SMITHSONIAN INSTITUTION

Budget Justifications for the Fiscal Year 1971

Submitted to the Committees on Appropriations
Congress of the United States

January 1970

Distribution List--FY 1971 Budget Justifications
to the Congress
1/30/70

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1. Pay Increases				
2. United States National Museum	1	Taylor	2/4/70	A&I 2460
2a. Office of the Director General of Museums				
2b. Office of Exhibits	2	Anglim	2/4/70	MHT 5106
2c. Conservation Analytical Laboratory	1	Organ	"	MHT AB071
2d. Office of the Registrar	1	Weiss	"	MNH 423
3. Museum of History and Technology	5	Boorstin	"	MHT 5112
4. Museum of Natural History	11	Cowan	"	MNH 421
5. National Air and Space Museum	3	Durant	"	A&I 1165
6. National Armed Forces Museum Advisory Board	2	Magruder	"	PB 207
7. Anacostia Neighborhood Museum	1 *	Kinard	"	
American Revolution Bicentennial	2	Slocum	2/4/70	A&I 2461A
8. Freer Gallery of Art	1	Pope	"	Freer Bldg
9. National Collection of Fine Arts	2	Taylor	2/4/70	FAPG242
10. National Portrait Gallery	2	Sadik	"	FAPG 200
11. Joseph H. Hirshhorn Museum & Sculpture Garden	1 *	Lerner	" 135 E. 65th St. NY	
	1	Stahl	"	A&I 2401
12. Smithsonian Astrophysical Observatory	3 *	Whipple (#1 McKeon)	2/4/70	
13. Smithsonian Tropical Research Institute	2 *	Moynihan	2/4/70	
14. Radiation Biology Laboratory	1 *	Klein	"	
15. Smithsonian Office of Ecology	1	Buechner	"	MNH 414
16. Office of Oceanography and Limnology	1	Wallen	"	MNH 417
17. Center for the Study of Man	1	Stanley	"	MNH 324
18. Center for Short-Lived Phenomena	1 *	Squires	"	
19. Smithsonian Research Awards Program				
20. Office of Academic Programs	1	Ritterbush	2/4/70	SI 444
21. International Activities				
21a. Office of International Activities	2	Challinor	"	SI 419
21b. International Exchange Service	1 *	Collins	"	2/4/70 Cowherd
22. Woodrow Wilson International Center for Scholars	1	Reed		SI 446
23. Administrative and Central Support Activities				
23a. Office of the Secretary				
23b. Management Support				
23c. Office of the Treasurer	1	Wheeler	2/4/70	SI 349
23d. Division of Performing Arts	1	Morris	2/4/70	PB 211B
23e. Office of Personnel & Management Resources	2	Pouliot	"	A&I 1235
23f. Office of Public Affairs	1	Philips	"	SI 422
23g. Supply Division	1	Barwick	"	MNH 85A
23h. Information Systems Division	1	Kovy	"	A&I 1321
23i. Smithsonian Institution Libraries	1	Shank	"	MNH 22
23j. Photographic Services Division	1	Greeson	"	MHT CB054
23k. Smithsonian Institution Press	1	Richter	"	
24. Buildings Management Department	2	Mose/Michaels	"	A&I 1482
25. Science Information Exchange	1	Freeman	"	

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Department of the Interior and Related Agencies Appropriation Act, 1971

SMITHSONIAN INSTITUTION

"Restoration and Renovation of Buildings"

For an additional amount for "Restoration and Renovation of Buildings," $775,000, including funds for planning and restoration of portions of the Museum of History and Technology damaged by fire, smoke, or water; to clean, repair, and replace exhibits cases, panels, museum objects, and related equipment and furnishings damaged or destroyed by fire, smoke, or water; and to improve the fire detection systems in the Museum.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-102

SMITHSONIAN INSTITUTION
Restoration and Renovation of Buildings

Program and Financing (in thousands of dollars)

Identification code 32-50-0132-1-1-608	19 ~~Actual~~	19 ~~Estimate~~	19 ~~Estimate~~
	1971 Presently Available	1971 Revised Estimate	1971 Proposed Supplemental
Program by activities:			
1. Planning, design, and supervision	....	....	...
2. Construction	1,339	1,819	480
3. Supplies and equipment	...	140	140
Total program costs funded	1,339	1,959	620
Change in selected resources 1/	602	757	155
10 Total obligations	1,941	2,716	775
Financing:			
21 Unobligated balance available, start of year	-991	-991	...
40 Budget authority (appropriation)	950	1,725	775
Relation of obligations to outlays:			
71 Obligations incurred, net	1,941	2,716	775
72 Obligated balance, start of year	515	515	...
74 Obligated balance, end of year	-956	-1,111	-155
90 Outlays	1,500	2,120	620

1/ Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1969, $1,667 thousand; 1970, $403 thousand; 1971, $1,160 thousand.

☆GPO:1964—0-735-186

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-102

SMITHSONIAN INSTITUTION

"Restoration and Renovation of Buildings"

Object Classification (in thousands of dollars)

Identification code 32-50-0132-1-1-608	19XXXX Actual	19XXXX Estimate	19XXXX Estimate
	1971 Presently Available	1971 Revised Estimate	1971 Proposed Supplemental
SMITHSONIAN INSTITUTION			
25.0 Other services	1,144	1,624	480
26.0 Supplies & materials	...	45	45
31.0 Equipment	...	95	95
Total costs, Smithsonian Institution	1,144	1,764	620
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
32.0 Lands and structures	195	195	...
Total costs, General Services Administration	195	195	...
Total costs funded	1,339	1,959	620
94.0 Change in selected resources	602	757	155
99.0 Total obligations	1,941	2,716	775

☆ GPO:1964—0-735-186

PERFORMANCE STATEMENT

To restore those portions of the Museum of History and Technology building damaged by fire, smoke, or water; to clean, repair, and replace associated exhibits, equipment, and similar items; and to improve the fire detection systems in the Museum.

SMITHSONIAN INSTITUTION

BUDGET ESTIMATES, FISCAL YEAR 1971

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SMITHSONIAN INSTITUTION
GENERAL STATEMENT
FISCAL YEAR 1971

The Smithsonian Institution was created by Act of Congress in 1846, in accordance with the terms of the will of James Smithson of England, who, in 1826, bequeathed his property to the United States of American "to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

Since 1846, the Institution has devoted its resources to basic research, public education, and national service is science, the humanities, and the arts. Its museums, galleries, and scientific laboratories are national institutions with commitments in broad fields of scholarship and education. The Institution's physical facilities for research are extensive and its collections constitute a unique resource for research in a number of disciplines, scientific and humanistic. The research staff of over 300 professional scholars and scientists works in the fields of American history, anthropology, astronomy and astrophysics, botany, art history, entomology, the history of cultures and technology, marine and terrestrial biology, mineral sciences, and paleontology. Much of their effort is interdisciplinary, emphasizing evolutionary and behavioral themes leading to a better understanding of man and his relationship to his surroundings. Over the past century, hundreds of students, guest research scholars, collaborators, and associates in cooperation with Smithsonian staff have successfully completed significant projects, establishing a tradition for the Institution. Their work may be viewed collectively as a leading contribution to our intellectual heritage. The Smithsonian's exhibit programs and related performing art presentations attract millions of visitors from all over the world to view the artistic, cultural, and technological achievements of the country and its peoples.

The Smithsonian administers five museums, a zoological park, five art galleries, seven other research laboratories and scientific centers, a number of associated national and international programs, and several administrative and central support activities. It is responsible for the maintenance, operations, and protection of eight major exhibition buildings and nine support facilities in the Washington area, a major astrophysical observatory with headquarters in Cambridge, Massachusetts, and a worldwide data gathering network, and a facility for tropical research centered in the Panama Canal Zone.

In the decade of the 1970s, the Institution has a number of closely related program objectives:

--To study and explain areas of science and the humanities which can increase man's knowledge and understanding of his environment as well as of himself.

--To achieve integration and mutual reinforcement within our arrays of reference resources of collections, books, and information services.

--To devote an increasing measure of time and effort to studies of cultural development and technological change and to improved educational displays bearing upon this theme.

The budget increases requested for fiscal year 1971 are presented in the following three sections:

--"Salaries and Expenses": increases for carefully selected regular operating programs (museums, galleries, laboratories, and support offices); and special programs to prepare for the celebration of the Bicentennial of the American Revolution, and to make significant contributions to increase man's knowledge of the environment.

--Special Foreign Currency.

--Restoration and Construction of buildings and facilities.

"Salaries and Expenses"

The President's Budget allows the Smithsonian to seek an increase in its "Salaries and Expenses" appropriation of $6,902,000 over a revised base of $29,465,000 for a total of $36,367,000. Of this increase, $3,125,000 represent the appropriation request for the National Zoological Park. The Administration has requested the Institution to assume responsibility for the operating budget of the Zoo since it too is a national exhibition resource. The balance of the requested increase, $3,777,000, includes $400,000 to help meet the higher pay costs of current employees, and $3,377,000 for program improvements. Difficult choices have been made to match this increase against the greatest needs. All but our most essential funding requirements have been deferred. No additional program funding is being requested for 15 of our operating bureaus and support activities. We have attempted to consolidate and direct our requested program increases to the following activities which we believe will result in the greatest return to the public.

Increasing Man's Knowledge and Understanding of Himself and His Environment

At the Smithsonian, we seek to study and hope to explain areas which can increase man's knowledge of his environment as well as his knowledge of himself. From this point of view of environment, the single most important need of our society today is to understand the patterns and the functioning of ecosystems. Man must learn to live in harmony with the biosphere, that small existing envelope of available land, water, and air which allows him to exist. On this understanding, man's physical and cultural future depend.

For over 100 years, Smithsonian scientists and research collaborators have studied the earth, its inhabitants, and the vast spaces that surround this planet. Ten research laboratories and program support activities are actively engaged in investigations on the complex components of this system and how they affect one another.

For fiscal year 1971, the Smithsonian is requesting additional funding in the amount of $1,350,000 for improved basic research, documentation, and education related to environmental assessment, monitoring, and prediction.

Integration and Mutual Reinforcement of Reference Resources

The Institution possesses an array of reference resources tracing man's physical, cultural, and technological development which is unmatched anywhere in the world. Our data bank of biological specimens may turn out in a hundred years to represent four or five times the genetic diversity then available to us, for by that time 75 to 80 percent of the species of living animals or plants may be extinct. The possession of these objects and data has enabled the Institution to perform research, produce exhibits, and publish basic reference works that have set standards in many fields of the natural and physical sciences and the humanities. It must continue to fill these national responsibilities in new and challenging ways.

Five years ago, the Institution first began to explore ways of developing its information resources to make them more accessible and useful, both for the needs of today's researcher as well as his successors. While some progress has been made, much more needs to be done in assembling this reference material for useful investigations. We are purposefully seeking ways to arrange our information resources so that each reinforces the others to the maximum practical extent. Not books separate from objects; not specialized information services separate from either; but rather integrated reference systems which can unite all three.

For fiscal year 1971, the Institution is seeking an additional $455,000 to continue this development work.

Studies and Displays of Cultural and Technological Development

In earlier times, nature was considered an enemy which had to be hacked, burned away, and pushed back in order to provide a setting for the proper development of civilization. Unfortunately, mankind never developed measures which would reveal whether or not his culture and his environment were ever competing with each other on terms of rough equality. Evidence seems to be mounting in our cities, our forests, our oceans, and our remote and barren regions that our material culture is not only dominating nature, but is in the process of overwhelming it.

As a nation, we have developed the knowledge and the capability to deal with many technological and economic priorities. Very little effort, however, has been devoted to demonstrating the delicate balance between nature and culture and the need to deal successfully with problems in these areas. Smithsonian research and exhibits will give increasing emphasis to man's survival in a rapidly changing environment. It is very important to provide to the public, especially to the younger generation, an understanding and appreciation of man's cultural background and how his artistic efforts and technological advances have contributed to the development of civilized life and what the future may hold. Preparations for the celebration of the 200th anniversary of the United States must give attention to reassessing ideals, reviewing national achievements, and placing in perspective the ethnic, cultural, and religious diversity which have consistently contributed to our country's development.

For fiscal year 1971, the Smithsonian is requesting $1,125,000 for the preparation of new art galleries and museums, for developing experimental exhibits for greater educational impact, and for preparations for the commemoration of the Bicentennial of the American Revolution.

An additional $447,000 are requested for administrative and central support services and for the maintenance, operation, and protection of buildings.

Special Foreign Currency Program

Provision has been made in the President's Budget for the Smithsonian to seek an increase of $2,184,000 in its Special Foreign Currency Program for a total of $4,500,000 in order to meet the increasing number of requests of American institutions. The need is to provide adequate support, without any dollar drain to the nation, for overseas archeological work, systematic and environmental biology, astrophysical studies, and museum programs of benefit to American institutes of higher learning. Ongoing research, based on a progressively broader authority to employ these funds, now consumes the entire appropriation. New demand, spurred by diminishing dollar funding of basic research and by greater research opportunities abroad, is intense. This program is showing important results in cultural and biological studies that are both timely and pertinent to many of the problems man is now facing.

Construction

The Smithsonian's construction requests for fiscal year 1971 consist of only the most essential improvements and additions to the physical plant of the Smithsonian.

The request for Construction and Improvements, National Zoological Park, amounts to $200,000. This is for funds for repairs and continued maintenance to keep those buildings and exhibits which will be replaced eventually in usable condition.

Included in the request of $1,130,000 for the Restoration and Renovation of Buildings are a number of projects to complete work in progress or to repair and make better use of existing facilities. Included in the request are: $300,000 to complete the Renwick Gallery of Art; $500,000 to construct second floor decks in the 90-year-old Arts and Industries Building to provide needed work space; $25,000 for continuing emergency repairs to deteriorating buildings at the Smithsonian Tropical Research Institute; $75,000 to construct a fumigation facility in the National Museum of Natural History; $50,000 to modify space in the Museum of Natural History Building for use by the Libraries; $80,000 for the preparation of plans and specifications for an off-Mall museum storage and study facility; and $100,000 for feasibility studies.

An appropriation of the remaining $8,897,000 is requested to liquidate the balance of the contract authority for the construction of the Joseph H. Hirshhorn Museum and Sculpture Garden. This building will be under construction in fiscal year 1970.

With the continued support of the Congress, the Smithsonian will work energetically to improve its performance in those areas of research, education, information dissemination, and exhibits that seem of special timeliness in the new decade.

SMITHSONIAN INSTITUTION

"Salaries and Expenses"

Summary Statement

Appropriation Act, Fiscal Year 1970	$28,134,000
Anticipated Supplemental	+1,431,000
Total Available, Fiscal Year 1970	29,565,000
Non-recurring	-100,000
Fiscal Year 1971 Base	29,465,000
Budget Estimate, Fiscal Year 1971	36,367,000
Increase, Fiscal Year 1971	$6,902,000

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Summary of Increases Fiscal Year 1971

Page		Amount
B-7	Necessary Pay-- for annualization of General Schedule and Wage pay raises and periodic step increases.....	$531,000
B-9	Office of the Director General of Museums-- to design and develop new educational exhibits and to provide training under the National Museum Act.....	75,000
B-11	National Museum of Natural History-- to apply computer systems to important botanical, vertebrate, invertebrate, and fossil collections, and to undertake special anthropological, geological, and marine invertebrate research projects.....	200,000
B-15	National Air and Space Museum-- for preservation and display of historic space objects in keeping with strong public interest sparked by the moon flights.....	50,000
B-17	National Zoological Park-- for the operation of the new Hospital-Research Building and other spaces, grounds care, animal purchases and food, and animal health programs.....	2,994,000
B-24	Anacostia Neighborhood Museum-- for continued successful operations of a community museum with special emphasis on workshop, craft, and instructional activities for children.....	75,000
B-25	Renwick Gallery of Art-- to prepare this restored and renovated museum of arts, crafts, and design for a planned public opening in fiscal year 1971	100,000
B-26	Joseph H. Hirshhorn Museum and Sculpture Garden-- to prepare the gift collections of art and sculpture for the opening of a major art gallery under construction on the Mall	375,000
B-28	Smithsonian Tropical Research Institute-- for an environmental monitoring program on Barro Colorado Island, building on 40-years of project research, and for comparative marine ecological studies	100,000
B-30	Radiation Biology Laboratory-- to operate, staff, and equip the new laboratory building in order to realize the research potential permitted by the authorized new space	200,000

B-32	Smithsonian Office of Ecology-- for baseline biological studies and property protection at the Chesapeake Bay Center for Environmental Studies--a geographic area of unusual economic importance	$55,000
B-34	Office of Oceanography and Limnology-- to sort, identify, and distribute backlogged marine biological and geological collections being requested by researchers for the study of marine resources	150,000
B-36	Center for the Study of Man-- to begin actual work on the revision of the Handbook of North American Indians (the standard reference in this field) and to fund grants for urgent anthropology studies.....	50,000
B-37	Center for Short-Lived Phenomena-- for the maintenance of a rapidly developing and responsive worldwide reporting system on biological, geophysical, and astrophysical events as they are occurring	25,000
B-39	American Revolution Bicentennial Program-- for scholarship, exhibitions and other presentations, and national cooperative assistance to other museums	400,000
B-44	Environmental Sciences Program-- to build on traditional Smithsonian competence in the sciences and the humanities for environmental assessment, prediction, and education.....	600,000
B-49	Academic Programs-- to serve college, university, and Smithsonian needs by providing additional opportunities for research and advanced study and to improve the elementary and secondary school tour program	75,000
B-51	Office of the Treasurer-- for strengthened financial management and postage and Workmen's Compensation requirements.....	60,000
B-52	Division of Performing Arts-- for production requirements of the American Folklife and College Theatre Festivals and assistance to state and local cultural groups	50,000
B-53	Office of Personnel and Management Resources-- to meet an increased personnel assistance workload created by new Smithsonian programs and additional Civil Service Commission requirements.....	50,000
B-54	Health Units-- to establish a health unit in the Arts and Industries Building to serve emergency needs of visitors and staff	10,000

B-55	Information Systems Division-- to improve the reference and research value of Smithsonian collections in art, history, and science by applying modern information storage and retrieval techniques.....	$100,000
B-56	Smithsonian Institution Libraries-- to correct serious deficiencies in its ability to serve the Institution and outside users by increasing book and journal purchases, binding and preservation, reference services, and the protection of gift and rare books.....	150,000
B-58	Photographic Services Division-- for exhibit and publication photographic services	25,000
B-59	Smithsonian Institution Press-- for the preparation of exhibition and collection catalogs and research reports.....	75,000
B-60	Buildings Management Department-- to meet the costs of operating, maintaining, and protecting the Renwick Gallery scheduled to open and to fund the higher costs of utilities, communications, and the repair and preventative maintenance of security and fire detection systems and elevators and escalators	327,000
	Total Increase.....	$6,902,000
	Nonrecurring	-100,000
	Net Increase, Fiscal Year 1971.....	$6,802,000

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Summary of the 1969 Appropriation and 1970 and 1971 Estimates

Page No.	Unit	1969 Actual Pos.	1969 Actual Amount	1970 Estimate Pos.	1970 Estimate Amount	1971 Estimate Pos.	1971 Estimate Amount	Analysis of Increases: Pay Increases 1/	Analysis of Increases: Program Pos.	Analysis of Increases: Program Amount
	1. Museums of Science and History (including research)									
B-9	Office of Director General of Museums...	5	$208,000	7	$240,000	10	$317,000	$2,000	3	$75,000
	Office of Exhibits	167	2,173,000	167	2,337,000	167	2,362,000	25,000	0	0
	Conservation Analytical Laboratory	10	116,000	11	151,000	11	154,000	3,000	0	0
	Office of the Registrar	28	271,000	29	302,000	29	305,000	3,000	0	0
	National Museum of History and Technology	154	1,869,000	155	2,056,000	155	2,085,000	29,000	0	0
B-11	National Museum of Natural History	258	3,456,000	258	3,674,000	268	3,930,000	56,000	10	200,000
B-15	National Air and Space Museum	41	505,000	41	570,000	45	625,000	5,000	4	50,000
B-17	National Zoological Park	0	0	0	0	252	3,125,000	131,000	252	2,994,000
	National Armed Forces Museum Adv. Bd.	7	129,000	7	148,000	7	151,000	3,000	0	0
B-24	Anacostia Neighborhood Museum	4	42,000	8	82,000	12	159,000	2,000	4	75,000
	Total, Museums of Science & History	674	8,769,000	683	9,560,000	956	13,213,000	259,000	273	3,394,000
	2. Art Galleries									
	Freer Gallery of Art	7	37,000	7	54,000	7	56,000	2,000	0	0
B-25	National Collection of Fine Arts	56	951,000	56	1,043,000	60	1,155,000	12,000	4	100,000
	National Portrait Gallery	27	568,000	27	818,000	27	824,000	6,000	0	0
B-26	Joseph H. Hirshhorn Museum and Sculpture Garden	7	149,000	13	347,000	20	726,000	4,000	7	375,000
	Total, Art Galleries	97	1,705,000	103	2,262,000	114	2,761,000	24,000	11	475,000
	3. Research Activities (other than museums)									
	Smithsonian Astrophysical Observatory	54	1,898,000	57	2,060,000	57	2,074,000	14,000	0	0
B-28	Smithsonian Tropical Research Institute	23	409,000	38	460,000	43	571,000	11,000	5	100,000
B-30	Radiation Biology Laboratory	32	399,000	36	789,000	40	998,000	9,000	4	200,000
B-32	Office of Ecology	5	110,000	5	133,000	8	190,000	2,000	3	55,000
B-34	Office of Oceanography and Limnology	18	310,000	18	336,000	26	496,000	10,000	8	150,000
B-36	Center for the Study of Man	1	82,000	2	113,000	5	164,000	1,000	3	50,000
B-37	Center for Short-Lived Phenomena	0	0	0	10,000	1	35,000	0	1	25,000
	Smithsonian Research Awards	0	400,000	0	400,000	0	400,000	0	0	0
	Total, Research Activities	133	3,608,000	156	4,301,000	180	4,928,000	47,000	24	580,000
	4. Special Programs									
B-39	American Revolution Bicentennial	0	0	0	0	5	400,000	0	5	400,000
B-44	Environmental Sciences Program	0	0	0	0	14	600,000	0	14	600,000
	Total, Special Programs	0	0	0	0	19	1,000,000	0	19	1,000,000

Page No.	Unit	1969 Actual Pos.	1969 Actual Amount	1970 Estimate Pos.	1970 Estimate Amount	1971 Estimate Pos.	1971 Estimate Amount	Analysis of Increases: Pay Increases 1/	Analysis of Increases: Program Pos.	Analysis of Increases: Program Amount
	5. Other Activities									
B-49	Academic Programs	17	$544,000	18	$535,000	20	$615,000	$5,000	2	$75,000
	Office of International Activities	6	104,000	6	112,000	6	114,000	2,000	0	0
	International Exchange Service	9	114,000	9	120,000	9	124,000	4,000	0	0
	Woodrow Wilson International Center	0	0	2	100,000	0	0	0	-2	-100,000
	Office of the Secretary	26	475,000	29	452,000	29	460,000	8,000	0	0
	Management Support	33	441,000	33	397,000	33	406,000	9,000	0	0
B-51	Office of the Treasurer	31	558,000	31	542,000	33	607,000	5,000	2	60,000
	Division of Performing Arts	7	204,000	7	168,000	9	221,000	3,000	2	50,000
B-53	Office of Personnel & Management Support	16	259,000	16	293,000	19	347,000	4,000	3	50,000
B-54	Health Units	2	48,000	2	50,000	3	61,000	1,000	1	10,000
	Office of Public Affairs	12	232,000	12	237,000	12	239,000	2,000	0	0
	Supply Division	20	276,000	20	327,000	20	331,000	4,000	0	0
B-55	Information Systems Division	8	171,000	10	163,000	14	267,000	4,000	4	100,000
B-56	Smithsonian Institution Libraries	44	586,000	44	629,000	52	793,000	14,000	8	150,000
B-58	Photographic Services Division	18	218,000	18	237,000	20	265,000	3,000	2	25,000
B-59	Smithsonian Institution Press	20	577,000	21	658,000	23	740,000	7,000	2	75,000
	Total, Other Activities	269	4,807,000	278	5,020,000	302	5,590,000	75,000	24	495,000
B-60	6. Buildings Management Department									
	History and Technology	254	2,290,000	254	2,512,000	254	2,594,000	38,000	0	44,000
	Natural History	242	2,380,000	242	2,590,000	242	2,661,000	36,000	0	35,000
	Fine Arts and Portrait Galleries	88	660,000	114	890,000	114	944,000	16,000	0	38,000
	Smithsonian Institution	59	496,000	59	546,000	59	571,000	9,000	0	16,000
	Arts and Industries	92	680,000	92	773,000	92	794,000	13,000	0	8,000
	Renwick Gallery of Art	7	42,000	7	73,000	27	254,000	1,000	20	180,000
	All Other Buildings	85	883,000	89	948,000	89	967,000	13,000	0	6,000
	Rehabilitation Projects	0	20,000	0	90,000	0	90,000	0	0	0
	Total, Buildings Management	827	7,451,000	857	8,422,000	877	8,875,000	126,000	20	327,000
	Grand Total, "Salaries and Expenses"	2,000	$26,340,000	2,077	$29,565,000	2,448	$36,367,000	$531,000	371	$6,271,000

SMITHSONIAN INSTITUTION
SALARIES AND EXPENSES, FISCAL YEAR 1971

JUSTIFICATIONS

1/ Pay Increases

Need for Increase--An increase of $531,000 is required to finance existing positions. This total is made up of funds for personnel compensation ($494,000) and personnel benefits ($37,000). An amount of $400,000 of this request is for the existing staff of the Smithsonian Institution currently being financed from the appropriation "Salaries and Expenses." The other $131,000 is for similar types of pay requirements for the employees of the National Zoological Park. The National Zoological Park employees have been financed from funds advanced from the District of Columbia, but in fiscal year 1971 it is proposed to transfer the financing directly to the Smithsonian.

The requested increase is made up of the following components:

(1) Annualization of the pay raise granted to current General Schedule employees on July 13, 1969..... $53,000

(2) Annualization of the Wage Grade increases granted in October 1969 and to local rate employees in the Canal Zone $172,000

(3) Periodic step-increases in accordance with the Government Employees Salary Reform Act of 1964 and step-increases granted to Wage Grade employees in accord with prevailing Government-wide practices will cost an additional $255,000. This includes the portion of the fiscal year 1971 step-increases to be paid in that year and the carryover cost from fiscal year 1970. The apparent cost was determined through a position-by-position study and has been reduced to real cost by projected offsets resulting from employees being separated or promoted before receiving step-inc increases and from filling some positions at a lower grade step than the former incumbents held..... $255,000

(4) To finance the pay raise granted to the police force at the National Zoological Park by Public Law 91-34, approved June 30, 1969..... $40,000

(5) To finance positions at the National Zoological Park that were funded for only part of the year during fiscal year 1970..... $11,000

A thorough examination of Smithsonian operations has been made to determine and apply the maximum possible degree of absorption in all areas of increased pay. Absorption of an additional amount in fiscal year 1971 is impossible in the face of present workloads and nondeferrable expenses. Over three years, the Smithsonian has absorbed approximately $400,000 of the several General Schedule and Wage pay increases. In fiscal year 1970, 78 percent of the total operating appropriations are devoted to the largely nondiscretionary costs of payroll, benefits, rent, communications, and utilities. Additional funds for pay purposes in fiscal year 1971 could be found only by forced cuts in employment or by diverting a large portion of the remaining operating funds appropriated to the Smithsonian to rectify material and equipment shortages in its museums, galleries, and laboratories.

SMITHSONIAN INSTITUTION

"Salaries and Expenses"

Necessary Pay Increases Fiscal Year 1971

Organizational Unit	Annualization GS Pay Raise	Annualization Wage Raise	Within-Grade Increases	Other	Total
United States National Museum:					
Office of the Director General of Museums	0	0	$2,000		$2,000
Office of Exhibits	$3,000	$2,000	20,000		25,000
Conservation Analytical Laboratory	0	0	3,000		3,000
Office of the Registrar	0	0	3,000		3,000
National Museum of History and Technology	3,000	0	26,000		29,000
National Museum of Natural History	8,000	0	48,000		56,000
National Air and Space Museum	1,000	1,000	3,000		5,000
National Armed Forces Museum Advisory Board	0	0	3,000		3,000
Anacostia Neighborhood Museum	0	0	2,000		2,000
Freer Gallery of Art	0	0	2,000		2,000
National Collection of Fine Arts	1,000	0	11,000		12,000
National Portrait Gallery	1,000	0	5,000		6,000
Joseph H. Hirshhorn Museum and Sculpture Garden	1,000	0	3,000		4,000
Smithsonian Astrophysical Observatory	3,000	0	11,000		14,000
Smithsonian Tropical Research Institute	2,000	6,000	3,000		11,000
Radiation Biology Laboratory	1,000	0	8,000		9,000
Office of Ecology	0	0	2,000		2,000
Office of Oceanography and Limnology	1,000	0	9,000		10,000
Center for the Study of Man	0	0	1,000		1,000
Academic Programs	0	0	5,000		5,000
Office of International Activities	0	0	2,000		2,000
International Exchange Service	0	2,000	2,000		4,000
Office of the Secretary	1,000	0	7,000		8,000
Management Support	1,000	0	8,000		9,000
Office of the Treasurer	1,000	0	4,000		5,000
Division of Performing Arts	0	0	3,000		3,000
Supply Division	1,000	0	3,000		4,000
Office of Personnel	1,000	0	3,000		4,000
Health Units	0	0	1,000		1,000
Office of Public Affairs	0	0	2,000		2,000
Information Systems Division	1,000	0	3,000		4,000
Smithsonian Institution Libraries	1,000	0	13,000		14,000
Photographic Services Division	0	0	3,000		3,000
Smithsonian Institution Press	0	0	7,000		7,000
Buildings Management Department	6,000	120,000	0		126,000
National Zoological Park	15,000	41,000	24,000	51,000	131,000
Total	$53,000	$172,000	$255,000	$51,000	$531,000

SMITHSONIAN INSTITUTION

"Salaries and Expenses"

Necessary Pay Increases Fiscal Year 1971

Organizational Unit	Annualization GS Pay Raise	Annualization Wage Raise	Within-Grade Increases	Other	Total
United States National Museum:					
Office of the Director General of Museums	0	0	$2,000		$2,000
Office of Exhibits	$3,000	$2,000	20,000		25,000
Conservation Analytical Laboratory	0	0	3,000		3,000
Office of the Registrar	0	0	3,000		3,000
National Museum of History and Technology	3,000	0	26,000		29,000
National Museum of Natural History	8,000	0	48,000		56,000
National Air and Space Museum	1,000	1,000	3,000		5,000
National Armed Forces Museum Advisory Board	0	0	3,000		3,000
Anacostia Neighborhood Museum	0	0	2,000		2,000
Freer Gallery of Art	0	0	2,000		2,000
National Collection of Fine Arts	1,000	0	11,000		12,000
National Portrait Gallery	1,000	0	5,000		6,000
Joseph H. Hirshhorn Museum and Sculpture Garden	1,000	0	3,000		4,000
Smithsonian Astrophysical Observatory	3,000	0	11,000		14,000
Smithsonian Tropical Research Institute	2,000	6,000	3,000		11,000
Radiation Biology Laboratory	1,000	0	8,000		9,000
Office of Ecology	0	0	2,000		2,000
Office of Oceanography and Limnology	1,000	0	9,000		10,000
Center for the Study of Man	0	0	1,000		1,000
Academic Programs	0	0	5,000		5,000
Office of International Activities	0	0	2,000		2,000
International Exchange Service	0	2,000	2,000		4,000
Office of the Secretary	1,000	0	7,000		8,000
Management Support	1,000	0	8,000		9,000
Office of the Treasurer	1,000	0	4,000		5,000
Division of Performing Arts	0	0	3,000		3,000
Supply Division	1,000	0	3,000		4,000
Office of Personnel	1,000	0	3,000		4,000
Health Units	0	0	1,000		1,000
Office of Public Affairs	0	0	2,000		2,000
Information Systems Division	1,000	0	3,000		4,000
Smithsonian Institution Libraries	1,000	0	13,000		14,000
Photographic Services Division	0	0	3,000		3,000
Smithsonian Institution Press	0	0	7,000		7,000
Buildings Management Department	6,000	120,000	0		126,000
National Zoological Park	15,000	41,000	24,000	51,000	131,000
Total	$53,000	$172,000	$255,000	$51,000	$531,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

OFFICE OF DIRECTOR GENERAL OF MUSEUMS

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	7	3	10
11 Personnel Compensation	$ 134,000	$ 31,000	$165,000
12 Personnel Benefits	9,000	2,000	11,000
21 Travel & Transp. of Persons	12,000	2,000	14,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	1,000	0	1,000
25 Other Services	73,000	27,000	100,000
26 Supplies and Materials	1,000	1,000	2,000
31 Equipment	10,000	14,000	24,000
TOTAL	$240,000	$77,000	$317,000
Analysis of Total			
Pay Increases	$5,000	$2,000	$7,000
Program	$235,000	$75,000	$310,000

Specification of Increase (Program):

Experimental Exhibits and Museum Education (2 positions, $43,000)

Museums teach people about real things and arrange objects and happenings in perspective. By this relevance, museums can and do stimulate the viewer's interest and his desire to learn more about a specific subject. The Smithsonian believes that it and other museums can do a better job of supplementing and reinforcing formal education at all academic levels, especially at the elementary and secondary levels, by developing, testing, and getting visitor reactions to new exhibit techniques. This request is for an experimental psychologist and an experimental exhibits specialist ($25,000) to plan and evaluate exhibition techniques. This staff will require funds for travel ($2,000), other services ($1,000), supplies ($1,000), and equipment ($14,000) to install test devices.

Museum Training Under the National Museum Act (1 position, $32,000)

The Smithsonian receives about 1,000 requests a year from other museums and national and international associations of museums to provide training for museum personnel in conservation, exhibition, and other museum practices. Although the Institution can provide advice and informal on-the-job training (500 persons visited the Smithsonian for these purposes over the last year or so), it cannot meet these growing requirements in an adequate way. A program assistant ($6,000) and $26,000 for cooperative training grants and museum surveys and studies are requested.

OFFICE OF DIRECTOR GENERAL OF MUSEUMS

1969 Actual	$208,000
1970 Estimate	$240,000
1971 Estimate	$317,000

The Office of the Director General of Museums provides program planning and review of the Smithsonian Institution's museum and exhibition activities with special emphasis on developing educational exhibits, surveying the impact of the Smithsonian on the visiting public, and providing assistance to other museums. It works cooperatively with museum professionals in the United States and abroad to increase the effectiveness of museums in the performance of their scholarly and public functions.

