1011

GOVERNMENT
Storage

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1972

DOCUMENTS
JUN 21 1971
THE LIBRARY
KANSAS STATE UNIVERSITY

I 72.9/2:D44/972/pt.4
A 93.9/2:D44/972/pt.4

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-SECOND CONGRESS

FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

JULIA BUTLER HANSEN, Washington, *Chairman*

JOHN J. FLYNT, Jr., Georgia
DAVID R. OBEY, Wisconsin
SIDNEY R. YATES, Illinois
NICK GALIFIANAKIS, North Carolina
JOSEPH M. McDADE, Pennsylvania
WENDELL WYATT, Oregon
DEL CLAWSON, California

GEORGE E. EVANS and BYRON S. NIELSON, *Assistants to the Subcommittee*

PART 4

RELATED AGENCIES:

Commission of Fine Arts
Federal Metal and Nonmetallic Mine Safety Board of Review
Forest Service
Indian Health Services
National Council on Indian Opportunity
National Gallery of Art
Smithsonian Institution
Woodrow Wilson International Center for Scholars

KSU LIBRARIES
A11900 223729

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1972

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-SECOND CONGRESS

FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

JULIA BUTLER HANSEN, Washington, *Chairman*

JOHN J. FLYNT, JR., Georgia
DAVID R. OBEY, Wisconsin
SIDNEY R. YATES, Illinois
NICK GALIFIANAKIS, North Carolina
JOSEPH M. McDADE, Pennsylvania
WENDELL WYATT, Oregon
DEL CLAWSON, California

GEORGE E. EVANS and BYRON S. NIELSON, *Assistants to the Subcommittee*

PART 4

RELATED AGENCIES:

Commission of Fine Arts
Federal Metal and Nonmetallic Mine Safety Board of Review
Forest Service
Indian Health Services
National Council on Indian Opportunity
National Gallery of Art
Smithsonian Institution
Woodrow Wilson International Center for Scholars

U.S. GOVERNMENT PRINTING OFFICE

58-287 O WASHINGTON : 1971

COMMITTEE ON APPROPRIATIONS

GEORGE H. MAHON, Texas, *Chairman*

JAMIE L. WHITTEN, Mississippi
GEORGE W. ANDREWS, Alabama
JOHN J. ROONEY, New York
ROBERT L. F. SIKES, Florida
OTTO E. PASSMAN, Louisiana
JOE L. EVINS, Tennessee
EDWARD P. BOLAND, Massachusetts
WILLIAM H. NATCHER, Kentucky
DANIEL J. FLOOD, Pennsylvania
TOM STEED, Oklahoma
GEORGE E. SHIPLEY, Illinois
JOHN M. SLACK, West Virginia
JOHN J. FLYNT, Jr., Georgia
NEAL SMITH, Iowa
ROBERT N. GIAIMO, Connecticut
JULIA BUTLER HANSEN, Washington
JOSEPH P. ADDABBO, New York
JOHN J. McFALL, California
W. R. HULL, Jr., Missouri
EDWARD J. PATTEN, New Jersey
CLARENCE D. LONG, Maryland
SIDNEY R. YATES, Illinois
BOB CASEY, Texas
DAVID PRYOR, Arkansas
FRANK E. EVANS, Colorado
DAVID R. OBEY, Wisconsin
EDWARD R. ROYBAL, California
WILLIAM D. HATHAWAY, Maine
NICK GALIFIANAKIS, North Carolina
LOUIS STOKES, Ohio
J. EDWARD ROUSH, Indiana
K. GUNN McKAY, Utah

FRANK T. BOW, Ohio
CHARLES R. JONAS, North Carolina
ELFORD A. CEDERBERG, Michigan
JOHN J. RHODES, Arizona
WILLIAM E. MINSHALL, Ohio
ROBERT H. MICHEL, Illinois
SILVIO O. CONTE, Massachusetts
GLENN R. DAVIS, Wisconsin
HOWARD W. ROBISON, New York
GARNER E. SHRIVER, Kansas
JOSEPH M. McDADE, Pennsylvania
MARK ANDREWS, North Dakota
LOUIS C. WYMAN, New Hampshire
BURT L. TALCOTT, California
CHARLOTTE T. REID, Illinois
DONALD W. RIEGLE, Jr., Michigan
WENDELL WYATT, Oregon
JACK EDWARDS, Alabama
DEL CLAWSON, California
WILLIAM J. SCHERLE, Iowa
ROBERT C. McEWEN, New York
JOHN T. MYERS, Indiana

