,903	2,742,843
1966	3,787,000	29,900	2,772,743
1967	3,889,000	374,125	3,146,868
Subtotal	75,227,000	1,721,203	3,146,868
1968	2,641,000	38,000	3,184,868
1969	33,171,000	30,000	3,214,868
1970	49,315,000	365,000	3,579,868
1971	18,060,000		3,579,868
1972	7,100,000	1,231,833	4,811,701
Subtotal	110,287,000	1,664,833	
Total	185,514,000	3,386,036	4,811,701

NOTE.—1968 thru 1972 are estimates. 1,721,203 square feet or 55 percent of all Smithsonian building space was opened from 1961 to 1967.

LEVELS OF MAINTENANCE, OPERATION, AND PROTECTION

Senator BARTLETT. In the table preceding page B-61 of your justifications, it is stated that the additional personnel are needed "to provide maximum acceptable levels of maintenance, operation, and protection," and on page B-62, in discussing the 86 additional positions asked for, the statement is made that they are "required to approach acceptable levels of performance in the maintenance, operation, and protection * * *"

What level will be achieved if the full amount of this increase is allowed?

Mr. BRADLEY. Mr. Chairman, the level of acceptability is our objective. This simply means that the buildings will be well maintained

structurally, will be clean, well guarded, that the collections will be under surveillance, and that the large crowds will be kept orderly.

BUILDINGS OPENINGS

The net result of this budget is that the total amount of money that we will spend per square foot is \$2.27 square foot. I submit that the level of maintenance is directly related to the requirements that we have. We are open 364 days a year, every day but Christmas, and many of our buildings are open at night during the five warm months of the year. We have a guarding requirement which requires almost five men, technically 4.85 men, in order to put a guard on a single post for around-the-clock guarding for the whole year. This is because these people work five shifts per week with time-off for vacation and sick leave. We have to be open 21 shifts in the course of a week. This, of course, runs up the cost of operating these buildings. What we are trying to do here is to present clean, welcome, fresh buildings with good exhibits to the millions of visitors that we have each year.

GUARD SALARY AND RECRUITMENT

Senator BARTLETT. What is the starting salary for a guard?

Mr. BRADLEY. A guard comes in, Mr. Chairman, at just over \$4,000 a year—GS-3, \$4,269 a year.

Senator BARTLETT. Do you have trouble recruiting?

Mr. BRADLEY. We surely do, sir.

Senator BARTLETT. I should think so, at that figure.

OFFICE OF EDUCATION AND TRAINING

1967 APPROPRIATION AND 1968 BUDGET REQUEST

Your justifications indicate that the programs of the Office of Education and Training fall into two broad categories. Would you indicate the nature of these categories and provide information as to the funding in fiscal year 1967, and the increase requested in fiscal year 1968 for each of these programs?

Dr. RIPLEY. Thank you, Mr. Chairman.

The first category includes graduate level, postdoctoral, and short-term consultants in research. We are requesting no increase in 1968 for this category. This stands at \$168,000 in 1967, and we intend to continue it at this level in 1968. The second category, museum services for public education, is of great concern to us. This effort stood at \$32,000 in 1967, but we must increase this in a major way if we are to accommodate the greatly increasing volume and demand of requests from the public and from the schools.

INCREASED VISITATIONS TO MUSEUMS

Under the Education Act, use of museums is being increased all over the country by schools and school classes. We have no comparable way of meeting this increased use, because we cannot go to the Office of Education and ask for equivalent funds. We have to come directly to the Congress, and ask for some service funds which will

allow us to meet the needs of the schools who are now asking for the first time for these services. This is essentially the reason for our request.

EXPERIMENTAL MUSEUM

Senator BARTLETT. Apparently one of the activities planned for next year is an experimental Store Front Museum. Would you please tell the committee just what this will be, and indicate when it is to be established and how much you expect it to cost?

Dr. RIPLEY. We expect to finance this essentially through private funds. We have received a grant of \$25,000 from the Carnegie Corp. toward this activity. This is an experimental concept which I feel we have the local conditions, and the local know-how to attempt to undertake.

The purpose of this would be to rent a space, perhaps a store, in some rather run-down neighborhood in part of Washington, where the people have little likelihood of ever coming to our museums, and to attempt to develop in this sample museum a combination of exhibits which would excite and interest their curiosity, and which would allow them to have some personal involvement.

One of my great interests in being associated with museums is the problem of the arousal of interest in people in anything at all. Few of us understand, perhaps, how it was that we did begin as individuals to be interested in things, or concerned with them, and I feel that we should do more experimenting with understanding in museums. They have rather open, nondidactic methods of displaying interesting objects and talking about them. They are not imposing their will on the potential pupil the way a teacher is. There are no tests, no weekly quizzes, no comeback. It is just a thing that is there, and if the person is interested, he becomes interested of his own volition.

This is to me the most secure method of becoming interested in anything at all, by your own volition. I feel that the fact that museums exist, and the fact that we are working in them, gives us an unparalleled opportunity to test some of these suppositions and attempt to find out why people are interested.

I would like to work in an area where there are people who are deprived of coming to museums for a variety of reasons. One reason is that many of these people don't move out of their particular neighborhoods for long periods of their life. We should bring the museum to them, in the same way that a bookmobile, for example, brings books to a neighborhood.

Senator BARTLETT. How much do you think this will cost?

Dr. RIPLEY. As I say, we expect that it won't cost more than about \$30,000, and we have already received a grant of \$25,000.

Senator BARTLETT. You have received the \$25,000?

Dr. RIPLEY. Yes.

INTERNATIONAL ACTIVITIES

1967 APPROPRIATION AND 1968 BUDGET REQUEST

Senator BARTLETT. For international activities, you propose an appropriation in fiscal year 1968 of \$251,000, \$45,000 more than the amount available to you during the current fiscal year. Of this in-

crease, \$15,000 is for the International Exchange Service. Would you explain what this is and furnish some examples of your activities?

PERSONNEL REQUEST

Dr. RIPLEY. Sir, this is for an additional freight clerk to handle the increased volume of shipping; \$10,000 additionally to cover rising transportation costs; and \$1,000 for packing and shipping supplies.

The Smithsonian traditionally, since the early years of its history, has been responsible for forwarding publications to governmental and private organizations overseas, including reading materials now for the Peace Corps volunteers, textbooks for use in their school programs, law, medical, and dental journals requested by Ministers of Justice and universities in the developing countries.

In return, we receive publications from foreign countries for distribution to scientific and educational organizations in the United States.

Many universities as well as Government agencies use these services, and it is one of our fundamental responsibilities and has been so for over a hundred years.

ACCELERATED SPECIAL FOREIGN CURRENCY PROGRAM

Senator BARTLETT. The remaining \$30,000 of your proposed increase is for an accelerated special foreign currency program and for conduct of cooperative programs with other Federal agencies. Would you please explain the requirement for such an increase?

Dr. RIPLEY. May I introduce the Director of our Office of International Activities, Mr. Chairman? Perhaps you would like to answer that, Mr. Warner.

Mr. WARNER. Mr. Senator, we have requested an increase of two administrative assistants, one secretary, and one clerk-typist, mainly to manage successfully the foreign currency program at the scope that we requested for fiscal year 1968. We ourselves, within the Office of International Activities, do all the front running, as it were, for the universities and museums receiving grants under the program. We tell them what kind of expenses are allowable under the program and we frequently help them in finding appropriate host country institutions with whom they will work overseas. In some of these excess currency countries, the host governments demand a full exchange of diplomatic notes and a program agreement before any Smithsonian-supported project can get into the field.

It is a complex administrative responsibility, and we feel that we would need the increased positions in order to successfully manage a foreign currency program of the level we have requested.

Senator BARTLETT. Thank you.

EQUAL EMPLOYMENT OPPORTUNITY PROGRAM STAFF

How many personnel are there on your staff, Mr. Ripley, now dealing with the equal employment opportunity program; and what is the need for another equal employment opportunity officer?

Dr. RIPLEY. Mr. Bradley, would you care to answer that?

MR. BRADLEY. Mr. Chairman, at present the Assistant General Counsel serves as our equal employment officer in his spare time, of which he has practically none, and we back him up with the man who is in charge of the International Exchange Service, who happens to have had experience in this field also. Because of the evident interest in the equal employment opportunity program, and because the two gentlemen who are serving are being increasingly diverted from their principal responsibilities, we would like very much, if we could, to put on a man and have him in charge of an affirmative equal opportunity program.

Senator BARTLETT. He would be full time?

Mr. BRADLEY. Yes, sir.

Senator BARTLETT. And how many secretaries would he have?

Mr. BRADLEY. We haven't provided a secretary for him. We would have to double up for a while.

PLANNING FOR AMERICAN REVOLUTION BICENTENNIAL CELEBRATION

Senator BARTLETT. How many people do you now have working on the American Revolution Bicentennial celebration?

Dr. RIPLEY. Mr. Chairman, we have no full-time people working on the American Revolution Bicentennial, but it has become quite obvious in the past year that the Smithsonian will be heavily involved in this celebration.

Not only does the Federal Council on the Arts and Humanities, on which I sit, call for preparing plans for the observance of the bicentennial or similar great national holidays, which are observances which I assume are equivalent to this, but also there is a special American Revolution Bicentennial Commission.

I sometimes think that, to paraphrase the National Park Service, the Smithsonian is going to have to embark on a "Mission 76." We have at the present time a number of curators, six of them, and a number of exhibits people, four of them, who have been putting in time, during the past year, on the exhibition in connection with the Stamp Act, and on the Bill of Rights. A third exhibition is opening in the summer of 1967 on the Townsend Act.

We are requesting \$25,000 under the Museum of History and Technology to develop plans to commemorate this period. We hope that our curators will be able to study particular locations in which to survey historic collections, and to arrange for loans, and to evaluate collections.

Also, we hope to take on various historians, some of them perhaps members now, in various capacities, of the Bicentennial Commission, to assist us in research effort which will culminate in publications and plans for exhibits.

I feel it is not too early, at this time, to begin preparing for what is obviously going to be a major effort for the Smithsonian, a few years hence, and we are continually being requested already by letters from Members of Congress for information on plans that we are making and laying for these observances.

Senator BARTLETT. If you do eventually feel the necessity to follow the lead of the National Park Service, I am sure the Smithsonian

will emerge with words that are more imaginative, descriptive, and glorious than the National Park Service adopted.

MANAGEMENT SUPPORT

In connection with your management support budget, what particular activities make additional travel essential?

Mr. RIPLEY. We request additional travel funds, sir, to make official trips to permit us to maintain close review and management of our installations outside the District. These are principally Cambridge, Mass., where the Astrophysical Observatory is located; its station, in Arizona; the River Basin Survey, Lincoln, Nebr.; and Barro Colorado Island in the Canal Zone. Some travel will increase in regard to New York City and Connecticut, where the Hirshhorn collection is presently located. This will gradually have to be moved down in segments. We are in touch, under our Collection of Fine Arts, with the Cooper Union Museum and numerous other museums throughout the country.

Our satellite tracking locations are located in eight foreign countries, and our foreign currency programs are also presently worldwide.

We have to have appropriate travel, where directed by me, and which is essential for these administrative functions.

We have requested in 1968 a total of 29 administrative employees, and for the increased management support staff that provides services throughout the Institution we have asked for an increase of \$6,000 for travel funds.

Also, certain service activities have travel budgeted under this central source, including our Fiscal Division, Supply Division, Photographic Services, and the Museum Services. We are asking that the "no-increase" policy on 1967 be removed in 1968, and that we have an increase commensurate with the increase in the number of employees who are required to travel. It is actually up now 30 percent compared to before.

Senator BARTLETT. If this——

Dr. RIPLEY. Compared to fiscal year 1966.