An increase of $75,000 is requested to improve the educational effectiveness of exhibits and to increase museum training opportunities under the National Museum Act. An amount of $2,000 is sought for necessary pay purposes.

Need for Increase

1. Experimental exhibits and museum education (2 positions, $43,000)

Museums teach people about real things and arrange objects and happenings in perspective. This is why they attract the public, particularly young people. This relevance is frequently lacking in other ways our young people are taught. As an example, dates are being eliminated from the study of social science because it is assumed they have no contextual value. Eliminating perspective is also a failure of informal learning media. The scale of time is lost on television where everything is instant, and nations of men can be born, live, and die, all within an hour's time.

The use of museums to stimulate interest, to create the desire to learn, and to encourage learning by the students' own efforts outside the classroom is increasingly required to strengthen faltering education at all levels. The Smithsonian's broad sweep of museums, large attendance, and comprehensive collections provide unequalled opportunities to experiment and develop new concepts of communication and museum education. The Smithsonian hopes to produce educational exhibits which will complement current elementary and secondary instructional practices. An important aspect of this effort will be to analyze the reaction and responses of the public, particularly children, to the Institution's exhibits in a constant effort to produce more effective displays.

Actions to date have included a seminar on museum communication and techniques to involve viewers with exhibits and collect information about their reactions. The visitors' survey is continuing. A summer institute on exhibit objectives and methods has been held. The Institution has explored ways of producing exhibitions on issues and concerns of the times that will permit the viewer to make choices of priorities and solutions, to see the consequences of his decisions, and to register his likes and dislikes. Several recent temporary exhibits have tried simple experimentation techniques.

Continued efforts to implement new techniques will be of great value to the Smithsonian's museums and other museums concerned with continually improving their public education efforts. Funding is requested for an experimental psychologist and an experimental exhibit specialist to plan and develop exhibition tests and to evaluate results ($25,000). Services, supplies, and equipment, including the development and installation of test devices and the construction of exhibits, will add $18,000.

2. Museum training under the National Museum Act (1 position, $32,000)

Increased museum training opportunities under the National Museum Act for personnel from other museums and related organizations also will help to strengthen the public service capabilities of museums. About 1,000 requests a year are received from all parts of the United States and the world to provide training for museum personnel in the conservation of museum objects, in exhibition, in techniques of museum education, in administration and in the management of collections. National and international associations of museums urge surveys and studies of broad museum problems. They seek advice and require support for the purpose of setting standards of museum performance and professionalism in order to improve museum practices and to accredit museums. Training, standards, and accreditation are three of the principal needs of American museums described in the Belmont Report prepared by the American Association of Museums in response to former President Johnson's request. The Report recognizes the special capabilities of the Smithsonian Institution to aid these studies and provide training.

Within existing resources, the laboratories and offices of the Smithsonian have responded. More than 500 museum personnel have come from other institutions to spend from a day to a year seeking specialized advice and learning techniques. These visitors came from 35 states and 25 foreign countries. Smithsonian resources are not adequate, however, to meet the growing requirements for museum assistance and development. A program assistant ($6,000) and $26,000 for cooperative training grants, surveys, and studies with other museums are requested.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

NATIONAL MUSEUM OF NATURAL HISTORY

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	258	10	268
11 Personnel Compensation	$ 3,078,000	$ 120,000	$ 3,198,000
12 Personnel Benefits	231,000	9,000	240,000
21 Travel & Transp. of Persons	61,000	28,000	89,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	15,000	0	15,000
24 Printing and Reproduction	0	0	0
25 Other Services	90,000	32,000	122,000
26 Supplies and Materials	90,000	15,000	105,000
31 Equipment	109,000	52,000	161,000
TOTAL	$ 3,674,000	$ 256,000	$ 3,930,000
Analysis of Total			
Pay Increases	$266,000	$56,000	$322,000
Program	$3,408,000	$200,000	$3,608,000

Specification of Increase (Program):

Electronic Data Processing for Collections Management (8 positions, $105,000)

If this Museum is to continue to serve as a base for important research projects, it must make its collections and their accompanying data more accessible to researchers and scholars. Electronic data processing provides the only means by which this can be done. Several collections have been identified as being of particular importance--fossils, botany, invertebrates, and vertebrates. These collections are of importance because of their scientific significance as well as their use by oil geologists, forest breeders, oceanographers, and conservationists. To establish data banks for these collections will require eight museum technicians and specialists ($55,000), and funds for supplies and materials ($4,000), equipment ($27,000), and other services ($19,000).

Special Projects in Archeology, Biology, and Marine Sciences (2 positions, $95,000)

The Museum has identified several projects as being particularly important because of their scientific merit and reference to current problems. A major archeological and ecological exploration of the Seistan is important because it will contribute to our knowledge of how a society is affected by a drastic change in its environment. A study of invertebrate organisms of Panama, to be done with the assistance of the Smithsonian Tropical Research Institute, provides an opportunity to study closely related organisms inhabiting adjacent but distinctive areas. A study of sea floor spreading and deep-sea rocks will provide an insight into the earth's crustal movements. For these projects, the Museum will require a petrologist and a scientific illustrator ($18,000), and funds for travel ($28,000), supplies and materials ($11,000), equipment ($25,000), and other services ($13,000).

NATIONAL MUSEUM OF NATURAL HISTORY

1969 Actual	$3,456,000
1970 Estimate	$3,674,000
1971 Estimate	$3,930,000

The National Museum of Natural History has been performing a comprehensive program of basic research for over 100 years. This research has been directed at obtaining a better understanding of man, plants, animals, and rocks, both recent and fossil. In pursuit of this end, in fiscal year 1969 the Museum's scientists engaged in approximately 340 research projects throughout the world and produced over 450 publications. Because the Museum directs its efforts at uncovering the basic facts, laws, and relationships that exist among plants, animals and the Earth, its work serves as a foundation for much of the applied research being carried on by others. For instance, a joint Smithsonian/National Institutes of Health program has been started to utilize the Institution's resources and collections to study the occurrence of abnormal cancer-like growths in lower animals in order to aid the search for cancer antibodies. Museum scientists have provided advice to dozens of federal agencies in subjects ranging from astronomy to pollution control; in fiscal year 1969, over 73,000 specimens from the collections were lent to scientists and researchers. In addition to their research roles, the Museum's staff develops and designs the many exhibits on public display in the Natural History building on the Mall.

In order to continue to fulfill its research responsibilities and provide assistance to the scientific community, an increase of $200,000 is requested. This increase will be used to provide improved access to information in the collections, a major archeological/ecological project, a study of marine organisms in Panama, and a study of sea floor spreading. An additional $56,000 are requested for necessary pay increases.

Need for Increase

1. Electronic Data Processing for Collections Management

If this Museum is to continue to serve as a base for important research projects, it must make its collections and their accompanying data more accessible to the community of scholars. At the present time, information relating to these specimens can only be obtained by a time-consuming search through the collections themselves as well as through logs, journal books, and other records. This search often requires the expenditure of tens or hundreds of man-hours of professional and semiprofessional effort for a single project and leads to significant increases in project costs.

Electronic data processing (EDP) techniques provide the means by which the Museum may properly handle the increasing volume of specimens and specimen-related data. A pilot study in collections management has been underway through a two-year grant (ending June 1970) from the Department of Health, Education, and Welfare, with the collaboration of the Smithsonian's Information Systems Division. This study has determined that by the application of EDP techniques considerable savings in time and effort and significant improvements in the quality of research can be achieved.

It is proposed that EDP techniques be applied to those collections that are regarded as being of unusual importance because of their use, size, and relevance to research projects being conducted within the Smithsonian and elsewhere. Four projects of particular usefulness are the following.

Data bank for the collection of fossils (3 positions, $30,000)

The collection of fossils in the Department of Paleobiology is the largest in the United States, and one of the most important in the world. This collection is used by scientists and researchers both here and abroad in studies involving the evolution of animal and plant organisms, locations, adaptation, and for comparative analysis of species of plants and animals. This information is essential, for instance, in oil exploration. No comprehensive study of fauna fossils can be made without reference to this collection, yet no catalog or card file on it is available. As a result, the scientific community cannot make full use of this material. Three museum technicians ($20,000) and $10,000 for supplies, equipment, and other services are required to establish a data bank of specimens. After the establishment of this data bank, the present staff would maintain and update the computer file as additional specimens are collected and identified.

Type register of botanical collections (1 position $20,000)

A herbarium is a botanical Bureau of Standards, for the results of any botanical research project, whether it be a breeding program, an investigation into the physiology of forest trees, or an inquiry into processes of evolution, may be worthless if the researcher does not know the species with which he is dealing. The criteria for assigning a plant to a given species ultimately involves comparison with a single specimen known as the "type" which is the "standard" for that particular species or subspecies. Since there is a type specimen, not only for every species of flowering plant but also for every variety, the total number of types is very high--approximately 60,000 in the United States National Herbarium in the Smithsonian alone. Other types are scattered throughout the herbaria of the world.

The type register of the Smithsonian's Department of Botany is the first attempt to compile a catalog of types along with their locations and other information needed by the botanist. Important botanical institutions in the United States and abroad, such as the New York and Missouri Botanical Gardens, the Royal Botanic Gardens in Kew, England, and the National Museum of Canada, are cooperating in planning for, and will participate in, this project by interchanging information with the Smithsonian. A museum technician ($9,000) and $11,000 for travel, supplies, equipment, and other services are requested in order to establish a type register of botanical collections.

Data bank for the collections of invertebrates (3 positions, $35,000)

The extensive collections maintained by the Department of Invertebrate Zoology are a potential source of an enormous amount of basic information on the distribution and ecology of the largest bulk of marine animals, the invertebrates. In their present state, these collections are essential to zoologists studying these organisms, but their utility as an environmental information resource has barely been tapped. The computer data base on crustacea, nematode worms, and cephalopod mollusks would first be broadened and then files for collecting station and ecological data relating to these collections would be developed. The completion of this project would enhance the value and use of the collection as an information resource to oceanographic investigations, including studies of food resources. Three museum technicians ($17,000) and $18,000 for supplies, equipment, and other services are requested for this project.

Data bank for higher animals and endangered species (1 position, $20,000)

The Department of Vertebrate Zoology has more than 20,000 species of birds, mammals, reptiles, amphibians, and fish in its collections. For several years, data on some specimens of both previously accessioned birds and newly acquired fish, reptiles, amphibians, birds, and mammals have been cataloged on paper tape output typewriters in a catalog format compatible with computer processing.

Data on seabirds have already been stored, as well as on some specimens of rare and endangered species. Seabirds are important because they are a discrete ecological unit of animals which range widely over vast expanses of ocean. Their distribution and habits are of use to commercial and sport fishermen in locating exploitable fish schools as well as to scientists who are attempting to understand the complex interrelationships of oceanic life. However, the distribution and abundance of most species of seabirds remains unknown because the large volume of data on identified museum specimens cannot be easily processed by hand.

It is proposed to continue the computer entry of selected bird and mammal data for research use and to investigate the feasibility of storing data from other vertebrate collections in the computer. A museum specialist ($9,000) and $11,000 for supplies, equipment, and other services are needed to extend this coverage on a worldwide basis in response to the needs for current research and for enforcement of the Rare and Endangered Species Act passed in 1969. In addition, published catalogs of vertebrates in the National Collections would be updated since they range in age from five to 27 years, and then distributed to research scientists in this country and abroad.

2. Special Projects in Archeology, Biology, and Marine Sciences

The following projects have been chosen because of their importance to the scientific community and their relevance to current problems.

The Seistan project is a major interdisciplinary program to study an area that has had drastic changes in its climate over a period of several hundred years. A study of this area hopefully will reveal the social and economic stresses that occurred in this community and the reasons the community was unable to adapt to the changing climate.

The study of invertebrate animals in Panama is an attempt to understand how natural or manmade stresses affect the composition, distribution, and relationships of various species of invertebrate animals. Such a study would be of value in the evaluation of conditions that may cause long-term changes in the environment.

The study of sea floor spreading and deep-sea rocks is basic to an understanding of the geological behavior of the earth's crust. This project is significant because crustal movements have been shown to cause uprisings of large masses of land, alterations in coastlines, and many times, violent earthquakes.

Major archeological and ecological project in Seistan ($40,000)

Seistan is the region of southwestern Afghanistan and southeastern Iran where large moving sand dunes, extensive salt flats, strong winds from 40 to 120 miles per hour, and temperatures from 130° F in summer to below 0° F in winter make the region almost uninhabitable except for the narrow valley of the Helmand River. However, from at least the 6th century B.C. until the 15th century A.D., this region of approximately 10,000 square miles was extensively populated and had been described as the "grainery of Asia." This is evidenced today by the ruins of dozens of fortified farm "communes," two cities, each nearly a mile square, and complex water distribution systems.

An intensive study of this site is of particular importance since it can reveal the basic reasons why a relatively complex and sophisticated society was unable to adapt to a change in its environment. Preliminary studies and field investigations begun in 1964 have been made to determine the feasibility of initiating a major ecological project. The nature of the ancient habitations in this region

clearly indicates the need for a broadly based study not limited simply to archeology but including extensive studies in ancient and contemporary hydrography and agriculture, together with basic research on geomorphology, climate, botany (especially archeobotany and palynology), zoology, and limnology of this region--all being closely interrelated factors in the ancient society which developed in this region and flourished until the 15th century.

This project will use the present staff of the National Museum of Natural History; however, $40,000 are requested for support in the form of travel, equipment, supplies, and other services. The research program would be conducted in cooperation with the Afghani Government, the Kabul University Research Center, the Cartographic Institute, and the Helmand Valley Authority of Afghanistan. Scientific staffs from other institutions such as Harvard University, the University of Michigan, and Washington University in St. Louis will also participate in this project.

Invertebrate animals in coastal areas of Panama (1 position, $30,000)

Little information is available on the invertebrates occurring on each side of the isthmus of Panama. This project would initiate fundamental studies on species composition, distribution, and the ecology of marine invertebrates in this area. Panama is of particular interest not only because of the possibility of vast fauna changes as a result of the construction of the proposed sea level canal, but also because it provides an opportunity to study closely related organisms inhabiting adjacent, but distinctive, habitats in tropical areas. The Gulf of Panama is an area of high productivity and upwelling, whereas the environment of the Caribbean appears to be more stable. Success of this project is dependent upon cooperation between the Museum, including its divisions of crustacea and mollusks, and the Smithsonian Tropical Research Institute.

The professional staff for this project will be drawn from the Museum. However, a scientific illustrator ($6,000) will be needed to devote full time to the project. An additional $24,000 are requested for support in the form of travel, equipment, supplies, and other services.

Sea floor spreading and the origin of deep-sea rocks (1 position, $25,000)

This project will involve the study of the origin of deep-sea rocks and the establishment of a systematic collection of such rocks. The information in such a collection would be of importance in determining, for instance, changes in coastlines and shifts in the earth's crust that cause stresses leading to earthquakes. Also, since knowledge about rocks from the deep-sea floor is relatively new, the Museum's collection of deep-sea rocks (which is already one of the largest in the world) serves as a unique resource for understanding and exploiting the seas. Models of sea floor spreading and continental drift now being developed by a number of federal and private institutions are closely tied to the availability of a comprehensive collection and to accurate identifications of deep-sea rocks. The proposed program would permit the participation by Smithsonian scientists in voyages of ocean research vessels and other ships in order to do deep-sea sampling and to conduct laboratory studies and analyses of these samples.

A petrologist ($13,000) and $12,000 for travel, equipment, supplies, and other services support are requested for this project.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

NATIONAL AIR AND SPACE MUSEUM

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	41	4	45
11 Personnel Compensation	$ 356,000	$ 37,000	$ 393,000
12 Personnel Benefits	27,000	2,000	29,000
21 Travel & Transp. of Persons	14,000	2,000	16,000
22 Transportation of Things	25,000	7,000	32,000
23 Rent, Comm. and Utilities	3,000	0	3,000
24 Printing and Reproduction	5,000	0	5,000
25 Other Services	69,000	2,000	71,000
26 Supplies and Materials	35,000	2,000	37,000
31 Equipment	36,000	3,000	39,000
TOTAL	$ 570,000	$ 55,000	$ 625,000
Analysis of Total			
Pay Increases	$40,000	$5,000	$45,000
Program	$530,000	$50,000	$580,000

Specification of Increase (Program):

Space Artifacts Program (4 positions, $50,000)

More than two million persons a year are now visiting the Smithsonian's air and space displays to see such exciting objects as Apollo spacecraft and a one-pound lunar rock. These and many other historically and technologically important objects are being transferred to the Smithsonian under the terms of a 1967 agreement with the National Aeronautics and Space Administration. The NASA provided $199,000 to start a program of preservation, exhibition, and loan of these objects. The Institution stretched these funds through fiscal year 1969, but they are now exhausted. The strong public interest and educational benefits in this program require that it continue. To do so, the Smithsonian requires a curator, a research assistant, and two support staff ($34,000) and funds for travel to inspect prospective transfers ($2,000), the shipping of objects ($7,000), and services, supplies, and equipment to handle and preserve spacecraft ($7,000).

NATIONAL AIR AND SPACE MUSEUM

1969 Actual	$505,000
1970 Estimate	$570,000
1971 Estimate	$625,000

The National Air and Space Museum is the nation's center for exhibition, education, and research in the history and principles of air and space flight. It maintains the world's greatest collection of objects related to flight and is a unique resource for research in aviation and aerospace history, in flight science and technology, in the impact of man-flight on the cultural life and economy of America, and in the pioneering efforts of early aviators and astronauts. This growing collection now consists of more than 200 technically and historically important aircraft, more than 300 engines, 1,000 air and spacecraft models, and a vast array of related equipment. Supplementing the physical specimens are extensive holdings of records resulting from air and space research, development and operations, films, art works, and memorabilia that are available to students, historians, biographers, technicians, and engineers. Drawing upon these resources, the Museum produces exhibits portraying the past, present, and future of aeronautics in America.

An increase of $50,000 is requested to continue the program of acquiring, preserving, and displaying important space objects. An additional $5,000 are requested for necessary pay increases.

Need for Increase--The National Air and Space Museum was originally established as a museum concerned with aviation alone. The Act of July 19, 1966, extended the Museum's responsibility to include space history and technology. Under the provisions of the 1967 Agreement on Space Artifacts between the Smithsonian Institution and the National Aeronautics and Space Administration, the Museum has acquired priceless objects marking the successful accomplishments of the United States' space program.

The most significant of these specimens are placed on exhibit; for example, Apollo and Surveyor spacecraft, Apollo spacesuits, Saturn rocket engines, and a one-pound lunar rock from the Apollo 11 flight. The remainder of the exhibitable specimens are loaned to other museums, and through the United States Information Agency and the Department of Commerce for exhibit in U.S.-sponsored exhibits abroad. These exhibits represent the rapidly evolving technology of space flight. With the successful lunar landings in 1969, visitor attendance tripled in the Fall of 1969 compared with 1968. More than two million persons are now visiting air and space displays annually.

In view of wide public discussion as to the extent to which the United States may be involved in future space missions--whether there will be orbiting research laboratories, recoverable space boosters, extensive lunar explorations, or a landing on Mars--the Smithsonian has a unique opportunity to educate the public by exhibits of actual space material. Such exhibits require not only the display of objects but also an interpretation of the accomplishments and the resulting benefits to all mankind.

The collection of spacecraft and related materials is continually increasing. This program cannot be continued successfully within the Federal appropriation available to the Museum. Research and documentation of these artifacts for exhibit require specialized curatorial skills not now available. Because of the need for inspection of available materials stored in many locations throughout the country, considerable travel is required. Many objects are large and heavy, and costly to ship, and they require special services, supplies, and equipment for protection.

In fiscal year 1968, the NASA funded initial operations of the space artifacts program in the amount of $199,000. This was a one-time contract for one-year budget. Funds were stretched over a second year in fiscal year 1969. These funds are no longer available. To meet the responsibilities of the NASA/Smithsonian agreement and to properly exhibit and display these artifacts to the American public, a minimum requirement of $34,000 is needed for a curator, a secretary, a research assistant, and a clerk-typist. An additional $16,000 are requested for travel, transportation of objects, supplies and materials, equipment, and other services.

NATIONAL ZOOLOGICAL PARK

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	246	6	252
11 Personnel Compensation	$ 2,157,000	$ 164,000	$2,321,000
12 Personnel Benefits	165,000	12,000	177,000
21 Travel & Transp. of Persons	6,000	5,000	11,000
22 Transportation of Things	3,000	0	3,000
23 Rent, Comm. and Utilities	86,000	12,000	98,000
24 Printing and Reproduction	1,000	0	1,000
25 Other Services	39,000	3,000	42,000
26 Supplies and Materials	302,000	43,000	345,000
31 Equipment	55,000	72,000	127,000
TOTAL	$2,814,000	$ 311,000	$3,125,000
Analysis of Total			
Pay Increases	$112,000	$131,000	$243,000
Program	$2,702,000	$180,000	$2,882,000

Specification of Increase (Program): (Details on Following Pages)

Office of Director (4 positions, $62,000)

Planning and Design Unit; staffing the Hospital-Research Building; increased costs of operating items.

Operations and Maintenance Department (1 position, $68,000)

Steam distribution system; building and custodial supplies and materials; equipment replacement.

Department of Living Vertebrates ($23,000)

Animal purchases; animal food; equipment replacement.

Scientific Research Department (1 position, $9,000)

Animal care in laboratories.

Animal Health Department ($18,000)

Medical data system.

NATIONAL ZOOLOGICAL PARK

1969 Actual..... $2,528,000*
1970 Estimate..... $2,814,000*
1971 Estimate..... $3,125,000

The National Zoological Park was founded by Congress in 1889 for the "advancement of science and the instruction and recreation of the people." To accomplish this mission, the Zoo exhibits a broad zoological collection of animals from all parts of the world in natural surroundings; maintains an information and education program for the benefit of the visiting public from all over the United States; and promotes scientific research, including biomedical programs, for advancement of science and the benefit of the animals so that visitors can enjoy them in prime health. To accomplish this mission, the Zoo is organized in five departments: Office of the Director; Operations and Maintenance; Living Vertebrates; Scientific Research; and Animal Health.

For fiscal year 1971, a program increase of $180,000 is requested to establish a planning and design unit for construction and repair projects; to staff and operate the new Hospital-Research Building and other facilities; to operate the new heating plant and incinerator; to replace ground and animal care equipment items; to augment the animal purchase and food funds; and to install a system for adequate animal health records. An additional $131,000 are required for necessary pay increases.

These increases are distributed in the following table. Specific details of organization, functions, and budget requirements are presented on the following pages.

(In thousands of dollars)	1969 Pos.	1969 Amount	1970 Pos.	1970 Amount	1971 Pos.	1971 Amount
Office of Director.....	60	$661	60	$799	64	$917
Operations and Maintenance..	97	924	99	989	100	1,099
Living Vertebrates.....	77	827	77	888	77	939
Scientific Research	5	59	5	68	6	79
Animal Health.....	5	57	5	70	5	91
Total.....	244	$2,528	246	$2,814	252	$3,125

The number of zoo visitors increases annually. In 1969, approximately 5 million people visited the Zoo. A significant number of these visitors are in organized school groups from the metropolitan area and more distant points. The Zoo is increasingly used as a teaching site by teachers of biology and other natural sciences. The increased visitor load increases requirements for patrols, trash clean-up, washroom sanitation, first aid, and other services.

Continued improvements have been made in the collection of animals, which is one of the world's largest. As the collection evolves, the Zoo will present exhibits of greater visitor interest and, at the same time, give greater emphasis to species and groups which effectively demonstrate significant points of animal adaptations and behavior. Greater emphasis will be given also to increasing zoo births by pairing unmated animals and maintaining breeding groups. Not only is this good conservation practice; it is also essential in view of the increasing scarcity of many species and the high prices that must be paid to acquire them.

Construction and improvement programs have progressed with the following results. The east-west perimeter road, eliminating through traffic in the main section of the Park was completed in June 1964. The incinerator for the sanitary disposal of trash and waste materials was completed in June 1964. In February 1965, the remodeling and renovation of the Bird House was accomplished. In

*Included in the District of Columbia budget.

June 1965, the new Great Flight Cage and two parking lots for 245 visitor cars were completed. A parking lot which accomodates 260 visitor cars and 24 buses was completed October 1965. Sewer construction, eliminating most of the pollution discharged into Rock Creek, was completed in June 1967. The remaining discharge, chiefly from waterfowl ponds, will be eliminated by construction funds appropriated in fiscal year 1968. The Deer Area was completed in November 1965. The Hardy Hoofed-Stock Area was completed in August 1966, and the Delicate Hoofed-Stock buildings No. 1 and 2 were completed in January 1967. The construction of the new Hospital-Research Building, started in June 1968, was completed in January 1970.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

National Zoological Park
Office of Director

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	60	4	64
11 Personnel Compensation	$ 592,000	$ 81,000	$ 673,000
12 Personnel Benefits	44,000	6,000	50,000
21 Travel & Transp. of Persons	6,000	5,000	11,000
22 Transportation of Things	1,000	0	1,000
23 Rent, Comm. and Utilities	86,000	12,000	98,000
24 Printing and Reproduction	1,000	0	1,000
25 Other Services	25,000	3,000	28,000
26 Supplies and Materials	38,000	6,000	44,000
31 Equipment	6,000	5,000	11,000
TOTAL	$ 799,000	$ 118,000	$ 917,000
Analysis of Total			
Pay Increases	$46,000	$56,000	$102,000
Program	$753,000	$62,000	$815,000

Specification of Increase (Program):

Planning and Design Unit (3 positions, $28,000)

Experience gained during the construction and repair program has demonstrated the need to develop schematic designs and operating specifications before outside architects are employed, and to provide closer technical review of architectural design. There is also a growing need for in-house design capability to handle small projects, including designs and specifications for contract repairs. Request is for three positions ($23,000); funds for travel ($1,000); supplies ($2,000); and equipment ($2,000).

Staffing the Hospital-Research Building (1 position, $11,000)

The Hospital-Research Building was completed and occupied in January 1970. Request is for a librarian to serve the new facilities ($8,000), supplies ($1,000), equipment ($1,000), and books ($1,000). The librarian will also have responsibility for the medical and pathological information system.

Increased Costs of Operating Items ($23,000)

An increase in travel funds ($4,000) is requested largely in connection with the animal acquisition program. An increase in utilities ($12,000) is requested to operate the new heating plant and renovated incinerator which will be in operation for the heating season in fiscal year 1971. Funds also are requested for contractual services ($3,000), supplies ($3,000), and equipment ($1,000) to cover the increased costs of these items.

National Zoological Park
Office of Director

The Office of the Director plans and directs all Zoo programs. It also coordinates the activities and functions of the Pathology Office; directs the protective service program; develops and maintains the Zoo's educational program; and furnishes general administrative services. The capital improvement program and the animal acquisition program are under the direction of this office. The Pathology Office performs histopathologic and gross pathologic diagnosis of disease in the animal collection. The protective services program enforces laws and regulations for the protection and safety of visitors, animals, and Government property. The education program is being implemented through informative labels, exhibits, lectures, guided tours, and cooperative programs with local school systems. Administrative services include personnel, budget, fiscal, supply, and procurement functions.

An increase of $62,000 is requested to establish a planning and design unit for the construction program; to staff the Hospital-Research Building; and to cover increased costs of travel, utilities, contractual services, supplies, and equipment. An additional increase of $56,000 is sought for necessary pay purposes.

Need for Increase--Funds for major new construction were not appropriated in fiscal years 1968, 1969, or 1970. Funds were appropriated, however, for continued planning and for essential renovation and repairs to existing facilities. Many small and medium-sized projects are involved requiring careful study, design, preparation of specifications, technical review, and coordination. To provide these services, it is requested that a small Planning and Design Unit be established, consisting of three new positions (an architect designer, a draftsman, and a clerk-typist) plus the presently employed staff engineer. This unit will coodinate all construction projects and prepare criteria for architectual design of major structures. Major contract drawings and specifications will continue to be prepared by architects, contracted for by the General Services Administration. The unit will design all miscellaneous, supplementary structures and facilities, such as small buildings, shelters, pens, runs, fences, and guard rails, and outdoor cages to conform to and be compatible with major completed and planned construction in the Master Plan. These three positions, with funds for travel, supplies, and equipment, will cost $28,000.

The Hospital-Research Building was completed and occupied in January 1970. A library will be located in this new building to serve Zoo personnel, students, and researchers. The library, which will consist of book stacks and a reading room, will specialize in general natural history, taxonomy, animal behavior, and veterinary medicine. It will require the specialized training and abilities of a librarian. The librarian will also have responsibility for the medical and pathological information storage and retrieval system. Funds for books, supplies, and equipment are included in this request for $11,000.

During the summer of 1969, the first phase of conversion of the heating plant from coal to gas was accomplished. The second phase, and the conversion of the incinerator to gas, is planned to be accomplished during the summer of 1970. Funds in the amount of $12,000 are requested for utilities to operate the new heating plant.

An additional $11,000 are requested for travel, largely in connection with the animal acquisition program, and for contractual services, supplies, and equipment associated with Director's Office operations. For the most part, these funds are required to meet rising costs.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

National Zoological Park
Operations and Maintenance

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	99	1	100
11 Personnel Compensation	$ 781,000	$ 46,000	$ 827,000
12 Personnel Benefits	62,000	3,000	65,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	14,000	0	14,000
26 Supplies and Materials	115,000	22,000	137,000
31 Equipment	17,000	39,000	56,000
TOTAL	$ 989,000	$ 110,000	$ 1,099,000
Analysis of Total			
Pay Increases	$28,000	$42,000	$70,000
Program	$961,000	$68,000	$1,029,000

Specification of Increase (Program):

Maintenance and Operations of the Physical Plant (1 position, $68,000)

Delay in planned Zoo reconstruction makes it necessary to prolong the life of the old steam distribution system. This will require the services of one additional steamfitter ($7,000) and additional funds for building and sundry supplies and materials ($22,000) for the entire operations and maintenance program. An increase is also requested in the equipment allotment to permit scheduled replacement of major and minor equipment items, including the purchase of a front-end loader and a turf-type tractor ($39,000).

The Operations and Maintenance Department has responsibility for all plant maintenance and supporting services. These include:

1. Operational services: automotive maintenance; operation of trucks and heavy equipment; trash collection; sweeping of streets and walks; snow removal; and janitorial services.

2. Maintenance: maintaining and repairing 14 major buildings and a wide range of cages and other facilities. This unit also performs renovation and minor construction, and builds nest boxes, shipping crates, exhibits, and other needed items.

3. Grounds: maintaining and improving the 156 acres of trees, lawns, shrubs, flower beds, and indoor plantings.

4. Air-heating: maintaining all heating plants and air conditioning in the buildings throughout the Park.

An increase of one position and $68,000 are requested to provide for workload increases in maintenance and operational services. An additional $42,000 are requested for necessary pay increases.

Need for Increase--At present there is only one steamfitter available to maintain the pipes and equipment of the Zoo's heating system. Extensive overhaul of the old steam distribution system is necessary, of which only 25 percent has been completed. The present work backlog of 6,762 man hours requires the addition of one position ($7,000).

Existing funds are not adequate to keep pace with rising supply costs and the increased maintenance requirements of additions to the physical plant, such as the new Hospital-Research Building. Additional building and custodial supplies and materials of all types are required ($22,000).

For the past several years, the Zoo has been placing equipment items on planned replacement cycles. An increase of $39,000 in the equipment allotment will allow additional equipment in the replacement cycle as well as cover rising costs. Also included are funds to replace the front-end-loader to be used by the transportation section throughout the Park, and to purchase a turf-type tractor with backhoe to be used by the grounds division.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

National Zoological Park
Department of Living Vertebrates

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	77	0	77
11 Personnel Compensation	$ 668,000	$ 26,000	$ 694,000
12 Personnel Benefits	50,000	2,000	52,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	2,000	0	2,000
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	0	0	0
26 Supplies and Materials	142,000	13,000	155,000
31 Equipment	26,000	10,000	36,000
TOTAL	$ 888,000	$ 51,000	$ 939,000
Analysis of Total			
Pay Increases	$30,000	$28,000	$58,000
Program	$858,000	$23,000	$881,000

Specification of Increase (Program):

Acquisition of Animals and Increased Costs of Food and Supplies ($23,000)

An increase in the animal purchase fund ($8,000) is needed to meet the rapidly rising prices of rare animals. For instance, a purchase of a single group of rare deer cost $19,000. Only $25,000 are now available for animal purchases. An increase in the food allotment and sundry supplies ($13,000) is requested to cover increased costs. Approximately $126,000 are now being spent on animal food. Funds are requested to establish an equipment replacement allotment ($2,000) for the animal care program. No funds are now available for the periodic replacement of approximately 200 pieces of equipment.

National Zoological Park
Department of Living Vertebrates

The Department of Living Vertebrates is responsible for approximately 3,200 animals of over 1,100 species, representing one of the largest and most varied collections of exotic animals in existence. To support this collection, the Department conducts an animal care program involving feeding, cleaning of cages, and exhibition. Included in the animal care program are pest control efforts to eliminate insects and rodents and a commissary program for ordering, receiving, storing, preparing, and delivering animal food, as well as raising special food items. In addition to these major activities, the staff collaborates with the Animal Health Department, the Scientific Research Department, and the Pathology Office to improve the medical treatment of animals, collection of medical data, evaluation of medical programs, and development, investigation, and support of various research programs.

An increase of $23,000 is requested to cover the rapidly rising costs of animals, animal food, and sundry and uniform supplies, as well as to establish an equipment replacement allotment. An additional increase of $28,000 is sought for necessary pay increases.

Need for Increase--The animal acquisition program is aimed at providing an adequate number of interesting and unusual specimens for a well-balanced and educational zoological collection. The present allotment for the acquisition of animals, which includes purchase prices and/or shipping charges, is $25,000. An increase of $8,000 is requested. There has been no increase in these funds since 1965. Animal prices have risen rapidly in the past five years. A purchase of a single group of rare deer cost $19,000. In the past, the Zoo has relied heavily on gifts and exchanges. It is rarely possible, however, to stipulate the species, ages, sex, and condition of gifts; and exchanges are dependent on what other zoos have in surplus. These two methods tend to yield an unbalanced collection. The Zoo's collection objectives can be fulfilled only by purchasing animals of selected species.

Additional funds are requested for the food allotment to provide for steadily rising food prices. Approximately $126,000 is now available to purchase animal food. The Commissary makes every effort to obtain surplus food at reduced prices, but this is frequently of low quality. The replacement prices for sundry supplies and uniforms also have risen sharply. Funds in the amount of $13,000 are requested to cover the increased cost and usage of these items.