PAUL M. WILSON, *Clerk and Staff Director*

STAFF ASSISTANTS

WILLIAM GERALD BOLING
SAMUEL W. CROSBY
GEORGE E. EVANS
ROBERT B. FOSTER
JOHN M. GARRITY
HAROLD H. GRIFFIN
AUBREY A. GUNNELS
JAY B. HOWE
THOMAS J. KINGFIELD
KEITH F. MAINLAND
MILTON B. MEREDITH
GARY C. MICHALAK
DEMPSEY B. MIZELLE
ENID MORRISON
ROBERT M. MOYER
PETER J. MURPHY, Jr.
HENRY A. NEIL, Jr.
BYRON S. NIELSON
ROBERT C. NICHOLAS III
JOHN G. PLASHAL
SAMUEL R. PRESTON
DONALD E. RICHBOURG
EARL C. SILSBY
G. HOMER SKARIN
CHARLES W. SNODGRASS
HUNTER L. SPILLAN
GEORGE A. URIAN
EUGENE B. WILHELM
THAYER A. WOOD

ADMINISTRATIVE SUPPORT

GERARD J. CHOUINARD
PAUL V. FARMER
DANIEL V. GUN SHOWS
GEMMA M. HICKEY
LAWRENCE C. MILLER
FRANCIS W. SADY
DALE M. SHULAW
AUSTIN G. SMITH
RANDOLPH THOMAS

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1972

MONDAY, MARCH 1, 1971.

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

WITNESSES

T. K. COWDEN, ASSISTANT SECRETARY OF AGRICULTURE
E. P. CLIFF, CHIEF, FOREST SERVICE
R. K. ARNOLD, DEPUTY CHIEF, FOREST SERVICE
M. M. NELSON, DEPUTY CHIEF, FOREST SERVICE
E. W. SCHULTZ, DEPUTY CHIEF, FOREST SERVICE
T. C. NELSON, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
J. W. DEINEMA, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
R. F. DROEGE, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE

Mrs. HANSEN. The committee will come to order. This begins our hearings on the 1972 budget requests for the Forest Service.

We are delighted to welcome the Forest Service.

For those of you who have not met our committee members I will reintroduce to you our distinguished ranking minority member, Joe McDade from Pennsylvania. Joe, it's particularly fitting to welcome you this morning. You have served on the committee ever since I have been chairman and replaced Mr. Reifel, who retired. A particularly warm welcome to you. It's a pleasure to serve with you.

Mr. MCDADE. Thank you, Madam Chairman. It has been my good fortune to serve with you during your tenure as chairman of this committee.

Mrs. HANSEN. It is a pleasure to welcome back Jack Flynt of Georgia, who is now the ranking Democrat on the committee.

It is also a pleasure to welcome back Mr. Dave Obey from the State of Wisconsin and a new member, Mr. Nick Galifianakis from North Carolina.

To my far right is my very distinguished neighbor and colleague from the State of Oregon, Wendell Wyatt. Wendell, it's a pleasure to have you back.

Mr. WYATT. Thank you, Madam Chairman.

Mrs. HANSEN. The committee is very happy to welcome Mr. Cowden, the Assistant Secretary of Agriculture, and Mr. Cliff, the Chief of the U.S. Forest Service. Mr. Cliff, do you want to introduce your staff, most of whom are known to the committee. I see some new people with you today.

INTRODUCTION OF STAFF

Mr. CLIFF. Yes; I would be delighted to introduce the staff. Arthur W. Greeley, Associate Chief of the Forest Service; E. W. Schultz is Deputy Chief in charge of Administration; Mr. M. M. Nelson is Deputy Chief in charge of the National Forest System programs; Dr. Keith Arnold is Deputy Chief in charge of Research; Dr. Tom Nelson is the Associate Deputy Chief for State and Private Forestry; Chester A. Shields is now the Associate Deputy Chief for Administration. He is replacing Gordon Fox who is retiring this week. Gordon has served in the Department for about 40 years. This is the first time in many years that he hasn't appeared with us when we have presented our budget.