Senator BARTLETT. Yes. If this additional money you have requested is allowed, what will be the total travel budget for the next fiscal year?

Dr. RIPLEY. Sir, I know that the average cost of travel per employee at Smithsonian is below the costs of similar agencies of the Government.

Mr. Bradley, perhaps, can give me the total figure.

Mr. BRADLEY. Mr. Chairman, the total for the Institution will be \$322,000, if this increase is granted.

Senator BARTLETT. Off the record.

(Discussion off the record.)

OFFICE OF THE GENERAL COUNSEL

PERSONNEL REQUEST

Senator BARTLETT. What has increased the complexity, or the volume of legal matters which makes an additional attorney necessary?

Dr. RIPLEY. Perhaps Mr. Bradley would like to speak to that.

Mr. BRADLEY. Mr. Chairman, I think that the best answer, the quickest answer is indicated on a chart here where it shows that the Smithsonian Institution through the generosity of this committee and the Congress has had a steady increase. These dollars, of course, are converted into programs, and those in turn get us into legal situations. We have had—

Senator BARTLETT. I thought you were going to say "difficulty."

Mr. BRADLEY. Difficulty. Then, too, our present complement of two attorneys, really, is not a large staff. The two attorneys that we have are concerned not only with matters of governmental function, but also with the gifts and bequests, wills, property acquisitions, and disposals, grants, and our foreign activities. In respect to foreign activities, the proper procedures to place out this \$2 million that we have this year, and possibly \$6 million that we may have next year, require legal activity. This requested position is related to the known workload in this office, and I can confidently say to you, sir, that they are somewhat overworked.

Senator BARTLETT. How many do you seek to add?

Mr. BRADLEY. One, sir.

Senator BARTLETT. At what salary?

Mr. BRADLEY. He should be about a grade 14, that is about at a salary of the same number of dollars, about \$15,000.

INTERAGENCY BOARD OF EXPERT EXAMINERS

Senator BARTLETT. How much did the Smithsonian Institution contribute for operation of the Interagency Board of Expert Examiners under the Civil Service Commission in 1967?

Dr. RIPLEY. Mr. Bradley, would you have the detailed answer to that?

Mr. BRADLEY. We are contributing \$16,800 as our share of operating this program in fiscal year 1967, and the same amount is planned in 1968.

Senator BARTLETT. You are not asking for \$16,000 boost in fiscal year 1968, then?

Mr. BRADLEY. We are asking for the increase in fiscal year 1968. We are doing what is called "absorbing" in 1967.

Senator BARTLETT. And you want to end that practice?

Mr. BRADLEY. We would like to, sir.

OFFICE OF PUBLIC INFORMATION

PERSONNEL REQUESTS

Senator BARTLETT. Are the Director for the office of Public Information and a Chief of Film and Broadcasting new positions?

Dr. RIPLEY. Yes, sir.

Senator BARTLETT. I note that you are requesting \$25,000 to meet the costs of these positions and the personnel benefits attached to them.

Dr. RIPLEY. Yes, sir; these are the only positions in this area that we are requesting this year. We feel that the Office of Public Information is far more than perhaps what it might appear to be, or is in some Government agencies, on the surface. This is related to the problem that I mentioned earlier—the question of understanding interests. We want the Office of Public Information head to be someone who will survey our total problem of relating and communicating our programs to people, to the public.

As you know, we have many millions of visitors every year, Senator, and I am concerned that we are not testing and sampling and working with these people adequately to attempt to find out what brings them to the Smithsonian, and what kind of concerns they particularly have and answers that they are receiving.

Senator BARTLETT. You now have an Office of Public Information?

Dr. RIPLEY. Yes, we have a small office which essentially consists of an outgrowth of our past Editorial and Publications Division.

Senator BARTLETT. But no one heads it up, with the title?

Dr. RIPLEY. Mr. Berg, title?

Mr. BRADLEY. Sir, we have had a director. He just left, the first of the month, but we now have an acting director, of course.

Dr. RIPLEY. For public information.

Mr. BRADLEY. Yes, Director of Public Information.

DIAL-A-MUSEUM SERVICE

Senator BARTLETT. What is the Dial-A-Museum service, and what is its expected annual cost?

Dr. RIPLEY. The average cost of the Dial-A-Museum service is estimated to be \$300 a year. By dialing this particular number, 737-8811, it is possible to get the latest information, revised daily, on what is being shown in the museums, where it is being shown, and how long it will be on display. This recorded report is prepared each day. It has been working since November 1966, and it averages about a hundred calls daily.

DIAL-A-SATELLITE PROGRAM

We also have a Dial-A-Satellite program, which costs us \$672 a year, and by dialing 737-8855 you can get the precise time and the exact locations of satellite passages which are visible to the naked eye, and other astronomical data.

This averages about 500 calls a day. It is an up-to-date report, which is prepared daily by the Astrophysical Observatory. It has been amazingly popular.

Senator BARTLETT. Today, there will be 101 calls on the first, and 501 on the second.

Dr. RIPLEY. Thank you, Senator.

PHOTOGRAPHIC SERVICES DIVISION

Senator BARTLETT. Does your Photographic Services Division provide photographic services for any but the Smithsonian Institution? If so, are the outside agencies charged for this work?

Dr. RIPLEY. Sir, essentially our work is internal, and concerned with activities of the Smithsonian. However, services are occasionally rendered to other activities, and to persons and agencies outside the Smithsonian.

This is primarily for work undertaken through grants and contracts from other Federal agencies, so in that sense, it is Smithsonian-oriented and Smithsonian-directed. In these instances, the costs of the supplies, materials, labor, and outside photographic work are borne under the grants and the research contracts.

Very rarely, because of the uniqueness of some item found in the Smithsonian, we get requests for a photograph from an organization outside the Institution. As a regular policy of our agency, some photographs are provided free of charge to such agencies or persons in return for specimens, rare articles, or other materials given to the Institution. In some cases, a photograph of an item donated or transferred may be the sole request of the donor. If they give us a rare object, they may say they would like a photograph of it, and we will perform this free for them.

Where any such costs are significant, and are incurred in connection with furnishing photographic services and materials to an outside agency, and we have little obligation, we will make a charge for such services rendered.

In general, we do get requests from the public and these are subject to a modest charge which we put on a cost recovery basis.

MUSEUM PROGRAMS AND RELATED RESEARCH

Senator BARTLETT. For fiscal year 1968, there is a request for an appropriation of \$6,100,000 for museum programs and related research to be met through the special foreign currency program. This is an increase of \$3,784,000 over the amount appropriated last year.

The justification for this estimate will be placed in the record.

(The justification follows:)

MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM)

1966 appropriation.....	\$1, 300, 000
1967 appropriation.....	2, 316, 000
1968 estimate.....	6, 100, 000

An appropriation of \$6,100,000 in foreign currencies, as determined by the Treasury Department to be excess to the needs of the United States, is requested for a grant program for 1968.

There follows an analysis of 1966, 1967 and 1968 programs.

	1966 actual	1967 actual	1968 estimate
Archeological excavation and research.....	\$1, 300, 000	\$1, 300, 000	\$1, 768, 000
Systematic and environmental biology.....		1, 016, 000	3, 553, 000
Museum programs.....			500, 000
Astrophysics.....			130, 000
International exchange of scientific publications.....			17, 000
Program development and administration.....			132, 000
Total.....	1, 300, 000	2, 316, 000	6, 100, 000

ARCHEOLOGICAL EXCAVATION AND RESEARCH

\$1,768,000 is requested for the third year of the Smithsonian's program of grants to American universities, museums or other institutions of higher learning interested in conducting archeological excavation or research in the excess foreign currency countries.

Within this amount, approximately \$939,000 will be required for on-going research or expeditions which in the Institution's view fully merit continuing support. Among some of these projects are:

The Lawrence Radiation Laboratory of the University of California project for X-raying Egyptian pyramids to discover unknown interior chambers. This project, which is jointly funded by the Smithsonian and the Atomic Energy Commission, is not only of great archeological interest in itself, but has also developed new technologies for archeological exploration everywhere.

The University of Missouri-Corning Museum of Glass excavations of ancient Phoenician glass factories along the Israeli coast. Some of the sites have been of such interest that the Government of Israel has converted them into small on-the-spot museums.

The American Academy of Benares, a research center administered by the University of Pennsylvania, which began operations in September of 1965 in a historic palace generously provided by the Hindu University of Benares. The guiding purpose of this new institution is quite clear. The archeology and art history of India are so rich that often the most difficult question is where to begin. The Academy seeks to answer this question by conducting long-range surveys which will document, record and photograph ancient temples and archeological sites throughout India, as a prerequisite to the determination of intelligent research priorities.

Within the total of \$1,768,000 for archeological excavation or research, \$504,390 is requested for the accommodation of new archeological project proposals and \$324,456 for projects in other of the anthropological sciences, especially for ethnographic studies of contemporary peoples which can contribute to our knowledge of man's past. In many cases, these studies must be made on an urgent basis, because there are now many tribes or groups of people around the world whose identity is fast disappearing through acculturation. The Smithsonian considers this last to be one of the Institution's most important responsibilities. In the nineteenth century the Institution early gained a strong reputation for its timely surveys of American Indian tribes in our expanding West; the Smithsonian was then and is still today the prime source of knowledge concerning our Amerindian communities. But now this anthropological "frontier" has moved beyond our West to the developing continents of Africa, Latin America, and Asia, where there are many tribes whose history and culture must be known now, before the opportunity is irretrievably lost.

A listing of on-going projects and new or sample project proposals is found below.

SYSTEMATIC AND ENVIRONMENTAL BIOLOGY

\$3,553,000 is requested for support of systematic or environmental biology projects, nearly all of which will contribute to the objectives of the International Biological Program. This amount, which forms the largest part of the Institution's foreign currency request, may be subdivided as follows:

(1) Direct Support of the International Biological Program, \$60,000

During the past year, the Smithsonian has emerged as a prime contributor to the United States' plans for the International Biological Program (IBP), which is a massive international scientific effort aimed at taking a biological inventory of the earth's natural environments, both marine and terrestrial, in order to determine their productivity for the human populations that must someday inhabit or sensibly exploit them.

Responding to requests of the National Science Foundation, the National Academy of Sciences and the United States National Committee for the IBP, on which the Institution is prominently represented, the Smithsonian employed a small but significant portion of its fiscal year 1967 special foreign currency appropriation to support IBP conferences and preliminary surveys in various of the excess currency countries. Since the plans of the U.S. National Committee and of

the International Secretariat for the IBP are now much more advanced, the Institution would like to continue to make a direct contribution to the IBP through the advantageous medium of excess currencies.

Since much of the research in systematic or environmental biology which the Smithsonian itself and other American institutions wish to conduct in the excess countries will contribute to the goals of the IBP or bear specific IBP endorsement, the sum of \$60,000 is requested for symposia or planning conferences which the United States National Committee for the IBP wishes to hold in the excess countries.

(2) *IBP-Related Research in Systematic and Environmental Biology, \$2,992,100*

The sum of \$2,992,100 would be used for research projects in systematic and environmental biology contributing to the program objectives of the IBP, approximately two-thirds of which will be carried out by the Institution's own scientific staff, with the remainder reserved for grants to other American institutions.

Approximately 23 percent of this amount is needed to continue multi-year projects initiated in Fiscal Year 1967. Some noteworthy examples include:

An oceanographic sorting facility established with the cooperation of the Tunisian Institute of Oceanography and Fisheries at Salambo, Tunisia, which the American Embassy in Tunis characterized as one of the most worthwhile new uses of Tunisian currencies proposed during Fiscal Year 1967. This sorting facility has advanced the Smithsonian Oceanographic Sorting Center's general task of identification of marine organisms and serves also as the collection and identification center for special projects in the marine biology of the Mediterranean.