There are approximately 200 pieces of equipment all under $1,000 each, located in various buildings, used for the care of animals. Funding of $2,000 is requested to establish an efficient schedule of equipment replacement.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

National Zoological Park
Scientific Research Department

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	5	1	6
11 Personnel Compensation	$ 60,000	$ 8,000	$ 68,000
12 Personnel Benefits	5,000	1,000	6,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	0	0	0
26 Supplies and Materials	1,000	1,000	2,000
31 Equipment	2,000	1,000	3,000
TOTAL	$ 68,000	$ 11,000	$ 79,000
Analysis of Total			
Pay Increases	$3,000	$2,000	$5,000
Program	$65,000	$9,000	$74,000

Specification of Increase (Program):

Care of Research Animals (1 position, $9,000)

The Hospital-Research Building was completed and occupied in January 1970. As the number of animals under study in the laboratories increases, an animal keeper will be required to assure that the best care is given to these animals. Request is for one position ($7,000), funds for supplies ($1,000), and equipment ($1,000).

National Zoological Park
Scientific Research Department

The Scientific Research Department undertakes studies of animal behavior, reproduction, and nutrition. The National Zoological Park collection is a major scientific resource. For this reason, facilities and assistance are often provided to scientists from such federal agencies as the National Institutes of Health as well as from universities. The Zoo's own scientific studies add to man's understanding of the living world. Investigations undertaken in the Zoo and in the field have yielded numerous scientific publications. The work of the Scientific Research Department results in improved care of animals in the collection, as reflected in their well-being and reproduction. This work is also of benefit to other zoos and animal collections. In addition, the Scientific Research Department is of assistance to other organizations, including foreign governments concerned with wildlife management and conservation. The Department provides training and research opportunities for graduate students.

An increase of $9,000 is requested to provide one position for the care of the animals under study in the laboratories. An additional $2,000 are requested for necessary pay increases.

Need for Increase--The Hospital-Research Building was completed and occupied in January 1970. Planned research on the maintenance of mammals and birds in captivity can now be started. The research personnel using this facility will include guest investigators and graduate students from those laboratories and universities coordinating their research program with the National Zoological Park. Included are the Armed Forces Institute of Pathology, the George Washington University, the University of Pennsylvania, and others. One of the central problems in the maintenance of captive vertebrates concerns the propagation of rare and endangered species. The successful breeding of rare mammals requires that special research be conducted on space requirements, nutritional requirements, and reproductive physiology. As the number of animals under study in the laboratories increases, an animal keeper will be required to assure that the best care is given to these animals.

National Zoological Park
Animal Health Department

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	5	0	5
11 Personnel Compensation	$ 56,000	$ 3,000	$ 59,000
12 Personnel Benefits	4,000	0	4,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	0	0	0
26 Supplies and Materials	6,000	1,000	7,000
31 Equipment	4,000	17,000	21,000
TOTAL	$ 70,000	$ 21,000	$ 91,000
Analysis of Total			
Pay Increases	$5,000	$3,000	$8,000
Program	$65,000	$18,000	$83,000

Specification of Increase (Program):

Improve the Utilization of Scientific and Medical Findings ($18,000)

The clinical, pathological, and scientific programs generate large quantities of data, which must be systematically stored for ready retrieval to be of permanent value. A number of other government and private laboratories have adopted the Termatrex system for this purpose. Since data is exchanged with these laboratories, a compatible system is necessary. An increase will permit acquiring the basic equipment ($15,000). Additional funds for medicines, glassware, and chemicals ($1,000) and medical equipment ($2,000) are requested.

National Zoological Park
Animal Health Department

The Animal Health Department is responsible for the maintenance of the health of the animal collection of 3,200 living specimens of 1,100 species. This requires: clinical treatment of illnesses and injuries; prophylactic procedures; using clinical pathological data to assist in diagnosis of diseases and formulation of effective treatment regimens; and collaboration in biomedical research directed toward a broader knowledge of disease processes in exotic animals and in their treatment. The staff of the Animal Health Department consults and collaborates with investigators from governmental agencies and academic institutions in the solution of problems of mutual interest.

An increase of $18,000 is requested to establish an efficient data recording system and funds for supplies and other equipment to meet increased costs. An additional increase of $3,000 is sought for necessary pay increases.

Need for Increase--The knowledge of disease in exotic animals stands in about the same position as did human medicine more than 100 years ago. A data storage and retrieval system will provide for maximum usefulness of scientific and medical findings. The Animal Health Department records approximately 4,000 entries per year on the medical records. The Pathology Office performs approximately 600 necropsies per year, which requires the entry of approximately 2,000 diagnoses. There are approximately 10,000 technical entries recorded on cards each year. The recorded data is now of limited value, because of the time required to locate information. Funds are requested to establish a Termatrex system. This is a simple, rapid system using light showing through minute coded holes in a card to locate and correlate data. The system will be maintained in the Hospital-Research facility and will be used by all scientific activities. It will allow immediate retrieval of specific records and permit correlation and statistical analysis of the recorded data. An amount of $15,000 is requested for this purpose.

An increase of $3,000 is requested to cover the costs of medicine, glassware, chemicals, etc., used by the Animal Health Department and to purchase medical equipment used in animal care and treatment.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

ANACOSTIA NEIGHBORHOOD MUSEUM

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	8	4	12
11 Personnel Compensation	$59,000	$ 30,000	$ 89,000
12 Personnel Benefits	5,000	2,000	7,000
21 Travel & Transp. of Persons	2,000	1,000	3,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	7,000	23,000	30,000
24 Printing and Reproduction	0	0	0
25 Other Services	2,000	0	2,000
26 Supplies and Materials	6,000	20,000	26,000
31 Equipment	1,000	1,000	2,000
TOTAL	$82,000	$ 77,000	$159,000
Analysis of Total			
Pay Increases	$4,000	$2,000	$6,000
Program	$78,000	$75,000	$153,000

Specification of Increase (Program):

Museum Education, Administration, and Operations (4 positions, $75,000)

Community demands on the Museum for classes, workshops, and other museum-related education services have increased steadily since the Museum opened in September 1967. Since opening, 117,000 children and other community residents have participated in the Museum's activities. Part-time and volunteer help from the community has been used, but two full-time instructors ($16,000) are required to put the class and workshop activities on a more regular basis. An assistant director and a clerk-typist ($14,000) are requested to help develop programs, assist with administrative matters, plan exhibits that meet community needs, and work with other groups interested in setting up similar museums. Funds in the amount of $45,000 are requested also for space rental and custodial, exhibit, and workshop supplies and equipment.

ANACOSTIA NEIGHBORHOOD MUSEUM

1969 Actual	$42,000
1970 Estimate	$82,000
1971 Estimate	$159,000

The Anacostia Neighborhood Museum opened in September 1967 in one of Washington, D. C.'s deteriorated urban communities. This area has dilapidated housing, an exploding school population, low income and unemployed persons, and other characteristics of blighted urban areas in cities across America. The Museum was designed to enhance the quality of life in this community by offering meaningful learning experiences to the local residents, by interpreting the history and contributions of the community, and by involving children and adults in challenging opportunities for creative self-expression. Since opening, 117,000 children and other community residents have enjoyed and been educated by the Museum's exhibits, classes, lectures, films, and other projects designed for maximum public participation. Over 27,000 metropolitan school children toured the exhibit "The Sage of Anacostia," a graphic history of the life of Frederick Douglass.

To meet this enthusiastic response, an increase of $75,000 is requested for the Museum for classroom and workshop activity, overall program administration and general costs of operations. An additional $2,000 are requested for necessary pay increases.

Need for Increase--Within the past year, community demands on the Museum have increased steadily. The staff has worked closely with the Anacostia Model School Project, and the Museum's education program manager was elected to its Council and Governing Board. As a result of meetings held with principals, counselors, Community Reading Assistants, Head Start personnel, and special groups of teachers, many requests for specific workshops and classes have been made. Among those requests that have been met are: a four-week series of programs on Afro-American history for two sixth-grade classes; an art appreciation workshop for local teachers and Community Reading Assistants that focused on the making of paints from ordinary household items; the training of local recreation staff in ceramics and pottery; a series of International Hours for preschoolers which included the sampling of food from other countries; and story hours, films, and slide shows. Much of this work has been accomplished through the use of part-time and volunteer help. Many requests cannot be met. Two full-time instructors are requested to plan and conduct classes and workshops for children and adults in the community ($16,000).

With increased public interest and participation in the Museum's activities, an assistant director and an additional clerk-typist are required. These employees will help plan and evaluate programs; assist with budget, personnel, and procurement matters; do research on exhibits' topics appropriate to community needs; and help with a large correspondence workload. Letters are received almost daily from other museums, community groups, and concerned citizens seeking advice and technical assistance in undertaking similar museums in their areas. The assistant director will be involved personally with these groups and will act as a liaison between the Anacostia Museum and other museums to keep abreast of museum education trends and apply those that are applicable and valuable to Anacostia's needs. Funds in the amount of $14,000 are requested for these two employees.

Funds are also required for general expenses as private funding for regular operations declines. The Museum requires $45,000 for space rental, maintenance and custodial supplies, exhibit and classroom supplies and materials, and a small amount of office and exhibit equipment.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

NATIONAL COLLECTION OF FINE ARTS-RENWICK GALLERY OF ART

Object Class	1970 Base	1970 Requested	1971 Estimate
Number of Permanent Positions	56	4	60
11 Personnel Compensation	$580,000	$ 31,000	$611,000
12 Personnel Benefits	43,000	2,000	45,000
21 Travel & Transp. of Persons	25,000	1,000	26,000
22 Transportation of Things	17,000	2,000	19,000
23 Rent, Comm. and Utilities	14,000	0	14,000
24 Printing and Reproduction	1,000	0	1,000
25 Other Services	174,000	27,000	201,000
26 Supplies and Materials	25,000	2,000	27,000
31 Equipment	106,000	47,000	153,000
42 Grants	58,000	0	58,000
TOTAL	$1,043,000	$112,000	$1,155,000
Analysis of Total			
Pay Increases	$43,000	$12,000	$55,000
Program	$1,000,000	$100,000	$1,100,000

Specification of Increase (Program):

Preparations for Opening the Renwick Gallery (4 positions, $100,000)

Approximately $2,000,000 of appropriated funds have been spent on renovating and restoring this historic building in order that it can also have a valuable functional use as a museum of arts, crafts, and design in an area of Washington that is a center of attraction for official visitors and the general public. Although much essential restoration work needs to be done this year and next, the Smithsonian is planning a partial public opening in mid-fiscal year 1971. To accomplish this, the Smithsonian is requesting a small staff--an exhibits specialist, two museum technicians, and a clerk-typist ($21,000)--to assist the NCFA curatorial staff and funds for travel to obtain and ship collections, including loaned items; for services to prepare exhibits; and for the purchase of collections and exhibit equipment ($79,000).

NATIONAL COLLECTION OF FINE ARTS-RENWICK GALLERY OF ART

1969 Actual.....	$951,000
1970 Estimate.....	$1,043,000
1971 Estimate.....	$1,155,000

The National Collection of Fine Arts was established "to encourage the development of contemporary art and to effect the widest distribution and cultivation in matters of such art". To meet this responsibility, the NCFA acquires, exhibits, and makes available for study a significant collection of art, and related documentary materials, produced by artists of the United States. At present, some 11,000 paintings, sculptures, and decorative art objects are included in its exhibits and reference collections. Administered by the NCFA, the Renwick Gallery of Art is planned as an exhibition center of American crafts and design, and as a visitor center related to Blair House and the White House. Housed in the building originally designed for the Corcoran Gallery by James Renwick, Jr., it preserves an architectural landmark which simultaneously can have an important functional use in an area of Washington that is a center of attraction for public and official visitors.

An increase of $100,000 is requested to prepare the Renwick Gallery for a public opening in fiscal year 1971. Funds in the amount of $12,000 also are requested for necessary pay for the National Collection of Fine Art's present staff.

Need for Increase--Approximately $2,000,000 of appropriated funds have been invested in the restoration and renovation of the building. According to the present schedule, this work will be sufficently completed in fiscal year 1971 to permit an inaugural exhibition by mid-year. The Smithsonian is requesting an appropriation of $300,000 of construction funds to complete the restoration project. Without concurrent provision of operating funds, however, it is likely that the building will remain closed. The continued efforts by the National Collection of Fine Arts to develop its public and scholarly functions, do not permit a major redirection of funds to the Renwick, although substantial staff time will be applied to this need.

The present high priority efforts to ready the physical structure for opening to the public require a companion effort to provide outstanding exhibits. The staff must select and acquire basic furnishings and equipment appropriate to the building including display cases and other Gallery furniture; seek out and obtain through gifts and purchases an outstanding American crafts and design collection; and initiate work on an exhibition program including obtaining commitments from donors and lenders of art. A number of exhibitions will be staged each year, drawing on the varied collections of the Smithsonian as well as other private or public collections.

With regard to likely official uses of the Gallery, the great reception room across the width of the building is potentially one of the finest in America. This room, the stairs leading to it, and an adjacent octagon room will be furnished to evoke the spirit of the 1860's and 70's, and will be an appropriate background for the uses of the President, visiting heads of state, official presentation activities of the Smithsonian, such as for important donors, and for other similar uses.

To permit preparing, opening, and maintaining the exhibition and other programs of the Gallery, the following additional staff and other resources are requested. An exhibits specialist, two museum technicians, and a clerk-typist are the basic personnel required ($21,000). These would assist the National Collection of Fine Arts curatorial staff. Support funds are required for travel to obtain and ship collections, for services to prepare exhibits, and for the purchase of exhibit equipment and objects ($79,000).

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

1969 Actual	$149,000
1970 Estimate.....	$347,000
1971 Estimate.....	$726,000

The Joseph H. Hirshhorn Museum and Sculpture Garden will display the collection of fine art donated by Joseph H. Hirshhorn to the United States for the benefit of the people. The Hirshhorn Collection is a unique collection of sculpture and paintings. The sculptures range historically from antiquity to the works of today's young creators. Its fine representation of African art is highlighted by a superb group of Benin bronzes. The Collection's paintings focus on the 20th century. From the works of precursors such as Thomas Eakins and Winslow Homer to the canvases of today, the course of painting in America is covered in depth. Complementing the American section is a strong selection of paintings by modern European masters and young contemporaries.

An increase of $375,000 is requested to continue the preparation of the Collections. An additional $4,000 are requested for necessary pay increases.

Need for Increase--Plans and specifications for the construction of the Joseph H. Hirshhorn Museum and Sculpture Garden have been revised to scale down the project to insure that it does not exceed the available funds. A bid award is expected in February 1970 with construction to begin in March. Based on this information, a thorough review of work necessary to complete the Museum and place it in operation has been made. It was on the basis of this information that reprogramming of $150,000 for the use of the Hirshhorn Museum was requested and approved. It is clear that in order to bring this major new museum into existence, a dramatic step-up of operating program activity must take place during the two-year building construction period. This will require a very substantial increase in program funds over this period if a public opening date of October 1972 (nine months after the completion of the building) is to be met.

Major additional funding requirements are in two categories: preparation of the collections, and the acquisition of furnishings and special equipment for the building. In fiscal year 1971, the Museum is seeking additional funds to accelerate preparation of the collections.

Some 1,200 paintings and pieces of sculpture of the total gift collection of 7,000 items must be readied for exhibition. These will be the choicest pieces with an estimated value of $20 million. Of these 1,200 items, 700 are paintings and 500 are sculpture pieces. A careful survey of the restoration and framing requirements of these items has disclosed the following:

1. 100 large paintings (6 to 15 feet) will need major restoration at an average cost of $1,000 each ($100,000) and 50 will require work at $300 each ($15,000).

2. 350 smaller paintings will require restoration at prices ranging from $250 to $500 ($150,000).

3. 500 paintings must be framed at prices ranging from $45 to $200 for a total cost of $57,000.

4. 400 sculpture pieces, including about 150 which are classed as monumental, will need restoration at prices ranging from $100 to $750. Estimated total cost of the job will be $170,000 which includes protective display cases for the smaller pieces of fragile sculpture, and the construction of bases for approximately 170 items.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	13	7	20
11 Personnel Compensation	$129,000	$ 50,000	$ 179,000
12 Personnel Benefits	9,000	4,000	13,000
21 Travel & Transp. of Persons	11,000	14,000	25,000
22 Transportation of Things	8,000	12,000	20,000
23 Rent, Comm. and Utilities	29,000	44,000	73,000
24 Printing and Reproduction	4,000	2,000	6,000
25 Other Services	124,000	176,000	300,000
26 Supplies and Materials	16,000	34,000	50,000
31 Equipment	17,000	43,000	60,000
TOTAL	$347,000	$ 379,000	$ 726,000
Analysis of Total			
Pay Increases	$8,000	$4,000	$12,000
Program	$339,000	$375,000	$714,000

Specification of Increase (Program):

Preparation of Collections to meet Opening Deadline (7 positions, $375,000)

Twelve hundred of the choicest paintings and pieces of sculpture have been chosen from the more than 7,000 items in the gift collection for exhibit when the Museum opens. These paintings and pieces of sculpture, valued at $20 million, must be examined, photographed, cleaned, and, in some cases, restored prior to exhibit. The total cost of this effort, not including any additional paintings that might be contributed by Mr. Hirshhorn, is estimated at $460,000, of which $160,000 are requested in fiscal year 1971. In addition to the restoration effort, the staff must receive and process the more than 500 new works of art being added to the collection each year by Mr. Hirshhorn; conduct research and documentation for the opening; catalog the collection; and meet public inquiries such as requests for loans, photographs, and information. To do this, the Museum requires an increased staff consisting of a curator, two exhibit technicians, three museum technicians, and a clerk-typist ($50,000). Additional funds are required for travel ($14,000), transportation of objects ($12,000), rental of storage space ($44,000), printing ($2,000), supplies and materials ($34,000), equipment ($43,000), and other services ($16,000).

To meet part of these costs, an additional $160,000 are requested to meet the Museum's opening date. This work must be greatly accelerated and a production rate of at least one item a day must be maintained. Since conservators are in short supply and one piece may take many weeks to restore, premium prices may have to be paid, although an intensive search will be made to locate additional conservators.

A commensurate increase in professional and technical staff is required to prepare for the Museum's opening and subsequent exhibition and research programs. This staff must: receive and process the approximate 500 new works of art being added to the collection each year by Mr. Hirshhorn; negotiate with conservators and other contractors, and follow up on work in progress; conduct research and documentation for the opening exhibition as well as continue with the cataloging of the entire collection; and continue the Museum's present public services such as loans, photographic requests, and research queries. Conservation, photography, and storage facilities also must be planned. Museum administrative, budget, personnel, and fiscal business must be handled. This increased staff will cost $50,000 and will include a curator, two exhibits technicians, three museum technicians, and a clerk-typist. A gradual phased buildup of essential staff members over the next two years makes sense in lieu of current and future Museum needs.

An additional $165,000 are requested for other contractual service costs related to the collections, the rental of warehouse space and warehouse services (moving items in and out of storage for inspection, conservation, framing, etc.), photography to document the collections for exhibits planning and research purposes, and protective packing for shipping once restoration has been performed. Major trips to art museums and galleries for research will be necessary as well as trips to various collection storage areas.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

1969 Actual	$409,000
1970 Estimate	$460,000
1971 Estimate	$571,000

The principal function of the Smithsonian Tropical Research Institute (STRI) is to advance the frontiers of biology through intensive biological and ecological studies in the tropics. STRI's work serves a twofold purpose. First, understanding the earth's biology demands comprehension of the complex evolutionary and behavioral relationships of its most varied organisms, which are in the tropics. The tropics are the place of origin and principal center of evolution of most groups of organisms. New and major types of adaptation to new ways of life are more likely to be evolved by tropical species than by those of other regions. Tropical species also are more successful in invading other regions than are species of other regions in invading the tropics. In tropical areas, an abundance of observances, tests, assessments can be made every month of the year on change, competition, survival, and evolutionary success and failure.

Second, human populations in the tropics are increasing very rapidly, and are headed for ecological disaster in the absence of adequate information about their environment. In the north, we are concerned about air pollution, eutrophication of lakes, and the deleterious effects of insecticides. In the tropics, the problems are more brutal. Areas such as the hill country of Colombia and Panama, and the whole island of Madagascar, are fast becoming deserts. The basic features of tropical ecology must be understood as quickly as possible.

The staff scientists, research associates, pre and postdoctoral fellows, and visiting scientists and students from other institutions are attempting to describe the ecological and behavioral relationships among species in more precise quantitative, mathematical, or physical terms. More than 50 papers by STRI's staff in the past year are contributing to this knowledge. Research and study visits to the Institute climbed from 289 in 1966 to over 500 this past year, with the scientists and researchers remaining for longer and more productive work-stays.

An increase of $100,000 is requested to develop and implement an environmental monitoring program; to provide for a strengthening of the marine biology program; and to improve the central services of the Institute. An additional $11,000 are requested for necessary pay increases for the present staff.

Need for Increase--The principal center of terrestrial and fresh water research at STRI continues to be Barro Colorado Island, set aside as a preserve where men can join to understand a complex tropical environment. A host of separate studies have been conducted on the island over the past four decades, accelerating in recent years. It is probably better known than any comparable piece of land anywhere else in the tropics. This knowledge provides a unique foundation. The work to date represents an investment in professional time of irreplaceable import. Now we can build on it with a project of environmental monitoring--measuring the magnitude, frequency, predictability, and importance of a number of accessible environmental fluctuations. This can provide a key to one of the most essential questions in biology, How stable are the tropics and how does the answer tie in with evolutionary change? The project will be led by a forest ecologist ($12,000) working in consort with present members of the staff. An additional $13,000 are requested for travel, transportation, supplies and materials, equipment, and research support services.

The Smithsonian Tropical Research Institute is becoming increasingly active as a research base for marine scientists working in tropical waters. The biological richness of the area, the separation of two oceans by approximately 50 miles of land, the excellent accessibility of Panama, year-round opportunities

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	38	5	43
11 Personnel Compensation	$339,000	$ 54,000	$ 393,000
12 Personnel Benefits	26,000	4,000	30,000
21 Travel & Transp. of Persons	15,000	6,000	21,000
22 Transportation of Things	3,000	3,000	6,000
23 Rent, Comm. and Utilities	17,000	5,000	22,000
24 Printing and Reproduction	0	0	0
25 Other Services	28,000	15,000	43,000
26 Supplies and Materials	22,000	10,000	32,000
31 Equipment	10,000	14,000	24,000
TOTAL	$460,000	$ 111,000	$ 571,000
Analysis of Total			
Pay Increases	$21,000	$11,000	$32,000
Program	$439,000	$100,000	$539,000

Specification of Increase (Program):

Barro Colorado Island Environmental Monitoring (1 position, $25,000)

Forty years of study on Barro Colorado Island give an irreplaceable foundation for developing a project for comprehending the dynamics of a tropical environment. A project to measure the magnitude, frequency, predictability, and importance of a number of environmental fluctuations would significantly increase our knowledge of tropical dynamics. A forest ecologist ($12,000) will tie together the efforts of many in launching this effort. Support will include research-related travel and transportation ($3,000), supplies, materials and equipment ($6,000), and related contract services ($4,000).

Comparative Marine Research (2 positions, $32,000)

The natural resources for marine biology at STRI are unmatched. Cooperative research with other institutions on a number of key environmental problems depends directly on availability of new professional and support resources. Progress can be maintained with the addition of an invertebrate biologist ($12,000), a laboratory technician to man Galeta station on the Atlantic coast of Panama ($7,000), research-related travel and transportation ($3,000), supplies, materials and equipment ($5,000), and related contract services ($5,000).

Buildings, Grounds, and Administration (2 positions, $43,000)

With the spread of physical facilities and research in surrounding habitats, vehicle transportation is a constant bottleneck. One machinist ($5,000) to repair and maintain vehicles, acquired largely as surplus property and used for field trips, is essential. Supporting supplies and contract services ($5,000) are also needed to keep various mechanical apparatus in service for the present heavy and constant year-round demands placed on them. Rent, communications, and central contract services, including dependent's tuition and medical care, require $11,000. Replacement of two ancient trucks and air-conditioners will cost $9,000. Contract and grant negotiations, including cost recoveries, for productive collaborative work require a contract specialist ($11,000) and travel ($2,000).

for test-organism breeding in food culture experiments, and many other factors yield a practical mandate for developing and refining a quality program in marine biology. A marine invertebrate biologist ($12,000) is requested to assure continued steady progress of the Institute's tropical marine research program and its advanced scientific training program. One laboratory technician ($7,000) is needed to permit the fuller use of the unique Galeta marine station, located on the Atlantic coast of Panama. Funds for travel, transportation, supplies, equipment, and other costs are also requested ($13,000).

Central services have been strained to keep pace with current demands and the growth of the research program. One machinist ($5,000) is requested to keep the small fleet of largely surplus vehicles, used for field work by the scientists, in proper operating condition. An additional $25,000 are requested for supplies, rent, communications, contractual services (including mandatory school tuition and medical services for dependents), and the replacement of two worn-out vehicles and air conditioners. The addition of a contracts specialist ($11,000) will improve STRI's ability to enter into reimbursable contract relationships with the many agencies, institutions, and centers that seek professional assistance in tackling problems concerning research and advanced training. An increase of $2,000 is requested for travel support.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

RADIATION BIOLOGY LABORATORY

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	36	4	40
11 Personnel Compensation	$ 372,000	$ 47,000	$ 419,000
12 Personnel Benefits	31,000	3,000	34,000
21 Travel & Transp. of Persons	5,000	0	5,000
22 Transportation of Things	2,000	0	2,000
23 Rent, Comm. and Utilities	256,000	101,000	357,000
24 Printing and Reproduction	0	0	0
25 Other Services	20,000	3,000	23,000
26 Supplies and Materials	24,000	5,000	29,000
31 Equipment	79,000	50,000	129,000
TOTAL	$ 789,000	$ 209,000	$ 998,000
Analysis of Total			
Pay Increases	$35,000	$9,000	$44,000
Program	$754,000	$200,000	$954,000

Specification of Increase (Program):

Basic Mechanical and Support Staff at the New Location (4 positions, $200,000)

Fiscal year 1971 will be the first full year of operations in the new laboratory building in Rockville, Md. For the first time since the Laboratory's establishment in 1929, it has available a properly configured space of adequate size. The increased funding provided in the fiscal year 1970 appropriation will meet the basic costs of the lease and part of the mechanical and support staff required at the new location. However, other building and operating costs were not met:

--24-hour service support is needed to maintain the 11 cold rooms, 40 growth chambers, 8 walk-in environmental chambers, and a greenhouse.

--Basic custodial supplies, materials, and equipment are needed to clean the area to prevent safety hazards and to maintain the degree of cleanliness needed by the precision equipment.

--Substantial utility costs will be incurred to operate the laboratory and electrical equipment.

--Library services must be provided since the Smithsonian Institution Library cannot provide service at the Laboratory's new location.

--50 percent of the Laboratory's equipment is more than eight years old and in need of replacement.

--Security of the building, which has five outside entrances, must be provided to insure protection of the equipment and chemicals.

Two operating engineers, an electrician, and a library technician ($41,000) and funds for utilities, services, supplies, and equipment ($159,000) are requested.

RADIATION BIOLOGY LABORATORY

1969 Actual.....	$399,000
1970 Estimate.....	$789,000
1971 Estimate.....	$998,000

The program of the Radiation Biology Laboratory, fundamentally concerned with the effects of the sun's energy on Earth's life, has been devoted to the study of the responses of living organisms to various qualities and intensities of radiant energy and to the determination of the influence of various factors in the environment--light, temperature, humidity, and atmospheric content--on growth and development cycles of plants. As a corollary to the serious concern with regard to the deleterious effects of air pollutants on living systems, there has been speculation that less of the sun's energy is reaching the Earth's surface. Recent comparisons with data gathered by the Smithsonian at the turn of the century indicate that the decrease in solar energy may be as much as 16 percent. This investigation is continuing. There are essentially no data available to indicate what the long-term effects of such a reduction will be upon crop and food production. The Laboratory's program of solar energy measurements and biological response correlation fills a significant gap in efforts to provide understanding of the interacting factors that man must adjust and control in order to maintain a habitable environment. The Laboratory has been credited with major contributions in photobiology which include the first detailed action spectra of such diverse responses as photosynthesis, photocontrol of seedgermination, the induction and reversal of photomorphogenesis, and phototropism.

An increase of $200,000 is requested in order to complete the relocation requirements of the Laboratory at the new Rockville, Md., site. Funds in the amount of $9,000 are also requested for necessary pay.

Need for Increase--Fiscal year 1971 will be the first full year of operations in the new laboratory building in Rockville, Md. The move is now scheduled to be completed by March 1970. For the first time since the Laboratory's establishment in 1929, it will be provided with properly configured space of adequate size. A significant base for improved research capability has been provided. To assure the successful use of this new space for scientific investigations, additional funding is requested for the basic operation of the building and for research support.

Increased funding, provided in the fiscal year 1970 appropriation, will meet the basic cost of the lease and part of the mechanical and service support staff required. Other building and operating costs will not be met. The lease for the new building costs $256,000 annually. An additional amount will be required to pay for the GSA administrative charge, which has yet to be determined. The new laboratory area is at least one-third greater than the inadequate space in the Smithsonian Institution building previously occupied. It will include 11 cold rooms, 40 large growth chambers, 8 walk-in environmental chambers, and a large controlled environment greenhouse. Mechanical and service support for the operation of these facilities on a 24-hour continuous basis is essential. Two operating engineers (mechanical and refrigeration) and an electrician to maintain and operate the facilities and complex laboratory equipment are required ($33,000).

Basic custodial supplies, materials, and equipment will be needed to clean and maintain the new building space. A laboratory has unusually heavy demands for maintaining working areas clean and well lighted because of the inherent safety hazards of handling chemicals and equipment, as well as requirements for precision measurements. An amount of $5,000 is requested for cleaning materials and lamp replacements.

Substantial utility costs will be incurred for electrical power for laboratory and refrigeration equipment and to light controlled plant growing rooms, as well as for conventional lighting for the 50,000 square ft. building. Telephone, water, gas, sewage, and trash disposal services must also be provided. An additional $101,000 are requested to provide for these services.

Security of the building, with five outside entrances, can most economically be achieved by the use of an automatic electronic alarm system. A guard system would require a minimum of five men and $30,000 to achieve the same results. Contractual service funds in an amount of $3,000 are requested for security costs.

Library services will be needed at the new location because the Institution's regular library staff will not be able to supply service at the Laboratory's new location. At the present time, there is no library service; secretarial time, as available, is used to keep shelves in order. A full-time library technician is requested to maintain the present literature collection; recommend new publications; furnish information with regard to acquisitions; catalog and file published material authored by staff members; fill requests for reprints; meet requests from research staff for literature citations; arrange for loans from other libraries; and provide other library services ($8,000).

Equipment deficiencies will retard the Laboratory's research activities. Fifty percent of RBL's scientific equipment, including spectrophotometers, radiation devices, monochromators, autoclaves, centrifuges, and other instruments are more than eight years old and in need of replacement. The present equipment has been screened and careful determinations made with respect to the costs of relocation and modernization versus construction and purchase of new equipment. The bulk of the present equipment is being relocated; but many items, particularly those which had been installed or built into the previous quarters, can be more economically purchased new. A continuing effort is being made to obtain equipment available from federal surplus lists and by the purchase of second-hand laboratory benches and exhaust fume hoods, as such items become available. However, even with these considerable savings, $50,000 will be required for basic equipment needs.

It should be reemphasized that the requested increases outlined are a minimum to operate, maintain, and protect new and larger building spaces at a working level. The needs included do not represent program expansion.

OFFICE OF ECOLOGY

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	5	3	8
11 Personnel Compensation	$101,000	$ 28,000	$ 129,000
12 Personnel Benefits	7,000	2,000	9,000
21 Travel & Transp. of Persons	7,000	2,000	9,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	10,000	6,000	16,000
26 Supplies and Materials	2,000	9,000	11,000
31 Equipment	6,000	10,000	16,000
TOTAL	$133,000	$ 57,000	$ 190,000
Analysis of Total			
Pay Increases	$5,000	$2,000	$7,000
Program	$128,000	$55,000	$183,000

Specification of Increase (Program):

Comprehensive Ecological Study of the Chesapeake Bay Watershed
(2 positions, $49,000)

The Chesapeake Bay area has considerable historic, recreational, and economic importance. Yet, this area is being subjected to vast changes in its ecology due to industrialization, housing development, and thermal and chemical pollution. Basic to any understanding of the problem or its solution is a comprehensive study of the watershed, including studies to determine energy output, biological productivity of the land and water areas, and pollution effects upon terrestrial and aquatic life. The Chesapeake Bay Center for Environmental Sciences, using its facilities as a base, proposes to conduct such a comprehensive study in order to better understand this valuable area. To do this, the Center requires a resident ecologist, a program assistant ($22,000) and funds for travel ($2,000), supplies and equipment ($19,000), and other services ($6,000).

Improved Security for the Chesapeake Bay Center for Environmental Sciences
(1 position, $6,000)

The Center's utility to scientists depends upon the land and water areas remaining in an undisturbed state. Picnickers, poachers, vandals, and other trespassers have, on occasion, disturbed the ecology as well as carefully designed experiments set up in the area. To prevent such occurrences, a security officer ($6,000) is required to patrol the area and the buildings.

OFFICE OF ECOLOGY

1969 Actual	$110,000
1970 Estimate	$133,000
1971 Estimate	$190,000

The Office of Ecology was established to support and coordinate research within various bureaus of the Smithsonian and with other organizations. It provides project planning, guides ecological studies, develops and assists international ecological and conservation projects, and helps in the biocommunications area with ecological symposia and conferences. The Office facilitates the use of the Smithsonian's resources by biologists, ecologists, and other scientists. Competence in radiobiology, biology, and earth sciences is available. The Smithsonian is unique in having some of the largest natural history collections in the world, which are required for precise identifications of ecosystem components. In addition, Smithsonian natural preserves in the tropics (Smithsonian Tropical Research Institute) and the temperate zone (Chesapeake Bay Center for Environmental Sciences) provide strategic sites for ecological field studies.

An increase of $55,000 is requested to provide for a resident ecologist, a program assistant, a security officer, and support funds for a comprehensive ecological program at the Chesapeake Bay Center for Environmental Sciences. An additional $2,000 are requested for necessary pay increases for the present staff.

Need for Increase--The Chesapeake Bay Center for Environmental Sciences was established to provide an easily accessible and protected area in which ecological and environmental research could be conducted. Projects at the Bay Center are carefully chosen for their merit and to assure that they complement rather than duplicate work being done elsewhere. The variety of ecosystems, including marshes, abandoned pastures, upland hardwood forests, and cultivated land at the Center, are used by scientists from various bureaus of the Smithsonian, federal and state agencies, and a consortium of universities for studies covering a wide variety of subjects.