TRIBUTE TO FOREST SERVICE RETIREES

Mrs. HANSEN. The committee is going to miss Mr. Fox. Will you please extend the best wishes of the committee to Mr. Fox on his retirement.

Also, I think, it would be well to extend the committee's best wishes to Mr. Howard Johnson, the regional forester who has just retired.

Mr. CLIFF. Yes; we will be happy to do that.

Mrs. HANSEN. Also, extend the committee's best wishes to Mr. William Irby, the budget officer, Mr. Payne, Mr. Nordwall, Mr. Iverson, and Mr. Lane on their retirements.

Mr. CLIFF. We would be most happy to do that. We have Mr. Payne's successor here, John W. Deinema, who was our regional forester in California. We brought him to take Mr. Payne's position as Associate Deputy Chief for the National Forest System. William Irby has been succeeded by William Campbell who has been on our staff before. We sent him out to the Southwest as fiscal agent and he has now come back to be our budget officer.

Mr. M. B. Dickerman, the Associate to Dr. Arnold and Richard F. Droege, who is an Associate Deputy Chief, National Forest System. That completes the list. Thank you for giving me this opportunity. I think we do have a good team, although we have lost some very stalwart and very valuable people through retirement this past year.

Mrs. HANSEN. The committee is sorry to see them retire, but we do wish them a very happy retirement. I imagine they are glad to be out of the bureaucratic struggle. What do you think?

Mr. CLIFF. I couldn't say as to that.

Mrs. HANSEN. Mr. Nelson?

Mr. M. NELSON. Mr. Payne is over in Indonesia on assignment for the State Department.

Mrs. HANSEN. I understand Mr. Fox is going to South America.

Mr. CLIFF. He will be. He is quite interested in Latin America forestry and will be continuing work in that area.

Mrs. HANSEN. We are very delighted to have Assistant Secretary Cowden of the Department of Agriculture with us today. Please proceed with your statement.

STATEMENT OF THOMAS K. COWDEN

Madam Chairman and members of the committee, it gives us a great deal of pleasure and satisfaction to appear before this committee and discuss the challenges which we face today.

Secretary Hardin has stated that the Department of Agriculture must intensify its efforts toward "man's progress in a manner which preserves and improves upon the quality of our environment. This consists of three interrelated components: to provide life's essentials—food, fiber, forest products, water from the land, living space, and opportunities for greater human satisfaction; to protect and improve the physical environment through soil and water conservation, increased controls over pests, pathogens and forest fires, and efforts to improve food safety; and to create such amenities as recreation, opportunities for relaxation, and attractiveness of local settings and broad landscapes."

Our forestry programs are major contributors to this role of the Department. We have requested increased funds to move in the direction of better balance among resource activities on the national forests. We want to meet the need for timber for housing and at the same time recognize that timber harvesting must meet today's concepts of living in harmony with the environment. This budget makes strides toward doing that.

Also in terms of balance, we recognize the critical importance of forestry research and State and private forestry, even though this budget does not provide for program expansion. We know that the critical problems of environment and production require more knowledge and new technologies and their application to State and private areas, as well as to Federal lands.

Some of the interest groups feel there is a conflict between timber production and other forest values. Hence, it is made to appear that there must be a fight between those who want more housing, for example, and those who want more wildlife or wilderness or quiet recreation. I am convinced that we are, among us, intelligent enough to apply multiple-use management practices so that reasonable people can go a long ways in working it out so that these potential disagreements can be largely resolved.

This budget also takes a much needed long step ahead to get on with the job of constructing adequate pollution abatement structures on the national forests. There will remain much to do.

The Forest Service will continue to employ as many local residents as possible in accomplishing the various types of project work. We are striving to provide additional job opportunities in areas of underemployment.

Chief Cliff and his staff will handle the major presentation and discussion.

Thank you, Madam Chairman.

Mrs. HANSEN. Thank you, Mr. Secretary, for an excellent statement. As we go through the questioning, I hope you will see that, even if this budget is larger than in previous years, there are still areas that need to be increased if you are to meet future needs.

There are some pertinent questions which pertain to the activities of the Forest Service that I think all of the members of the committee will want to ask.

Mr. Cliff, please proceed with your statement.

STATEMENT OF EDWARD P. CLIFF

Mr. CLIFF. Madam Chairman, it is a pleasure for me to have the opportunity to highlight some of our accomplishments and discuss with the committee the fiscal year 1972 budget request.