A multi-national research project concerning biological interchange of marine organisms between the Mediterranean and Red Seas, Smithsonian-administered, utilizes the above facility and involves collaborating institutions in Israel, Egypt and Yugoslavia. This project is of inherent basic scientific interest because of the problems caused by migration of species between the two seas, which are as yet imperfectly understood; it also has applied significance in explaining changes in commercially valuable species in the Eastern Mediterranean and as a model or prototype investigation for the biological interchange that will occur with the construction of a sea-level canal across the Isthmus of Central America.

A Johns Hopkins University study of the small mammals of Bengal, India, an investigation that combines basic and applied research through the identification of rodents, as well as their ecto- and endo-parasites, which can seriously affect public health in India.

The increase in this part of the program will be required for such new projects as the establishment of another oceanographic sorting facility in India or Ceylon, coral reef research in India, and a stepped-up program of individual grants to Smithsonian scientists for enlarging the National Collections in entomology, botany and zoology, which will assist the biological inventories planned by the IBP.

(3) *Smithsonian Contribution to the National Science Foundation's Translation Program, \$500,900*

In addition, part of the requested increase would be used to accelerate the translation of vital foreign reference works in systematic biology, through the National Science Foundation's (NSF) translation program. Under the existing system, the Smithsonian annually receives an average of 3,000 pages of translation of foreign scientific works without charge, as its quota in NSF's interagency service program. However, at this rate of support, the Institution simply cannot receive in time the necessary foreign monographs which will permit it to make much needed comparative studies of materials in its own growing collections. For example, the Museum of Natural History's Department of Botany and the American botanical community in general urgently need a translated edition of the recently completed 30 volume *Flora of the USSR*, but will not receive it under the present allocation rate until sometime after 1990. This one reference set is indispensable to the plans now under way to write a long overdue revised *Flora of North America*. There are many other similarly urgent needs for translation of foreign taxonomic literature; all of them must be met at a faster pace because the IBP's "global biological inventory" cannot be completed without such basic reference works.

It is therefore proposed that the Smithsonian transfer \$500,900 of its foreign currency appropriation to the National Science Foundation, to permit the Foundation to respond more adequately to the Institution's translation needs. Similar foreign currency transfers for accelerated translation have already been made by the Departments of Commerce; Interior; Labor; and Health, Education and Welfare.

MUSEUM PROGRAMS

\$500,000 is requested to support and expand cooperative programs of the United States National Museum with other museums and their professional organizations in the United States and abroad. The Institution seeks to carry out a major part of its international museum programs with excess foreign currencies, rather than dollars. The funds requested would be used to provide training courses and conferences for museum professionals in five of the excess currency countries, for advisory services of American museum professionals as requested by foreign museums, and for the production of model science-teaching exhibits in India, Egypt, and Israel under a plan submitted by the UNESCO-affiliated International Council of Museums (ICOM).

ASTROPHYSICS

\$130,000 is requested to permit the Smithsonian Astrophysical Observatory (SAO) to establish a satellite geodesy observing station in Poland; to provide for international travel of staff members of the SAO's existing tracking station in Naini Tal, India, to conduct gamma-ray balloon experiments in India; and for theoretical studies in celestial mechanics in Egypt.

Preliminary negotiations with appropriate institutions in Poland have already indicated a high degree of host country receptivity and cooperation for the establishment of geodetic stations. The station would employ local crews, with perhaps one resident Smithsonian scientist or periodic visits by a supervising Smithsonian scientist. They would be under the administration and scientific supervision of the SAO's Central Bureau for Geodesy, a responsibility recently given the Astrophysical Observatory by the International Association of Geodesy in recognition of the SAO's clearing-house function in the assemblage of international geodetic data. Such supervision would automatically connect the stations to an international network, for the benefit of the host countries, the SAO's own research programs and the international scientific community.

A relatively small part of the amount requested, not in excess of \$10,000, would be required to meet the international travel of permanently assigned Indian personnel of the SAO's existing tracking station in India. For some years the cooperating agency in India, which is the Uttar Pradesh State Observatory, has requested more advanced training in observational astronomy for the Indian technicians it has assigned to the station through visits to SAO facilities in this country. It will be very much to the future benefit of the Naini Tal station to meet this modest request.

The Smithsonian has pioneered the study of gamma-rays with spark chambers flown from high altitude balloons. Such studies are among the first ever made of this neglected portion of the electro-magnetic spectrum. They reveal phenomena, in effect, of a new color and at distances never before visible. Initial studies which have been gratifyingly successful, should contribute to our understanding of the origin of the universe through detection of anti-matter, the origin of cosmic rays and the density of cosmic radiation. Initiation of collaboration with the Tata Institute of Fundamental Research in Bombay, India, advantageously funded with excess foreign currencies, would combine the talents of two of the principal contributors to this field of study. The Tata Institute is pre-eminent among Asian research institutions and is located close to the magnetic equator where high altitude balloon studies are assured the best results.

With a contribution of about \$20,000 it is proposed to support studies in Egypt in celestial mechanics and artificial satellite theory employing computer techniques. The Smithsonian has made basic contributions to the theory of artificial satellites around the earth. These studies would extend collaboration with Egyptian scientists already begun at the Astrophysical Observatory in Cambridge.

INTERNATIONAL EXCHANGE OF SCIENTIFIC PUBLICATIONS

\$17,000 is requested to permit the International Exchange Service (IES) to effect economies in its dollar expenditures for the shipment of publications to various of the excess currency countries and to assist the India Exchange Bureau in achieving more rapid and efficient distribution of IES publications throughout India.

Investigations have revealed that in many cases the American or other flag lines which IES employs for shipment of publications will accept payment in foreign currencies. In the Smithsonian's view, therefore, the President's memorandum of May 21, 1966, to heads of executive departments and agencies urging maximum possible use of excess currencies for transportation, may logically be extended to freight costs. Although the sum requested is small, it will allow the IES to make significant dollar savings.

APPORTIONMENT OF FOREIGN CURRENCIES

Outlined below are the various projects and project proposals which make up the total \$6,100,000 excess foreign currency Fiscal Year 1968 request, divided according to the different program areas described in the narrative justification immediately preceding. Continuing or on-going projects are so identified. New projects are in effect sample or illustrative projects based on firm indications of interest both within and without the Smithsonian. They represent the Institution's selection of possible projects which appear most promising for successful development and implementation during Fiscal Year 1968. It should be noted, however, that actual implementation of these projects will be contingent upon three factors: review by the Smithsonian's outside advisory councils, review by the Department of State for foreign policy implications, and appropriate cooperative arrangements with host country institutions or governmental authorities.

Museum programs and related research (special foreign currency program)

I. ARCHEOLOGICAL EXCAVATION AND RESEARCH

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
A. Ongoing projects:			
1. American Institute of Indian Studies (a nonprofit organization of 24 American colleges and universities).	For continued support of the American Academy of Benares, a research center for South Asian archeology and art history.	1968 ¹ 1967 1966	141,645 130,778 76,850
2. American Research Center in Egypt (a nonprofit study center supported by 10 American universities).	To continue support of the center's research and excavation program in the archeology of Egypt, which includes Pharaonic, Hellenistic, Roman, and early Christian sites.	1968 ¹ 1967 1966	170,000 177,137 259,200
3. Jerusalem School of Archeology of the Hebrew Union College.	To continue the survey and exploration of some 400 archeological sites in the Negev and to conduct seminars in biblical archeology for American graduate students in archeology.	1968 ¹ 1967 1966	200,000 165,750 150,000
4. Peabody Museum of Yale University.	To continue the paleontology and stratigraphy studies of the Paleocene, Eocene, and Oligocene deposits of Egypt, which have resulted in important discoveries relating to human evolution.	1968 ¹ 1967 1966	16,362 31,396 19,310
5. University of Missouri, Corning Museum of Glass.	To continue excavations of Phoenician glass factories in Israel.	1968 ¹ 1967 1966	30,000 ----- 30,200
6. University of Colorado.....	To study prehistoric archeological and paleontologic remains in Tunisia.	1968 ¹ 1967 1966	50,000 62,000 -----
7. Southern Methodist University	To study prehistory of the area around Sibalya, Egypt.	1968 ¹ 1967 1966	30,000 39,800 5,205
8. University Museum, University of Pennsylvania.	To study remaining stones of the Temple of Akhnaten at Luxor, Egypt.	1968 ¹ 1967 1966	78,300 65,070 -----
9. Museum of Anthropology, University of Michigan.	To develop a program for research and training in prehistoric archeology through field excavations on Mount Carmel in Israel.	1968 ¹ 1967 1966	58,091 50,000 -----

See footnote at end of table.

Museum programs and related research (special foreign currency program)—Con.

I. ARCHEOLOGICAL EXCAVATION AND RESEARCH—Continued

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
A. Ongoing projects—Continued			
10. American Museum of Natural History, University of Washington, Seattle.	To study and excavate prehistoric and early historic sites in East and West Pakistan.	{ 1968 ¹ 1967 1966	66,717 52,367 -----
11. Carnegie Museum	To continue the excavation of a Philistine city at Ashdod, Israel.	{ 1968 ¹ 1967 1966	52,105 47,180 50,000
12. Lawrence Radiation Laboratory, University of California, Berkeley.	To continue testing the utilization of cosmic rays to "X-ray" the Egyptian pyramids in search of presently unknown chambers.	{ 1968 ¹ 1967 1966	25,000 21,680 23,320
13. Museum of Anthropology, University of Michigan.	To continue excavations of early Neolithic sites near Cracow, Poland, with the goal of providing the 1st detailed description of early Neolithic cultures in Poland.	{ 1968 ¹ 1967 1966	20,934 20,934 -----
Subtotal, fiscal year 1968, estimate.			939,154
B. New project proposals:			
1. University Museum, University of Pennsylvania.	To survey pre-Buddhist archeological sites in Ceylon for future excavations and comparative studies with prehistoric burial complexes in southern India.	-----	4,390
2. University of Chicago	Anthropological investigations of the Vaisnava tradition in India.	-----	64,456
3. University of California, Los Angeles.	To continue radiocarbon dating of archeological samples in India.	-----	25,000
4. Smithsonian Office of Anthropology.	To study rapidly disappearing crafts at the village level in India, Pakistan, Burma, and Ceylon.	-----	100,000
5. University of Michigan	To conduct research in ancient numismatics in the eastern Mediterranean (Israel).	-----	20,000
6. American Institute of Indian Studies, American Academy of Benares.	To survey and excavate monuments and remains of the Pratihara period, especially at Bhinmal in Rajasthan.	-----	150,000
7. Museum of Natural History, Smithsonian Institution.	To survey and document bronze sculpture of northern India.	-----	30,000
8. Boston University	To survey and document the art history of Tibet on the basis of objects currently being brought to India and Nepal by Tibetan refugees.	-----	50,000
9. Boston University	To survey, identify and test archeological sites in the northern Savannah region of Guinea.	-----	20,000
9. Drew University and McCormick Theological Seminary.	To complete research in Israel on late Hellenistic and early Roman pottery.	-----	40,000
10. Smithsonian Office of Anthropology.	To extend a project, begun in Iran, which will survey and document ancient urban technologies in India, Pakistan, and Ceylon.	-----	160,000
11. Peabody Museum of Yale University.	To excavate the Oligocene and Miocene deposits of the Siwalik Hills of northern India to enlarge knowledge of man's primate ancestry.	-----	50,000
12. Peabody Museum of Yale University.	To conduct excavations related to item above in the Oligocene-Miocene deposits of the Pondaung region of Burma.	-----	50,000
13. University Museum, University of Pennsylvania.	To survey and excavate early neolithic sites in Yugoslavia, believed to contain important evidence on the origin and early production of food crops.	-----	65,000
Subtotal			828,846
Total, archeological excavation and research.			1,768,000

See footnote at end of table.