A comprehensive ecological study is needed of the Chesapeake Bay watershed. This area has considerable economic importance, and is being subjected to increasing amounts of thermal and chemical pollution. The program would include studies to determine energy output, the total biological productivity of the land and the estuary, and the effects of pollution. Essential to this study is the research program at the Chesapeake Bay Center, a summary of which is shown on the following page. A resident ecologist, program assistant ($22,000), and $27,000 for support in the form of travel, supplies, equipment, and other services are requested to develop, coordinate, and implement this comprehensive ecological study of the Chesapeake Bay watershed. Under their direction and guidance, scientists from the Smithsonian and elsewhere would engage in a systematic study of the Chesapeake Bay area around the Center and in other selected areas of scientific interest.

The Center's utility to scientists depends upon the land and water areas remaining undisturbed. However, in the past, picnickers, poachers, vandals, and other trespassers have disturbed the land and water area and the carefully designed experiments set up through the Center. For this reason, a security officer ($6,000) is requested to provide the proper protection for the Center's facilities and experiments.

Chesapeake Bay Center for Environmental Sciences
Examples of Research Projects Being Conducted

Estuarine Studies

Water quality including the measurement of temperature, salinity, PH, conductivity, and dissolved oxygen and nutrients such as ammonia, nitrates, nitrite-nitrogen, polyphosphates, orthophosphates.

Fish populations, varieties, distribution, rate of growth, and predator-prey relationships.

The productivity of plankton in the estuary and its tributaries.

The distribution and abundance of native and introduced aquatic vegetation.

Studies of the epifauna community.

Bacterial characteristics of the water.

Bottom sedimentology and bathymetry in the estuary.

Terrestrial Studies

Ecology of birds, especially ducks, geese, and swans.

Studies of terrestrial plants and animals.

Vegetation mapping.

Population studies of terrestrial birds and their relation to successional plant communities.

Underlying mechanisms of vegetation change.

Diseases of Plants and Animals

Host-parasite relationships of birds, viruses, and blood parasites.

Diseases of aquatic plants.

Pesticide residues in plants, animals, and birds.

Archeology

Field work into the 35-40 sites, identified so far on the Center's property, that date as far back as 500 B.C.

Land-Use History

Research into previous occupancy and the utilization of the land in order to understand the present nature, distribution, and abundance of plant and animal communities.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

OFFICE OF OCEANOGRAPHY AND LIMNOLOGY

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	18	8	26
11 Personnel Compensation	$253,000	$ 68,000	$ 321,000
12 Personnel Benefits	19,000	5,000	24,000
21 Travel & Transp. of Persons	5,000	5,000	10,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	4,000	2,000	6,000
24 Printing and Reproduction	0	0	0
25 Other Services	40,000	40,000	80,000
26 Supplies and Materials	7,000	20,000	27,000
31 Equipment	8,000	20,000	28,000
TOTAL	$336,000	$ 160,000	$ 496,000
Analysis of Total			
Pay Increases	$18,000	$10,000	$28,000
Program	$318,000	$150,000	$468,000

Specification of Increase (Program):

Smithsonian Oceanographic Sorting Center (8 positions, $150,000)

The Sorting Center processes marine samples for use by more than 300 scientists in 27 countries in their research projects ranging from taxonomic studies to pollution control. In the past year, the Center sorted 3,500,000 specimens for 289 researchers, 55 of whom were in federal agencies. In addition, the Center provides advice and assistance on specimen-related activities such as field collection and the disposition of sorted samples in repositories. The Center has made concerted efforts to improve its productivity and efficiency. However, the increased number of samples sent to the Center, coupled with an increased demand for specimens, has created a large backlog of unsorted material. Unless these samples are processed soon, many of them will deteriorate to the point of uselessness for research purposes. To raise the capacity of the Center to the point where it can meet the demand for specimens, the Center requires seven sorter-technicians and a chemist ($63,000), funds for travel ($5,000), utilities ($2,000), supplies, materials, and equipment ($40,000), and other services ($40,000).

OFFICE OF OCEANOGRAPHY AND LIMNOLOGY

1969 Actual	$310,000
1970 Estimate	$336,000
1971 Estimate	$496,000

The Office of Oceanography and Limnology was established to provide increased knowledge of the oceans and fresh waters that comprise 71 percent of our planet. Through its sorting centers in Washington, D. C., and in Tunisia (the latter principally supported by the foreign currency program), the Office serves as a substantial producer and repository of biological and geological data for federal and private users and broadens the ability of scientists to respond to national needs. The Office also facilitates the productive involvement of Smithsonian and other scientists and research organizations in marine and freshwater research by providing a focal point for their effective use of Smithsonian resources. Emphasis has been given to assisting investigators in the problems associated with the consequences of environmental modification, including such biological changes as may result from the connection of the two oceans, problems of nearshore modification, and pollution.

An increase of $150,000 is requested to strengthen the operations of the Smithsonian Oceanographic Sorting Center. Funds in the amount of $10,000 are requested for necessary pay increases for the Office's present staff.

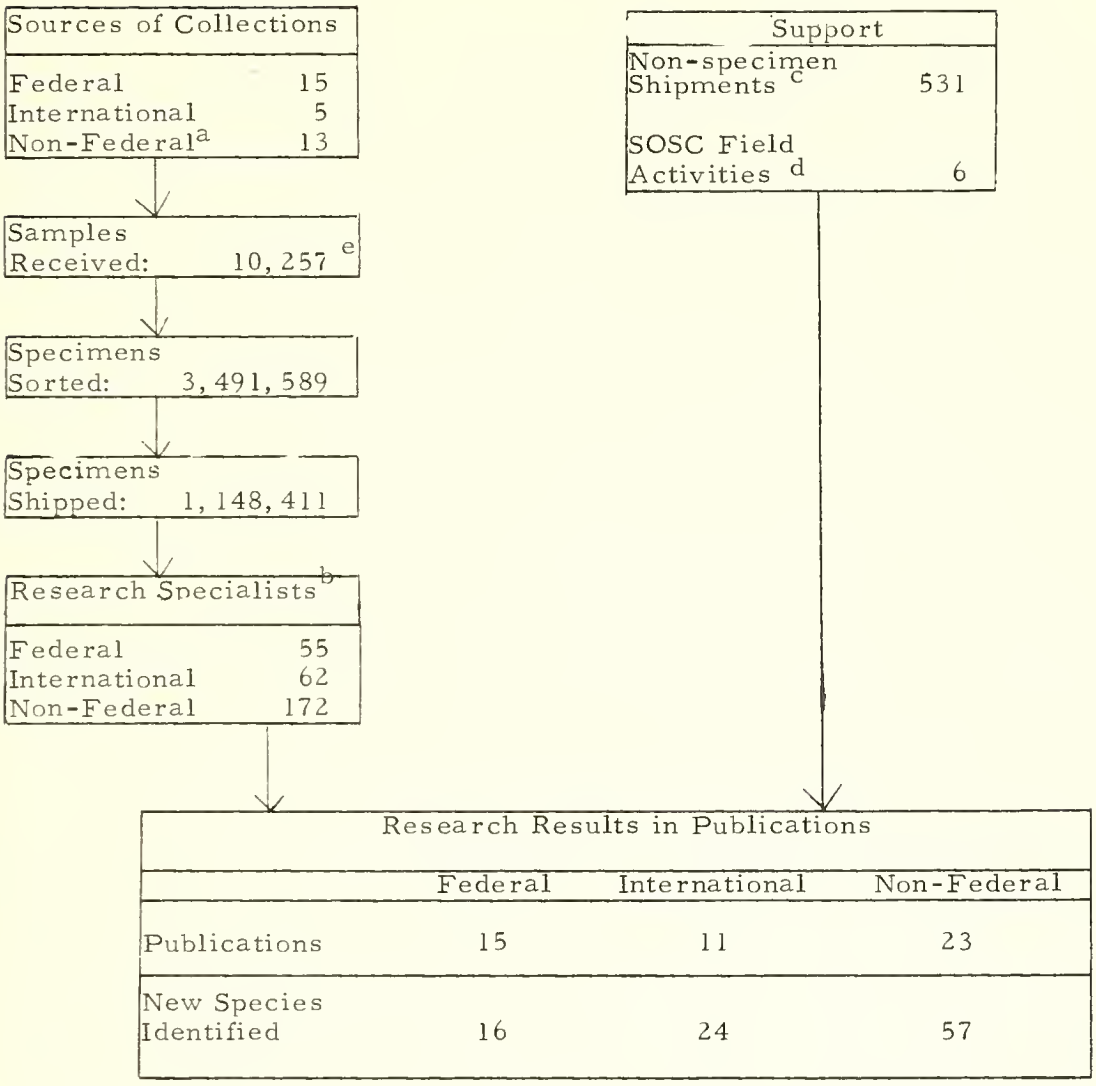
Need for Increase--The Office of Oceanography and Limnology operates the Smithsonian Oceanographic Sorting Center, which processes marine specimens from United States and international expeditions for use by more than 300 scientists from 27 countries in specimen-related research. The Center provides marine biological and geological identification services and serves as a national referral service for all kinds of specimen-based activities, from field collecting to the disposition of identified species in permanent repositories. The Center receives bulk samples, including station data (water, temperature, salinity, etc.), from governmental and private sources, sorts them into appropriate groupings, and sends them, upon request, to researchers and scientists for use in various research projects. A summary of the activities of the Sorting Center during fiscal year 1969 is shown on the following page.

The Sorting Center has made concerted efforts to improve its productivity. An automatic data processing system for specimen records has been started. Many manual operations--including the preparation of labels, inventory cards, and shipping documents--have been automated. Many instruments and scientific devices have been acquired or fabricated by the Sorting Center to improve efficiency and, when possible, have been purchased through government surplus sources to cut costs. Field manuals for the identification of the common and important species are being developed, as well as new techniques for the preservation and fixation of marine biological specimens.

Even after instituting these efficiencies, the Center is unable to meet the increasing demand from colleges, universities, and federal agencies for specimens. Backlogs of unsorted samples now exist for specimens gathered from the Great Lakes and several important oceanic expeditions. The backlog is due primarily to the fact that the present staff is unable to process and sort the more than 10,000 samples being received annually. Unless these backlogged samples are sorted soon, many will deteriorate to the point of being useless for research.

In order to alleviate this backlog, $63,000 are requested for eight positions to be used for sorter-technicians and a chemist who will be employed to process and preserve the large number of specimens at the Center. Support funds in the amount of $87,000 are requested to provide services, supplies, and equipment essential to sort, package, and distribute specimens, travel, and rental of equipment.

Smithsonian Oceanographic Sorting Center
Fiscal Year 1969



Research Results in Publications

	Federal	International	Non-Federal
Publications	15	11	23
New Species Identified	16	24	57

In addition to supplying 55 Federal organizations and specialists with specimens through the Sorting Center, the Office of Oceanography and Limnology has worked closely with the President's National Council on Marine Resources and Engineering Development through participation in its committees and panels, and also with the National Water Commission by developing an Ecological Review Panel to assist the Commission in developing their study. It has also responded to many requests for aquatic data from the Departments of Interior, Navy, State, Army, Transportation, and Health, Education, and Welfare, and the Atomic Energy Commission, and has assisted the Corps of Engineers in the development and evaluation of pollution studies.

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[a] United States and foreign colleges, universities, institutes, and others.

[b] Approved by SOSC Advisory Committees.

[c] Supplies and collecting gear for expeditions, cruise reports, data summaries and charts, bottom photographs.

[d] Participation in cruises and expeditions.

[e] Samples vary in size from test tubes to thousands of gallons in drums.

CENTER FOR THE STUDY OF MAN

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	2	3	5
11 Personnel Compensation	$ 27,000	$ 24,000	$ 51,000
12 Personnel Benefits	2,000	2,000	4,000
21 Travel & Transp. of Persons	2,000	5,000	7,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	81,000	18,000	99,000
26 Supplies and Materials	0	0	0
31 Equipment	1,000	2,000	3,000
TOTAL	$ 113,000	$ 51,000	$ 164,000
Analysis of Total			
Pay Increases	$2,000	$1,000	$3,000
Program	$111,000	$50,000	$161,000

Specification of Increase (Program):

Handbook of North American Indians (3 positions, $45,000)

This Handbook will be an encyclopedia of 15 or more volumes, summarizing all that is known of the prehistory and history of all Indian groups north of Mexico. Work up to now has been directed at preliminary planning activities--lists of 2,000 potential contributors have been compiled, consultations and meetings to develop the Handbook's format and contents have been held, and procedures to screen and check the manuscripts developed. It is now time for the actual work on the Handbook to begin. To do this, the Center for the Study of Man requires an editor, a research assistant, and a clerk-typist ($25,000), funds for travel to meet with scholars and researchers ($5,000), equipment ($2,000), and other services ($18,000).

Urgent Anthropology Small Grants Program ($5,000)

The primary purpose of this program is to gather data on cultures or subcultures that are rapidly changing or disappearing due to economic or technological pressures. By awarding small grants from $100 to $1,000, qualified investigators are enabled to carry out research before the changes become so pronounced as to make research difficult, if not impossible. In addition, the small grants program provides the Smithsonian with valuable data at far less cost than possible by other means. This request is for $5,000 to be used for a number of small grants in urgent anthropology.

CENTER FOR THE STUDY OF MAN

1969 Actual	$82,000
1970 Estimate	$113,000
1971 Estimate	$164,000

The Center for the Study of Man was established in 1968 to foster and coordinate interdisciplinary research, education, and service efforts involving scientists and historians from the Smithsonian and other institutions in this country and abroad, to facilitate the study of man on a worldwide scale. Its special concern is the development of the human sciences as they deal with all cultures and peoples from the earliest times to the present and the relevance of anthropological knowledge to major problems which beset mankind.

An increase of $50,000 is requested to continue work on the revision of the Handbook of North American Indians and to fund an Urgent Anthropology Small Grants Program. An additional $1,000 are sought to help meet necessary pay increases.

Need for Increase

1. Handbook of North American Indians (3 positions, $45,000)

The Handbook will be an encyclopedia of 15 or more volumes, summarizing all that is known of the prehistory and history of traditional and modern cultures of all the Indian groups north of Mexico. The new Handbook will utilize the resources of the Institution--scientific staff, manuscript and picture archives, library, and museum collections--which are unexcelled as a basis for this project--to update and replace the previous standard encyclopedic work on this topic which was issued by the Smithsonian in 1907-1910. The revised Handbook will become the standard reference work on all aspects of North American Indian history and cultures for students, teachers, authors, researchers, and administrators, both Indian and nonIndian.

The plans for the new Handbook were first announced in 1966. Since then, work on the revisions has been directed at preliminary planning activities--lists of some 2,000 potential contributors have been compiled; consultations held on organizing the Handbook's contents; and procedures to screen and check manuscripts developed. The Handbook is now at the stage where actual work on the book can begin. Any delays will cause the disillusionment of the academic community whose support as contributors and advisors is essential. An amount of $25,000 is requested to provide for an editor, a research assistant, and a clerk-typist. An additional $20,000 will be required for travel, equipment, short-term research contracts, and other services.

2. Urgent Anthropology Small Grants Program ($5,000)

The primary purpose of this program is to gather data on cultures or subcultures that are rapidly changing or disappearing as a result of economic or technological pressures. By awarding small grants, from $100 to $1,000, it enables qualified investigators in many areas to carry out urgent research on groups while they still exist as distinct entities. Results of these studies may have bearing on the solution of social and economic problems. A pilot project consisting of a series of small awards, made from grant funds (usually on a matching basis with other institutions), over the past several years has proved highly successful, frequently taking advantage of researchers who happen to be on the scene. A $300 grant to a VISTA volunteer working in an Eskimo village enabled him to document changes to the traditional culture of a village caused by industrialization. Another grant of only $150 provided for the recording on film and tape of traditional music of the native people of the Eastern Caroline Islands. Both of these projects provided the Smithsonian with valuable data at far less cost than obtainable by other means. Similar grants would be made under this program.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

CENTER FOR SHORT-LIVED PHENOMENA

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	0	1	1
11 Personnel Compensation	$ 0	$ 6,000	$ 6,000
12 Personnel Benefits	0	1,000	1,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	10,000	8,000	18,000
24 Printing and Reproduction	0	6,000	6,000
25 Other Services	0	2,000	2,000
26 Supplies and Materials	0	2,000	2,000
31 Equipment	0	0	0
TOTAL	$10,000	$ 25,000	$ 35,000
Analysis of Total			
Pay Increases	0	0	0
Program	$10,000	$25,000	$35,000

Specification of Increase (Program):

Improved Event Notification Capability (1 position, $25,000)

The Center for Short-Lived Phenomena acts as a clearing house for the receipt and dissemination of information on rare natural events which might otherwise go unobserved or uninvestigated. Last year the Center participated in 146 geophysical, astrophysical, and biological events compared with 68 events in the previous year. Over 250,000 event notifications were sent to 2,252 correspondents in 122 countries. Forty-six federal agencies and departments are users of the Center's services. The Center has been successful in obtaining outside assistance for special projects, such as the Apollo flights, and it has started a subscription system for those individuals and organizations who are receivers, but not major contributors, of information. However, the success of the Center's regular operations depends heavily upon the core of federal support it receives. The volume of work has put a strain upon the limited resources of the Center. In order to meet this growing workload, the Center requires a publication specialist ($7,000) and funds for communications ($8,000), printing ($6,000), and supplies and other services ($4,000).

CENTER FOR SHORT-LIVED PHENOMENA

1969 Actual.....	0
1970 Estimate.....	$10,000
1971 Estimate.....	$35,000

The Center for Short-Lived Phenomena was established in fiscal year 1968 to serve as a clearing house for the timely receipt and dissemination of information concerning rare natural events which might otherwise go unobserved or uninvestigated. Rapid dissemination of event reports permits research teams to enter an area, often while the event is occurring, to gather information that otherwise would be lost to science. Reports are received from a wide range of sources, including news media, private citizens, individual scientists, and scientific observatories. These reports are made available to investigators and others who become correspondents of the Center and indicate their desire to receive them. Reports are transmitted by radio, cable, telephone, or air mail, depending on the correspondent's ability to receive the information and/or respond to the event.

An increase of $25,000 is requested to provide for a publications specialist and sufficient communications services to report the increasing number of events to a worldwide network of scientists and researchers.

Need for Increase--During 1969, the Center participated in 146 geophysical, astrophysical, and biological events as compared to 68 events in 1968, including 23 major earthquakes and other earth science events such as landslides, landrises, storm surges, and tsunamis; 51 ecological events including 11 animal eruptions, migrations, and colonizations; 17 major oil spills and pollution events; 21 astrophysical events including 16 major fireballs, 5 meteorite falls and their recovery; 7 urgent anthropological/archeological events including two new tribe discoveries. Other events of interest included a floating island in the Caribbean, a submarine volcanic eruption in the Solomon Islands, the Indo-Pacific starfish plague, and 44 events of transient lunar phenomena observed during the Apollo manned lunar missions. A partial list of the events reported by the Center for Short-Lived Phenomena during the first 10 months of calendar year 1969 is shown on the following page.

These events led to 54 actual onsite investigations. Twenty scientific publications have resulted from the Center's operations. The Center's work has received an enthusiastic response from the scientific community throughout the world. It has been besieged with requests from universities, foundations, Federal agencies, and scientific societies asking to become part of the Center's reporting system. Its number of correspondents has grown to 2,252 in 122 countries, representing every major scientific discipline. New requests continue to arrive at the rate of 50 a month. Forty-six Federal agencies and departments are users of the Center's services.

The Center has instituted every possible efficiency including automatic computer printouts of event notifications. However, the resources of the Center are severely limited and its current ability to cope with more than 250,000 event notifications is very inadequate. The Center has been successful in obtaining outside financial support for special projects, e.g. the Apollo flights, and has also started a subscription system for those individuals and organizations who are receivers, but not major contributors of information. While some $15,000 will be raised by this means, the success of the Center's regular operations depends heavily on the level of the core Federal funding it receives. The most essential need is for a publications specialist to handle the increased event traffic and for operations and communications services to assure that sufficient facilities will be available to maintain the required speed and level of event reporting ($25,000).

SMITHSONIAN INSTITUTION
CENTER FOR SHORT-LIVED PHENOMENA

INDEX TO EVENTS

EVENT NUMBER	NAME	LOCATION	DATE OF EVENT
1-69	SOLOMON ISLANDS EARTHQUAKE	SOLOMON ISLANDS	5 JANUARY 1969
2-69	SANTA FE PREHISTORIC CAMEL TRACKS	NEW MEXICO, USA	6 JANUARY 1969
3-69	OITA-TOKYO FIREBALL	JAPAN	7 JANUARY 1969
4-69	MT. MERAPI VOLCANIC ERUPTION	INDONESIA	8 JANUARY 1969
5-69	ATHENS FIREBALL	GREECE	16 JANUARY 1969
6-69	WAMA STONE AXE TRIBE DISCOVERY	SURINAM, S.A.	8 JUNE 1968
7-69	CEDAR RAPIDS FIREBALL	IOWA, USA	26 JANUARY 1969
8-69	MINDANAO EARTHQUAKE	PHILIPPINES	30 JANUARY 1969
9-69	SANTA BARBARA OIL SPILL	CALIFORNIA, USA	30 JANUARY 1969
10-69	ST. MARYS' DUCK KILL	MARYLAND, USA	23 JANUARY 1969
11-69	PUEBLITO DE ALLENDE METEORITE SHOWER	MEXICO	8 FEBRUARY 1969
12-69	GUNUNG IJA VOLCANIC ERUPTION	INDONESIA	27 JANUARY 1969
13-69	TELICA VOLCANIC ACTIVITY	NICARAGUA	11 FEBRUARY 1969
14-69	HOUSTON FIREBALL	TEXAS, USA	6 FEBRUARY 1969
15-69	ANCHORAGE MOOSE MIGRATION	ALASKA, USA	MID-FEBRUARY 1969
16-69	KILAUEA VOLCANIC ERUPTION (1969)	HAWAII, USA	22 FEBRUARY 1969
17-69	DECEPTION ISLAND VOLCANIC ERUPTION (1969)	ANTARCTICA	21 FEBRUARY 1969
18-69	MAKASSAR STRAIT EARTHQUAKE	INDONESIA	23 FEBRUARY 1969
19-69	MT. LAU LOBO VOLCANIC ERUPTION	INDONESIA	27 FEBRUARY 1969
20-69	PORTUGUESE EARTHQUAKE	PORTUGAL	28 FEBRUARY 1969
21-69	MALAWI FIREBALL	MALAWI, AFRICA	21 JANUARY 1969
22-69	PERUVIAN ANT ERRUPTION	PERU, S.A.	1 MARCH 1969
23-69	TEQUILUTLA SEA ANIMAL DISCOVERY	MEXICO	6 MARCH 1969
24-69	COOK INLET OIL SPILL	ALASKA, USA	4 MARCH 1969
25-69	LOUISIANA OIL SPILL	LOUISIANA, USA	16 MARCH 1969
26-69	MINAMI-OAKE, SAKURA-ZIMO VOLCANO	JAPAN	8 MARCH 1969
27-69	CHICAGO RIVER OIL SPILL	ILLINOIS. USA	21 MARCH 1969
28-69	ICELAND POLAR BEAR KILL	ICELAND	22 JANUARY 1969
29-69	DIDICAS VOLCANO	PHILIPPINES	27 MARCH 1969
30-69	TURKEY EARTHQUAKE	TURKEY	28 MARCH 1969
31-69	HALMAHERA ISLAND EARTHQUAKE	INDONESIA	27 MARCH 1969
32-69	RED SEA EARTHQUAKE	RED SEA AREA	31 MARCH 1969
33-69	ETHIOPIAN RIFT EARTHQUAKE	ETHIOPIA, AFRICA	29 MARCH 1969
34-69	GREENVILLE FIREBALL	S. CAROLINA, USA	31 MARCH 1969
35-69	NORSALV LANDSLIDE	SWEDEN	12 APRIL1969
36-69	URKUT LANDSLIDE	HUNGARY	14 MARCH 1969
37-69	NAPA FIRLOALL	CALIFORNIA, USA	15 APRIL 1969
38-69	NLW JERSEY FISH/CRUSTACEAN MORTALITY	NLW JERSLY, USA	SEPT/OCT 1968
39-69	DUTCH COAST OIL SPILL	NETHERLANDS	20 FEBRUARY 1969
40-69	BELFAST METLORITE FALL	IRELAND	25 APRIL 1969
41-69	RINCON DE LA VIEJA VOLCANIC ACTIVITY	COSTA RICA, C.A.	22 APRIL 1969
42-69	HOUSTON FIREBALL NO. 2	TEXAS, USA	3 MAY 1969
43-69	FARALLON DE PAJAROS SUBMARINE VOLCANIC ERUPTION	MARIANNA ISLANDS	11 MARCH 1969
44-69	POAS VOLCANIC ACTIVITY	COSTA RICA, C.A.	3 MAY 1969
45-69	GREAT BARRIER REEF STARFISH PLAGUE	AUSTRALIA	1968-1969
46-69	SAMAR SPONTANEOUS SOIL BURN	PHILIPPINES	20 APRIL 1969
47-69	SANDY HOOK FISH KILL	NEW JERSEY, USA	11 MAY 1969
48-69	AMCHITKA EARTHQUAKE	ALASKA, USA	14 MAY 1969
49-69	HAMILTON TRADER OIL SPILL	ENGLAND	30 APRIL 1969
50-69	ARISTARCHUS RED SPOT	MOON	1 APRIL 1969
51-69	LAKE MICHIGAN SALMON HIGH DDT RESIDUE DISCOVERY	MICHIGAN, USA	MARCH 1969
52-69	ARISTARCHUS BRIGHTENINGS	MOON	21 MAY 1969
53-69	MT. RAINIER SEISMIC ACTIVITY	ALASKA, USA	1968-1969
54-69	PISCATAQUS RIVER OIL SPILL	NEW HAMPSHIRE, USA	22 MAY 1969
55-69	SALO LANDSLIDE	FINLAND	19 MAY 1969
56-69	SHANTUNG TIDAL WAVE	PEOPLE'S REP./CHINA	23 APRIL 1969
57-69	JUNIN LAGOON MARINE POLLUTION	PERU, S.A.	12 MAY 1969
58-69	MEKONG VALLEY FLOODING	SOUTH EAST ASIA	1971-1986
59-69	IOWA FIREBALL	MIDWEST USA	5 JUNE 1969
60-69	WEYMOUTH OIL SPILL	MASSACHUSETTS, USA	7 JUNE 1969
61-69	MISSOURI MASTODON FOSSIL FIND	MISSOURI, USA	4 JUNE 1969
62-69	UBINAS VOLCANIC ACTIVITY	PERU. S.A.	1 JUNE 1969
63-69	BECEJ NATURAL GAS ERUPTION	YUGOSLAVIA	4 JUNE 1969
64-69	MEDITERRANEAN SEA EARTHQUAKE	MEDITERRANEAN SEA	12 JUNE 1969
65-69	RALEIGH BAY BIRD KILL	N. CAROLINA, USA	13 JUNE 1969
66-69	ARARAQUARA FIREBALL	BRAZIL	11 JUNE 1969
67-69	SOUTH CHINA FLOODING	CHINA	MAY 1969
68-69	ALMA OIL SPILL	WISCONSIN, USA	16 JUNE 1969
69-69	RHINE RIVER FISH KILL	GERMANY-NETHERLANDS	21 JUNE 1969
70-69	RUAPEHU VOLCANIC ERUPTION	NEW ZEALAND	22 JUNE 1969
71-69	VICTORIAN TREMORS	AUSTRALIA	20 JUNE 1969
72-69	INDIANA FIREBALL	MIDWESTERN USA	26 JUNE 1969
73-69	CASTROVIRREYNA SINKING	PERU	25 JUNE 1969
74-69	COOK INLET OIL SPILL II.	ALASKA, USA	23 JUNE 1969
75-69	UTHAI THANI SITE DISCOVERY	THAILAND	14 JUNE 1969
76-69	CHILI RIVER CONTAMINATION	PERU	14 JUNE 1969
77-69	SACSAYHUMAN MINIATURE SCULPTURE FIND	PERU	14 JUNE 1969
78-69	TOLEDO CATTLE KILL	SPAIN	1968-1969
79-69	MAGHAR LANDSLIDE	ISRAEL	JAN./FEB. 1969
80-69	TUNIS FIREBALL	TUNISIA	6 JULY 1969
81-69	NEWPORT CLAM ERRUPTION	RHODE ISLAND, USA	JUNE 1969
82-69	TOLFA TREMORS	ITALY	2 JULY 1969
83-69	LEINE RIVER POLLUTION	GERMANY	3 JULY 1969
84-69	CHIRIMACHAS ADVANCE	PERU	1968-1969
85-69	SOOTY TERN HATCH FAILURE	FLORIDA, USA	MAY/JUNE 1969
86-69	WINDWARD PASSAGE FLOATING ISLAND	CUBA	4 JULY 1969
87-69	MASSACHUSETTS BIRD KILL	MASSACHUSETTS, USA	29 JUNE 1969
88-69	AMAZON RIVER PORPOISE DISAPPEARENCE	PERU	1968-1969
89-69	CORUSQUIRA LANDSLIDE	AZORES	25 JUNE 1969
90-69	JAPANESE BAMBOO KILL	JAPAN	1969
91-69	UNITED KINGDOM BIRD KILL	ENGLAND	6-9 JULY 1969
92-69	YELLOW SEA EARTHQUAKE	CHINA	18 JULY 1969
93-69	CHARLES RIVER FISH KILL	MASSACHUSETTS, USA	18-20 JULY 1969
94-69	TRANQUILITY BASE MOONQUAKE	MOON	24 JULY 1969
95-69	PERUVIAN TREMORS	PERU	24 JULY 1969
96-69	COLOMBIAN TRIBE DISCOVERY	COLOMBIA	MARCH 1969
97-69	SOUTHERN LAKE MICHIGAN ALEWIFE MORTALITY	MICHIGAN, USA	JULY/AUGUST
98-69	MOLUCCA PASSAGE EARTHQUAKE	INDONESIA	5 AUGUST 1969
99-69	OHIO-INDIANA FIREBALL	OHIO-INDIANA, USA	5 AUGUST 1969
100-69	NORTHEASTERN U.S. GYPSY MOTH INFESTATION	NORTHEAST U.S.	JULY/AUGUST 1969
101-69	KURIL ISLANDS EARTHQUAKE	KURIL ISLANDS, USSR	11 AUGUST 1969
102-69	LAS CRUCES FIREBALL	NEW MEXICO, USA	9 AUGUST 1969
103-69	SOUTH AFRICA: OILING OF PENGUINS	REP. OF S. AFRICA	10 AUGUST 1969
104-69	NORTH ISLAND (N.Z.) FIREBALL	NEW ZEALAND	3 JUNE 1969
105-69	WATERFOWL KILL/BOTULISM	UNITED STATES	AUGUST 1969
106-69	GUYANA ARCHAEOLOGICAL FIND	GUYANA	1969
107-69	TATABANYA MUD FLOW	HUNGARY	15 AUGUST 1969
108-69	GIRONDE OIL SPILL	ST. BRIEUC, FRANCE	19 AUGUST 1969
109-69	EASTERN U.S. HIGH AIR POLLUTION POTENTIAL	EASTERN U.S.	AUGUST 1969
110-69	GALAPAGOS ISLANDS TREMORS	GALAPAGOS ISLANDS	30 AUGUST 1969
111-69	HUEHUETENANGO LANDSLIDE	GUATEMALA	28 AUGUST 1969
112-69	PANAMA MOTH MIGRATION	PANAMA	13 AUGUST 1969
113-69	EUROPEAN BIRD MIGRATION SCARCITY	EUROPE	1969
114-69	MEIJE ROCKFALL	FRANCE	2 SEPTEMBER 1969
115-69	AMCHITKA PASS EARTHQUAKE	ALEUTIAN ISLANDS	12 SEPTEMBER 1969
116-69	ALEUTIAN ISLANDS VOLCANIC ERUPTION	LITTLE KISKA, AK.	12 SEPTEMBER 1969
117-69	DAVAO "LAND-RISE"	PHILLIPINES	MAY 1969
118-69	WEST FALMOUTH OIL SPILL	MASSACHUSETTS, USA	16 SEPTEMBER 1969
119-69	TRINIDAD BUTTERFLY INVASION	TRINIDAD	SEPTEMBER 1969
120-69	POLICE METEORITE FALL	CZECHOSLOVAKIA	16 SEPTEMBER 1969
121-69	MIAMA SNAIL INFESTATION	FLORIDA, USA	SEPTEMBER 1969
122-69	CAPE PROVINCE EARTHQUAKE	SOUTH AFRICA	29 SEPTEMBER 1969
123-69	SANTA ROSA EARTHQUAKE	CALIFORNIA, USA	2 OCTOBER 1969
124-69	PRINCE GEORGE METEORITE FALL	CANADA	21 AUGUST 1969
125-69	MURCHISON METEORITE FALL	AUSTRALIA	28 SEPTEMBER 1969
126-69	OZARKS FIREBALL	KANSAS, USA	9 OCTOBER 1969
127-69	GREAT BRITAIN BIRD MORTALITY	GREAT BRITAIN	OCTOBER 1969
128-69	HUANCAYO EARTHQUAKE	PERU	1 OCTOBER 1969
129-69	ST. LOUIS SPIDER INVASION	MISSOURI, USA	8 OCTOBER 1969
130-69	CANLAON VOLCANIC ERUPTION	PHILIPPINES	11 OCTOBER 1969
131-69	BANJA LUKA EARTHQUAKE	YUGOSLAVIA	26 OCTOBER 1969
132-69	CALIFORNIA CHANNEL IS. EARTHQUAKES	CALIFORNIA, USA	22 OCTOBER 1969
133-69	MT. TAAL VOLCANIC ERUPTION	PHILIPPINES	29 OCTOBER 1969
134-69	KOVACHI SUBMARINE VOL. ERUPTION	SOLOMON ISLANDS	30 OCTOBER 1969
135-69	BEZMIANNY VOLCANIC ERUPTION	U.S.S.R.	3 NOVEMBER 1969
136-69	WESTPORT SNAKE MORTALITY	CANADA	13 OCTOBER 1969

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

AMERICAN REVOLUTION BICENTENNIAL

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	0	5	5
11 Personnel Compensation	$ 0	$ 74,000	$ 74,000
12 Personnel Benefits	0	6,000	6,000
21 Travel & Transp. of Persons	0	20,000	20,000
22 Transportation of Things	0	20,000	20,000
23 Rent, Comm. and Utilities	0	1,000	1,000
24 Printing and Reproduction	0	10,000	10,000
25 Other Services	0	110,000	110,000
26 Supplies and Materials	0	90,000	90,000
31 Equipment	0	65,000	65,000
41 Grants	0	4,000	4,000
TOTAL	$ 0	$ 400,000	$ 400,000
Analysis of Total			
Pay Increases	0	0	0
Program	0	$400,000	$400,000

Specification of Increase (Program):

Bicentennial Planning, Research, and Exhibitions (5 positions, $400,000)

The Bicentennial presents an extraordinary opportunity to review national accomplishments and goals and renew public hope and confidence in the future. The Smithsonian can play an important role in this observance drawing upon its scholarly staff, collections documenting the history and growth of the United States, effective working relationships with museums across the country, and strong attraction for the visiting general public. A number of events and exhibits relating to the period of the Revolution have been held. With the additional $400,000 requested, the Smithsonian proposes to develop a comprehensive array of exhibitions, both for Washington and for circulation to other communities, publications, seminars, and advisory and technical services to assist other museums and state and local history organizations in their activities.