Museum programs and related research (special foreign currency program)—Con.

II. SYSTEMATIC AND ENVIRONMENTAL BIOLOGY

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
(1) DIRECT SUPPORT TO THE INTERNATIONAL BIOLOGICAL PROGRAM			
1. National Academy of Sciences-U.S. National Committee for the IBP.	A conference in Israel sponsored by the Human Adaptability and Environmental Physiology Sections of the U.S. National Committee for the IBP, to discuss the adaptability of man, plants, and animals to the changing environment, especially as regards the effects of pollutants and temperature pressures.	-----	35,000
2. National Academy of Sciences-National Research Council.	A conference in Tunisia to develop the 1st regional conservation program of the Terrestrial Conservation Section of the IBP utilizing the Mediterranean area as a prototype for future conservation programs.	-----	25,000
Subtotal	-----	-----	60,000
(2) IBP-RELATED RESEARCH IN SYSTEMATIC AND ENVIRONMENTAL BIOLOGY			
A. Ongoing projects:			
1. Smithsonian Institution, Museum of Natural History, Department of Vertebrate Zoology.	To complete research and partially support publication of a handbook of Indian birds.	1968 ¹ 1967 1966	5,000 3,334 -----
2. Smithsonian Institution, Radiation Biology Laboratory.	To continue support of a radiation biology laboratory in Israel, especially for the development of additional recording systems for transfer to other latitudes for comparative solar radiation analyses.	1968 ¹ 1967 1966	218,900 109,462 -----
3. Smithsonian Institution, Museum of Natural History, Department of Entomology.	To support behavioral investigations of insects in Egypt, particularly wasps, and to obtain examples of insects and plants of Egypt for the botanical and entomological exhibits in the Museum of Natural History.	1968 ¹ 1967 1966	5,100 5,100 -----
4. Smithsonian Institution, Museum of Natural History, Department of Invertebrate Zoology.	To study the ecology and physiology of benthic marine organisms in the Adriatic Sea, utilizing newly developed equipment to measure and permanently record physical factors in the marine littoral zone, in collaboration with marine biological research institutions in Rovinj, Split, and Dubrovnik, Yugoslavia.	1968 ¹ 1967 1966	18,200 24,858 -----
5. Smithsonian Institution, Office of Ecology.	To study the Ceylonese elephant through an analysis of seasonal and daily movements and the behavioral patterns-ecological requirements for maintaining breeding populations in preserved areas.	1968 ¹ 1967 1966	25,800 24,000 -----
6. Smithsonian Institution, Museum of Natural History, Department of Vertebrate Zoology.	To continue and enlarge investigations in Egypt concerning the ecology of Palearctic birds migrating through northeastern Africa, including cooperative research on serology with the Rockefeller Virus Laboratory and ectoparasites with Naval Medical Research Unit III in Egypt.	1968 ¹ 1967 1966	50,000 40,235 -----
7. Smithsonian Institution, Office of Oceanography.	To accelerate the processing of marine organisms from the Mediterranean through a recently established sorting facility in Tunis, in cooperation with the Tunisian Institute of Oceanography.	1968 ¹ 1967	135,000 150,000 -----
8. Do.....	To study marine organisms of the Red Sea and eastern Mediterranean in order to determine what biological interchange of species has occurred through the Suez Canal.	1968 ¹ 1967 1966	127,600 127,000 -----

See footnote at end of table.

Museum programs and related research (special foreign currency program)—Con.

II. SYSTEMATIC AND ENVIRONMENTAL BIOLOGY—Continued

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
A. Ongoing projects—Continued			
9. Smithsonian Institution, Office of Ecology.	To study the flora of Ceylon, with emphasis on the vegetation of elephant habitats.	1968 ¹	59,400
		1967	36,500
		1966	-----
10. University of Michigan	To support taxonomic studies of Indian mollusks, through caryotype analysis and the cytogenetics of closely related species, which will contribute to medical, public health, and veterinary programs in India.	1968 ¹	16,300
		1967	16,307
		1966	-----
11. Johns Hopkins University	To study the ecology and behavior of small mammals of Bengal, India.	1968 ¹	41,000
		1967	41,000
		1966	-----
Subtotal, fiscal year 1968 estimate.			702,300
B. New project proposals:			
1. Johns Hopkins University	To study the population ecology of rhesus monkeys in northern India.		9,200
2. University of Georgia	To study the interaction of human and small rodent populations in a variety of temperate zone environments, in conjunction with the Ecological Institute of Poland.		128,400
3. University of Georgia	To study the flow of energy through small rodent populations in different habitats, in conjunction with the Ecological Institute of Poland.		187,900
4. University of Michigan	To study the importance of bilharziasis snail hosts in new environments created by the Aswan High Dam in Egypt.		75,000
5. University of Michigan	To make before and after studies of the plankton communities of the Nile River delta area of the Mediterranean, which may be radically altered through changes in salinity and circulation caused by the construction of the Aswan Dam.		482,100
6. Smithsonian Institution, Museum of Natural History, Department of Paleobiology.	To make preliminary explorations of underwater formations containing fossil echinoids off the Tunisian coast.		3,500
7. Smithsonian Institution, Department of Botany.	To study the flora of Hassan district, Mysore, India.		53,700
8. Smithsonian Institution, Office of Ecology, Office of Oceanography.	To help establish a natural reserve on one of the Laccadive Islands of India, for continuous biological studies of coral reef environments of the Indian Ocean.		500,000
9. Smithsonian Institution, Office of Oceanography.	To develop oceanographic sorting facilities in India or Ceylon.		250,000
10. Smithsonian Institution, Museum of Natural History, National Zoological Park.	To provide grants to Smithsonian scientists for increasing the national entomological, botanical, and zoological collections, by expeditions to India, Ceylon, Egypt, Pakistan, the Congo, Burma, Tunisia, and Guinea.		600,000
Subtotal			2,289,800

See footnote at end of table.

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Museum programs and related research (special foreign currency program)—Con.

II. SYSTEMATIC AND ENVIRONMENTAL BIOLOGY—Continued

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
(3) SMITHSONIAN CONTRIBUTION TO THE NATIONAL SCIENCE FOUNDATION'S TRANSLATION PROGRAM			
Library, Smithsonian Institution, Museum of Natural History.	To accelerate the translation and publication of reference works and monographs in Russian, which represent outstanding requests made by the Smithsonian staff since 1960, 20,000 pages, at \$23.50 per page (cost includes both translation and publication).	-----	470,400
Do.....	For the translation and publication of selected Western European and Oriental language scientific journals or other serial publications, 1,300 pages, at \$23.50 each.	-----	30,500
Subtotal.....			500,900
Total, systematic and environmental biology.			3,553,000

III. MUSEUM PROGRAMS

1. Smithsonian Institution, U.S. National Museum.	To carry out the International Council of Museums' recommendation to establish exhibit laboratories, initially in Israel, India, and Egypt for the construction of scientific and other educational exhibits for circulation among the developing nations, as examples of the potential of museum education.	-----	110,000
2. Smithsonian Institution, U.S. National Museum.	To hold international and national seminars or planning conferences in Israel, India, Egypt, and Tunisia, for the purposes of developing national programs in museum education (4 conferences with from 15-20 museum specialists; average cost of each conference \$22,500).	-----	90,000
3. Smithsonian Institution, U.S. National Museum.	To provide advisory or consultant services by American museum specialists, requested by Israel, Pakistan, Egypt, and Tunisia, for the planning of specific science or youth museums and for feasibility studies prior to the construction of these museums.	-----	125,000
4. Smithsonian Institution, U.S. National Museum-American Association of Museums (AAM).	To provide grants to establish training courses for curators and museum professionals in 10 selected museums in 5 of the excess currency countries. The grants will be administered by the AAM; they will support the travel and per diem of Americans and travel country instructors.	-----	155,000
5. Smithsonian Institution, U.S. National Museum-American Association of Museums.	To provide for international travel of foreign museum specialists who will receive on-the-job training in American museums.	-----	20,000
Total, museum programs.....			500,000

Museum programs and related research (special foreign currency program)—Con.

IV. ASTROPHYSICS

Recipient	Project	Fiscal year	Grant expressed in U.S. dollars
1. Smithsonian Astrophysical Observatory.	To establish in Poland an astrophysical observing station to carry out projects in satellite geodesy, orbit determination and the publication of articles on artificial satellites.	-----	50,000
2. Smithsonian Astrophysical Observatory.	To defray costs of advanced training in observational astronomy at Smithsonian Astrophysical Observatory facilities in this country for permanently assigned Indian personnel at the Uttar Pradesh State Observatory, Naini Tal, India.	-----	10,000
3. Smithsonian Astrophysical Observatory.	To conduct gamma ray balloon experiments on the magnetic equator in cooperation with the Tata Institute of Fundamental Research at Colaba, Bombay, India.	-----	50,000
4. Smithsonian Astrophysical Observatory.	To conduct theoretical studies in celestial mechanics in Egypt.	-----	20,000
Total, astrophysics.....	-----	-----	130,000

V. INTERNATIONAL EXCHANGE OF SCIENTIFIC PUBLICATIONS

Smithsonian Institution, International Exchange Service (IES).	To support costs of ocean freight of IES publications to Burma, Congo (Kinshasa), India, Israel, Pakistan, Poland, Egypt, and Yugoslavia.	-----	5,000
Do.....	To expedite the transmittal of IES publications throughout India by providing clerical services to the India Exchange Bureau.	-----	12,000
Total, international exchange of scientific publications.....	-----	-----	17,000

VI. PROGRAM DEVELOPMENT AND ADMINISTRATION

1. Smithsonian Institution, Office of International Activities.	To defray costs of program development primarily travel and per diem for program staff, its scientific advisors or outside experts, to negotiate cooperative research agreements, introduce the program in new countries, and inspect on-going projects.	-----	122,000
2. Smithsonian Institution, Office of International Activities.	To defray costs of audit of multiyear projects on-site in the excess currency countries.	-----	10,000
Total, program administration.....	-----	-----	132,000
Grand total.....	-----	-----	6,100,000

1 Estimate.

 ESTIMATED DISTRIBUTION OF EXCESS FOREIGN CURRENCY FUND
 BY COUNTRY

Senator BARTLETT. Would you please place, in the record, information to indicate the American dollar equivalent to be spent in various countries under the provisions of this program?

Mr. RIPLEY. Yes, sir.
 (The table follows:)

Fiscal year	Total	Country										
		India	Egypt	Israel	Pakistan	Tunisia	Poland	Guinea	Burma	Yugo- slavia	Ceylon	Congo
1968	\$6,100,000	\$1,714,200	\$1,221,800	\$1,001,900	\$302,900	\$376,600	\$633,100	\$95,000	\$130,600	\$83,800	\$374,500	\$75,600
1967	2,317,000	554,850	303,700	30,100	30,100	150,000	70,000	50,000	100,000	105,000	105,000	20,000
1966	1,300,000	93,900	704,100	446,500	17,000				2,000	36,500		

UNEXPENDED APPROPRIATION BALANCES

Senator BARTLETT. This appropriation is available until expended. How much money is now available, including all unexpended balances of any prior year appropriations?

Mr. RIPLEY. Mr. Warner, would you like to speak to that, please?

Mr. WARNER. Of the combined fiscal years 1966 and 1967 appropriations, there is at the moment remaining the dollar equivalent of \$1,293,000. All the rest has been awarded in grants, Mr. Senator, and I might explain that of this balance, we now have at hand proposals in various states of readiness that will be considered this May by the advisory councils which we use before awarding these grants. These total over a million dollars. Consequently, we believe we have every prospect of granting the balance for good projects before the end of fiscal year 1967.

Senator BARTLETT. Thank you.

SPECIAL FOREIGN CURRENCY PROGRAM FUNDS

Are any other funds, American dollars or foreign currencies, available to the Smithsonian Institution for work similar to that which will be accomplished under the special foreign currency program? If so, will you please indicate in the record the amounts, the purposes for which it will be used and the source of the funds?

Dr. RIPLEY. Yes, sir. The "Salaries and Expenses" appropriation is technically available for this work but is not planned to be used for this purpose; \$11,000 is expected to be granted for the study of wildlife and vegetation in Ceylon by the World Wildlife Fund in the fiscal year 1967.

INTERNATIONAL BIOLOGICAL PROGRAM

Senator BARTLETT. How much have you spent or will you expend during the current fiscal year in direct support of the international biological program?

Dr. RIPLEY. Well, during the fiscal year 1967, we have obligated a total of \$713,847. Of this, \$688,077 are for international biological program research projects. The expenses in connection with these of an administrative nature and for conferences, in the form of grants to the U.S. National Committee for the International Biological Program, were \$25,770.

In fiscal year 1968, we estimate that the IBP, as we call it, program projects, should amount to \$2,992,100, and the administrative expenses attendant on those would be in the neighborhood of \$60,000.

"FLORA OF THE U.S.S.R."—TRANSLATION AND PUBLICATION

Senator BARTLETT. How much do you estimate it will cost to acquire a translated edition of the complete 30-volume "Flora of the U.S.S.R."?

Dr. RIPLEY. Only a small part of the "Flora of the U.S.S.R." has been translated. The total cost is estimated at \$528,000, and to complete what has not yet been translated will cost about \$430,000. It

comes out at a unit cost per page of \$24, which includes the translation and the publication. At this price, we would receive a thousand copies.

Senator BARTLETT. Have the Russians done a good job on this?

Dr. RIPLEY. Yes, the flora and fauna volumes of the Russian academies are first rate. They are very good. We have no comparable publications in this country.

Senator BARTLETT. We do not?

Dr. RIPLEY. No, Senator.

Senator BARTLETT. They are ahead of us in fishing, they are catching up with us on merchant marine, and now they have surpassed us in this.

"FLORA OF THE UNITED STATES"—PUBLICATION

Dr. RIPLEY. I may say that one of the projects which the Smithsonian would like to do very much is an up-to-date "Flora of the United States," which would, I am sure, if it were done, be superior to the one that is available in Russia. It would not be equivalent, because the flora is rather different, but it would be a very good job.

Senator BARTLETT. At a wild, speculative estimate, how much would such an undertaking cost?

Dr. RIPLEY. I should think it would cost us in the neighborhood of a million dollars.

Senator BARTLETT. Oh, is that all?

Dr. GALLER. If I may say so, it has been estimated between a million dollars and a million and a half dollars.

Senator BARTLETT. I had though it would be much more.

INTERNATIONAL EXCHANGE OF SCIENTIFIC PUBLICATIONS

Is the item which you entitled "International exchange of scientific publications," and for which you ask \$17,000 this year, a new one?

Dr. RIPLEY. No, sir, this is not a new item. It is the first time we have asked for help through the excess foreign currencies to assist our International Exchange Service in the tasks of exchange of publications. We have discovered that American and other flag vessels will in some cases accept payment in foreign currencies for such shipments. This makes for dollar savings, and, of course, is in harmony with the Executive instructions to utilize foreign currencies where available to the maximum extent.

ARCHEOLOGY

Senator BARTLETT. Are those projects listed beginning at page C-12 under the heading "Ongoing projects" all of those on which you plan to expend funds in fiscal year 1968 and which were being carried on in fiscal year 1967?

Mr. RIPLEY. Mr. Warner, would you care to speak to that?

Mr. WARNER. Mr. Senator, that is correct for archeology, with one exception. On page C-13, there is a grant which we listed last year in our fiscal year 1967 justification, which will not be implemented during this current fiscal year. That is a grant to the University of Washington in Seattle for an excavation in Pakistan. We were not

able to implement that, mainly because all kinds of projects like this for research in the field were delayed during the Indian-Pakistan war.

However, the principal investigator, Prof. Walter Fairservice, is in Pakistan now, seeking the necessary archeological excavation permits, and we think it might get off in fiscal year 1968, although it did not in fiscal year 1967, as we had hoped it would.

BIOLOGICAL RESEARCH

For biological research, the projects underway or planned for 1967 and to be continued in 1968 are set-forth on pages C-16 to C-18 in the justifications.

Senator BARTLETT. I see.

DENDUR TEMPLE

The committee has not yet acted on your request to reprogram foreign currency funds to bring the Dendur Temple to the United States. Should this occur, what will be done with the temple after it arrives?

Dr. RIPLEY. Mr. Chairman, aside from myself, I think that Mr. Warner now really is far more the expert on this matter, and I would like him to speak to it.

Mr. WARNER. Mr. Senator, it is our understanding that if—and I should place a capital “I” on the “if”—if Washington is favored with the temple, and there is a Presidential committee of five experts which is reviewing all known applications from the many municipalities or museums across the Nation interested in the temple—if Washington is favored, it is my understanding that the Department of the Interior would seek in the next fiscal year to fund the costs of reconstruction and the annual maintenance of the temple. This financing would be in part from Federal appropriations and in part from private funds, since considerable interest has already been expressed in the Washington community by individuals and by institutions in helping with the costs of reconstruction.

Senator BARTLETT. Off the record.

(Off the record.)

NATIONAL ZOOLOGICAL PARK

Senator BARTLET. I will place in the record the estimate which you make of a need of \$485,000 for the capital improvement program at the National Zoological Park in fiscal year 1968.

(The justification follows:)

CONSTRUCTION AND IMPROVEMENTS

1966 appropriation -----	\$1, 539, 000
1967 appropriation -----	1, 589, 000
1968 estimate -----	485, 000

An appropriation of \$485,000 is requested to continue the program of capital improvement at the National Zoological Park.

In 1968 these funds will provide for :

Site planning in the center area of the Zoo; detailed plans for bears, aquatic mammals, goats and sheep; plans for one additional hard-surface parking area and landscaping; and the construction of a waterfowl area.

The 12-year program is designed to improve the Zoological Park for its millions of visitors by modernizing exhibits; improving visitor conveniences; eliminating automobile traffic through the Park; enhancing educational and recreational values of exhibits and the natural park; subordinating buildings and other structures and increasing planting and landscaping; advancing science through the study of the animals, their health, nutrition, pathology, and behavior; and providing maintenance facilities for economy and efficiency of operation.

Funds totaling \$1,275,000 in fiscal year 1963; \$1,275,000 in 1964; \$1,525,000 in 1965; \$1,539,000 in 1966; and \$1,589,000 in 1967 have been appropriated for the first five years of a continuing program of capital improvements at the National Zoological Park.

These appropriations have provided for construction of :

the bird flight cage and remodeling of the bird house;

the hardy hoofed-stock exhibit and habitat consisting of 7 large pens and shelters for animals that can be exhibited outdoors all year (heavy antelope, oxen, zebra, buffalo, Cape buffalo, and ostriches) ;

the deer exhibit and delicate hoofed-stock area, consisting of 2 houses with 6 large exhibit pens plus 2 large "summer" paddocks (for such animals as okapi, klipspringer, gerenuk, sable antelope, dik-dik, waterbuck and bongo) ;

the multiclimate house to exhibit animals so closely associated with their environments that they cannot be successfully exhibited or maintained without simulating their natural habitat by means of controlled heat, light, air and water temperature, and humidity (platypus, tuatara, lizard, kiwi, hoatzin, and penguins) ;

two paved parking areas for 526 visitors' automobiles and 24 buses;

a property yard, warehouse, mechanical shop, garage, and incinerator; new sewerage system and utilities; and

an animal hospital, laboratory, and holding area.

When the modernization and improvement of the Zoo have been completed, the collection of animals will amount to over 1,000 species (currently, approximately 900) and over 4,000 animals (currently, about 3,000). The National Zoological Park will then contain one of the major zoological collections in the world with the capability of exhibiting the collection in full accord with its statutory purpose: "The advancement of science and the instruction and recreation of the people."

The remodeled Zoo will have adequate parking facilities. A trackless train will provide internal transportation and an interesting view of many of the animals while traveling to and from parking areas and other points. This train will be operated on a concession basis and should make a substantial return to the Government.

Visual barriers between visitors and animals will be largely eliminated by the use of both wet and dry moats, structural glass, and fine stainless-steel tension wires.

The viewing eye-level will begin at approximately 28 inches from the ground for the benefit of children. Stairs will be eliminated wherever possible, and sidewalks will be kept to a maximum slope of 10 percent.

When the 12-year plan has been completed, the animal exhibit area will have increased from 17 acres to 50 acres. Twenty-three acres will be natural parkland; 18 acres will be used for needed primary circulation (automobile parking, roadways, and sidewalks). Service and administrative facilities (educational unit, restaurant, public restrooms, maintenance shops, hospital, and research area) will cover 13 acres. The total developed area of the Zoo will increase from 64 to 104 acres.

There follows a summary of the projects to be undertaken with 1968 funds.

Summary

Planning

Detailed plans and designs for bears, aquatic mammals, goats and sheep exhibits; parking areas; and landscaping-----		\$165,000
Advance planning and consultation for 1970 projects-----		20,000
Total planning -----		185,000

Summary—Continued

Construction

Construction of waterfowl area-----	\$300,000
Total -----	485,000

PLANNING (\$185,000)

Detailed plans and designs for 1969 projects, \$145,000

Detailed plans will be made for five projects. The animal-exhibit project will be located in the valley west of the small mammal house and present bear dens in and around the existing present sea lion and wild dog exhibits.

(1) *Bears* (Planning): Bear dens will be designed to accommodate 12 species (an increase of one species over our present collection). The new bear exhibit, a dry-moat type, will permit unobstructed viewing of the animals by the visitors. The judicious use of bear-resistant glass will give visitors a close inspection of several species of bears. These pens are designed for maximum flexibility, ease of maintenance and care, and also include hibernation and maternity dens. The polar bear exhibit will be especially attractive and will have a central location for maximum display. Artificial and natural rock work will simulate the animals' natural environment. Water refrigeration is not necessary to exhibit these bears successfully in the Washington climate.

(2) *Aquatic Mammals* (Planning): This exhibit will consist of sea lions, elephant seals and smaller mammals such as seals, copyus, tapirs, otters, and muskrats. The exhibit will consist of four all-year, all-weather outdoor pools. Six minor exhibits will be closely associated with the major ones. These animals lend themselves well to the barless type of exhibit. Filtration and recirculation will prevent unnecessary water wastage. Several of the exhibits will have underwater viewing so that subsurface activities of these animals can be seen by visitors.

(3) *Goats and Sheep* (Planning): Goats and sheep will be exhibited on the steep, precipitous west bank of Rock Creek, an area which duplicates their natural environment. The animals will be viewed from a path along the Creek and may be seen bouncing from crag to crag exhibiting their unique agility and adaptability to rugged conditions.

(4) *Parking Areas* (Planning): An additional hard-surfaced parking area will be planned for visitors. This lot will accommodate 216 automobiles.

(5) *Landscaping* (Planning): A detailed landscaping plan will be developed to provide an orderly method of tree, shrubbery, and flower planting to enhance the natural beauty of the Zoo park.

Smithsonian Institution expenses, \$20,000

The Smithsonian Institution will require \$20,000 in fiscal year 1968 for the improvement program, including consultants' fees, travel for inspection of good design practices in other zoos, purchase of equipment, and similar expenses directly related to the program of improvements.