1969 Actual	0
1970 Estimate	0
1971 Estimate	$400,000

The 200th anniversary of the United States will be an occasion for Americans to reassess the ideals which brought about the Revolution, to review our national achievements, to place in perspective ethnic, cultural, and religious diversities which have consistently contributed to our national development, to see where we have fallen short of maintaining the spirit of 1776, and to build a stronger base for hope and confidence in our future. The Bicentennial presents a unique opportunity for strong reaffirmation of the self-reliance, courage, and pursuit of worthy goals and high ideals which characterized the leaders of the Revolution.

With its scholarly staff, a large and broadly-based public participation in its activities, and as the national repository of objects documenting the history and growth of the United States, the Smithsonian Institution will play an important role in the observance of the Bicentennial of the American Revolution. In anticipation of increasing public interest, the Smithsonian Institution has initiated scholarly research and across-the-board planning to provide historical accuracy and latest technology to its projected exhibitions and other programs relating to the events leading up to the Revolution. This ground work will enhance the educational quality of our programs in later years. Some preliminary exhibitions and events have already been held, beginning in fiscal year 1965. A listing of these appears in Table 1. These preliminary activities have been funded by the Smithsonian's regular appropriations. Since the level of commemorative activity must increase as 1976 approaches, additional funds will become necessary.

Table 1

Smithsonian Projects Relating to the Bicentennial
through fiscal year 1970

Exhibition on George Mason and the Virginia Bill of Rights;

Exhibition on individual rights as dramatized by the 200th Anniversary of the Stamp Act;

Exhibition on the Townshend Acts;

Small exhibit of Charles Willson Peale silhouettes, an aspect of American graphic arts history;

Annual Folk Festivals on the Mall;

Performances of Americana in the Mall tent;

Exhibition on the history of American music making in colonial Boston, Mount Vernon, the Moravian colony, and folk music of the time;

Research opportunities at the graduate level in American studies, in American military and naval history, and in civil history;

Study programs at the National Portrait Gallery, National Collection of Fine Arts, Freer Gallery, and the Center for the Study of Man, which has extensive resources for the study of the American Indian;

Exhibition on printing and print making in the first 150 years of American life;

Research studies in museum administration, conservation, and exhibits;

Study programs at the Cooper-Hewitt Museum in New York.

These various Smithsonian activities have focused on the growing tensions between the New World settlers and the Mother Country; the development of a distinctive American culture; and the development of a technology responsive to our material requirements.

The responsibility of the Smithsonian in the 200th anniversary observances, the expectations of the President, the proper demands of the Congress and concerned private organizations and persons, will all be disappointed if the contribution of the Smithsonian must be limited to that possible within regular budgetary ceilings.

Intensified preparations must begin in fiscal year 1971 if the Smithsonian is to perform according to the letter and spirit of Congressional and public requests. The special budget request for the Smithsonian's participation in the Bicentennial of the American Revolution for 1971 is $400,000.

This initial funding, with gradual increases as activity is stepped-up, will be needed through fiscal year 1977, as indicated in Table 2. This special funding will not result in significant permanent increases in the Institution's staff or appropriations base. Collections, exhibitions, research, and publications, however, will continue to be a tangible result of this investment long after the close of the Bicentennial Era.

Table 2

Bicentennial Activities and Budget Forecast
(in thousands of dollars)

	1971	1972	1973	1974	1975	1976	1977
Exhibitions and Performances	$250	$405	$500	$500	$600	$650	$400
Research and Publications	50	100	125	125	125	125	100
Planning and Administration	100	100	100	100	100	75	50
Total	$400	$605	$725	$725	$825	$850	$550
Staff	5	8	12	14	16	18	18

1. Washington Programs $280,000

Current data indicate that every other visitor to Washington is also a visitor to the Smithsonian's museums and art galleries. Total attendance at the Smithsonian in calendar year 1969 was over 12.4 million. It is safe to assume that the number of visitors will continue to grow, and probably at an increasing annual rate, in the years leading up to 1976.

To provide these visitors with an accurate and dramatic review of the first 200 years of our national life, the Smithsonian is planning a number of new exhibitions. While every effort will be made to open many of these new exhibitions early in the Bicentennial period, scholarship and accuracy will not be sacrificed in the interest of haste, since these exhibits must serve to educate as well as inspire.

Through the application of audio-visual and design technology, we propose to project the visitor back in time to the second half of the 18th century. Using building space as a "time corridor," instead of the traditional exhibition hall, the visitor will be surrounded by objects, sights, sounds, smells, and other aspects of the period so that he can participate in the home, work, and leisure of the colonists on the eve of the Revolution. In subsequent years, this new technique may be applied to later periods in American history.

An innovative visitor participation exhibition on the price of independence is also planned. Using interactive devices, the visitor will test his skill in any of several roles--that of a Boston merchant, a Southern planter, etc.--against the known risks of sea trade, civil war between colonies, reluctance to engage in war, fear of defeat and reparations, possible loss of markets in Great Britain, freedom of manufacture, and removal of Mother Country controls over westward expansion.

An exhibition on the three-quarters of the United States not included in the Treaty of Paris of 1783 will relate the historical background, culture, ideas, and people and their daily life in the last part of the 18th Century is also in the planning stage. This exhibition will show that the 13 Colonies of the Revolutionary War shared experiences with what was destined to become a major part of the United States.

Smaller exhibitions will cast light on everyday life in America in the mid-1770's. For example, one is tentatively entitled "Three Meals a Day," showing the American menu in the various colonies, sources of foods, techniques of preparation, and tools used in the production and cooking of meals. Another exhibit will treat the physical and political structure of towns and cities in the colonial era, using artifacts, publications, and graphics to explain the wide variety of institutions created to serve the needs of the people. A third will deal with clearing land, building houses and public buildings, tools, architectural types, and borrowed techniques and modifications applied in the New World. We also plan an exhibition on the evolution of American educational systems in the 17th and 18th centuries.

The Smithsonian will continue to develop the design concept for the Revolutionary War segment of the proposed National Armed Forces Museum Park. Here, on the outskirts of Washington, adjacent to major travel routes between the North and South at Fort Foote, we are planning a facility where visitors will see reconstructions of Revolutionary War stockades, cantonments, and equipment. The displays under consideration will show how the citizen-soldier of 1776 lived while on active duty along the frontier and in garrison towns.

2. National Programs $120,000

Wherever practicable, these special exhibitions mentioned above will be designed to conform to the needs of our Traveling Exhibition Service. Currently the Smithsonian is circulating some 200 exhibitions among museums, universities, and public institutions throughout the United States. By making these special Bicentennial programs available in every state, we will support the decision of the American Bicentennial Commission that the observances should be national in scope. We expect to expand this service to include performances as well as exhibitions of artifacts.

Under authority of the National Museum Act, we are already counseling museums around the country on how best they can display their collections during the Bicentennial Era. We expect to receive an increasing number of this kind of request as we approach 1976. In addition, many of the requests now being received are seeking help in training museum personnel in restoration, conservation, and display of objects in anticipation of major exhibitions in the next few years. We should provide all the assistance we can, within the limits of authority established in the National Museum Act.

Several national organizations have requested our help in specific areas. For example, the American Association for State and Local History has asked us to help in preparing a handbook on Bicentennial display and events which will be distributed to the Association's 3,000 members in every state, and to others on request. We also anticipate additional requests for advice and technical assistance from the various State Bicentennial Commissions.

3. International Programs 0

While no funds are being requested in fiscal year 1971 for Bicentennial activities at the international level, some work has already begun in this area. For example, the Smithsonian is considering sponsoring and coordinating study programs, research activities, and symposia involving leading scholars from those countries which made the larger contributions to the American War for Independence--Great Britain, France, Poland, Spain, and Germany. It is anticipated that the Smithsonian will be able to borrow significant Revolutionary War period artifacts from private and public collections in these countries for display in the United States during the Bicentennial Era. The Smithsonian also expects to be asked for its advice by museums abroad which will be preparing their own exhibitions showing the history of relations between the United States and the respective host countries.

The preceding paragraphs summarize the concept of the Smithsonian's Bicentennial program, aimed at reaching the broadest possible audience at all levels of interest. To recast the two budget estimates given, $280,000 for Washington programs and $120,000 for national programs, into the three interrelated areas of activity, the following expenditure program is proposed for fiscal year 1971:

Exhibitions and performances	$250,000
Research and publication	50,000
Planning and administration	100,000

Exhibitions and Performances..... $250,000

Essential to Smithsonian participation in the Bicentennial is the display of artifacts from the collections, as well as the display of contemporary and period plays, musical works, and folk arts. Exhibitions and performances must be carefully planned to take full advantage of resources and research available. Exhibitions must be fabricated in such a way as to provide high visitor interest and education. They must be designed to conform to available space, both within the Smithsonian premises and for use as traveling exhibitions. To permit the fullest participation in the educational benefits resulting from the proper display of significant historical collections, $250,000 are needed. These funds will provide the raw materials and workmanship needed to design, produce, install, and circulate exhibitions and performances.

Research and Publication $50,000

Research is a basic function of the Smithsonian. As indicated above, we have already begun a comprehensive research program into the origins and impact of the American Revolution on American life and national development. Original source material is rapidly disappearing with the passage of time. If the research is to serve fully the needs of the Bicentennial, it must be completed well before 1976 to be reflected in exhibitions, in American scholarship, and in the curricula of our educational systems. An important aspect of this research will be the holding of symposia of leading experts in various aspects of American society, resulting in a distillation of national purpose. To make the most of this research, findings must be published. Some can be published by the Smithsonian; some will best be published commercially. The Smithsonian's collections and scholarship can be used to excellent advantage in the preparation of documentary films for use in classroom showing, on educational and commercial television, and in theatrical distribution. For these purposes a request of $50,000 is made for fiscal year 1971. The Institution intends to draw on the talents of outside organizations, such as universities and colleges. Special fellowships or limited term appointments will be used wherever possible. In this way any extended increase in staff will be held to a minimum.

Planning and Administration $100,000

Fiscal year 1971 will be the first year of major Smithsonian-wide involvement in Bicentennial planning. Much of the necessary planning, administration, and coordination of activity will take place in the Office of the Director General of Museums, but other elements of the Smithsonian--notably the National Museum of History and Technology--will need support in developing projects. In addition, increased costs will begin to be incurred by certain of the administrative and central support activities for library reference work, printing, and similar research and exhibition support services.

Funding by Category of Expense

Personnel	$80,000
Special assistant for Bicentennial planning	
Program assistant — Exhibits specialist	
Clerk-typists (2)	
Travel	20,000
Advisory services — Training	
Research — Consultation	
Transportation	20,000
Borrowing and lending objects	
Traveling exhibitions and performances	
Rent, Communications and Utilities	1,000
Office and exhibit equipment	
Printing	10,000
Guides — Handbooks	
Research publications	
Services	110,000
Exhibitions design and preparation	
Training of museum personnel — Consulting	
Supplies and Materials	90,000
Exhibitions preparation	
Equipment	65,000
Cases for permanent and circulating exhibitions	
Insurance	4,000
Borrowed objects	

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

ENVIRONMENTAL SCIENCES PROGRAM

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	0	14	14
11 Personnel Compensation	$ 0	$ 186,000	$ 186,000
12 Personnel Benefits	0	14,000	14,000
21 Travel & Transp. of Persons	0	35,000	35,000
22 Transportation of Things	0	5,000	5,000
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	25,000	25,000
25 Other Services	0	210,000	210,000
26 Supplies and Materials	0	45,000	45,000
31 Equipment	0	80,000	80,000
TOTAL	$ 0	$ 600,000	$ 600,000
Analysis of Total			
Pay Increases	0	0	0
Program	0	$600,000	$600,000

Specification of Increase (Program):

Environmental Assessment, Monitoring, and Education (14 positions, $600,000)

The Smithsonian sees its participation in improving the quality of man's environment as three-fold: identification and assessment of the components of man's natural surroundings and of his cultural development; monitoring of change for predictive purposes; and education at all levels of public interest. In order to make a significant contribution in these areas, the Institution requests an appropriation of $600,000. The Institution would use these funds for five interrelated kinds of activity reinforcing and integrating our own resources of staff, collections, and natural land areas with carefully selected additional investigators and outside advisers. These activities are:

--identifying plants and animals as bioindicators and benchmarks. Funds for field studies and publications are requested ($100,000).

--monitoring rates and processes of change. Four additional scientists for special projects with funds for research support are requested ($150,000).

--undertaking research on social biology. Funds for an anthropologist, a historian, for fellowship offerings, and a series of seminars are requested ($75,000).

--communicating environmental knowledge to the public. Funds for a program planner, for continuing the preparations of the exhibition hall on environmental life, and for a seminar series are requested ($125,000).

--developing a national referral center. Funds for four data-handling technicians and three computer specialists and computer services are requested to speed up the preparation of collection data, and applying electronic data processing to its retrieval and analysis ($150,000).

ENVIRONMENTAL SCIENCES PROGRAM

1969 Actual.....	$ 0
1970 Estimate	$ 0
1971 Estimate	$600,000

For many years the activities of the Smithsonian Institution have been grouped together for purposes of budget submissions to the President and to the Congress under the headings of buildings: the Museum of Natural History, the National Collection of Fine Arts, the Air and Space Museum, and so forth.

These artificial and cramping categories tend to distort the essential meaning of the Institution. From this misleading listing comes an assumption in the public mind that the Institution has long since given up its mandate "for the increase and diffusion of knowledge among men", and has taken refuge in doing a purely administrative job of keeping public buildings open during prescribed hours of the day.

In the past year, the national mood of uneasiness has become focused on the threatened decline in the quality of the environment to danger levels which may negate the advances of our technology and make a mockery of our culture. Human memory is short. This is the "now" generation, and it is all as if warnings had never been signalled before. The subject is merely becoming urgent at the moment, and therefore all levels of our society are listening at last to what had been the voices in the wilderness, whether they speak of pesticides or of venal manufacturers.

In fact the Smithsonian has always been a single institution for research and publication, and for teaching through exhibits and public education. In the 1870s, the Institution pioneered in investigations of coal smoke (then the smog over cities). Its studies of commercial fisheries in this country paved the way for the massive federal support of everything from fisheries to oceanography. The Smithsonian's measurements of solar radiation in the middle of Washington began in 1907 from the tower of the "castle" on the Mall, presumably with the thought that this was a good clear place in which to operate, have, fortunately, continued down to the present, the longest continuous series of such measurements anywhere. As the data which is being assembled with the aid of computers has now shown, there has been a net decrease of solar radiation in Washington of 16 percent in that period. The unique point is that a widespread decrease of total incident light could have catastrophic consequences for agricultural crop development and maturation ultimately disturbing the life patterns of birds and insects and seed-carrying functions and pollination.

The Smithsonian's collections after years of being considered as collections in a museum, an "attic" bypassed by modern science, are now being projected into the forefront of the environmental crisis. Now, through data processing, science is beginning to realize the inherent value of natural history collections. The rates of change of animal populations along our coasts and in our streams, correlated with changing composition of plant species, provide a time scale and a predictable future. These rates of change are extremely complex and intricate but they can be measured and thus set against a probability curve. From its vast store of data, the Smithsonian is continually being asked by government agencies such as the Agency for International Development, the Corps of Engineers, the Bureau of Commercial Fisheries, and the Federal Water Pollution Control Agency to provide such information. Our collections are thus providing a reliable set of guidelines for tolerable rates of future deterioration, one of the few such in existence. Much more could be done, however, in making these collections fully accessible and useful.

Six years ago, the Atomic Energy Commission was queried about the after-effects of a possible Sea Level Canal across the Isthmus of Panama. The Smithsonian offered to perform an ecological assessment of this proposed momentous manipulation of the environment but was turned down because the climate of understanding of such issues, as recently as six years ago, was not conducive to the Smithsonian being heard. By January 1970, an onsite survey by a committee of the National Academy of Sciences agreed unanimously that continuing ecological monitoring and experimental studies are of critical importance in the whole question of the future of such a canal. In addition, committee members have urged the Smithsonian to continue the present follow-up studies of the oil spill in December 1968 of the tanker "Witwater" off the reefs at Balboa on the Atlantic side of the Canal Zone. These are the first such studies ever made in tropical waters, and one of the very few studies designed to follow the long-term progression of ecological changes resulting from oil pollution.

Since 1964 the Smithsonian has been assembling with private funds a tract of land on the western shore of the Chesapeake Bay, less than an hour from Washington. The Institution will thereby control one small watershed in the two thousand acres of this Chesapeake Bay Center for Environmental Sciences. Members of the Congress from Maryland such as Mr. Morton and Senators Tydings and Mathias, as well as the Chairman of the Anne Arundel County Council and the Mayor of Annapolis, have all acclaimed this move, not only because it presents an opportunity, the only one of its kind near Washington, to set up a demonstration ecological center for research in watershed and estuary control and monitoring, but also because it carries great appeal to the Maryland State Government in its current concern to develop all possible methods of cooperative action in tideland and estuarine studies, vital to the future of our fisheries, recreation, and life quality. This is also consistent with the President's concept of the new Federalism.

In the international sphere, the Smithsonian is active in basic ecological studies, especially in the tropics. Smithsonian staff are assessing environmental change from the Mediterranean to Southeast Asia, and in parts of the Pacific, the Caribbean, and Latin America. Our scientists have been called upon to study the new reef-destructive outbreak of the Crown of Thorns Starfish, and legislation has been introduced into the 91st Congress to support the Institution's research in this outbreak, jointly with that of the Department of the Interior.

For the past four years the Institution has been concerned with implementing the design of an education exhibit hall, to fill an existing space under redesign in the National Museum of Natural History, which will graphically detail the biological world which surrounds us, and relate the steady deterioration of our environment. This hall will contain a variety of visitor interaction devices to provide positive educational feed-back to an estimated four million visitors a year. Tests of such interactive devices in other museums show a 50 percent ratio of retention of the message contained in an exhibit hall designed for educational purposes. The development of this hall can be a significant contribution to environmental education. The recent concern of the Congress with the introduction of a number of bills calling for environmental education indicates a direct reflection of citizen concern. Environmental education is a subtle, complex problem. It strikes perhaps at the roots of what is wrong with education in the United States today. To a consumer-oriented, endless frontier-oriented culture, such as ours, it may be a generation before the present monolithic problems of American education can be assessed sufficiently to redirect our cultural course towards conservation and the limitation of the endless growth of the Gross National Product.

Other aspects of education concern the Smithsonian, whose contacts now span students at the graduate level from more than forty universities, all using Institutional facilities and working with our staff. Within the mix of our instructional activities at the graduate and postdoctoral level there is the opportunity, possessed at present by no single university, to create an interdisciplinary approach toward studies in the environment. As countless recent authors have lamented, there seems to be no room in most current programs on the environment for humanists and social scientists. This omission is serious since the solution to environmental degradation is not to be discovered exclusively in science but must come through an interaction between the sciences and the humanities. Many root causes of the degradation are to be found in social, political, and cultural traditions of our country, such as our ideas on standards of living. In the Smithsonian, unlike a university, departmental lines are not strictly drawn. As a result, current study groups such as our Center for the Study of Man can include primate specialists, anthropologists, social scientists, historians, and ecologists. Internal and external committees derived from this Center are currently considering how to plan for a potential Museum of Man, an educational exhibit demonstration in human ecology--man as part of the environment as opposed to the role of an observer.

If we have described at length some of the current and past activities of the Smithsonian, it is to show that the Institution has not come lately into the field of environmental studies. We have been ahead of the times by collecting the data on the basic elements of the environment that we knew or well suspected would constitute a vast resource for study and education. The Institution is thus an ecological powerhouse, producing basic research information relevant to the environment, as few other institutions can claim to be doing. As Philip Abelson, editor of Science, has said, "the goal of opinion-making should be constructive action. A prerequisite for this is thorough planning based on an adequate fund of knowledge. Scientists can make imaginative contributions to planning, and they can help ensure that the factual bases for decisions are as sound as possible." It is institutions such as the Carnegie Institution of Washington, Rockefeller University, the Marine Biological Laboratory at Woods Hole, and the Smithsonian which typify the special communities of environmental scientists which the National Academy of Sciences' Environmental Studies Board recommended should be set up to study the hazardous state of the nation's environment today.

The Smithsonian, then, sees its participation in improving the quality of man's environment as three-fold: identification and assessment of the components of man's natural surroundings and of his cultural development; monitoring of change for predictive purposes; and education at all levels of public interest. In order to make a significant contribution in these areas, the Institution requests an appropriation of $600,000. These funds would be used as follows, drawing upon the Smithsonian's own resources of professional staff, laboratories, and natural areas, but with a major effort to integrate and apply these resources by drawing upon the talents of outside investigators and advisers.

1. Identifying plants and animals as bioindicators and benchmarks

Plants and animals serve as excellent continuous sentinals that warn of impending danger in the same way as the "mine canary" was used to detect deadly gases in coal mines. Many plants and animals are sensitive to various dangerous pollutants produced by man and can be used to warn of critical impending changes, which may be irreversible. The very existence of certain organisms also may serve as benchmarks to measure the impact of civilization on the environment.

Studies at Smithsonian facilities would increase our knowledge of these management tools. The National Museum of Natural History and the Smithsonian Tropical Research Institute would be heavily involved in this effort. Funds in the amount of $100,000 are requested for field studies and publications that would identify and isolate those components of the environment of special significance as bioindicators.

2. Monitoring rates and processes of change

Selected natural communities would be studied to determine their productivity, variation, and the effect of man's pollution. Quantitative studies of comparable ecosystems would provide data for intelligent land use. The detailed studies of preserved natural areas are essential to measure the rates of change and thus to predict future changes. The Chesapeake Bay Center and the Smithsonian Tropical Research Institute would be central to this effort. In addition, our Radiation Biology Laboratory, in conjunction with the Center for Short-Lived Phenomena and the Smithsonian Astrophysical Observatory with its worldwide network of tracking stations provides us with some of the tools for environmental monitoring techniques and training in them, as well as providing strategically located centers for monitoring studies. Enhancement of current activity with key additional researchers would fill gaps in existing competence and draw together ongoing studies. Four additional scientists, with funds for equipment and research support, are requested ($150,000).

3. Undertaking research in social biology

The Smithsonian would step-up development of its nascent program of studies of man evolving and man today. Building on our own competence, knowledge, and collections data in the National Museum of History and Technology, the Center for the Study of Man, Anacostia Neighborhood Museum, and other units, the Institution would bring together additional humanities scholars and social biologists in fellowship offerings and a series of seminars. Funds in the amount of $75,000 are requested for a cultural anthropologist, a social historian, and for fellowship and seminar expenses.

4. Communicating environmental knowledge to a wider public

The Institution proposes to continue to produce its educational exhibit hall on the environment and to develop a seminar series for a continuing discussion and debate with ecologists, educators, and planners representing the interests of government and private decision makers. The Smithsonian has already conducted three such international seminars, the first on Science, Culture and Society (1965), the second The Fitness of Man's Environment (1967), and the third on Man and Beast (1969), a study of recent advances in the science of social behavior. All of these seminars have been or are being published. They can be enlarged easily to provide the forum for discussion which members of the Congress, as well as other groups, continually recommend. Funds in the amount of $125,000 are requested for a program planner, contract exhibits expenses, travel, and costs of program participants.

5. Developing a National Referral Center for environmental data

The Smithsonian would develop its electronic data processing program for monitoring, retrieving, and correlating ecological and environmental data. This would be patterned on and complementary to the gradual development of our Oceanographic Sorting Center. Staff would be assigned to speed up collection data input and processing of terrestrial and aquatic biological populations from which baseline data on predictive environmental models can be constructed. This activity is fundamental to all environmental assessment and should be recognized

as a special high priority program, supportive of many of the corrective projects of federal and state agencies. Funds in the amount of $150,000 for four data-handling technicians and three computer specialists and computer services are requested.

This proposed activity would enable the Smithsonian to respond in a way that is supportive of the concerns of the President, the Congress, and the nation as an extension of our underlying goal for many years, the story of man's relation to his environment. As stated in the Smithsonian's current Annual Report, "For the present phenomenon is that our culture and our environment are no more at war with each other on terms of rough equality, but that rather our material culture is in danger of destroying our old presumed enemy, nature." Thus we should live up to our original mandate for education and diffusion of knowledge.

Funding by Category of Expense

Personnel			$200,000
	Program planner	Biologists (4)	
	Cultural anthropologist	Social historian	
	Data technicians (4)	Computer specialists (3)	
Travel			35,000
	Field research	Seminar participants	
Transportation			5,000
	Field expeditions		
Printing			25,000
	Research reports	Seminar proceedings	
Services			210,000
	Exhibit preparation	Computer processing	
	Seminars and fellowships		
Supplies and Materials			45,000
	Field research and laboratory projects		
Equipment			80,000
	Exhibit cases	Laboratory needs	
Total			$600,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

ACADEMIC PROGRAMS

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	18	2	20
11 Personnel Compensation	$ 182,000	$ 19,000	$201,000
12 Personnel Benefits	14,000	1,000	15,000
21 Travel & Transp. of Persons	10,000	0	10,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	1,000	0	1,000
24 Printing and Reproduction	0	0	0
25 Other Services	322,000	60,000	382,000
26 Supplies and Materials	3,000	0	3,000
31 Equipment	3,000	0	3,000
TOTAL	$ 535,000	$ 80,000	$ 615,000
Analysis of Total			
Pay Increases	$13,000	$5,000	$18,000
Program	$522,000	$75,000	$597,000

Specification of Increase (Program):

Higher Education and Research Training ($60,000)

No better way to guarantee the quality of research has ever been found than to maintain an environment conducive to setting and attaining the highest intellectual goals. This is a major purpose of the Smithsonian higher education program which brings predoctoral candidates and junior postdoctoral investigators into close and productive research relationships with senior established Smithsonian scientists and historians. Some 25 universities are now represented by fellowship recipients working at the Institution. The professional research staff of 350 is willing to supervise over 150 students and investigators each year but only about 25 percent of this number can be accepted. Many outstanding applicants must be turned down. The Smithsonian is requesting an additional $60,000 to increase the number of fellowships it can award each year from 40 to 44.

Elementary and Secondary Education (2 positions, $15,000)

The Smithsonian's guided tours for school children are highly popular. Some 3,000 tours, serving 100,000 children, will be conducted this year by a volunteer docent staff. Two positions are required to improve the Institution's capacity to serve in museum areas it is not now offering: an instructor in the field of technology to develop scripts and tours in the National Museum of History and Technology, and an audio-visual services technician to provide films and sound tapes to school groups to supplement their tour activity.

ACADEMIC PROGRAMS

1969 Actual	$544,000
1970 Estimate	$535,000
1971 Estimate	$615,000

A major Smithsonian objective is to make its learning resources available to the formal educational community and to the general public. At the higher education level, the Institution, through the Office of Academic Programs, develops and coordinates fellowship programs through a variety of cooperative agreements with the nation's universities. The Office promotes research opportunities and advanced study training for doctoral candidates and postdoctoral investigators. Seminars in various curatorial and disciplinary areas are conducted which are central to the interests of the students and the Smithsonian's research efforts. Formal educational activities below the university level are also a responsibility of the Office. These include the popular escorted tours for schools, the preparation of teaching guides, lectures, and audio-visual materials. Public use of the educational facilities of the Institution is growing rapidly at all levels of training. The Smithsonian is considered a significant supplementary educational resource by colleges and universities and by elementary and secondary school systems.

An increase of $75,000 is requested including $60,000 for higher education and research training in nine disciplines, and $15,000 for the expansion of escorted tours for school children. Also requested are $5,000 for necessary pay purposes.

Need for Increase

1. Higher education ($60,000)

The Smithsonian seeks to increase from 40 to 44 the number of stipends it is able to offer visiting investigators from the nation's colleges and universities to receive specialized training in research within its facilities. The disciplines to be served and the number of associated Smithsonian professional staff in each are as follows: American history, 26; anthropology, 18; environmental biology, 23; evolutionary and behavioral biology (tropical zones), 7; evolutionary and systematic biology, 65; history of art and music, 23; history of science and technology, 30; museum studies, 25; physical sciences, 47. The interaction of the Smithsonian graduate program with museum research, and how this interaction benefits the students, the Institution, and the nation, is demonstrated on the following page.

2. Elementary and secondary education (2 positions, $15,000)

The Institution also requests one position for an instructor in elementary education in the field of technology, to arrange for school tours of exhibits in the National Museum of History and Technology dealing with actual demonstrations of crafts and skills such as weaving or ginning, and with themes of great importance from our history, such as industrial research, the path of invention, and the history of science. One such staff member could develop about four tour patterns which could then be opened to approximately four school groups daily. No school tours can now be offered in these areas for lack of a staff member to research and prepare scripts.

A second position is required for an audio-visual services technician to set up films and sound tapes to be presented to school children to enrich and supplement their present tour activities. Such elements may be regarded as experiments for the eventual improvement of exhibits, to be tried out in the halls on actual audiences of school children. No such services are available at present, while the total number of tours has increased to an estimated annual total (for 1969-1970) of 3,000, serving almost 100,000 school children, with an unpaid volunteer "docent", or escort, staff of 140.

Examples of Research Conducted Through the Graduate Fellowship Program

No better way to guarantee the quality of research has ever been found than to maintain an environment conducive to setting and attaining the highest intellectual goals. Junior investigators serving their apprenticeship in research jostle comfortable assumptions and insist on the unexpected, while giving freely of their enthusiasm and alert insights. In return, the senior established professional staff member helps to guide the development of research skills and offers counsel on the interpretation of published literature and observations that may be in doubt. Student and supervisor are like two knives that keep each other sharp.

One example of benefits to students, the nation, and the Institution, derived from the existence of this environment, is the work being generated by a doctoral candidate from the University of Kansas assigned to the Smithsonian's Department of Paleobiology. While at his home university, this student developed a strong interest in the systematic study of upper paleozoic invertebrate fossils. Because his interests were closely aligned to the research objectives of the Smithsonian's professional staff, because of the extensive collections here at the Institution, and because formal academic arrangements existed with his university, he was selected to receive a Smithsonian fellowship. At the present time, the student is working under the direct supervision of the curator of the Division of Invertebrate Paleontology, widely known as one of the experts on the usage of fossil remains for subsurface exploration.

Their collaborative effort is expected to yield an understanding of previously unknown relationships of specific ancient fossil colonies with today's living counterparts. Information on the size, shape, development, and distribution of fossil colonies will clarify further the existing knowledge of biostratigraphy--the discipline most directly related to the successful exploration of petroleum resources. Further, the publications resulting from this student's activity at the Institution will add to the scarce stockpile of current base-line information concerning the balance of a particular segment of the past and present ecological systems.

Another example would be a Smithsonian fellowship holder that is pursuing the study of the significance of American small boat building. He is a doctoral candidate from the University of Indiana. His dissertation, to be submitted to the University in late 1970, will deal with the cultural and technological necessity of the appearance of the small boat building tradition in the upper east coast of this country. The development and absorption by the hardy New Englanders of the precise measurements and complex knowledge required by this art is a reflection of man's capacities when faced with a need to gain a livlihood from the sea. The student's interests parallel the expertise of professional staff members in the Museum of History and Technology. In addition to the direct educational benefits accruing to the doctoral candidate, the Institution will gain because the information will be used in exhibits planned for the summer of 1970.

The Institution should take the initiative in extending the fellowship program. The Smithsonian professional research staff of 350 is willing to supervise over 150 students and investigators per year. Our actual ability to award stipends is far below this figure. This program is potentially one of the most beneficial to the nation in the entire array of Institutional investments.

A partial listing of the home universities of fellowship recipients in fiscal year 1970 include: the universities of Brown, California, Columbia, Duke, Florida State, George Washington, Harvard, Indiana, Johns Hopkins, Kansas, New Hampshire New York, North Carolina, Pennsylvania, Pittsburgh, Rhode Island, Southern California, Stanford, Tulane, Washington, Wisconsin, and Yale.

OFFICE OF THE TREASURER

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	31	2	33
11 Personnel Compensation	$ 339,000	$ 14,000	$ 353,000
12 Personnel Benefits	26,000	17,000	43,000
21 Travel & Transp. of Persons	1,000	0	1,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	150,000	24,000	174,000
24 Printing and Reproduction	0	0	0
25 Other Services	20,000	5,000	25,000
26 Supplies and Materials	3,000	5,000	8,000
31 Equipment	3,000	0	3,000
TOTAL	$ 542,000	$ 65,000	$ 607,000
Analysis of Total			
Pay Increases	$29,000	$5,000	$34,000
Program	$513,000	$60,000	$573,000

Specification of Increase (Program):

Mail and Workmen's Compensation Costs; Improved Financial Management (2 positions, $60,000)

The Office of the Treasurer provides analytical and technical support, such as planning, budgeting, accounting, and auditing, in financial management matters. Staff increases required, due to the rising workload, consist of a fiscal clerk to provide a direct access to fiscal information stored in the computer, and a clerk-typist for the Office of the Treasurer and the Internal Audit Office ($10,000). Additional funds are required for a reimbursement to the Workmen's Compensation Fund ($16,000), increases in the postal rate ($20,000), rental of a remote terminal device for the fiscal clerk ($4,000), supplies ($5,000), and other services ($5,000).

1969 Actual	$558,000
1970 Estimate	$542,000
1971 Estimate	$607,000

This Office manages the income and expenditures of the Institution and provides the Secretary with recommendations related to the allocation of funds. It is composed of the Office of Programming and Budget, the Contracts Office, the Accounting Division, and the Internal Audit Office. These sections provide analytical and technical support in financial management matters. Planning, budgeting, accounting, auditing, and reporting center in the Treasurer's Office. Additional funding is required to meet a rising and more complex workload.

An increase of $60,000 is requested to cover additional workmen's compensation and public service mail, and for accounting purposes. An additional $5,000 are requested to cover necessary pay increases.

Need for Increase--Staff increases required consist of a clerk-typist in the Office of the Treasurer and a fiscal clerk. The Office of the Treasurer has only one secretary. This office also provides typing for the Internal Audit Office. An additional clerk-typist is requested to provide typing assistance for these offices.

The Accounting Division needs to acquire direct source data automation of accounting transactions. This would eliminate delays and costs of keypunching, and result in faster and better accounting control. The accounting transaction would be typed once and automatically punched on paper tape. The paper tape could then be put into the computer without further handling and the machine would also be used as a remote terminal device to the computer. A fiscal clerk would be needed to operate the machine, plus renting the machine, supplies and forms, and some related equipment.