Advanced planning and consultation for fiscal year 1970, \$20,000

Advance plans will be made for remodeling the small mammal house and for the construction of a new lion exhibit.

CONSTRUCTION (\$300,000)

(1) Construction of Waterfowl Area, \$300,000

A new waterfowl area is to be constructed at the south end of the National Zoological Park near the Harvard Street entrance to aid in eliminating pollution to Rock Creek. The present pond drains directly into Rock Creek and is the last remaining source of pollution to Rock Creek from the Zoological Park. Construction is presently under way for new sewerage facilities which will eliminate all other sources of Zoo-contributed pollution. Complete reconstruction of the pond will be accomplished by regrading and reshaping. A system will be installed to recirculate water and to drain the pond into the sewerage system. A small structure will be provided to house pumping and chlorination equipment.

CONSTRUCTION AND IMPROVEMENT

Senator BARTLETT. Would you indicate the status of the work which has been going on at the zoo for the past several years, and advise the committee of the work planned for the coming year?

Dr. RIPLEY. Mr. Bradley.

Mr. BRADLEY. Mr. Chairman, funds appropriated during the past 5 years have been used to accomplish a good portion of a 12-year program of improvements at the zoo. We have been able, so far, to recondition and completely rebuild the birdhouse and the great flight cage. We have a new deer area and delicate hoofed stock shelters and paddocks. We have an area for hardy hoofed stock with shelter buildings and paddocks. There is a fine storage building and a new sewerage system. During the present year we have been after approvals which we have sought, and I am glad to say have now been given by the National Capital Planning Commission and the Fine Arts Commission on the particular part of the zoo, 165 acres in size, that includes the site for the animal hospital, the research area, and also the multiclimate house. So we plan, during this year, to get on with the construction of both.

Senator BARTLETT. Have you estimated how long it will take to complete the improvements program at the zoo?

Mr. BRADLEY. Mr. Chairman, if we can continue appropriations at the rate that we have been successful in obtaining during the last 5 years, it would take another 6 or 7 years to complete the total planned improvement.

Senator BARTLETT. Thank you.

RESTORATION AND RENOVATION OF BUILDINGS

Senator BARTLETT. For restoration and renovation of buildings you are proposing an appropriation of \$1,353,000, \$947,000 less than was appropriated last year. The justification for this request will be printed in the record.

(The justification follows:)

1966 appropriation -----	\$2, 248, 000
1967 appropriation -----	2, 300, 000
1968 estimate -----	1, 353, 000

An appropriation of \$1,353,000 is requested for fiscal year 1968 for the following projects:

Completing renovation of Smithsonian Institution building-----	\$690, 000
Additional improvements to Fine Arts and Portrait Galleries-----	125, 000

Mechanical improvements and minor renovation to:

Chesapeake Bay Center for Field Biology-----	75, 000
Barney Studio House-----	35, 000
Freer Gallery of Art-----	98, 000
Smithsonian Oceanographic Sorting Center-----	148, 000
Radiation Biology Laboratory-----	182, 000

Total -----	538, 000
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Total estimate for 1968-----	1, 353, 000
Less amount appropriated in fiscal year 1967-----	-2, 300, 000

Decrease in fiscal year 1968-----	-947, 000
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SMITHSONIAN INSTITUTION BUILDING

Funds in the amount of \$690,000 are requested to complete the renovation of the Smithsonian Institution building. This increase, in addition to the \$2,054,000 appropriated in fiscal year 1966, is made necessary by several unanticipated costs: the unexpected extent of deterioration of water, sewer, and electrical lines revealed by complete examination; the difficulty of performing renovation work in this 19th Century building; the modification of additional areas of the building not included in the original project; and substantial increases in construction prices.

This building, designed by architect James Renwick and constructed in 1855, is the original Smithsonian Institution building. It is most conveniently located on the Mall and in the center of the complex of Smithsonian museums and art galleries. In November 1964, it was designated by the Joint Committee on Landmarks, appointed by the National Capital Planning Commission and the Commission of Fine Arts, as a landmark of great importance, having both historic and aesthetic value. It provides a focal point on the Mall for the millions of persons each year who visit the Nation's Capital to gain knowledge and inspiration from the exhibits and collections of the Institution. In 1966, over one million persons visited this building to view the Great Hall which has been restored to mid-19th Century appearance and to study carefully selected and exhibited objects representative of the collections and research work of the Smithsonian.

Many persons enjoyed concerts from the Smithsonian tower during the summer months. In addition to these public service and education functions, the building also houses the archives of the Institution as well as administrative offices. With these requested additional funds, the opportunity will be realized to make this valuable building responsive to functional requirements while retaining and enhancing its historic and architectural significance.

The 1966 appropriation was based on a cost estimate provided by the General Services Administration (Public Buildings Service) for general renovation of a typical building containing 150,000 square feet. Subsequent to the preparation of the initial cost estimates, it was found to be necessary to conduct complete surveys and investigations of the building in order to develop a detailed set of "as built" drawings. These investigations disclosed latent conditions which should be corrected.

The building was constructed with solid masonry walls characteristic of mid-19th Century construction. Since there are no spaces within walls or floors to place utility lines, it will be necessary to cut chases in the masonry, place the utilities and conceal them with plaster. Careful workmanship will be required to protect the architectural features of the building. This method of construction and the extent of work required to replace deteriorated water, sewer, and electrical lines revealed by the building inspection require an additional \$190,000.

Although the primary purpose of this project is renovation and restoration of this valuable building, additional floor space also will be provided on the third and fourth floors, to accommodate scholarly activities related to advanced studies. The Smithsonian Institution, founded as a learning center, is cooperating with universities, learned societies, foundations, and others, both in and out of Government, in furtherance of its central purpose, the "increase and diffusion of knowledge."

It is now proposed that improvements be made at the western end of the first floor, comprising the old chapel, west range, and the library. Improved lighting, flooring, partitioning, book stacks, display cases, and appropriate furnishings can convert this area into a study and discussion hall and library. This portion of the project is estimated to cost \$200,000.

The intensified use of the building, combined with the inadequacy of restaurants in the area, emphasizes the need for a small staff dining room in this building. A small kitchen and dining room can be installed most economically during the general building renovation and installation of new utilities. This facility is estimated to cost \$100,000, including all kitchen equipment, service entrance in the basement, and a dumb-waiter from the basement to a dining room on the first floor.

When the original budget estimate for this project was prepared in 1964, the construction cost index for Washington, D.C., as reported by the E. H. Boeckh Construction Cost Index Service, was at a level of 337.

In October 1966 the index had increased to a level of 360 or an increase of 7%. The "National average" construction cost increase was reported by Engineering-News Record (a McGraw-Hill publication) to be 8% for the same period. It is expected that an additional increase of 3% will occur from November 1966 to the expected construction starting date in July 1967. An amount of \$200,000 is included in this request to offset this 10% total cost increase.

FINE ARTS AND PORTRAITS GALLERIES BUILDING

Funds in the amount of \$125,000 are requested to accomplish additional renovation work in the Fine Arts and Portrait Galleries building in order to protect and enhance the work that has been completed. Some of this additional work had to be excluded from the original contract to make funds available to meet critical construction problems. The need for other modifications did not become apparent until renovation was at an advanced stage. The items include re-pointing, resetting, and cleaning exterior stonework; birdproofing; yard improvements; exposing hidden marblework; and correcting ceiling heights.

Renovation and modifications to the old Civil Service building at 7th and F Streets, N.W. to accommodate the National Collection of Fine Arts and the National Portrait Gallery are substantially complete. The building is being fitted with shelves, display cases, equipment and other items necessary to receive the collections. This work is being expedited so that the building may be opened to the public at the earliest possible time.

Renovation of this 100-year-old building has been difficult and delayed by latent conditions resulting from the various types of construction encountered and the deteriorated state of obsolete building materials. Exceptionally complex methods are required to thread modern utility lines through this structure. In order to finance necessary and mandatory changes to the contract, a constant management evaluation of the work was maintained to study the effect of the changes and to reduce the work effort in other, less critical areas. Consequently, some features which are necessary for efficient and proper functioning of the building which were previously deleted are now requested. These include:

1. Repointing, resetting, and cleaning exterior stonework, \$50,000: A detailed examination of the building exterior has revealed that pointing has washed out of upper portions of the walls. Water entering the walls, and subjected to freeze-thaw cycles, has caused some large stones to move out of place.

2. Birdproofing, \$20,000: The building is now a popular bird roosting place for this part of town. The continued installation of electrical impulse birdproofing systems on other nearby buildings will increase the problem at the Fine Arts and Portrait Galleries building. Installation of a birdproofing system will help protect the appearance and reduce the frequency of future cleaning.

3. Improvements to exterior yard, \$15,000: The small yard around the building will require repairing of damaged curbs, fencing, and sidewalks. New sod and a very minimum amount of landscaping will be provided to maintain the appearance of the building.

There are also other modifications which should be made to the interior of the building to provide the most appropriate setting for public exhibitions. These items were not fully apparent until the renovation work was at an advanced stage and operational planning was initiated by the staff. Items in this category are:

1. Remove paint from stonework, \$25,000: One of the largest galleries in the building to be used for exhibition of fine arts has columns and wall surfaces which have been painted for many years. During the renovation work it was discovered that the columns are marble and the walls are paneled with marble. We now propose to remove all paint from these surfaces and expose this very attractive stonework.

2. Drop ceilings, \$15,000: Existing ceilings in four areas are much too high for the intended use of the rooms, the exhibiting of smaller objects of fine arts in display cases and tables. To correct the scale of the space, suspended ceilings and improved lighting are required.

The conversion of this old office building for the National Collection of Fine Arts and the National Portrait Gallery has been very successful and is a compliment to those who endorsed and supported this idea. The interior of the building reflects a dignified and inspiring setting for this purpose and implies a degree of magnificence far beyond the cost of the renovation. With the amount requested here, these essential additional improvements can be accomplished.

CHESAPEAKE BAY CENTER FOR FIELD BIOLOGY

An appropriation of \$75,000 is requested for renovation to the Institution's Chesapeake Bay Center for Field Biology, located on the western shore of Chesapeake Bay. These funds will restore existing structures for Center use and provide necessary utilities and roadways.

Approximately 700 acres of land located seven miles south of Annapolis were acquired by the Smithsonian Institution through a bequest and purchases made with generous foundation grants. This land is the only natural preserve on the western shore of the Chesapeake Bay and will become increasingly valuable as an ecological baseline.

To develop a program of research and education in field biology, a consortium was formed between the Smithsonian Institution, the Johns Hopkins University, and Maryland University. Scientific programs planned for this area include the identification and study of the natural populations of plants and animals that make up the ecological system of this marine estuarine area. Physical and chemical factors affecting the populations will be analyzed.

A number of structures on the site (barn, stalls, garage, equipment building, and creamery building) can be restored for use in serving the initial program needs of the Center. By accomplishing minimum repairs, the Smithsonian will be able to initiate a modest scale of operations at this Center at limited cost.

Minimum repairs to roofing and flooring, and interior repairs to structures are estimated to cost \$54,000. Utilities, consisting of a new well, pump, service piping, new sewerage system and septic tank, and electrical service, will cost \$7,000. An all-weather road surface will be provided between the buildings at a cost of \$14,000. Total estimated cost: \$75,000.

BARNEY STUDIO HOUSE

An appropriation of \$35,000 is requested for the Barney Studio House, located at 2306 Massachusetts Avenue, N.W., Washington, D.C. to correct serious safety hazards and to provide adequate and efficient utilities service.

This house, constructed in 1904, was acquired by the Smithsonian Institution in 1960 for use as a museum headquarters and for meetings of groups concerned with the Smithsonian Institution.

This house has required only minimum maintenance but the effects of time and general deterioration now require that all loose and worn plaster be removed and replaced to insure safety of the occupants and that the interior be painted. This work is estimated to cost \$10,000.

The electrical service and electrical wiring are now obsolete and should be replaced to conform to current standards of safety and to provide adequate capacity for modern usage. Replacement of the electrical service and rewiring all lighting and receptacle circuits will cost \$5,000.

The existing antiquated and inefficient heating plant needs to be replaced with a modern combination heating, ventilating, and air conditioning system at a cost of \$20,000.

This minimum renovation effort is necessary for comfort and safety as well as to assure years of continued satisfactory service from this valuable structure.

FREER GALLERY OF ART

An appropriation of \$98,000 is requested for the Freer Gallery of Art to provide fire detection and security systems, to maintain the exterior and interior of the building, and to increase storage capability by the addition of an elevator.

The Freer Gallery is a monumental building located on the Mall at the corner of Independence Avenue and 12th Street. It was constructed in 1923 to house the outstanding collection of Oriental art given to the people of the United States by the late Charles L. Freer.

The Freer Gallery was designed and constructed in accordance with the best standards of its day. It has been well maintained. In the intervening years, however, there have been many technological improvements and new systems developed for fire detection and security which were not available when the building was designed. Our increasing concern for security of valuable art collections and the availability of economically installed fire protection and security systems are the basis of this request for funds for security improvement.

To install a modern fire detection system, watch-tour system, and automatic shutdown of fans and electric motors in case of emergency, funds in the amount of \$10,000 are requested.

Funds amounting to \$13,000 are requested to accomplish one-time general improvements to the building, including replacement of roofing material, floor tile, and plaster; and painting.

Funds in the amount of \$75,000 are requested to extend an existing elevator shaft and install a new cab, new controls and equipment to serve both the attic and the basement which are used for storage purposes. Access to these spaces is available at present only by a stairway. Movement of heavy or bulky objects, which must be stored in the building, through the stairwell is difficult and dangerous. In addition to eliminating an unsafe condition, the storage capability of the building will be increased by this ready access.

SMITHSONIAN OCEANOGRAPHIC SORTING CENTER

Funds in the amount of \$148,000 are requested for air conditioning the Oceanographic Sorting Center in order to increase employee productivity and to protect their health.

The Center occupies 30,000 square feet of space in a remodeled building at the Washington Navy Yard Annex. Skilled personnel are employed to sort, preserve, label, identify, package and distribute for scientific study marine organisms collected on oceanic expeditions. The large volume of items handled daily and the fumes from preservatives create nearly unbearable working conditions during the hot and humid summer months.

Funds are requested to provide approximately 100 tons of air conditioning for a portion of the Center. Wall-type fan coil units will be installed around the exposed wall area; chilled water supply and return mains will be provided from the existing chiller plant to the new air handling units; and necessary ductwork, piping, and automatic temperature controls will be provided.

The estimate for this project was prepared by the General Services Administration. Design and installation will be supervised by that agency.

RADIATION BIOLOGY LABORATORY

Funds amounting to \$182,000 are requested to relocate and install a major portion of the laboratory equipment and facilities of the Radiation Biology Laboratory at a new location. This relocation will provide more suitable and additional space and proper facilities for this scientific activity.

The Smithsonian Institution Radiation Biology Laboratory now occupies approximately 40,000 square feet of floor space in the basement of the Smithsonian Institution building, and several shed-type buildings located in the yard between the Smithsonian Institution building and Independence Avenue. All space now used by this laboratory was originally designed for storage and utility usage and consists of small basement rooms with low ceilings and several wood frame sheds.

Laboratory experiments were initiated in this substandard space only as an expediency. Due to uncertain future requirements for this type of investigation and to the limitation of funds, it was not possible to identify long-range physical requirements and to plan or construct a proper facility. Now the laboratory has developed into an outstanding and widely-recognized activity, specializing in vital research programs in the biological reaction to light. This research activity now completely utilizes all available space and needs additional space to relieve over-crowding and to gain potential benefits from expansion of experimental activities. In addition to the lack of floor space, research experiments are limited by the amount of electrical energy which can be delivered to this location without the construction of a new transformer substation. It is not efficient or economical to continue this operation in the Smithsonian Institution building or on the Mall.

Plans authorized by the Congress, for renovation and restoration of the historic Smithsonian Institution building, do not contemplate the use of the building for laboratories. These plans are based on restoring the building to public exhibition and educational and administrative activities. The design has now progressed to the point where the substantial areas in the basement required for new electrical switch gear and air conditioning mechanical equipment can

be identified. It is now apparent that the rooms occupied by the Radiation Biology Laboratory must be used for these and other utilitarian services. It will not be possible to proceed with work related to the building's restoration until the laboratory is relocated.

Alternate site locations are being investigated to find a suitable place for the laboratory away from the Mall areas. The General Services Administration is assisting with this investigation. It is estimated that \$182,000 will be required to relocate and install a major portion of the laboratory equipment and facilities at a new location during fiscal year 1968. In view of the need to start relocating this activity concurrent with restoration of the Smithsonian Institution building, which is scheduled to start in July 1967, funds are urgently requested at this time.

1967 BUILDING RENOVATIONS

Senator BARTLETT. Will you please advise the committee of your plans for building renovations during fiscal year 1967?

Dr. RIPLEY. Mr. Bradley, would you answer that?

Mr. BRADLEY. During 1967, Mr. Chairman, there is available to us a little over \$2 million, \$2,129,000, from 1966 which is primarily available for restoration of the original old Smithsonian Institution Building. In addition, an appropriation of \$2.3 million is available for restoration and renovation of the old Court of Claims Building, for use as an art gallery, and for planning future improvements.

OLD COURT OF CLAIMS

The work on the old Court of Claims Building is expected to go under contract by the General Services Administration sometime this spring, and the planning of future improvements is progressing.

SMITHSONIAN BUILDING

The work on the restoration of the Smithsonian Institution Building has been delayed because, frankly, it was an old building and we had to stop and prepare "as built" drawings, in order to know what we had there to improve. However, this work has now been done. We have also accurately located all sewer, water, and other utility lines. We have determined the structural condition of the foundations. This has been accomplished and now the contract drawings for restoration of the building should be completed in several months, and construction work should start this summer.

FINE ARTS AND PORTRAIT GALLERIES

Senator BARTLETT. \$125,000 of your construction estimate is for additional renovation work in the Fine Arts and Portrait Galleries building. As I understand, this is the old Patent Office or Civil Service Commission building, which has been completely remodeled for gallery use by the Smithsonian Institution. Is the building in use now?

Dr. RIPLEY. Yes, sir; it is. We have been moving in since February. Both galleries, the National Collection of Fine Arts and the National Portrait Gallery, now have offices and exhibition space there, although they are not completely moved in yet. A great deal of this additional request is due to the fact that this is a 100-year-old building, more than a hundred years old actually, and it has been very diffi-

cult to get the work completed because of latent conditions in the building. Types of construction had to be modified in some cases, and a good deal of the interior in certain places had deteriorated badly, more so than first surveys showed. To fund these mandatory contract changes, we had to delete some features of the work. So this is a minimal request for additional funds to complete the work which had to be deleted from the original contract: repointing exterior stone work; bird proofing; landscaping the interior court yard; cleaning interior marble; and adding suspended ceilings in four exhibition areas.

RADIATION BIOLOGY LABORATORY

Senator BARTLETT. Do you have any idea where you will relocate the Radiation Biology Laboratory?

Dr. RIPLEY. Yes, sir, we have been given Building 7, or part of it, at the old Bureau of Standards, and this will be available for us in July 1967. This is a very adequate space for us. We are delighted to get our radiation biologists out of the incredibly cramped quarters where they have been living in the basement of the old Smithsonian castle.

We had an ad hoc survey by biologists familiar with this work during the past summer, who gave the laboratory the very highest recommendations for the efficiency of its work, but were startled, amazed, and horrified by the conditions under which they did this work. Therefore, we are delighted to have a chance to move them out.

Senator BARTLETT. You believe \$182,000 will suffice to do this job?

Dr. RIPLEY. Compared to where they are now, they are going to be in a bed of roses. The request for \$182,000 will finance the first year's improvements and permit us to move in. It is estimated that \$328,000 will be required in future years for further improvements.

Senator BARTLETT. Are they subjected—well, I am going to put it another way. They must be subjected to unusual health hazards, in this activity. Are they tested frequently to determine whether they have overexposure?

Dr. RIPLEY. I assume so. Dr. Galler, do you know about that?

Dr. GALLER. Mr. Chairman, they do wear dosimeters whenever they come in contact with radioisotopes in the course of their laboratory work and the dosimeters are checked regularly, and they do, under AEC regulations, require regular physical checkups.

Senator BARTLETT. Sometimes I wonder, this is somewhat aside from the proposition before us, whether the AEC standards are high enough. I was just reading not long ago a declaration by Dr. Teller, who certainly is no alarmist, who recommended very strongly that all nuclear plants constructed to produce electricity ought to be placed underground, and we are placing them above ground.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

For planning the Joseph H. Hirshhorn Museum and Sculpture Garden, you are requesting \$803,000.

The statement in support of this request will be printed at this point in the record.

(The justification follows:)

1968 estimate----- \$803,000

An appropriation of \$803,000 is requested for the preparation of plans and specifications for the Joseph H. Hirshhorn Museum and Sculpture Garden. Public Law 89-788, authorizing establishment of this museum and sculpture garden under the Smithsonian, was approved on November 7, 1966.

The authorization of planning and construction of this museum was in response to an offer from Joseph H. Hirshhorn to give to the people of the United States more than 1,500 pieces of sculpture and 4,000 paintings and drawings valued at over \$25,000,000 together with \$1,000,000 for the purchase of additional works of art.

During Fiscal Year 1968 plans and specifications will be prepared for the construction of an art museum building and sculpture garden in the Mall area between Seventh Street, Ninth Street, Independence Avenue and Madison Drive, S.W., as specified in the public law.

Concurrently, the Department of Defense proposes to prepare plans and specifications for a new facility to house the Armed Forces Institute of Pathology at Walter Reed Army Medical Center, as authorized by Public Law 89-746. Relocation of the Armed Forces Institute of Pathology from their present building now occupying the Mall site of the Hirshhorn Museum must be accomplished prior to construction of the Joseph H. Hirshhorn Museum.

In consideration of budgetary limitations and to provide time for careful design, construction funds are not requested at this time. In recognition of the magnitude of the gift and its importance to the cultural enrichment of the Nation, the timely initiation of design and planning for a suitable building and sculpture garden is warranted. In order that this collection may begin to play its full role in the inspiration and education of the American public, an uninterrupted development program is also warranted.

The total cost for the Joseph H. Hirshhorn Museum and Sculpture Garden will not exceed \$15,000,000. The museum building will contain approximately 250,000 square feet of floor space and will be constructed on the Independence Avenue side of the Mall.

The outstanding collection of modern American paintings to be exhibited in this building assures that the museum will compare favorably with the leading contemporary art museums of the world. The sculpture garden will extend from the museum building across the Mall to Madison Drive. It will provide an appropriately designed setting to display the works of Rodin, Henry Moore, Degas, Matisse, Renoir, Picasso, Giacometti, Brancusi, Lipchitz, and many others. Most careful consideration will be given to this design to assure that the development of the Garden is consistent with the open-space concept of the Mall.

PLANNING AND CONSTRUCTION

Senator BARTLETT. I know that legislation authorizing this construction was approved during the last session of Congress. Is there any requirement as to the time during which the building must be constructed and ready for use?