As additional costs to this Office, the Department of Labor has requested $32,000 reimbursement to the Workmen's Compensation Fund. Of this amount, $16,000 are already in the base, and the Smithsonian is requesting $16,000 additional. Postal rate increases and a higher volume of Smithsonian mail require a projected additional $20,000 over the current expenses of about $150,000.

DIVISION OF PERFORMING ARTS

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	(7)	(2)	(9)
11 Personnel Compensation	$ 92,000	$ 14,000	$ 106,000
12 Personnel Benefits	7,000	1,000	8,000
21 Travel & Transp. of Persons	3,000	0	3,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	9,000	5,000	14,000
24 Printing and Reproduction	0	0	0
25 Other Services	27,000	11,000	38,000
26 Supplies and Materials	7,000	10,000	17,000
31 Equipment	23,000	12,000	35,000
TOTAL	$168,000	$ 53,000	$ 221,000
Analysis of Total			
Pay Increases	$ 8,000	$ 3,000	$ 11,000
Program	160,000	50,000	210,000

Specification of Increase (Program):

Festival of American Folklife, American College Theatre Festival, and Other Programs (2 positions, $50,000)

Program support funds in the amount of $27,000 are requested to design and produce the American Folklife and American College Theatre festivals. The Folklife Festival was attended by 618,000 persons in July 1969, and the College Theatre Festival was very successful as a forum for the best achievements of ten of the nation's colleges and universities. In both cases, funds are required for staging, equipment rental, supplies, and related production costs. Two additional clerical assistants ($12,000) and funds for contractual services ($11,000) are also required to permit the Division to provide technical assistance and advice to state groups and other organizations interested in producing folk, craft, and other similar performances.

1969 Actual	$204,000
1970 Estimate	$168,000
1971 Estimate	$221,000

The Division of Performing Arts plans and presents the annual Festival of American Folklife; programs in contemporary arts forms; many children's activities, including a highly acclaimed puppet theatre; touring performances which schedule folklife presentations, lectures, and concerts to universities, colleges, and community centers across the nation; the American College Theatre Festival; and other public presentations related to the growth of American popular culture. Its objective is to use music, theatre, and dance to illuminate and preserve the folk traditions that comprise the cultural heritage of this country--to add collections of performances and demonstrations to the Smithsonian's collections of artifacts. Enthusiastic public attendance and participation in these events have testified to the value of adding this new dimension to traditional museum visiting.

An increase of $50,000 is sought for 1971 in order to sustain this activity and to maintain high quality production standards. An additional $3,000 are requested for necessary pay increases.

Need for Increase--Increased funding of $15,000 is needed for the Festival of American Folklife. Public attendance at this living exhibition of traditional American culture has increased 25 percent per year since its inception in 1967, reaching an estimated 618,000 people in 1969. Significant outside funding for this event has been received in the past from private sources such as the Institute of Texas Cultures, the AFL-CIO, and the States of Pennsylvania and Arkansas; but these private donations cannot begin to meet all the necessary costs of production, staff, travel to search out and obtain native craftsmen, performers, and folk art objects, field research, and supplies and equipment. Private foundations have in fact, expressed the opinion that the Festival of American Folklife is no longer an experiment, but rather the most important popular presentation of American folk cultures regularly held in the United States and, as such, the Smithsonian should attempt to establish an adequate federal appropriation for its costs.

The American College Theatre Festival provides a forum for the presentation of the best achievements of the nation's colleges and universities in the arts. In the selection of the ten best productions chosen from participating institutions, this Festival offers national recognition and high incentive toward better standards of excellence and scholarship. Entrants have substantially increased over the first year of this event, and public response has substantially added to the Smithsonian's responsibility to provide an acceptable level of production support. The requested $12,000 will provide services for the design and fabrication of staging facilities, rental of equipment, and supplies.

Basic staff support is insufficient to meet the increased demands on the Division of Performing Arts for technical assistance and advice. Requests from state groups and other organizations have risen fivefold in the past two years, totaling more than 50 specific requests in the past year. The highly specialized nature of these inquiries demand detailed attention. For example, over the past two years the Division has developed the concept and plans for the performing and cultural programs for Summer in the Parks; helped plan the United States' participation in the cultural programs of the XIX Olympiad in Mexico City; and assisted in the planning of a national program in the arts for the Girl Scouts of America. Increased staff and consultant services are needed if the Division is to meet these responsibilities. Funds are requested for a fiscal clerk and a clerk-typist ($12,000) and for contractual services ($11,000).

OFFICE OF PERSONNEL AND MANAGEMENT RESOURCES

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	16	3	19
11 Personnel Compensation	$ 256,000	$ 37,000	$ 293,000
12 Personnel Benefits	19,000	2,000	21,000
21 Travel & Transp. of Persons	8,000	1,000	9,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	7,000	10,000	17,000
26 Supplies and Materials	2,000	0	2,000
31 Equipment	1,000	4,000	5,000
TOTAL	$ 293,000	$ 54,000	$ 347,000
Analysis of Total			
Pay Increases	$18,000	$4,000	$22,000
Program	$275,000	$50,000	$325,000

Specification of Increase (Program):

Improved Personnel Management (3 positions, $50,000)

In the past several years, Congress has significantly broadened the Smithsonian's activities and programs. The number of personnel has risen from 500 to over 2,000. New Executive Orders and Civil Service directives have increased the workload of the personnel office to over 3,500 actions a year. In addition, the Office handled 51,000 telephone calls, 2,000 letters, and 7,000 visitors. Based on a comparative study of other agencies, the Smithsonian's personnel office staff is 50 to 100 percent below that of other offices, based on the number of employees served. To meet this workload and properly serve the employees, two personnel management specialists, a clerk-typist ($35,000), and funds for travel ($1,000), equipment ($4,000), and other services ($10,000) are requested.

Administrative and Central Support Activities--
Office of Personnel and Management Resources

1969 Actual	$259,000
1970 Estimate.....	$293,000
1971 Estimate.....	$347,000

The Office of Personnel and Management Resources is responsible for a wide range of program functions including special studies; organizational development; manpower planning, utilization and control; and management evaluations. Additionally, this Office serves as a central staff office for job classification, recruitment and placement, employment relations and training, and wage and salary administration. Advice and technical assistance is provided to all levels of management, the professional staff, and to all employees in a wide range of specialized job categories.

An increase of $50,000 is requested to strengthen the personnel specialist and clerical staff in order to meet Institutional needs. An increase of $4,000 is sought also for necessary pay purposes.

Need for Increase--In recent years the Congress has significantly the Smithsonian's activities with the enactment of over twenty major programs. Appropriations have increased to $28,000,000 and manpower authorizations have increased from 500 to over 2,000. New museums, including the National Museum of History and Technology, the National Portrait Gallery, the National Collection of Fine Arts, and the Joseph H. Hirshhorn Museum and Sculpture Garden have been added. As a result of Congressional support, all Smithsonian bureaus, located from Massachusetts to Panama, are establishing new research, exhibit, and public service objectives and priorities. Their directors seek guidance from the Office of Personnel and Management Resources in the analysis and deployment of manpower and in better ways of achieving organizational effectiveness. These needs have placed great demands upon this Office.

Indicative of the Office's workload is the number of individual personnel actions, each requiring analysis and implementation. Over 3,000 personnel requests are submitted annually. For the six months period January through June 1969, approximately 1,800 actions were processed. In addition, the Office had over 7,000 visitors, 51,000 telephone calls, and 2,000 letters last year. This activity is expected to increase during the remainder of this fiscal year and next. The Civil Service Commission has greatly increased the number and variety of special programs in the personnel area. New Executive Orders and Commission directives require expanded programs for the disadvantaged, the socially deprived, promotions, awards, appeals, discrimination, and discipline. The additional positions requested are urgently needed to meet these needs. A comparative study of the ratio of personnel office staff in other agencies to the number of employees serviced reveals that the staffing in the Smithsonian's Office is 50 to 100 percent below that of other offices.

Two personnel management specialists and a clerk-typist and funds for travel, training, other services, and equipment are requested ($50,000).

HEALTH UNITS

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	2	1	3
11 Personnel Compensation	$ 31,000	$ 7,000	$ 38,000
12 Personnel Benefits	2,000	1,000	3,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	0	0	0
25 Other Services	15,000	0	15,000
26 Supplies and Materials	2,000	3,000	5,000
31 Equipment	0	0	0
TOTAL	$ 50,000	$ 11,000	$ 61,000
Analysis of Total			
Pay Increases	$2,000	$1,000	$3,000
Program	$48,000	$10,000	$58,000

Specification of Increase (Program):

Improved Health Facilities for Visitors and Staff (1 position, $11,000)

The two small health units now in existence in the Natural History and History and Technology buildings are insufficient to meet the emergency needs of the employees and the more than 12 million visitors to the Smithsonian. This request is for a nurse ($8,000) and supplies and materials ($3,000) to establish a health unit in the Arts and Industries building.

1969 Actual	$48,000
1970 Estimate	$50,000
1971 Estimate	$61,000

Smithsonian Health Units located in the museum buildings provide first-aid and medical assistance to employees and to visitors.

An increase of $10,000 is requested to establish a Health Unit for the buildings on the south side of the Mall. An increase of $1,000 is sought also for necessary pay purposes.

Need for Increase--The two small health units now in existence in the Natural History and History and Technology buildings are insufficient to meet the emergency needs of employees and visitors. Visitors to the air and space, art, and special exhibits on the south side of the Mall now number three million a year. There are no medical facilities in these buildings to offer first-aid and other medical assistance to either visitors or to employees. This request is for a nurse and supplies and equipment to establish a health unit in the Arts and Industries Building. Smithsonian responsibility to its visitors as well as staff requires that this facility be available as soon as possible.

INFORMATION SYSTEMS DIVISION

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	10	4	14
11 Personnel Compensation	$ 130,000	$ 55,000	$ 185,000
12 Personnel Benefits	7,000	4,000	11,000
21 Travel & Transp. of Persons	3,000	2,000	5,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	12,000	12,000	24,000
24 Printing and Reproduction	0	0	0
25 Other Services	2,000	27,000	29,000
26 Supplies and Materials	2,000	0	2,000
31 Equipment	7,000	4,000	11,000
TOTAL	$ 163,000	$ 104,000	$ 267,000
Analysis of Total			
Pay Increases	$8,000	$4,000	$12,000
Program	$155,000	$100,000	$255,000

Specification of Increase (Program):

Improving Access to Collections Information (4 positions, $100,000)

The Institution, because of its stewardship of the National Collections and related reference documents, possesses an unmatched assembly of materials tracing man's physical, cultural, and technological development, and his natural surroundings. Information in these collections can have a direct bearing on the solution to present day cultural and biological problems. This information is not readily accessible because of its volume, different methods of filing, and wide variety of subject matter. Five years ago, the Smithsonian began to explore automation methods to make collections and research data more accessible and thereby more useful. Some progress has been made; for instance, a pilot project in the National Museum of Natural History. The Institution has the computer capacity to handle more data, but needs additional systems analysts and programmers to develop, test, and install specific systems. The request is for four such employees ($55,000) and support funds for travel, equipment rental, computer time, and related services ($45,000).

1969 Actual..... $171,000
1970 Estimate..... $163,000
1971 Estimate..... $267,000

The Information Systems Division designs and applies computer technology to the Institution's data processing needs. Included in the Division's activities are the development of systems for indexing and retrieving data, especially that associated with objects and specimens in the collections; providing mathematical and statistical analysis techniques to aid Smithsonian researchers in interpreting and presenting data; and installing systems for library, accounting, personnel, property control, and other management purposes.

An increase of $100,000 is requested to modernize museum and laboratory information handling techniques in order to improve significantly the quality of research, access to data pertaining to the collections, and reference services to the public. An additional $4,000 are requested for necessary pay increases.

Need for Increase--The Institution, because of its stewardship of the National Collections and associated reference documents, possesses an unmatched assembly of materials tracing man's physical, cultural, and technological development and his natural surroundings. These collections in art, history, and science now number well over 60 million objects. The Smithsonian continues to acquire and protect new objects at the rate of one million a year. Not only are these collections the basic resource for the Institution's exhibit program, but each year thousands of schoolchildren, collectors, scientists, and historians ask questions pertaining to individual and groups of objects. Traditional indexing and recordkeeping systems cannot handle those questions which often cut across subject matter, time, and geographical lines.

The information contained in the collections can have direct bearing on the solution to cultural and biological problems. For instance, one project presently being conducted by outside investigators involves the study of 20,000 human skulls in the National Collections to determine if any correlation exists between dental disease and environment. The time it would take to complete this project, and others like it, would be greatly reduced if information was already stored in a data bank and available for retrieval and analysis.

Five years ago, the Institution first began to explore automation methods for collection information in order to make it more accessible. Some progress has been made. The feasibility and usefulness of automation has been demonstrated by the joint efforts of the National Museum of Natural History and the Information Systems Division in pilot studies (primarily on birds, crustacea, rocks, and minerals) of an information storage and retrieval system. These studies must be implemented and the system gradually extended throughout the natural history collections. In another museum, the National Portrait Gallery and the Division are developing a computer program based on the Gallery's Catalog of American Portraits to permit the retrieval of a great variety of research data about portraits of distinguished Americans, their subjects, and the artists. Already the Catalog lists more than 30,000 portraits.

The Division has the computer capacity for handling more data, but it has reached the limit of its capacity to analyze and design systems before actual computer processing is possible. Much of the effort of the present staff of six systems analysts and programmers must go to maintain and update computer programs that have been developed.

The greatest need of the Information Systems Division is for programmer/analysts to develop, test, and install new systems. Funding for four programmer/analysts ($55,000) and for travel, equipment rental, computer time, and other services ($45,000) is requested.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

SMITHSONIAN INSTITUTION LIBRARIES

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	44	8	52
11 Personnel Compensation	$492,000	$ 66,000	$558,000
12 Personnel Benefits	37,000	5,000	42,000
21 Travel & Transp. of Persons	5,000	2,000	7,000
22 Transportation of Things	1,000	0	1,000
23 Rent, Comm. and Utilities	4,000	9,000	13,000
24 Printing and Reproduction	23,000	15,000	38,000
25 Other Services	11,000	15,000	26,000
26 Supplies and Materials	49,000	29,000	78,000
31 Equipment	7,000	23,000	30,000
TOTAL	$629,000	$164,000	$793,000
Analysis of Total			
Pay Increases	$34,000	$14,000	$48,000
Program	$595,000	$150,000	$745,000

Specification of Increase (Program):

Correction of Serious Shortages (8 positions, $150,000)

Although the Smithsonian will continue to use the resources of other libraries through interlibrary loans and other ways, the availability of adequate in-house library materials and reference services is essential to the effective performance of the Institution's curation, exhibition, and research functions. Presently, the Smithsonian Libraries are not meeting staff needs. The request for fiscal year 1971 is meant to correct partially several deficiences. An increase in purchase funds of $52,000 is needed to permit purchasing only an average of three books and four journals a year for each professional employee. Only about $50,000 are now available. An additional $15,000 are needed for binding to preserve valuable books. ($15,000 are now available, but $50,000 a year are needed). A manager for the very important exchange program and three cataloger-index technicians are required ($39,000). Two additional technicians ($10,000) are required to cope with a steadily rising volume of reference questions--some 70,000 questions were posed to the library by staff and outsiders in 1969. An additional $15,000 are needed to pay for computer services to streamline the Libraries' operations. And lastly, a librarian and a technician ($19,000) are required to take care of a growing collection of rare and valuable books, many acquired by gift.

Administrative and Central Support Activities--
Smithsonian Institution Libraries

1969 Actual $586,000
1970 Estimate $629,000
1971 Estimate $793,000

The Smithsonian Institution Libraries are essential to the effective performance of the Institution's programs in research, exhibitions, and the curating of the National Collections. The Libraries' resources of some 750,000 volumes and periodicals in the fields of art, science, and history have come to be widely used also by the educational and research activities of Government agencies, schools, museums, and the general research community.

An increase of $150,000 is requested to raise the level of book and journal purchases, to improve reference services, and to manage rare book collections. In addition, $14,000 are sought to help meet necessary pay increases.

Need for Increase--The Libraries' program is devoted to only basic traditional functions. It offers retrieval and delivery services for book and journal materials, standard bibliographical cataloging, and reference and information services in all subjects. These activities are operating with about one-half the necessary financial and staff resources for basic services required by the Smithsonian's museums, galleries, and laboratories. The budget request for fiscal year 1971 provides for only partial attainment of an adequate basic library program. No new or advanced programs or facilities are sought. The Libraries have taken every opportunity to improve the quality of its operations. Emphasis has been given to streamlining portions of the collections and the curtailment of low-priority services.

Basic needs fall into the following complementary areas of library operations.

1. Acquisition and maintenance of books and journals (4 positions, $106,000)

This request includes $15,000 for the purchase of journals (860 titles), $37,000 for the purchase of monographs, technical reports, and documents (3,700 titles), and $15,000 for binding, filming, and other processing.

The Libraries should be acquiring about $175,000 worth of purchased documentary material a year to cover art, history, and science subjects. This estimate is based on known staff needs. In fiscal year 1969, only $47,000 were available for this purpose for a deficit of $128,000. By 1971, the $175,000 will be inflated by rising costs to $190,000. The requested budget for documentary material in 1971 is $99,000. With these requested funds, total buying power will be about 3,700 monographs (three titles per Smithsonian professional, technical, and administrative staff member) and 4,700 journals (four titles per such staff member).

The total annual requirement for binding and preservation is approximately $50,000 for 10,000 volumes. In fiscal years 1969 and 1970, $15,000 were available to do about 3,000 books each year. With the requested additional $15,000, 6,000 books can be bound and preserved in fiscal year 1971. This will leave some 18,000 volumes unprocessed for the three year period, or a cumulative backlog of $90,000 work.

The request for new positions includes a manager for the important gift and exchange program, which brings essential library materials to the Smithsonian at little cost, and three cataloger--indexer technicians. It is

estimated that each technician can assist with the cataloging and indexing of $10,000 of new documentary materials a year. The remaining material will be made available for limited use through gross inventory methods.

2. Reference and document delivery services (2 positions, $10,000)

The Libraries had 15 positions in fiscal year 1969 for information, reference, interlibrary borrowing and lending, photocopying, paging and messenger, and related services. This is one library staff member for each 78 Smithsonian staff members involved in research, exhibition, education, and administrative work. Two additional technicians would raise the Libraries' service staff to 17 positions, or one for every 69 Smithsonian staff members. This increase would also permit the Libraries to improve services to Government agencies and to non-Smithsonian scholars, students, and the general public. Some 70,000 reference questions were handled in fiscal year 1969.

3. Process management and improvement ($15,000)

An additional $15,000 are requested for computer services for purchasing, cataloging, and other library management functions. The Libraries estimate that $9,000 of computer time in fiscal year 1969 did the work of three library technicans that would cost $16,000. Further innovations in automation and process improvement should reduce the rate of growth of the Libraries' staff to accommodate increased budgets for library materials.

4. Special collection management (2 positions, $19,000)

A librarian and a technician are required to service rare and valuable books. The Smithsonian, because of the nature of its research and collections, has been required to acquire a number of publications issued in limited editions. These have greatly increased in monetary value over the years because of their rarity. Few libraries other than the Smithsonian now have these materials so they have become important as a national resource and more valuable as a marketable commodity. Many of these books are now interfiled on the open shelves in the general collections and need identification, preservation, and protection. The Institution also attracts gifts of books, many of which are rare. In 1969, the Smithsonian Institution received the Dwight-Tucker Ornithological Collection, valued at nearly $100,000, containing materials which should not be housed on open shelves in the generally accessible areas of the libraries.

PHOTOGRAPHIC SERVICES DIVISION

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	18	2	20
11 Personnel Compensation	$ 189,000	$ 12,000	$ 201,000
12 Personnel Benefits	16,000	1,000	17,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	0	0	0
24 Printing and Reproduction	10,000	5,000	15,000
25 Other Services	1,000	2,000	3,000
26 Supplies and Materials	19,000	5,000	24,000
31 Equipment	2,000	3,000	5,000
TOTAL	$ 237,000	$ 28,000	$ 265,000

Analysis of Total

Pay Increases	$17,000	$3,000	$20,000
Program	$220,000	$25,000	$245,000

Specification of Increase (Program):

Laboratory Technicians and Funds for Commercial Services and Equipment Replacement (2 positions, $25,000)

The work of the photographic laboratories is an integral part of the Smithsonian's publication and exhibit programs and of its ability to respond to public requests for photographs. The Division has not had a significant program increase in several years despite rising costs of goods and services and has not had a staff increase in five years despite a growing workload. Two laboratory technicians ($10,000) are requested to relieve the photographers of routine duties amounting to about 17 hours a day. Funds in the amount of $5,000 are needed to purchase specialized commercial services which the laboratories are not equipped to perform. Supplies, repairs, and the purchase of equipment to replace 10-year old processing and printing items require an additional $10,000.

1969 Actual	$218,000
1970 Estimate	$237,000
1971 Estimate	$265,000

The Photographic Services Division supplies photographic services required to meet research, documentation, conservation of collections, exhibition, and publication needs, and to help in answering public inquiries. This work involves still and motion picture photography, developing and printing, obtaining specialized commercial photographic services, and providing technical assistance and training in field photography to staff members.

An increase of $25,000 is requested to add essential laboratory technicians, to augment the funds available for commercial services, and to repair and replace obsolete equipment. Funds in the amount of $3,000 are also requested for necessary pay.

Need for Increase--The growth of Smithsonian curatorial, exhibits, and research activities has increased the requirements and requests for quality photographs and slides. In fiscal year 1969, the Photographic Services Division produced 21,000 negatives, 14,000 color slides, 50,000 microframes, and 111,000 prints. The Division contributed to the completion of 73 new exhibit units in eight main exhibition halls and 42 special temporary exhibitions. Of special note was the photographing of a major portion of the recently acquired Lilly Collection of some 6,000 gold coins.

Despite these accomplishments many important photographic requests could not be met. The staff has not grown in five years despite an increasing workload. Several reassignments have been made within the Division resulting in greater productivity and a reduced service timetable.

Two lab technicians are needed to relieve the twelve photographers in the three laboratories (serving the National Museum of History and Technology, the National Museum of National History, the National Air and Space Museum, and other units) who spend a total of approximately 17 hours each day on low level duties including microfilming; print washing, drying, straightening, sorting and reconciling with orders; negative filing; and transporting and setting up equipment. Relieving these highly skilled employees of these simple, but time-consuming tasks, would enable them to reduce the backlog of several hundred orders. There are no technicians in the Division.

The photographic laboratories are not equipped to perform color and motion picture film processing, nor the preparation of mural-size prints, xerographic prints, duplicate transparencies, etc. Requests for commercial services of this type in support of the exhibits and other programs are increasing and prices are rising. Several thousand dollars' worth of work requests could not be met in fiscal year 1969 because of the lack of funds.

Many of the pieces of darkroom processing and printing equipment, purchased at the time of the Division's establishment in 1959, have deterioriated to the point where repairs no longer produce satisfactory operations. New equipment should allow five to seven years of trouble-free service. One enlarger, one printer, and one print straightener are required.

Funds are requested for two laboratory technicians and for commercial photographic services, repairs, supplies, and the replacement of wornout equipment ($25,000).

SMITHSONIAN INSTITUTION PRESS

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	21	2	23
11 Personnel Compensation	$ 271,000	$ 18,000	$289,000
12 Personnel Benefits	20,000	1,000	21,000
21 Travel & Transp. of Persons	3,000	0	3,000
22 Transportation of Things	0	0	0
23 Rent, Comm. and Utilities	1,000	0	1,000
24 Printing and Reproduction	353,000	63,000	416,000
25 Other Services	5,000	0	5,000
26 Supplies and Materials	3,000	0	3,000
31 Equipment	2,000	0	2,000
TOTAL	$ 658,000	$ 82,000	$ 740,000
Analysis of Total			
Pay Increases	$23,000	$7,000	$30,000
Program	$635,000	$75,000	$710,000

Specification of Increase (Program):

Preparation of Exhibition and Collection Catalogs and Research Reports (2 positions, $75,000)

The Smithsonian prepares, prints, and distributes three basic kinds of publications which are used by the general public, students, and specialists around the world. These publications are collection catalogs, exhibition catalogs, and research studies in the fields of art, history, and science. Additional museums and galleries, new collections such as Hirshhorn, the Lilly coins, and space artifacts, and improved research productivity have dramatically increased the number of important manuscripts and created printing backlogs. Deliberate efforts by the Press to cut costs by revised procedures and use of new printing techniques have helped stretch printing funds but higher printing costs and a rising volume of work require an increase of $63,000 in printing funds. A secretary and an indexer ($12,000) are also needed to assist the editorial and design staff.

1969 Actual	$577,000
1970 Estimate	$658,000
1971 Estimate	$740,000

The Smithsonian Institution Press publishes the results of the Institution's research, education, and exhibits programs. It issues numerous research studies in the fields of anthropology, anthropology, biology, history, and technology. It produces catalogs that document special and permanent exhibitions and popular information booklets that describe and illustrate the National Collections. Press functions include the approval and editing of manuscripts, design of publications, procurement of printing, and distribution of 100 works annually. Over 300,000 copies of publications were distributed in fiscal year 1969.

An increase of $75,000 is requested to meet a growing workload of exhibition and collection catalogs and research reports. Funds will be used for additional technical and clerical employees and for printing costs. An amount of $7,000 is requested also for necessary pay purposes.

Need for Increase--Catalogs of exhibits extend the informational and educational content of exhibits beyond the walls of the museum long after the exhibits are closed. Catalogs of collections are a basic reference for persons all over the world who are unable to examine the collections directly. The Smithsonian recently has opened the National Collection of Fine Arts and the National Portrait Gallery. The Renwick Gallery will add an additional exhibit catalog workload. A number of major collection catalogs are pending in the National Museum of History and Technology. These are national museums, devoted to the display and commemoration of American history and culture, and their catalogs should rank with the quality of those issued by other leading museums. Funds for these catalogs are unavailable from other publications programs, because resources are insufficient already to publish research reports.

Support of Smithsonian research is wasted when that research remains unreported. This is especially true of scientific results which are typically basic data used for the advancement of applied research in Government agencies, industry, and universities. An expanded staff of scientists and historians and greater research productivity has caused large backlogs of unpublished research in the recent past. Smithsonian authors have been forced to attempt to publish outside of the Smithsonian. Sources of outside publishing are difficult to find for descriptive museum publications.

A continuing rise in the volume of manuscripts ready for submission is expected in fiscal year 1971 as well as further inflation in printing costs. The Press has increased its efficiency through revised procedures and has reduced the per-page cost of printing by using improved technologies. Revised formats and standardization of style in five series (Smithsonian Contributions to Earth Sciences, Zoology, Paleobiology, Botany, and History and Technology) produced economies and a substantial gain in effectiveness. Economies obtained through such means have leveled off and the printing workload can be met only by increasing Press funds. An additional $63,000 in printing funds is requested.

For fiscal year 1971, two additional employees are needed in the Press: a secretary to assist five professionals in the production and design sections, and an indexer to assist authors and editors in the task of preparing indices to books and monographs. Funding in the amount of $12,000 is requested for these employees.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1971

BUILDINGS MANAGEMENT DEPARTMENT

Object Class	1970 Base	Increase Requested	1971 Estimate
Number of Permanent Positions	857	20	877
11 Personnel Compensation	$ 5,578,000	$ 233,000	$ 5,811,000
12 Personnel Benefits	434,000	18,000	452,000
21 Travel & Transp. of Persons	2,000	0	2,000
22 Transportation of Things	1,000	0	1,000
23 Rent. Comm. and Utilities	1,355,000	163,000	1,518,000
24 Printing and Reproduction	2,000	0	2,000
25 Other Services	675,000	23,000	698,000
26 Supplies and Materials	275,000	10,000	285,000
31 Equipment	100,000	6,000	106,000
TOTAL	$ 8,422,000	$ 453,000	$ 8,875,000

Analysis of Total

Pay Increases	$324,000	$126,000	$450,000
Program	$8,098,000	$327,000	$8,425,000

Specification of Increase (Program):

Maintain, Operate, and Protect New Building Spaces (20positions, $327, 000)

The request for Buildings Management Department is a very selective one aiming at meeting known needs of additional buildings spaces and related service costs. An increase of 20 positions and $180, 000 are requested to provide an adequate staffing level for the Renwick Gallery of Art scheduled for a public opening in mid-fiscal year 1971. Included in this dollar amount are funds for utilities, communications, security and fire detection systems, and custodial and maintenance supplies and equipment required in this building. The balance of the request, $147, 000 is to meet the higher costs of utilities, communications, and the repair and maintenance of mechanical equipment for some three million square feet of space in eight major buildings and nine other facilities serving some 13 million visitors a year. Costs of these services have increased some 50 percent over the last five years, from $1, 000, 000 to about $1, 500, 000 based on higher unit costs and more consumption. Included in the request are: $65, 000 for electricity based in part on the airconditioning needs of the renovated Smithsonian Building; $20, 000 for communications as estimated by the GSA for the Federal Telecommunications System; $43, 000 for steam; and $19, 000 for contract maintenance of a wide range of security and fire detection systems and some 50 elevators and escalators.

BUILDINGS MANAGEMENT DEPARTMENT

1969 Actual $7,451,000
1970 Estimate $8,422,000
1971 Estimate $8,875,000

The Buildings Management Department protects, maintains, and operates eight major buildings, including the original Smithsonian Institution building, the National Museum of Natural History, the National 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 building, and the Renwick Gallery of Art. It is also responsible for serving nine other research, collection, and service facilities, including the Oceanographic Sorting Center and the Silver Hill Facility which provides for the restoration, preservation, and storage of air and space objects and houses reference collections of objects of science, technology, art, and natural history.

A program increase of 20 positions and $327,000 are required in fiscal year 1971 to provide basic services to the Renwick Gallery of Art; to meet increased costs of utility, communications, fire, security, and detection systems; and to repair and maintain elevators and escalators. An additional $126,000 are requested for necessary pay increases.

Need for Increase--The increases requested are required for the operation, maintenance, and protection of 3,300,000 square feet of exhibition and public areas, special laboratories, reference collection areas, libraries, offices, and supporting facilities located at 17 different sites in the Washington area.

The operations of the Buildings Management Department are carefully geared to meet the extraordinary uses which the buildings serve. The Smithsonian museums and galleries accommodate as many as 13 million visitors, researchers, and students annually; serve both as national depositories and as exhibition facilities for objects of great historical, scientific, and artistic value; and provide the necessary laboratories, workrooms, curatorial, administrative, and support spaces for the programs and activities of the Institution. The services of this Department are required during regular work and visiting hours, and for special events, public service, and educational programs during evenings, weekends, and holidays.

This Department must supplement its staff and program support funds to meet the increasing demand for services. The increases requested are related to the acquisition by the Smithsonian of authorized additional renovated building spaces and exhibition halls during fiscal years 1969 and 1970; to added costs of utilities and communications; to the escalation of materials and labor costs in the repair and maintenance of the elevators and escalators; and to the installation and maintenance of security and fire detection systems.

The Renwick Gallery of Art, located at 17th Street and Pennsylvania Avenue, was turned over to the Smithsonian by the contractor in February 1969, although essential restoration and renovation work remained to be done in fiscal years 1970 and 1971. The Buildings Management Department is required to give initial basic services to safeguard the building and its contents, including guard protection, custodial and laboring services, and mechanical maintenance to the heating, air conditioning, and humidity control systems in the building, on a 24-hour basis, seven days a week. This Gallery will be undergoing museum development work beginning late in fiscal year 1970, and is scheduled for opening to the public in fiscal year 1971. A small staff of five guards, one laborer, and one operating engineer is now deployed from other Institution buildings in order to provide initial support services before development work begins. The additional positions required to provide an adequate staffing level during fiscal year 1971 are

12 guards, five operating engineers, and three mechanics (electrician, painter, and carpenter). Funds are also requested for related expenses such as utilities, communications, the installation of some security and fire detection systems, custodial supplies and materials, and equipment items. This is a requested increase of $180,000 for the building operation costs of this new museum activity.

Additional air conditioning, heating, lighting, and communications systems for all the Smithsonian buildings as well as increasing numbers of visitors and exhibit spaces, and expanding educational, research, and cultural programs, have resulted in a higher consumption of utilities and communications as indicated in the following table. Increased unit costs for the utilities are reflected along with an upward trend in consumption.

Type of Expense	1968	1969	1970 Est.	1971 Est.
Electricity	$534,000	$595,000	$640,000	$705,000
Steam	299,000	322,000	373,000	416,000
Communications	209,000	235,000	265,000	285,000
Gas	20,000	31,000	40,000	40,000
Total	$1,062,000	$1,183,000	$1,318,000	$1,446,000

Smithsonian buildings and operations are not normal office-type activities. Air conditioning, heating, and lighting must be provided for visitors, during day and evening hours. Continuous operations of environmental control equipment are required to protect the objects in the collections from damage by changes in temperature and humidity. Greater public interest in the Smithsonian has increased communications costs.

An increase of $147,000 is required to meet the following forecasted additional utility and related costs.

--$65,000 for the cost of electricity required for the phased development of public exhibit and collection spaces in the Fine Arts and Portrait Galleries building; an additional 20,000 square feet of space in the Smithsonian building; and for full operating costs of the 500-ton capacity air conditioning equipment installed in the Smithsonian Institution building as part of the restoration and renovation program which will be completed in fiscal year 1971.

--$43,000 to fund the cost of steam which has risen approximately 10 percent per thousand pounds over the past year.

--$20,000 to meet the increasing costs for communications. Of this amount, $18,740 are needed for the Federal Telecommunications System intercity telephone services as projected by the General Services Administration.

--$19,000 for contract services for the installation and maintenance of security and fire detection systems, and for the repair and maintenance of approximately 50 elevators and escalators. This estimate is based on known higher labor and material costs.

Background on Workload in the Buildings Management Department

The Buildings Management Department provides utilities (water, gas, steam, electricity, and compressed air) to the Smithsonian's buildings and facilities. It services, repairs, and operates a wide variety of mechanical and

and electrical systems including: refrigeration, heating, temperature, humidity control, elevator and escalator, fire and smoke detection, and security devices. It furnishes communications, transportation, custodial, and checkroom services and is responsible for the protection and physical security of the buildings, exhibits, and collections of the Institution and for the safety of visitors and employees. The Department performs repairs, improvements, and alterations to the buildings and facilities. Engineering and construction services for Smithsonian projects, and the supervision of contract construction work, are part of the Department's responsibility. On specific building projects, the Department coordinates work performed by architects and engineers, handles contract supervision, and acts as liaison with contractors, the General Services Administration, and the Smithsonian staff. On a work order request basis, the Department also provides special custodial, protection, and fabrication services in support of the Institution's research, exhibition, and education programs and the care of the National Collections.

The number of work orders requesting the assistance and support of skilled mechanics and craftsmen and for special custodial services continue to increase as indicated below, placing heavy demands on the Department's manpower resources. In fiscal year 1969, the number of work orders increased by 25 percent over fiscal year 1968.

Fiscal Year	Number of Work Orders
1968	6,470
1969	8,180
1970	9,500 est.
1971	10,500 est.

These requests covered such needs as: improving space for exhibit, office, and laboratory purposes; installing special lighting in exhibit halls; extensive interior and exterior building repairs and modification including the repair or replacement of roofs, gutters, and flashings on all Smithsonian buildings to prevent damage or further deterioration; renovating and restoring antique furniture for exhibition purposes or use; and the design and fabrication of special scientific equipment, not obtainable on the open market, for research purposes. This equipment is used in such fields as anthropology, sedimentology, underwater archeology, and mineral sciences.

In addition to the regular duties of custodial service employees, which include cleaning restrooms, public lounges, offices, workrooms, laboratories, and exhibition areas, these employees provide many special requested services in connection with public service and educational programs during regular hours and on weekends and holidays. These employees are also responsible for office moves, transporting museum objects, operating elevators, and pest-control measures.

The Department provides physical security for the Smithsonian's museum and art gallery buildings, for the National Collections housed therein, and is responsible for the safety of all personnel, including general public visitors, staff, and visiting students and researchers.

Minimum acceptable security standards require specialized techniques and extensive installations to assure protection against fire, theft, and vandalism. An increasing burden is being put on the Smithsonian for the maintenance of adequate protective standards. New design concepts in exhibit halls and galleries result in a minimum amount of large open space which can be effectively protected by a single guard. In addition, many new exhibits are being presented in a fashion that prevents the use of protective devices such as barriers, cases, and enclosures which might intrude between the objects and the viewer. These

innovations, while desirable for public enjoyment and education, result in an ever-growing requirement for alert guards, each with a lesser area for proper surveillance. The increased use of sophisticated electronic protection devices only partially compensates for the absence of an onsite guard. In case of trouble or emergency, the response and action of a trained guard are still required.

In spite of rising crime rates across the nation, there was an actual decrease in the number of occurrences of theft, pilferage, and vandalism at the Smithsonian. The statistics covering such incidents show that the number decreased by about 14 percent from 240 in fiscal year to 211 in fiscal year 1969. This reversal of the former upward trend can be attributed to closer supervision at all levels, a continuing examination and improvement of security procedures, a more comprehensive and concentrated training program, and the increased use of electronic protection devices and communication equipment wherever practicable. The recent general upgrading of nonsupervisory guard positions undoubtedly contributed to this improved condition since it enhances recruiting and aided in the retention of better qualified guards.

In recognition of the need to insure that the operations of the Buildings Management Department are performed effectively in the most economical manner, a preliminary study by a reputable management consultant firm has been made of the organizational structure, financial management, and work control systems of this Department. The recommendations in this preliminary study are under review at the present time.

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1969 Appropriation	$2,316,000
1970 Appropriation	2,316,000
1971 Estimate	4,500,000

An appropriation of $4,500,000 in foreign currencies which are determined by the Treasury Department to be excess to the needs of the United States is requested for a program of grants to United States institutions for essential field research in archeology and related disciplines, systematic and environmental biology and astrophysics, as well as for museum programs and for other Smithsonian interests.

The requested increase of $2,184,000 in foreign currencies is to be devoted to strengthening the research programs of United States universities, museums, and other institutions of higher learning in those countries where the United States holds excess currencies. The increase is essential particularly to support urgent field studies in the Smithsonian's traditional fields of systematic and environmental biology and anthropology which today are recognized as basic to an understanding of the immediate national and world problems of environmental quality and cultural change. The increase is essential also to support on-going and new research, some long in preparation, which contributes to United States national programs under, for example, the International Biological Program, the Intergovernmental Oceanographic Commission of UNESCO, the National Aeronautics and Space Administration, and the United States National Museum.

Funds are requested for the following programs:

	FY 1969 Appropriation	FY 1970 Appropriation	FY 1971 Estimate
Archeology and Related Disciplines	$1,120,000	$1,105,000	$1,500,000
Systematic and Environmental Biology	1,046,000	1,046,000	1,800,000
International Biological Program	....	....	500,000
Museum Programs	40,000	40,000	100,000
Astrophysics	95,000	105,000	570,000
Grants Administration	15,000	20,000	30,000
Total	$2,316,000	$2,316,000	$4,500,000

IN FISCAL YEAR 1970, NO FUNDS FOR NEW RESEARCH

During fiscal year 1970, funds, including all previous appropriations, were sufficient only to cover the cost of on-going research; there were no funds for new research. Program activity has steadily increased from nine grants

during the first fiscal year, 1966, to 140 at the end of fiscal year 1969, up from 100 at the end of the previous year. New inquiries about foreign currency uses continue to average one a day. Such growing foreign currency activity reflects both the scientists' search for alternatives to declining federal research dollars and an expanding Smithsonian Special Foreign Currency Program authority. Because there are no funds for new research, many worthy projects long in preparation and now being formally submitted for funding, cannot be supported and may be abandoned as participating scholars, always under pressure to publish, seek other research opportunities. It is estimated, therefore, that a realistic level of appropriation for the Smithsonian Foreign Currency Program in future years would be $6,000,000.

USE OF FOREIGN CURRENCIES SAVES HARD DOLLARS

Special Foreign Currency Program appropriations are an advantageous source of research monies both because they are not new appropriations of tax dollars and because delay in the use of the "excess" accounts means continuing losses to the United States Treasury as these accounts lose value through inflation and devaluation. Moreover, these appropriations do not add appreciably to the President's budget total because the Commodity Credit Corporation reduces its appropriation request by an amount equal to the amount of foreign currencies expended.

At the same time, Special Foreign Currency Program appropriations contribute to essential national research objectives abroad without contributing to a balance of payments deficit. Moreover, Smithsonian Foreign Currency Grants frequently serve as dollar-saving supplements to the dollar grants of both public and private agencies like the National Science Foundation, the National Institutes of Health, The World Wildlife Fund, the John D. Rockefeller III Fund and the Wenner-Gren Foundation. In such cases, the foreign currency grants cover costs in the host country; the dollar grants are expended in the United States for equipment not available in "excess" currency countries, for American salaries, laboratory fees and the like.

FOREIGN CURRENCIES SERVE NATIONAL PROGRAMS ON ENVIRONMENTAL QUALITY

Now is the time to use foreign currencies for urgent field studies of the processes of change in man's natural environment and in his culture. The impact of technology on rural and urban communities, the poisoning of man's environment and the destruction of nature's productive mechanisms in the face of exploding human populations, are all problems of direct interest to the Smithsonian. Unrest in urban centers and among young people the world over attest to our poor understanding of these processes. Although the Smithsonian adheres to its traditional role as an institution for basic, not applied, research, its traditional biological and anthropological interests are basic to an understanding of these immediate national and world problems.

"Excess" foreign currencies represent a substantial national resource which should be fully utilized to support studies of environmental quality like the following on-going projects:

...International Biological Program/Smithsonian studies in Tunisia of the continuing encroachment of the Sahara in the face of concerted conservation programs.

...Yale University/Smithsonian field research in the Gir Forest in Northwest India where agricultural pressures threaten destruction of the forest which is the last habitat of the Asiatic lion, which once roamed the region from the Mediterranean to the South China Sea.

...Union College, New York, research into the deterioration of fresh water lakes in the Nile River delta as a result of the regulation of the river's flow by the Aswan Dam. The lakes have provided fish and employment for fishing communities for centuries.

...Smithsonian studies, together with Israeli scientists, of the movement of marine organisms through the man-made, sea-level Suez Canal. Results show that the majority of commercially valuable fish taken in the Eastern Mediterranean orginated in the Red Sea. These studies have saved the United States thousands of hard research dollars because they provide a tested model for studies to be conducted in connection with a possible sea-level canal at Panama.

...University of Georgia studies of the tropical forests, grasslands, and cultivated lands in the Ganges river valley in India.

...Smithsonian studies of migrating birds and the parasites associated with these migrating birds, in Northeast Africa, which have shown that they carry viruses and antibodies and thus can be considered potential carriers of human diseases.

On-going studies of cultural change supported by the Smithsonian Foreign Currency Program include:

...Duke University, Durham, North Carolina, studies of the effects of city life in New Delhi, India, on in-migrating minorities.

...University of Pennsylvania studies of the effects of urbanization on family life in India.

...University of Illinois studies of the effects of migration on basic cultural expression, specifically the traditional songs of communities of Jews migrating to Israel.

...University of Washington studies of the effects of spreading technology and urbanization on one of Ceylon's oldest ethnic groups.

...Center for the Study of Man, National Museum of Natural History, urgent anthropological studies of cultures changing rapidly or disappearing under the impact of modern technology.

Such studies by American scholars of man's behavior are best conducted abroad because, as a rule, the best observers of a living culture are those drawn from a different culture.

RESEARCH WHICH MUST BE POSTPONED

New research into the nature of the environment long in preparation which must be postponed because of insufficient funds in the Smithsonian Fiscal Year 1970 appropriation include:

...International Decade of Oceanography studies conducted aboard the Smithsonian research vessel PHYKOS by scientists from major American oceanographic research institutions as a part of the approved United States national contribution to the Cooperative Investigations of the Mediterranean of the Intergovernmental Oceanographic Commission.

...Dartmouth College studies of organic production in Kashmir lakes, a joint U. S. -Indian project, which is a part of the International Biological Program's world-wide inventory of natural productivity.

...Duke University studies of the systematics of lichens in Morocco. The first of a series of projects to study in a comprehensive manner the flora of this new "excess" currency country.

...Oak Ridge National Laboratory studies of deciduous forest and grassland ecosystems in Poland which will supplement similar studies under Oak Ridge's direction under the United States national plan for the International Biological Program.

...University of Texas archeological studies of the classical city of Stobi in Macedonia, Yugoslavia which will seek to reconstruct the history, social organization and the natural environment of this ancient city over the full span of its existence.

Other studies which must be postponed for lack of sufficient funds include:

...American Schools of Oriental Research excavations at Kirbet Shema, Israel which will apply to the Greek, Roman and Byzantine periods of the archeology of Palestine the highly refined techniques pioneered in the study of earlier periods in that country.

...Smithsonian Astrophysical Observatory studies of the Earth's upper atmosphere and magnetic field by means of newly-developed laser tracking techniques, at the Uttar Pradesh State Observatory in India, of man-made satellites.

ACCOMPLISHMENTS

Smithsonian Foreign Currency Program grants have benefitted more than 200 United States institutions in over 25 states. Accomplishments include:

...More than 43 research publications. Recent publications include the first systematic study of marine organisms sorted and distributed by the Smithsonian's Mediterranean Marine Sorting Center in Tunisia and an ecological analysis of the climate and vegetation of Ceylon growing out of the studies of the Ceylonese elephant undertaken by the National Zoological Park.

...More than 150 post-doctoral research opportunities for Americans.

...More than 110 training opportunities for American Ph. D candidates, who obtained essential field experience, frequently obtaining course credit, and more often accomplishing the independent research for doctoral dissertations. Especially noteworthy for the training of students have been Hebrew Union College, Cincinnati, Ohio in its summer seminar at the excavation of the biblical city

of Gezer in Israel; New York University's Institute of Fine Arts in the course of excavations of the ancient Egyptian city of Mendes in the Nile River delta; and the American Institute of Indian Studies (a consortium of 23 American universities), whose junior fellows conduct research in India toward their doctor's degrees with Smithsonian support. Most research projects include at least one American and one host country senior research scholar and one American and one host-country graduate student.

...Additions to research collections of the National Museum of Natural History and of other grantee institutions in the form of archeological, ethnographic and biological specimens collected and shared with the collaborating institutions in the "excess" foreign currency country. For example, Yale University's Peabody Museum and the Museum of the University of Colorado have benefitted from additions to their paleontological collections growing out of expeditions in Egypt and Tunisia respectively. The Yale expedition is making substantial contributions to our understanding of man's evolution; the Colorado expedition has uncovered important information about the enviornment of early man and the geological history of northwest Africa.

GROWING RESEARCH OPPORTUNITIES

Opportunities continue to grow to employ foreign currencies. In June 1969 an amendment was signed to the principles of cooperation between the Smithsonian and the Government of Yugoslavia permitting collaboration in ecological research there. Moreover, recent political developments in Eastern Europe have added to the program's authority opening up a range of "excess" currency uses covered by the National Museum Act of 1966.

Moreover, the change in government in Pakistan has brought increased interest in collaboration in basic research under the Smithsonian program. A University of Washington proposal to study the wild boar of Pakistan and a Smithsonian proposal to study the marine fauna of the continental shelf of West Pakistan are currently under consideration by the Government of Pakistan as pilot projects for a potentially extensive program. In India, the Smithsonian joined with the long-established American Institute of Indian Studies to provide facilitative services to American institutions in the development of projects there.

Direct dollar costs to the Smithsonian for its Foreign Currency Program are limited to those for administrative personnel in Washington. During Fiscal Year 1970, six people were employed by the Office of International Activities for this purpose at a total cost of about $87,000. The administrative burden has grown by some forty grants, for each of the last two years, without any increase in personnel. The increase in activity has been made possible by the simplification of procedures and the introduction of labor-saving equipment.

This Special Foreign Currency Program request, as in the past, is based on budget projections for on-going research and on pending and new research proposals which include firm research proposals, postponed do to lack of sufficient funds, and other samplè or illustrative proposals 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 1971. It should be noted, however, that actual implementation of these projects will be contingent upon

three factors: review by the Smithsonian's national scientific advisory councils, review and approval by American embassies overseas, and appropriate cooperative arrangements with host-coungry institutions or Governmental authorities.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1. Archeology and Related Disciplines

A. On-going Projects

Recipient	Project	Grant Expressed in U.S. Dollars	
1. American Institute of Indian Studies (a non-profit organization of 24 American colleges and universities	For continued support of the Center for Art and Archeology (formerly the American Academy of Benares), a research center for South Asian archeology and art history.	1971est. 1970 1969 1968 1967 1966	100,000 150,000 147,000 144,753 130,778 76,850
2. American Research Center in Egypt (a nonprofit study center supported by ten 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.	1971est. 1970est. 1969 1968 1967 1966	50,000 150,000 150,000 258,728 177,137 259,200
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.	1971est. 1970est. 1969 1968 1967 1966	50,000 174,000 68,500 134,250 165,750 150,000
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.	1971est. 1970est. 1969 1967 1966	20,000 30,000 30,000 31,396 19,310
5. University Museum, University of Pennsylvania	To study remaining stones of the Temple of Akhnaten at Luxor, Egypt.	1971est. 1970 1969 1968 1967	20,000 67,000 60,000 9,730 65,070
6. University of Arizona and Museum of Anthropology, University of Michigan	To support a program for research and training in prehistoric archeology through field excavations on Mt. Carmel in Israel.	1971est. 1970 1969 1968 1967	30,000 56,000 50,000 47,660 50,000

Recipient	Project	Grant Expressed in U. S. Dollars	
7. Carnegie Museum	To continue the excavation of a Philistine City at Ashdod, Israel.	1971est.	10,000
		1970	31,000
		1969	50,000
		1968	56,180
		1967	47,180
		1966	50,000
8. Lawrence Radiation Lab. University of California, Berkeley	To continue testing the utilization of cosmic rays to "x-ray" the Egyptian pyramids in search of presently unknown chambers.	1971est.	10,000
		1969	32,000
		1967	21,680
		1966	23,320
9. University of Missouri	To excavate at Tell Anafa, Israel, to understand better the nature of Greek trade with Palestine and Egypt in the period after 800 B.C.	1971est.	25,000
		1970est.	35,000
		1969	40,000
		1968	60,500
10. University of Minnesota	To continue a program of research in Yugoslavia with excavations of the unique Roman Palace of Diocletian at Split, Yugoslavia.	1971est.	40,000
		1970	80,000
		1969	27,000
		1968	32,505
11. Smithsonian Institution Office of Anthropology	To study disappearing metal-working crafts of Pakistan and Ceylon as part of a worldwide study of ancient technologies and their development.	1971est	30,000
		1970	58,000
		1969	43,700
		1968	21,128
12. Brooklyn Museum	To construct scale models of Egyptian monuments and archeological sites for study.	1971est.	8,000
		1970	18,000
		1967	4,222
13. Institute for Advanced Study, Princeton	To conduct interdisciplinary research and excavations in Bronze and early Iron Ages of Northern Yugoslavia.	1971est.	10,000
		1970	14,600
		1969	8,000
		1968	9,496
		1967	2,030
14. University of Chicago	To provide research assistantships for graduate credit in South Asian art at the American Academy of Benares, India, an affiliate of the American Institute of Indian Studies.	1971est.	10,000
		1970	10,000
		1969	10,000
		1967	11,400
15. University of Chicago	To examine a Vaisnava Religious community in West Bengal historically and sociologically. (Funds available in 1967, awaiting Government of India approval)	1971est.	15,000

Recipient	Project	Grant Expressed in U.S. Dollars	
16. American University in Cairo	To study the distinctive domed Mausolea of the Mamluk era (1250-1517 A. D.) in Cairo which have not been studied and are threatened by growth and modernization of Cairo.	1971est. 1969 1968	10,000 9,700 6,340
17. Dumbarton Oaks (Harvard) Center of Byzantine Studies; American Academy in Rome	To continue studies of the unique but rapidly disintegrating Roman and Byzantine mosaics at historic Utica, Tunisia.	1971est. 1970 1969	30,000 62,000 28,628
18. Smithsonian Institution Center for the Study of Man	To continue development of urgent anthropological research in the excess countries as a part of the Research Program in Changing Cultures of the newly established Center for the Study of Man.	1971est. 1970est. 1969	15,000 20,000 20,000
19. University of Washington	To continue studies of the relationship between social structure and economic organization in the Vedda Communities of Ceylon.	1971est. 1970est. 1969 1968	15,000 20,000 19,000 16,000
20. University of Illinois	To continue comparative studies of the effects of cultural change on folk music in Israel and Tunisia.	1971est. 1970	22,000 31,500
21. Denison University	To continue the exchanges of materials on Ancient Burmese art with Burmese museums.	1971est. 1970est. 1969	2,000 2,000 5,000
22. American Institute of Indian Studies	To continue support for post-doctoral research in social and cultural anthropology and linguistics of India and Ceylon and to support the Institute's center in Poona, India as an American research center abroad serving American scholars in all fields.	1971est. 1970 1969	90,000 201,000 148,000
23. American Schools of Oriental Research, Boston, Mass. (a consortium of 5 United States institutions of higher learning	To continue support for two archeological excavations at Tell el Hesi and Kirbet Shema embracing biblical, Greek, Roman and Byzantine periods.	1971est. 1970est 1969	50,000 100,000 50,000

Recipient	Project	Grant Expressed in U.S. Dollars	
24. University of Michigan	To continue excavations of the earliest Neolithic settlements in Poland.	1971est. 1969	20,000 37,000
25. Denison University	To continue excavations at Sirmium a Roman provincial capital along the fortifications erected against the "barbarious."	1971est. 1970est. 1969 1968	30,000 60,000 3,000 34,000
26. Brooklyn College of the University of the City of New York	To continue reevaluation of the landmark excavations at the prehistoric site of Starcevo, Yugoslavia; apply modern ecological techniques to a site originally excavated in the early 1930's.	1971est. 1970	10,000 10,000
27. Office of Anthropology Smithsonian Institution	To continue to study the impact on the culture of Palestine of the Phoenician, Cypriot, Egyptian and Arabian cultures from the Middle Bronze age through the Persian period through excavations at Tell Jemmeh in Southern Israel.	1971est. 1970	30,000 66,500
28. University Museum University of Pennsylvania	To continue study of Dra Abul El Naga tomb inscriptions, Egypt.	1971est. 1970est. 1969	20,000 17,000 17,300
29. Douglass College Rutgers University	To continue excavations of the early Greek and Roman settlements at Salona in Yugoslavia.	1971est. 1970 1969	40,000 40,000 20,300
30. University of California Los Angeles	To continue excavations of an early neolithic settlement at Anzibegovo Macedonia, Yugoslavia considered a cross road for formative cultures of western civilization.	1971est. 1969	80,000 80,000
31. University of Minnesota	To continue studies of climate influences on man's shift from nomadic to settled life in the Middle East through studies of fossil evidence of evolving flora and fauna.	1971est. 1969	7,000 7,700
	Subtotal Estimate for On-going Research		899,000

B. Pending Research Proposals

Recipient	Project	Estimated Request in U.S. Dollars	
1. University Museum University of Pennsylvania	To excavate the protohistoric of Kantarodai Ceylon to determine the nature and chronology of settlement and relations with south India.	1971est.	40,000
2. Smithsonian Institution Office of Anthropology	To study the rapidly disappearing crafts at village level in India.	1971est.	50,000
3. American Institute of Indian Studies, Center for Art and Archeology	To survey and initiate excavation of Cultural Sites of the Pratihara period expecially at Bhinmal in Rajasthan, India.	1971est.	30,000
4. Smithsonian Institution Museum of Natural History	To survey and document the art history of Tibet on the basis of objects currently being brought to India and Nepal by Tibetan refugees.	1971est.	20,000
5. New York University Columbia University University of Michigan	To excavate ancient Utica, Tunisia employing interdisciplinary techniques designed to describe fully the mode of life and environment characteristic of successive cultures inhabiting the site.	1971est.	30,000
6. American Museum of Natural History	To initiate archeological excavations together with the Archeological Survey of India with special provision for the training of Americans in the archeology of South Asia, today an area largely neglected by U.S. scholarship.	1971est.	30,000
7. Smithsonian Institution Office of Anthropology	To initiate systematic collections of Indian folk art which is disappearing as village crafts yield to urban technology.	1971est.	26,000
8. University of California Los Angeles	To excavate Islamic archeological sites in West Pakistan.	1971est.	30,000
9. Brandeis University	To survey western Phoenician archeological sites in Morocco.	1971est.	15,000
10. University of Michigan	To conduct research and excavations into the Middle Paleolithic of Northern Bosnia.	1970est.	20,000

Recipient	Project		Estimated Request in U. S. Dollars
11. Institute for Advanced Studies, Stanford University	To conduct investigations in the archeology of historical India.	1970est.	20,000
12. Columbia University; University of Pennsylvania	To conduct ethno-historical research into the history of Traits of traditional life in Modern India.	1970est.	20,000
13. University of Washington	To conduct investigations into the chalcolithic and early civilization of India.	1970est.	40,000
14. Southern Illinois University	To study the impact of rural road construction on social, cultural and economic change in Yugoslavia.	1971est.	28,000
15. University of Michigan	To document photographically the architecture, sculpture and paintings of the Bhuddhists, Hindus and Jains during India's 'Golden Age" from the fifth to the eight century A. D.	1971est.	16,000
16. University of Wisconsin	To study Indian religious experiences and attitudes expressed through the structure of Hindu rites of death.	1971est.	12,000
	Subtotal Estimate for Pending Research		327,000
C. New Projects			
1. Pennsylvania State University	To explore the significance to ancient Egyptian societies of the stars in the alignment of the temples at Luxor in Egypt through application of new techniques of aerial photography and computer calculation of the positions of stars in ancient times.	1971est.	13,000
2. University of Texas	To excavate the classical site of Stobi in Macedonia, Yugoslavia which lies at the confluence of Greek, Roman and ancient Balkan cultures.	1971est.	31,000

Recipient	Project		Estimated Request in U.S. Dollars
3. Dumbarton Oaks Harvard University	To excavate the Byzantine provincial capital of Bargala in Macedonia which lies at the confluence of Greek, Roman and ancient Balkan cultures in a study supplementary to excavations at Stobi and at Anzibegovo covering earlier periods.	1971est.	30,000
4. University of Hawaii	To initiate prehistoric archeological excavations in the northeastern India.	1971est.	30,000
5. Washington State University	To excavate a prehistoric flint mining complex work of the Kanienm River in Poland.	1971est.	25,000
6. Washington State University	To study pre-mesolithic fossils in Poland.	1971est.	10,000
7. American Museum of Natural History, New York	To conduct museum studies in Egypt of unpublished materials from Egyptian tombs of the Middle Kingdom.	1971est.	20,000
8. University of Nevada	To excavate the prehistoric site of Kausambi in northern India.	1971est.	30,000
9. University of Washington	To study the relations of fishing boat crew members and how they relate to conflict groups in a peasant fishing town in Yugoslavia.		
10. Ohio State University	To excavate the Yugoslav city of Naissus which has an uninterrupted history from the early Neolithic period to the late Middle Ages reaching its peak in the Roman period.	1971est.	35,000
11. University of Washington	To study the historical and religious documents of Tibet brought to India by the exiled Dalai Lama.	1971est.	30,000
12. Office of Anthropology Smithsonian Institution	To study the physical anthropology of prehistoric peoples in conjunction with archeological excavations of the Polish Academy of Sciences.	1971est.	20,000
	Subtotal Estimate for New Research		274,000
	Total Archeology and Related Disciplines		1,500,000

II. Systematic and Environmental Biology

A. On-going Projects

Recipient	Projects	Grant Expressed in U.S. Dollars	
1. University of Georgia	To study the flow of energy through small rodent populations in different habitats in conjunction with the Ecological Institute of Poland.	1971est. 1970est.	20,000 20,000
2. Smithsonian Institution Office of Environmental Studies, Oceanography and Limnology Program	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.	1971est. 1970est. 1969 1967	100,000 100,000 100,000 122,000
3. Smithsonian Institution Office of Enviornmental Studies, Oceanography and Limnology Program	To accelerate the processing of marine organisms from the Mediterranean through the sorting facility known as the Mediterranean Marine Sorting Center operated in cooperation with the Tunisian Institute of Oceanography and Fisheries.	1971est. 1970est. 1969 1967	100,000 100,000 100,000 152,360
4. University of Colorado	To continue to excavate a paleontological site in the Miocene-Pliocene formations of South Central Tunisia to attempt to establish a chronology for fossil mammals in Tunisia which may help to determine geological relationships with similar European formations.	1971est. 1970est. 1969 1968	25,000 25,000 23,000 23,165

Recipient	Project	Grant Expressed in U. S. Dollars	
5. Smithsonian Institution Division of Birds	To continue investigations on the ecology of Palearctic birds migrating through northeastern Africa, including cooperative research on serology with the Rockefeller Virus Laboratory and ectoparasites with the Naval Medical Research Unit III in Egypt.	1971est. 1970est. 1969 1968 1967	30,000 50,000 41,000 21,517 44,083
6. University of Michigan	To continue 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.	1971est. 1970est. 1969 1968	15,000 15,000 16,000 21,394
7. Smithsonian Institution National Zoological Park	To continue studies of the evolution and behavior of related primates (Cercopithecidae) in different environments in Ceylon.	1971est. 1970 1969 1968	30,000 38,000 21,000 45,749
8. Smithsonian Institution National Zoological Park	To continue studies of the relation of man and elephant in Ceylon where the domesticated beast of burden is captured and trained to work with man after reaching maturity as a wild elephant, rather, than after domestication as a young animal.	1971est. 1970 1969 1968	10,000 10,000 10,000 4,371
9. State University of New York at Stony Brook	To continue theoretical ecological studies of a living coral reef and the organisms related to it in Israel.	1971est. 1970est. 1969 1968	20,000 20,000 20,000 12,036
10. Smithsonian Institution Department of Botany	To continue revision of the basic Trimen's Flora of Ceylon in the light of modern botanical knowledge and techniques.	1971est. 1970est. 1969 1968	30,000 30,000 30,000 39,400
11. Smithsonian Institution Radiation Biology Lab.	To continue studies of solar radiation station in Israel to obtain data for comparsion with base line studies conducted in Washington, D. C.	1971est. 1970est. 1969 1967	80,000 80,000 84,000 110,000
12. Smithsonian Institution Office of Oceanography and Limnology Program	To continue studies of the benthic and planktonic biology of the Adriatic Sea in Yugoslavia.	1971est. 1970est.	35,000 35,000

Recipient	Project	Grant Expressed in U.S. Dollars	
13. Smithsonian Institution: National Zoological Park and Museum of Natural History	To provide additional grants to Smithsonian scientists for increasing the national entomological, botanical and zoological collections by expenditions to India, Ceylon, Egypt, Pakistan, Tunisia and Morocco.	1971est. 1970est.	25,000 25,000
14. Smithsonian Institution Department of Vertebrate Zoology	To continue studies, of South Asian birds and the preparation of a handbook.	1971est. 1970 1969 1968	5,000 5,000 5,000 5,000
15. Dartmouth College	To continue studies of organic production in fresh water lakes in Kashmir, India.	1971est. 1970est.	40,000 47,000
16. University of Miami, Flordia	To continue studies in Ceylon of Carangid fishes which constitute one of the major sources of man's food around the world.	1971est. 1970est. 1969	15.000 15,000 25,000
17. State University of New York, Stony Brook	To continue studies of the ecology of snails in Israel.	1971est. 1970est. 1969	10,000 20,000 20,000
18. University of Missouri	To continue studies of the behavior and ecology of gazelles in Israel.	1971est. 1970	35,000 45,000
19. Library, Smithsonian Institution	To continue accelerated translation and publication of reference works and monographs.	1971est. 1970	50,000 25,000
20. Department of Invertebrate Zoology Smithsonian Institution	To continue ecological studies of sponge fisheries of Tunisia.	1971est. 1970est. 1967	10,000 10,000 4,600
21. Office of Vertebrate Zoology, National Museum of Natural History, Smithsonian Institution	To continue to study the geographic distribtuion and the ecology of the mammals of Morocco.	1971est. 1970	40,000 63,000
22. Program of Oceanography and Limnology Smithsonian Institution	To continue a survey of Marine algae, fauna and sediments of the continental shelf of Morocco.	1971est. 1970	25,000 25,000
23. Smithsonian Institution Department of Entomology	To study the Biosystematics of the insects of Ceylon as a part of the model program of ecological studies of that tropical island.	1971est. 1970	20,000 28,000
	Subtotal, Estimate for On-going Research		770.000

Recipient	Project	Estimated Request in U.S. Dollars	
B. Pending Projects			
1. Smithsonian Institution Department of Botany	To initiate flora and vegetation studies of a district of Mysore State in the Ghat Mountains of Southwest India and to prepare collections for the Smithsonian's National Herbarium.	1971est. 1970est.	20,000 20,000
2. University of Georgia	To initiate studies of the interaction of human and small rodent populations in a variety of temperate zone environments in conjunction with the Ecological Institute of the Polish Academy of Sciences.	1971est. 1970est.	25,000 25,000
3. California Academy of Sciences	To initiate field investigations of the habitats of Indian amphibians and reptiles especially in the fast disappearing virgin environments of that country.	1971est. 1970est.	25,000 25,000
4. Duke University	To initiate taxonomic studies in Yugoslavia of the Adriatic isopod and to prepare a handbook for the study around the world of this marine organism.	1971est. 1970est.	20,000 20,000
5. Smithsonian Institution Office of Environmental Studies	To initiate studies of the behavior of elephants and primates in India coordinated with base line studies conducted in Ceylon.	1970est	50,000
6. Union College, Schenectady, N.Y.	To collect and study the plankton communities of the Nile River Delta with special reference to the changes in salinity and circulation caused by interruption of seasonal river fluctuation by the Aswan Dam.	1970est.	70,000
7. Duke University	To conduct field studies in plant taxonomy and ecology in the state of Assam, India.	1971est.	30,000
8. University of California at Davis	To study the taxonomy and distribution of the poorly known microscopic marine fauna of the Bay of Bengal on the basis of collections of marine sediments from the coastal region of East Pakistan.	1971est.	20,000

Recipient	Project	Estimated Request in U.S. Dollars	
9. Smithsonian Institution Office of Environmental Studies	To study the ecology and behavior of hooved animals in a teak forest in India.	1971est.	20,000
10. Southern Methodist University	To undertake a definitive study of Quaternary age deposits on the floor and lower slopes of the Qattara Depression in the western Desert of Egypt.	1971est.	25,000
11. Smithsonian Institution, Program of Oceanography and Limnology	To collect and conduct taxonomic studies of the marine fauna of West Pakistan's continental shelf.	1971est. 1970est.	50,000 70,000
12. University of Michigan	To study productivity of tropical lakes in Southern India.	1971est. 1970est.	21,000 31,000
13. Gulf Coast Marine Lab., Mississippi, and Division of Fishes, National Museum of Natural History, Smithsonian Institution	To conduct systematic and behavioral studies of flatfishes and gobioid fishes in collaboration with the Zoological Survey of India	1971est. 1970est.	25,000 23,300
14. American University in Cairo	To study in Egypt the migration of marine biota between the Red Sea and the Mediterranean through the Suez Canal.	1971est.	20,000
15. Smithsonian Institution Office of Environmental Studies	To conduct studies of the pattern and behavior of birds during migration in the Himalayan Mountains of Northern India and Nepal.	1971est.	20,000
16. Smithsonian Institution Division of Invertebrate Paleontology	To study in India the broadly distributed fossil ostracod which reveals through its varied physical appearance much about the climate and geography of the geologic era in which it lived.	1971est.	25,000
17. University of Michigan	To study the snail, carrier of the disease, bilharzia, in the newly formed reservoirs and canals associated with the Aswan dam in Egypt.	1971est.	20,000
18. University of Utah	To collect the may flies of Pakistan for taxonomic studies as a part of specialized world wide studies of this species.	1971est.	10,000

Recipient	Project		Estimated Request in U. S Dollars
19. Smithsonian Institution Office of Environmental Studies	To investigate the plant ecology of the Laccadive Islands of India in cooperation with the Botanical Survey of India and to obtain a duplicate set of specimens for the research collections of the U. S. National Museum.	1971est.	30, 000
20. Smithsonian Institution Office of Environmental Studies	To collect for the U. S. National Museum and study the flora of the long neglected areas of India particularly the Malabar and the Karomandel Coasts, and the Nilghiri and Khasia Hills--areas which served as sources of materials for classic botanical studies made as long ago as the 17th Century and badly in need of revision.	1971est.	40, 000
21. University of Washington	To conduct pilot studies of the behavior and ecology of the wild boar in West Pakistan--a little studied animal which is nevertheless considered a significant agricultural pest.	1971est. 1970est.	30, 000 47, 000
22. University of Georgia	To study organic productivity and nutrient cycling in tropical ecosytems in collaboration with the Hindu University of Benares, India. This study has been proposed to the National Committees for the International Biological Program of both the United States and India.	1971est. 1970est.	50, 000 50, 000
	Subtotal, Estimate for Pending Research		526, 000

Recipient	Project		Estimated Request in U.S. Dollars
C. New Projects			
1. University of California Berkeley	To initiate a comprehensive program of the study of the flora of Morocco with bio-systematic studies of flowering plants.	1971est.	3,000
2. Duke University Durham North Carolina	To conduct studies for the classification of Moroccan lichens with special emphasis on their chemical characteristics.	1971est.	3,000
3. California Institute of Technology	To study the microbiology of the desert soils of Morocco.	1971est.	10,000
4. University of Illinois	To compare structure and function in New World bird communities with those in India.	1971est.	10,000
5. Ohio University	To study the pollution condition of Lake Tunis in Tunisia.	1971est.	25,000
6. University of Michigan	To study the effects of inbreeding in mammals in collaboration with the Cancer Research Institute in India.	1971est.	22,000
7. Queens College, University of the City of New York	To conduct museum studies of unique specimens of fossil mammals in Poland in connection with studies of evolution.	1971est.	5,000
8. Office of Environmental Studies, Oceanography and Limnology Program, Smithsonian Institution	International Decade of Ocean Exploration (IDOE), cooperative investigations of the Mediterranean aboard the Smithsonian research vessel PHYKOS as follows:	1971est.	230,000
--University of Southern California	Dredging, coring and bottom grab sampling in studies of microscopic sea life and fossils of such life.		
--National Museum of Natural History, Smithsonian Institution	Deep sea dredging to study recent changes in the geography of biological regions through study of the changing conformation of the highly adaptable animal, the ostracod.		