Dr. RIPLEY. It is a condition of Mr. Hirshhorn's gift, and our subsequent agreement with Mr. Hirshhorn and the Hirshhorn Foundation, that the Congress shall have authorized the construction of the museum and sculpture garden—as in fact the Congress has already done—and also shall have appropriated funds for planning and for construction by the close of the 90th Congress.

Construction is to be completed within 5 years after the appropriation is made available by the Congress.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Senator BARTLETT. Let's go back, if you will, to the Smithsonian Tropical Research Institute.

Now, speaking of another program, Mr. Ripley, you said that costs were assessed for photographs, and so forth, except in exceptional

cases, to those who desired to have them. And, Doctor, do I understand you to say that in respect to the Tropical Institute, an organization such as Battelle Memorial, came to you for special service?

SPECIAL SERVICES

Dr. GALLER. Mr. Chairman, the special services that I spoke of are in fact needs for fundamental data that have in part already been acquired at the Smithsonian Tropical Research Institute: data that need to be brought together and consolidated to respond to the kinds of questions that a feasibility study would raise.

If the request refers to large increments of work related to a given agency, either public or private, usually this requires a grant or a contract from such an agency.

Dr. RIPLEY. We would become, in this case, a subcontractor.

Senator BARTLETT. Would Battelle pay you?

Dr. RIPLEY. They would give us a grant.

Senator BARTLETT. They would give you a grant, because they are under contract, and otherwise, this would just be in addition to the sum which they were originally allowed.

Dr. RIPLEY. Yes, it would be unavailable unless they did come to us with a grant.

REPROGRAMING REQUESTS

Senator BARTLETT. Now, you used \$30,000, was it, out of the current appropriation for these additional needs of the Institute?

Dr. GALLER. Yes, sir.

Senator BARTLETT. Now, my understanding was that before any reprogramming of that character were to take place, the consent of the Appropriations Committees first must be had. Is that your understanding?

Mr. BRADLEY. May I speak to that, Mr. Chairman?

Senator BARTLETT. Yes.

Mr. BRADLEY. Certainly that has been our general understanding. This committee has been most reasonable in our requests for reprogramming. In this particular case, it was a matter of judgment, and from the way you put the question I suspect it was a matter of an error of judgment, in not submitting a reprogramming request for an amount of \$30,000. This is an increase on a base of about \$300,000. It was about a 10-percent overrun on the program for the current year.

Normally, your understanding is entirely correct. We do approach this committee, and, of course, the committee in the House, in connection with the reprogramming of funds during the year.

Senator BARTLETT. I would suggest that approach is highly desirable. I can't anticipate that any difficulties would arise, but the situation would be easier for you if any great objection were made.

Mr. BRADLEY. Yes, sir.

ALASKA CENTENNIAL YEAR

Senator BARTLETT. Now, Mr. Ripley, you spoke modestly, understandably, about the special exhibit prepared for the Alaska Centennial Year. Indeed, you were far too modest. I was thrilled and excited and pleased by what I saw before the exhibit was packed and started for Alaska.

My recollection is this committee allowed and the Senate appropriated \$100,000, specifically, to you to make this contribution to this celebration of the 100th anniversary of the purchase of Alaska by the United States from Russia, and my further understanding or knowledge is that when the conference committee had completed its work, you were allowed \$50,000 to be taken from funds otherwise appropriated, and not a penny was allowed for his special activity. Am I correct?

Dr. RIPLEY. That is correct, sir. I would say—

Senator BARTLETT. Let us change that to not a hundred but to \$50,000. We gave 50. I guess that was it.

Dr. RIPLEY. I would say that, as I recall, we requested approximately \$100,000 for the purpose of these sorts of special exhibits, and the Senate committee recommended that \$50,000 be allocated for these sorts of special exhibits which necessitate special overruns in time, labor, materials, efforts, and so on, on our staff.

Senator BARTLETT. Now, I want to go into that a bit more, and I won't do it in the parochial sense. I would like to develop here a little bit of information about the number of requests that come to you for special exhibits, and what difficulties arise, if any, when the Smithsonian has to fund those special exhibits, if you are able to produce them at all, from funds appropriated for other purposes.

Dr. RIPLEY. Thank you very much, Senator. I would like to speak to this, because it is a continual drain on our very slim resources in manpower, time, and money, and I foresee that in connection with 1976 and the buildup toward that commemorative year, the continual pressure is going to mount, every year.

EXPO 67 EXHIBIT

Let me cite to you an example, if I may, of what has just come up. As you know, the international fair in Montreal, Expo '67, is opening on the 28 of April, I believe, in Montreal. We were asked last month by the U.S. Ambassador to that fair to prepare an exhibit. Last month isn't very long ago, and April 28th is very soon, and the idea of attempting to rub Aladdin's lamp—and the Smithsonian, I am sorry to say, bears no relationship to Aladdin's lamp—and produce instantly a set of genii who would produce an exhibit for us was, of course, a shocker for us. But this is very much the way these sorts of requests tend to come. They tend to be last minute, hurry-hurry-hurry, great pressure instantly put on, and "a dramatic and stylish and tasteful show," of course, to be produced.

We were able to suggest that we could put on an exhibit on oceanography, and on the kinds of things which we are working on which are particularly curious and interesting. The Ambassador's response was very warm and friendly. We have discovered that this exhibit will cost something in the neighborhood of \$30,000 to construct and put on, working at top speed, with overtime and so on, and we at the present time have the possibility of getting a grant from the National Science Foundation of only as much as \$5,000.

FUNDS AND SKILLED LABOR SHORTAGE

As a result, I have had to make a decision that we must turn them down, because we don't have the money.

SENATOR BARTLETT. You can't do it.

DR. RIPLEY. We don't have the approximately \$25,000. We don't have the ability—

SENATOR BARTLETT. You don't have the time, either, do you?

DR. RIPLEY. No, it would have to be overtime, and we would have to subcontract for parts of the work. But we don't have this flexibility. We are continually starved for special people to do exhibit work, and it is all we can do to meet our own schedules, which are then, of course, instantly broken into and hampered by special requests.

SENATOR BARTLETT. Well, in this instance, of course, the request came to you belatedly.

DR. RIPLEY. Yes.

SENATOR BARTLETT. Far too belatedly, and yet I think it is too bad that the Smithsonian can't have something there.

DR. RIPLEY. Yes, sir.

SPECIAL EXHIBITS UNIT

SENATOR BARTLETT. Well, there are celebrations and there are anniversaries of all kinds, and as you say, they come with increasing frequency, and demands upon you come with increasing frequency. What if you were to have a special small staff for these special exhibits, have you ever considered how large a staff you might start out with, and what it would cost?

DR. RIPLEY. My own hope, Senator, would be that we could relate this sort of work to our efforts under the National Museum Act. Under the terms of the act, we are supposed to render help, aid, and comfort to other parts of the country for museumlike activities. We would need to have a small, flexible unit or staff of exhibit people. We could, with this kind of a staff, work on exhibits which are going out to other museums. We could call them sort of a unit for special exhibits. This would be an economic and sensible way of not interfering with the time of the regular people who are concerned with refurbishing and developing exhibits in the existing museums.

PERSONNEL

I would think that something in the neighborhood of \$100,000 a year would give us the potential for building up a solid group of really expert technicians who could not only perform themselves, but could train others, which is what I am so keen always to do. We could make this a continuing involvement with the whole exhibits and museum field throughout the country.

SENATOR BARTLETT. I think there would be an added virtue and value there. Let's assume that Vermont, for example, was going to have some kind of a celebration 3 years from now, and officials representing Vermont inquired of you as to the possibility of doing something of this kind. That would give the Institution, especially the people who were assigned to this activity, if there be such, time to dream and dwell upon what kind of an exhibition would be best to

represent the Institution, and perform the service for which the exhibit was desired.

ASSISTANCE TO OTHER MUSEUMS

Dr. RIPLEY. I may point out, Senator, with such potential, we could also send people out in the field to work with the local people. For example, in the past year, we have had to lend, very pleasantly and happily—we have been willing to do this, but at cost to ourselves—two people to go and help develop the museum in Oakland, Calif. This was largely a sort of hands-across-the-continent scheme, because we felt that our people who happened to be specialists in western historical areas would be significantly helpful there, in a way that no other particular specialist would be. They would make a unique contribution, and in order to make a better museum in Oakland, these people were really necessary. But there we would also have been able, if we had had a craftsman or two, to go out and actually help with our own expertise to design and contribute toward the building of some of the exhibits.

This would be wonderful for establishing and maintaining what you might call rapport between the Smithsonian, which, because it is Washington based, tends to sound just a little bit too much like a large bureaucratic arm of the Government, and the great museums of distinguished character around the country. Very often, because of our lack of funds for support, they tend to think of us as monolithic and octopuslike.

We could cooperate wonderfully with them if we had just this kind of support. That is why we think this National Museum Act is a real breakthrough, because it will give us this service and interrelationship aspect in our dealings and relations with other museums.

LOOKING AHEAD

Senator BARTLETT. Today the Smithsonian is an institution of which all Americans are very proud. Have you cast a visionary eye upon the future, say, within the next 5 years, and evolved a program for such a period of time?

Dr. RIPLEY. Mr. Chairman, we have speculated on this, and we have speculated in a variety of ways. One is what we can see coming over the horizon in the way of obligations, like 1976, for example. Another is in the development and utilization of existing buildings such as the Renwick Fine Arts and Decorative Arts Gallery on the corner of 17th and Pennsylvania Avenue, the old Court of Claims building, which the President has allocated to the Smithsonian, and which should be a great decorative arts center in this country. Still another is in the increasing use of the Smithsonian's facilities by universities and higher education institutions.

I hesitate to hazard a guess about the budget increase. I can only point out that, on the basis of wage and salary increases, what we buy now at \$1.44, 10 years ago cost us only \$1. And so some of this, I am afraid, will inevitably be reflected in obvious cost-of-living increases. But whatever we have done, and whatever we intend to do, should be commensurate with the fundamental principle of the Smithsonian, which, as I see it, is that we do only what no one else can really do

well. We are, as I have sometimes called us, "the unconventional in pursuit of the unfashionable." When something that we are doing turns out to be enormously effective, and useful in an applied sense, we then traditionally spin it off into some applied activity.

SPIN OFF ACTIVITIES

That is why, for example, the Smithsonian invented weather forecasting, and discovered that it was possible to assess weather. This is why eventually the Weather Bureau was created, a totally independent agency.

We are happy to spin off activities, we are happy to nurture tender flowers, when at a certain moment they do not have large understanding or acceptance by our people. That is why, for many, many years, we indulged in such unfashionable activities as astrophysics, which was virtually unknown in the rest of the country, and eventually, when combined with our concern in aeronautics, spun off into something now known as NASA.

These sorts of things are the kinds of contributions, I think, which the Smithsonian can make in a very significant way, indulging and carrying on activities which the Nation must afford, but which few other people are courageous enough, shall we say, or persistent or dogged enough to undertake.

Senator BARTLETT. And from the standpoint of your representation, I think it is well that there are spin offs.

Dr. RIPLEY. Yes.

Senator BARTLETT. Such as weather. I am reminded of the letter to the editor, a man in the Midwest wrote just a little while ago, saying, "I have just completed shoveling a foot of partly cloudy off my sidewalk."

SUBCOMMITTEE RECESS

Well, it has been a very interesting morning for me, and I want to thank all of you, and each of you, for your testimony. The committee now will adjourn until 10:30 a.m., Friday, March 17, when the National Capital Planning Commission, and the National Council on Marine Resources, and Commission on Marine Science will testify.

(Whereupon, at 12:30 p.m., Thursday, March 16, 1967, the subcommittee was recessed, to reconvene at 10:30 a.m., Friday, March 17, 1967.)