Recipient	Project	Estimated Request in U.S. Dollars
--Duke University Durham, North Carolina	Bi-monthly cruises to collect samples for the study of the develoment, distribution and biology of crab larvae.	
--Washington State University	Biological sampling for studies of the paleontology of Pteropods.	
--University of North Carolina	Isolation and study of pure cultures of marine fungi.	
--National Museum of Natural History Smithsonian Institution	Plankton tows for studies of planktonic foraminifera.	
--Florida State University	Sampling for studies of deep sea biology and geology.	
--University of Delaware	Towing multiple plankton samplers to study the verticle distribution of the cosomatous pteropods in relation to water masses.	
--University of California	Sampling deeper than 200 meters to study the systematics and distribution of marine mites.	
--Division of Fishes National Museum of Natural History Smithsonian	Long line fishing for several hundred specimens for a study of the distribution of the common sharksucker.	
--University of North Carolina	Trawling, gill net, and long line collection of samples for systematic and distribution studies of sharks and their relatives.	
--Department of Invertebrate Zoology, Smithsonian Institution	Mid-water trawling for studies of the systematics, distribution and ecology of pelagic Cephalopods.	
--Department of Paleobiology Smithsonian Institution	Dredging, coring and bottom photography to study the morphology of sediments and sub-bottom.	

Recipient	Project	Estimated Request in U.S. Dollars	
--Massachusetts Institute of Technology	Deep lowerings of coring and grab sampling equipment for study of the deepest Mediterranean geological structures.		
--Woods Hole Oceanographic Institution, Massachusetts	Submergible dives to explore the water transport over the Scarpanta sill in the Eastern Mediterranean.		
9. Office of Environmental Studies, Oceanography and Limnology Program Smithsonian Institution	To initiate study of the existing ecosystem of the Eastern Arabian Sea through oceanographic cruises undertaken in cooperation with the Indian National Institute of Oceanography.	1971est.	140,000
10. Office of Environmental Studies, Oceanography and Limnology Program Smithsonian Institution	To initiate a multi-year program of study of the ecology of coral reefs in India.	1971est.	56,000
	Subtotal, Estimate for New Research		504,000
	Total, Systematic and Environmental Biology		1,800,000

III. International Biologial Program (IBP)

A. On-going Projects

Recipient	Project	Grant Expressed in U.S. Dollars	
1. National Academy of Sciences - U.S. National Committee to the International Biological Program	To continue direct support to the U.S. National Committee to the International Biological Program for planning symposia, training of U.S. scientists and research program development.	1971est. 1970 1968	25,000 25,000 10,000
2. National Academy of Sciences -U.S. National Committee to the IBP	To continue development of joint U.S.-Indian research projects which strengthen the research of United States institutions and contribute to the priority objectives of the U.S.I.B.P.	1971est. 1970est. 1969	25,000 25,000 25,000

Recipient	Project	Grant Expressed in U.S. Dollars	
3. Office of Environmental Sciences, Smithsonian Institution	To continue ecological studies of the last surviving population of the Asiatic lion in the Gir Forest in India and to recommend techniques for conservation of the animal and his habitat.	1971est.	20,000
4. Yale University New Haven, Conn.	To continue to study habitat relationships, numbers and distribution of wild antelope, deer, boar and other hooved animals in the Gir Forest India as part of a broad study of this tropical forest which includes study of the Asiatic lion.	1971est. 1970	50,000 35,000
B. Pending Projects		Estimated Request in U.S. Dollars	
1. Office of Environmental Studies, Smithsonian Institution	To contribute to American ecological studies of Mediterranean and Saharan environments in a multi-national project initiated by the International Biological Program's Terrestrial Conservation Section in Tunisia.	1971est. 1970est.	80,000 80,000
C. New Projects			
1. Oak Ridge National Laboratory Oak Ridge, Tenn.	To conduct cooperative research in Poland on temperate zone forest and grassland ecosystems supplementing studies conducted in the United States.	1971est.	25,000
2. Pennsylvania State University	To conduct comparative studies of human adaptability at high altitudes in India.	1971est.	100,000
3. University of Minnesota	To study biological rhythms in man and beast in India.	1971est.	50,000
4. Pennsylvania State University and the University of Minnesota	To study in South Asia the international spread of plant disease by means of airborne organisms.	1971est.	50,000
5. University of Utah	To conduct comparative studies in the arid climates of Egypt and India supplementing studies conducted in the United States.	1971est.	25,000

Recipient	Project	Estimated Request in U.S. Dollars	
6. University of Texas	To conduct studies of convergent and divergent evolution in desert flora of Tunisia and India.	1971est.	50,000
	Total International Biological Program		500,000

IV. Museum Programs

A. On-going Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. U.S. National Museum	To assist, under the U.S. National Museum Act, with museum expertise and support the program of the International Council of Museums (ICOM), a UNESCO affilliate, to develop teaching museums of science and technology in Asia and Africa. For example, the Smithsonian contributed in FY 1969 to studies resulting in recommendations to ICOM that there be established in India a laboratory for basic exhibits in science and technology where teaching exhibits will be built for circulation in industrializing countries. The experiment will provide opportunities to American Museum Specialists to observe the effectiveness of exhibits in teaching basic science and technology to people of all cultural backgrounds.	1971est. 1970 1969	55,000 25,000 20,000

B. Pending Projects

1. National Collection of Fine Arts and Smithsonian Traveling Exhibition Service	To prepare an exhibit catalogue, to be the first scholarly publication on a unique collection at Benares Hindu University, of miniature paintings of the Moghul period of Indian art for distribution through American museums exhibiting such art treasures, for the first time, in the United States.	1971est.	5,000

C. New Projects

Recipient	Projects	Estimated Request in U.S. Dollar	
1. United States National Museum	To support the participation of stone and wood conservation specialists from India and Poland in the symposium on this subject to be sponsored by the International Institute for Conservation of Historic and Artistic Works (IIC).	1971est.	10,000
2. American Association of Museums and the United States National Museum	To initiate a program of professional training for museum curators and technicians in collaboration with museums of India, Pakistan, Tunisia and Egypt through two-way exchanges of personnel for on-the-job training. Participants would be expected to serve at least six months in a museum housing collections of direct importance to their professional development.	1971est.	30,000
	Total Museum Programs		100,000

V. Astrophysics

A. On-going Projects

Recipient	Project	Grant Expressed in U.S. Dollars	
1. Smithsonian Astrophysical Observatory, Cambridge, Mass.	To continue balloon experiments in cooperation with the Tata Institute of Fundamental Research, Bombay, India on gamma radiation reaching the earth's upper atmosphere from outer-space at the magnetic equator.	1971est. 1970est. 1969 1968	42,000 42,000 4,000 29,000
2. Hunter College of the City University of New York and Smithsonian Astrophysical Observatory	To continue computer analysis in Israel of the application of principles of plasma physics concerning the movement of particles at extremely high speeds to the movement of celestial bodies in galaxies--a study of the collective behavior of self-gravitating systems.	1971est. 1970 1968	15,000 14,000 41,800
3. Smithsonian Astrophysical Observatory	To continue studies in Israel comparing theories developed separately of the nature of the interior and of the exterior of evolving stars.	1971est. 1970 1969	13,000 28,000 27,300
4. Smithsonian Institution Office of the Secretary	To assist in studies sponsored by newly created Center for Short-Lived Phenomena, a clearing house for the receipt and dissemination of information concerning rare or infrequent natural events that might otherwise go unobserved or uninvestigated, such as remote volcanic eruptions, the birth of new islands the fall of meteorites and large fire balls and sudden changes in biological and ecological systems.	1971est. 1969	24,000 9,540
	Subtotal, On-going Research		94,000

B. Pending Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. Smithsonian Astrophysical Observatory	To record and analyze together, with data from around the world, at the Uttar Pradesh State Observatory, India, film exposures of suspected flare stars, a relatively newly discovered class of variable stars, with radio and optical energies several orders of magnitude higher than emissions from the largest solar flares.	1971est. 1970est.	6,000 10,000

Recipient	Project	Estimated Request in U.S. Dollars	
2. Harvard University	To initiate a collaborative program with the Indian Institute of Science leading to a publication on the historical, mathematical and theoretical foundations of the theory of radiation gas dynamics.	1971est.	9,100
3. Harvard University and the Smithsonian Astrophysical Observatory	To select, translate,and publish the key works of the distinguished Polish Copernican scholar, L. A. Birkenmajer, in collaboration with the International Astronomical Union. The publication will make available,for the first time to large segments of American and other English speaking scholarly communities,invaluable anaylses of the astronomy of Copernicus.	1971est.	12,000
4. Harvard University and Smithsonian Astrophysical Observatory	To conduct laboratory studies in India of the spectra of hybrids and oxides in the visible and vacuum ultra violet region.	1971est.	29,000
5. Smithsonian Astrophysical Observatory, Cambridge, Mass.	To investigate solar radiation pressure purturbations upon the Passive Geodetic Earth-Orbitting satellite (PAGEOS) in collaboration with the University of Warsaw and the Polish Academy of Sciences.	1971est.	45,000
6. Harvard University	To conduct laboratory studies of the excitation processes in stellar, planetary and cometary atmospheres.	1971est.	41,700
7. Smithsonian Astrophysical Observatory	To measure air glow and ionospheric characteristics at the magnetic equator in studies contributing to the understanding of the nature of the upper atmosphere and of some of its effects on satellites.	1971est.	17,500
	Subtotal, Estimate for Pending Research		160,300

C. New Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. Yale University and Smithsonian Astrophysical Observatory	To conduct research in theories of planetary motion in Egypt.	1971est.	40,000
2. Harvard University and Smithsonian Astrophysical Observatory	To conduct studies of thermal emission and absorption of the diatomic molecules in India.	1971est.	16,000
3. Dickinson College, Pennsylvania	To investigate the astronomical alignment of the Temples of Karnak, Egypt.	1971est.	13,000
4. Smithsonian Astrophysical Observatory and consortium of United States Astronomical Research Institutions	To conducted coordinated 24 hours observation of astronomical phenomena in collaboration with Israeli institutions employing telescopes in the western United States, Chile and Israel.	1971est.	154,700
--U.S. Naval Research Laboratory, Washington, D.C. and Massachusetts Institute of Technology	To conduct optical and photoelectric monitoring of X-ray sources.		
--California Institute of Technology	To conduct photoelectric monitoring of the continuum and line emission from quasi-stellar objects (QSO) and the nuclei of N-type galaxies.		
--Smithsonian Astrophysical Observatory	To conduct a high-dispersion abundance analysis of stars in the Pleiades.		
--State University of New York at Stony Brook	To determine the rate of star formation in young clusters.		
--Harvard College Observatory, Cambridge, Mass.	To conduct photometric observations of the High Balmer Lines (near the Balmer Limit) and the Balmer Continuum in Planetary Nebulas.		

Recipient	Project	Estimated Request in U.S. Dollars	
5. University of New Hampshire	To conduct solar neutron experiments in India.	1971est.	30,000
6. Harvard University, Massachusetts Institute of Technology, Alaska Methodist University	To investigate the feasibility of astronomical programs with astronomers in India, United Arab Republic, and Poland.	1971est.	22,000
7. Harvard University and Smithsonian Astrophysical Observatory	To conduct in India spectrascopic studies of free radicals of astrophysical interest by the bombardment of accelerated charged particles.	1971est.	40,000
	Subtotal, Estimate for New Research		315,700
	Total, Astrophysical		570,000

VI. Program Development and Administration

Recipient	Project	Estimated Request in U.S. Dollars	
1. Smithsonian Institution Office of International Activities	To defray costs of inspection and audit of field research sites and costs of negotiation with host governments on program operations--costs which increase in step with the increasing numbers of active grants.	1971est. 1970 1969 1968	30,000 20,000 15,000 10,000
	Total, Program Development and Administration		30,000
	GRAND TOTAL		$4,500,000

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

Distribution of Funds by Country

Fiscal Years 1969, 1970, and 1971

Country	1969	1970	1971
India	$ 490,066	$ 520,000	$1,140,000
Egypt	400,210	300,000	640,000
Israel	450,000	481,000	679,500
Morocco	25,000	50,000	150,500
Pakistan	34,380	75,000	150,000
Tunisia	225,000	155,000	250,000
Poland	100,000	100,000	200,000
Guinea	3,000	4,800	100,000
Burma	0	50,000	120,000
Yugoslavia	479,333	480,000	650,000
Ceylon	109,011	100,200	420,000
Total	$2,316,000	$2,316,000	$4,500,000

CONSTRUCTION AND IMPROVEMENTS, NATIONAL ZOOLOGICAL PARK

1969 Appropriation	$300,000
1970 Appropriation	$600,000
1971 Estimate	$200,000

Recognizing that the National Zoological Park had not had any major improvements since the mid 1930's and that it was in a disgracefully deteriorated condition, the Congress in 1963 approved a master plan for improvement of its physical facilities. The original schedule called for a ten year program and funds were appropriated for each of the next five consecutive years in support of the master plan. In fiscal year 1968, construction funds were not appropriated to maintain the momentum of the program and the work was scaled down to those critical improvements required to extend the useful life of facilities not yet replaced and to minor projects which contributed to the elimination of water pollution of Rock Creek and air pollution. This holding action has continued through fiscal year 1970. Funds appropriated this year will be used for completion of the heating plant conversion and for such essential safety and preventive maintenance projects as replacing deteriorated wooden handrails in and outside of the buildings, installing fire alarm systems, repairing the Elephant House roof, replacing cage doors, and installing a prototype system for manure disposal to combat air pollution.

In fiscal year 1971, the Smithsonian will again defer a request for funds to resume progress toward completion of the improvement program and will request funds only for repairs and continued maintenance to keep those buildings and exhibits, which will eventually be replaced, in usable condition. Included in the necessary projects are waterproofing buildings, painting of buildings and cages to prevent structural damage, and repair of outside cages. Funds in the amount of $200,000 are requested for these purposes.

RESTORATION AND RENOVATION OF BUILDINGS

1969 Appropriation.....	$400,000
1970 Appropriation.....	$525,000
1971 Estimate.....	$1,130,000

An appropriation of $1,130,000 is requested for the following projects:

Renwick Gallery of Art	$300,000
Arts and Industries Building.....	500,000
Smithsonian Tropical Research Institute....	25,000
Fumigation Facility	75,000
Library Modifications	50,000
Museum Support Facility	80,000
Feasibility Studies	100,000
Total estimate for 1971.....	$1,130,000
Less amount appropriated in fiscal year 1970	525,000
Increase in fiscal year 1971	$605,000

Renwick Gallery of Art

An appropriation of $300,000 is requested to complete a program of restoration and improvement of the old Court of Claims building on Lafayette Square, now known as the Renwick Gallery of Art.

Completion of restoration work on the Renwick Gallery is of the highest priority, not only to protect the $2,070,000 thus far appropriated by the Congress and invested in construction and restoration work, but also to make this historically important and centrally located building available for use and enjoyment by the public.

With funds previously appropriated, work is being completed now for central rooms on each floor, thereby assuring that a portion of the building can be opened to the public by the fall of 1970. An additional appropriation of $300,000 will permit completion of flooring, plastering, painting, lighting, and millwork for the remainder of the rooms and to install necessary furnishings and exhibits.

With this appropriation the essential renovation and restoration work will be sufficiently complete to permit full use of the building. To restore the building interior to comparable elegance approaching the original design would be prohibitively expensive; work is being limited, therefore, to architectural restoration of the main building features.

The Renwick Gallery in association with the National Collection of Fine Arts will be primarily concerned with the American decorative arts and designs, broadly defined to reflect the diverse competence and collections within the Smithsonian Institution as well as important objects and collections that will be borrowed for exhibit. Because of its proximity to the White House and to centers of government and private activity, a carefully planned program of exhibits, talks, concerts, and informal lectures will be instituted to serve the interest of that area of the inner city.

Arts and Industries Building

An appropriation of $500,000 is requested to construct second floor decks in the Arts and Industries Building to provide office and work space for the Smithsonian Institution staff.

In fiscal year 1967, the Congress appropriated $133,000 to prepare plans and specifications for renovating the 90-year-old Arts and Industries Building, located at 9th Street and Independence Avenue. Although plans have been completed and construction can start upon receipt of an appropriation, the full funding request will be deferred until a future date, so that higher priority restoration and renovation projects elsewhere in the Institution may proceed. The total renovation cost for this building will be approximately $3,000,000.

Included in the total project is an item amounting to $500,000 for construction of several second floor decks in high ceiling court areas and thus put to good use space that is otherwise wasted. The additional floor space is planned for use as offices as well as for classroom and other public service purposes. Because of the urgent need for this space, this portion of the renovation project should proceed as soon as possible, and funds are requested as a priority item.

The demands for additional administrative and public service space for the Smithsonian are the natural result of substantially broadening the diversified programs of the Institution in recent years. Over twenty programs have been added by legislation, including such major museums and functions as the Museum of History and Technology, the National Portrait Gallery, the National Air and Space Museum, and the Hirshhorn Museum. All of these activities require administrative support from the personnel, fiscal, supply, buildings management, budget, and other management service units, as well as those units that more directly provide information and services to the public. With funds requested, substantial relief may be realized from the present overcrowding in administrative offices.

Smithsonian Tropical Research Institute

An appropriation of $25,000 is requested for continuing emergency repairs to existing facilities.

In fiscal year 1970, $25,000 were appropriated to start a program of repairs and renovation for the buildings on Barro Colorado Island and at the mainland facilities in the Panama Canal Zone. There are 15 small wood frame buildings on the Island, most of which are over 25 years old and in poor condition due to the high tropical humidity and insect infestations. A program of general improvements will cost approximately $100,000 and would involve the replacement of flooring, wiring, roofing, screening, and some mechanical repairs and replacements. With the funds requested, many of these improvements can be made and the useful life of existing buildings extended.

Fumigation Facility

An appropriation of $75,000 is requested to construct a fumigation facility in the Museum of Natural History Building.

Hundreds of thousands of organic specimens in the Collections, including plants, hides and skins, and articles made from leather, bone, and wood, require careful fumigation for preservation. Objects must be fumigated immediately upon receipt to eradicate live pests and then periodically to eradicate those hatched from eggs previously deposited or from new infestations.

In the past, fumigation work has been accomplished with a homemade facility in a room in the Museum of Natural History in a rather crude manner requiring hand pouring of fumigants. Modern building codes, requiring specialized facilities, ventilation, and safety features as well as improved methods for handling toxic fumigants have shown the Museum's facility to be obsolete, inadequate, and unsafe. For safety reasons, the facility has been closed and fumigation work is now accomplished by outside contracting or is being deferred.

The cost of transportation to private fumigation facilities as well as the inconvenience and danger to security of the Collections also justify this high priority request for construction of a new facility in the Museum of Natural History Building.

Funds requested will be used to construct a specially designed room, with sealable openings, safety control systems for storing and handling fumigants, and proper ventilation and exhaust systems.

Library Modifications

An appropriation of $50,000 is requested to modify a portion of the space, in the Museum of Natural History Building, used by the Smithsonian Library.

The Library's collections now contain more than 750,000 pieces, most of which are housed in the Museum of Natural History Building, in less than 25,000 square feet of floor space. Because adequate operating space is not available nor can additional space be assigned at this time, it is necessary that maximum use be made of all available space and that mezzanines be constructed where head room permits.

With funds requested, it will be possible to construct a mezzanine level in three adjacent rooms and to install a booklift. This is a small, but important, project which will provide some urgently needed relief to the congested conditions now existing in the library.

Museum Support Facility

An appropriation of $80,000 is requested for preparation of plans and specifications for an off-Mall central museum storage and study facility for the Smithsonian Institution.

Rather than continue to store increasing numbers of objects from the National Collections in the buildings on the Mall, a central storage and retrieval center for classifying, preserving, restoring, studying, and storing items is required along with shops and laboratories in support of research and education activities related to the Institution's work. A specially designed facility using modern storage and retrieval methods will permit improved management of the 60,000,000 items in the National Collections as well as making the collections more accessible for study and research. The space vacated on the Mall can be used for exhibits and other public education and service purposes.

Planning studies are now in progress to select a site for the center and to phase a development program over a ten-year period. This appropriation request is for design of the first increment of a long-range program.

Feasibility Studies

An appropriation of $100,000 is requested to prepare feasibility studies for the future building needs of the Smithsonian Institution.

Careful advanced and long-range planning are essential if the future building needs for the complex and varied programs of the Smithsonian Institution are adequately identified, studied, and documented. With funds requested, urgent work can be started on studies of storage retrieval methods and methodology for the expanding collections; methods of cataloging, inventorying, and preserving specimens; feasibility studies for physical facilities to accommodate future research needs in tropical biology, astrophysical sciences, environmental and ecological studies on land now owned by the Institution; and for new museum space to improve and expand the exhibits and educational programs for the benefit of the people of the United States.

CONSTRUCTION
(JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN)
(Liquidation of Contract Authority)

1969 Appropriation	$2,000,000
1970 Appropriation	$3,300,000*
1971 Estimate	$8,897,000

By the Act of November 7, 1966, the Congress provided a site on the Mall for construction of the Joseph H. Hirshhorn Museum and Sculpture Garden and provided statutory authority for the appropriation of construction and operating funds. Within this appropriation authority, $803,000 were appropriated in fiscal year 1968 for the preparation of plans and specifications. In fiscal year 1969, an additional $2,000,000 were appropriated to start construction, and authorization was granted by the language in the appropriations bill to enter into construction contracts in an amount not to exceed $14,197,000. An additional $3,300,000 were appropriated in fiscal year 1970 toward liquidation of the contract authority.

The justification in support of the fiscal year 1970 budget request indicated that construction bids would be opened in the spring of 1969 and construction would be started soon thereafter. Bids were opened on May 27, 1969, but had to be rejected because the low bid exceeded available funds. Although this project was affected adversely by an unusual and unexpected sudden escalation in construction costs, the Congress will not be requested to provide an additional authorization of funds. The General Services Administration was instructed to revise the drawings and scale down the scope of work to stay within the existing authorization. Drawing revisions were completed in October 1969 and new bids were opened on December 18, 1969. Construction is now scheduled to start about March 1970 and be completed in about two years.

Because construction work will be in full progress during fiscal year 1971, an appropriation of the remaining $8,897,000 is requested to liquidate the balance of the contract authority. This appropriation will be used to complete funding of construction contracts, to finance supervision and related construction management costs, and to provide some necessary equipment and facilities to install the Hirshhorn collection in the completed building.

* Excludes $200,000 appropriated for the relocation of the Medical Museum (Armed Forces Institute of Pathology).

SMITHSONIAN INSTITUTION

SCHEDULE OF BUILDING PROJECTS

January 1970

	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971	FY 1972
Remodeling of Civil Service Commission Bldg. (for art galleries)	Under construction Apprn. received, $5,465,000	Apprn. received, $1,000,000		April 1967 completion	May 1968 opening (N.C.F.A)	Oct. 1968 opening (N.P.G)			
National Air and Space Museum Building	Planning apprn. received, $511,000	Remainder of planning apprn. received, $1,364,000							Request construction apprn.
Construction and Improvements, National Zoological Park 1/	Construction and improvements in progress Apprn. received, $1,275,000	Apprn. received, $1,525,000	Apprn. received, $1,539,000	Apprn. received, $1,589,000	Apprn. received, $400,000	Apprn. received, $300,000	Apprn. received, $600,000	Apprn. requested $200,000	Request apprn. for continuing program
Restoration and Renovation of Buildings			Apprn. received, $2,248,000	Apprn. received, $2,300,000	Apprn. received, $1,125,000	Apprn. received, $400,000	Apprn. received, $525,000	Apprn. requested $1,130,000	Request apprn. for add. renov.
Joseph H. Hirshhorn Museum and Sculpture Garden					Planning apprn. $803,000	Construction authorized $14,197,000 apprn. received, $2,000,000	Apprn. received $3,500,000	Apprn. requested $8,897,000	

1/ First funding received in fiscal year 1963 in the amount of $1,275,000.

SMITHSONIAN INSTITUTION

"SALARIES AND EXPENSES"

Report on the Number of Permanent Positions by Organization Unit

Unit	1969 Actual	1970 Estimate	1971 Estimate	Increase 1970 over 1969
United States National Museum	210	214	217	+ 3
National Museum of History and Technology	154	155	155	0
National Museum of Natural History	258	258	268	+ 10
National Air and Space Museum	41	41	45	+ 4
National Zoological Park	0	0	252	+252
National Armed Forces Museum Advisory Board	7	7	7	0
Anacostia Neighborhood Museum	4	8	12	+ 4
Freer Gallery of Art	7	7	7	0
National Collection of Fine Arts	56	56	60	+ 4
National Portrait Gallery	27	27	27	0
Joseph H. Hirshhorn Museum and Sculpture Garden	7	13	20	+ 7
Smithsonian Astrophysical Observatory	54	57	57	0
Smithsonian Tropical Research Institute	23	38	43	+ 5
Radiation Biology Laboratory	32	36	40	+ 4
Office of Ecology	5	5	8	+ 3
Office of Oceanography and Limnology	18	18	26	+ 8
Center for the Study of Man	1	2	5	+ 3
Center for Short-Lived Phenomenon	0	0	1	+ 1
Office of Academic Programs	17	18	20	+ 2
American Revolution Bicentennial	0	0	5	+ 5
Environmental Sciences Program	0	0	14	+ 14
International Activities	15	15	15	0
Woodrow Wilson International Center for Scholars	0	2	0	- 2
Administrative and Central Support Activities	237	243	267	+ 24
Buildings Management Department	827	857	877	+ 20
GRAND TOTAL	2,000	2,077	2,448	371

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Obligations by Objects

	1969 Actual	1970 Estimate	1971 Estimate	Increase or Decrease (-) '71 over '70
11 Personnel Compensation..	$17,368,000	$19,570,000	$23,181,000	$3,611,000
12 Personnel Benefits.....	1,290,000	1,471,000	1,758,000	287,000
21 Travel and Transportation of Persons.....	277,000	334,000	466,000	132,000
22 Transportation of Things..	218,000	198,000	250,000	52,000
23 Rent, Communications, and Utilities.....	1,596,000	1,928,000	2,423,000	495,000
24 Printing and Reproduction	515,000	597,000	724,000	127,000
25 Other Services.....	2,779,000	2,915,000	3,773,000	858,000
26 Supplies and Materials....	857,000	1,048,000	1,707,000	659,000
31 Equipment.....	1,407,000	1,446,000	2,023,000	577,000
41 Grants.....	8,000	58,000	62,000	4,000
42 Insurance Claims and Indemnities	1,000	0	0	0
Total Obligations	$26,316,000	$29,565,000	$36,367,000	$6,802,000
Appropriation Adjustments:				
Receipts and Reimbursements from Federal funds	-6,000	0	0	0
Unobligated balance lapsing..	+29,000	0	0	0
Transferred to other accounts	+103,000	0	0	0
Appropriation or estimate ...	$26,443,000	$29565,000*	36,367,000	$6,802,000

*Includes anticipated supplemental of $1,431,000.

SMITHSONIAN VISITORS
(By fiscal year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	National Air and Space Building	Freer Gallery of Art	Museum of History and Technology	Fine Arts & Portrait Gallery	Total[8/]
1961	1,024,526	2,912,371	2,047,973	987,858	130,746	(1)	(3)	7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597	(1)	(3)	8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359	(1)	(3)	10,309,836[2/]
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774[1/]	(3)	10,813,195[2/]
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776	(3)	13,153,713
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112	(3)	12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102	(3)	13,312,586[4/]
1968	847,176	1,344,622	3,257,957	1,123,698	169,533	4,750,023	30,888	11,523,897[7/]
1969	275,259[5/]	1,493,141[6/]	2,916,749	1,225,959	179,374	4,174,071	166,177	10,430,730

1/ Museum of History and Technology opened January 1964.
2/ July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.
3/ National Collection of Fine Arts opened May 1968.

4/ Reflects the significant decrease in visitors to the Nation's Capital in the first six months of CY 1968, due to unsettled local conditions.
5/ Building closed for renovation October 1968.
6/ Since the first display of the lunar sample in September 1969, visitors to this building have averaged approximately 270,000 per month (2,532,000 on an annual basis).

7/ Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance. During CY 1969, a total of 12,438,909 visitors came to the Smithsonian, an increase of 25 percent over CY 1968.
8/ An additional 5,000,000 visitors visit the National Zoological Park annually.

SMITHSONIAN INSTITUTION

Multiyear Projections of Selected "Outputs"
By Program Category

Program Category	Actual 1969	Estimated 1970	1971	1972	1973	1974	1975
I. Research and Scholarship							
Cooperative Ph.D.'s completed at Smithsonian.....	55	60	70	75	80	100	115
Postdoctoral investigators	45	55	65	80	110	135	165
Smithsonian-University cooperative graduate fellowships	2	3	5	10	15	25	30
II. Growth of National Collections							
(Number of specimens in the Smithsonian's museums and galleries) (in millions)	67.0	69.0	72.0	73.0	74.0	76.0	78.0
III. Public Education and Enlightenment							
A. Number of visitors (Mall facilities exclusive of National Gallery of Art) (in millions)	10.4	14.3	16.8	17.0	18.0	19.0	19.5
B. Organized visitation programs							
Secondary school visits (in thousands).....	11.2	12.0	15.0	18.5	23.5	31.5	39.0
Primary school visits (in thousands).....	38.0	47.0	60.0	75.0	94.0	127.0	157.0

SIGNIFICANT EXHIBITS, FISCAL YEAR 1969

National Museum of Natural History

"Masada"
The Indomitable Major John Wesley Powell
Jean Louis Berlandier--A French Scientist
Yorba Textiles

National Museum of History and Technology

"The Quest for the Presidency"
Inaugural Medal Display
"High School Graphics"
Edgar Dorsey Taylor drawings
Imogen Cunningham exhibit
"The Coke Push"
Cotton Gin display
"Patent Controversies in the History of Radio"
"Hail to the Chief"
Josiah K. Lilly coin collection
Raphael Soyer lithograph display
"Woman, Cameras, and Image"
"The Lingering Shadow"
"Abandoned Mine Scenes"
"Bible Quilt" display
"Human Rights Year"
"Stamps of Malta"

Anacostia Neighborhood Museum

Jazz show
Makonde sculpture
The Sage of Anacostia

Division of Performing Arts

Folklife Festival
Summer in the Parks
Puppet theatre
"Perceptions"

National Collection of Fine Arts

Alexander Archipenko
The Roy R. Neuberger Collection
"The Figurative Tradition in Recent American Art"
"European Painters Today"
Yasuo Kuniyoshi
WPA Prints
Charles Sheeler
The Graphic Art of Winslow Homer"
Rico Lebrun
"The American Poster"

National Portrait Gallery

"This New Man--A Discourse in Portraits"
"Time"
A 19th Century Gallery of Distinguished Americans

Cooper-Hewitt Museum

"Early 20th Century Posters"
Paintings by Winslow Homer
Sketches by Frederic Edwin
"Counterchange and New Color"
"Contemporary Japanese Posters"
"A Treasury of Design"

National Air and Space Museum

NC-4 Transatlantic Flight display
Lunar Sample display
X-15 display
Apollo display

CONTRACTS AND GRANTS TO THE SMITHSONIAN INSTITUTION
Fiscal Years 1969 and 1970

Contracts	1969	1970	Grants	1969	1970
National Aeronautics and Space Administration					
Historical Artifacts	$11,969	0	Satellite Tracking Program	$4,610,297	$2,200,000
Interdisciplinary Communication	149,990	$199,606	Recovery of Meteorites	150,000	0
Geodetic Satellite Analysis	105,715	0	Miscellaneous	140,780	89,980
Radio Meteor Research	492,000	250,000			
Celescope	767,000	847,000		$4,901,077	$2,289,980
Miscellaneous	216,585	227,640			
	$1,743,259	$1,524,246			
Department of Defense					
Pacific Birds Program	$190,080	0	Tropical Forest Ecology	$50,894	0
Mosquitoes in Southeast Asia	131,800	$161,895			
Diseases in Overseas Areas	155,068	39,000			
Mammalian Parasites	91,299	100,937			
Miscellaneous	384,966	299,237			
	$953,213	$601,069			
Department of Health, Education, and Welfare					
			Ecology & Behavior of Primates	$16,436	0
			Cancer of the Pelvic Region	19,676	0
			Human Osteon Chemistry	72,506	0
			Curricula in Environmental Design	11,411	0
			Postdoctoral in Education	15,047	0
				$135,076	0
Atomic Energy Commission					
Protein Properties	$15,634	0			
Radiation & Plant Metabolism	64,202	0			
	$79,836	0			

Contracts	1969	1970	Grants	1969	1970
			National Science Foundation		
Processing Antarctic Collections..	$90,764	$140,640	Taxonomic Study.....	$18,900	0
Science Information Exchange.....	1,800,000	1,600,000	Papers of Joseph Henry	30,000	0
Miscellaneous.....	18,000	0	Marine Technician Program	25,000	0
			Taxonomy of Grasses	12,000	0
	$1,908,764	$1,740,640	Undergraduate Research Program.....	35,070	0
			Miscellaneous.....	0	$125,978
				$120,970	$125,978
			National Institutes of Health		
Miscellaneous.....	$95,326	0	Miscellaneous.....	0	$259,000
			Department of the Interior		
Miscellaneous.....	$22,780	0			
			Other		
Miscellaneous.....	$102,750	$204,728	Miscellaneous.....	$25,110	$85,587
Total, Contracts...	$4,905,928	$4,070,683	Total, Grants...	$5,233,127	$2,760,545