As you and the members of the subcommittee well know, agencies with resource management responsibilities are caught up in today's broad conflict over how and in what way the Nation's natural resources should be used for the welfare of the country and its people.

Last year we put together a new statement of Forest Service objectives and policy guides. We called this statement "Framework for the Future."

This is an effort to take a hard look at where we have been and where we should be going. This is an overall statement of our major objectives and policies which has been approved by the Secretary of Agriculture.

We consider these to be broad guidelines which identify Forest Service purposes and how we want to go about meeting them. The things we do are interrelated. We cannot concentrate on one resource, like recreation, or timber, or water, or wildlife, or range, and disregard other uses or the activities of protecting and developing the resources. We cannot concentrate on only National Forest problems and disregard the needs of State and private forest landowners. We cannot concentrate on land problems and disregard research which is needed to develop the knowledge and technologies to solve these problems.

We are striving for balanced attention to these main parts of the Forest Service mission. Within segments, we are striving for balanced attention to the various uses and commodities and the equally important amenity values which do not carry dollar signs but are just as important for the long term benefit of the people in this land.

Program balance must recognize the factors of meeting the public's needs for goods, services, and amenities. It must recognize the obligation to meet these needs within environmental constraints that are publicly acceptable. It must recognize social and economic costs.

The budget we will be discussing today does not add any new program emphasis in forestry research, nor in the activities of our State and private forestry programs. It does provide some increases in the programs for the National Forest activities, especially for meeting urgent pollution abatement needs and for doing a more rounded job in our timber sale programs. These are important steps in the direction of better balance for the National Forest system programs.

We have been stressing the importance of performing a top quality job in management of our natural resources. The American public is demanding this type of management and is paying a lot of attention to the appearance of our resource develoment activities. As you know, we are involved in a number of lawsuits and formal appeals that re-

flect public awareness of our activities. Our work is being closely watched by groups organized to scrutinize and to complain about what they don't like. We are changing some of our methods to stress "quality" work performance. We strongly believe the times demand these changes." We believe we may have stressed quantity at the expense of quality. We think that over the years we are going to have to go farther than the constraints of this budget permit to get the right balance of quality work with the quantity of production these public lands will sustain.

Last June, the President accepted and made public the report of a task force on softwood lumber and plywood. As a result, he directed that we take the necessary steps to increase timber production on the National Forests. He also emphasized that such outputs were not to be increased at the expense of environmental quality or sustained yield. Our National Forest programs must recognize this. We must also respond to this directive with critically needed research and by finding ways to achieve better management and increase production on privately owned forest lands.

FIRE CONTROL

In reviewing the year, an item that stands out was our experience with a very difficult fire season. We lost 556,000 acres by burning, the largest figure since 1934. A combination of dry lightning storms and strong, hot winds in the West, together with an increasing influx of tourists and campers, resulted in a 9-year high in number of fires on National Forest protected lands. The bill for fighting these forest fires is the highest in our history.

We still need to do a more adequate job in protecting our valuable resources from fire. In addition to what we have done in research, training, and equipment development, something must be done to break up or modify dangerous fuels if we are to avoid similar situations in the future.

We also need a greater prevention effort. We are getting excellent cooperation from local people, other fire organizations, and the military. Detailed arrangements are being worked out with the military for expanded uses of their facilities in the future.

As a followup to last year's disastrous experiences, we will reassess our fire control objectives in-depth.

We have planned a conference of our top administrators and research personnel to review our fire protection policies and programs to see if we can determine what specifically we need to do to improve on our performance.

USE OF FIREFIGHTING FUNDS BY BLM

Mrs. HANSEN. Are you using the same method as the Bureau of Land Management in requesting a larger amount of funds for firefighting in the regular appropriation bill rather than leaving it to a supplemental?

Mr. CLIFF. For our firefighting expenditures, as you know, we have a very small token amount appropriated.

Mrs. HANSEN. That is right.

Mr. CLIFF. With prior agreement with Congress, fixed by long custom, we spend what is necessary to fight the fires and then ask for a supplemental.

Mr. M. NELSON. I believe that the main difference between the Forest Service and the BLM is that last year the BLM came before the committee and got agreement that they would use what we call forest firefighting funds in advance of the fires to a much greater extent than they have in the past. And they did do that in Alaska this last year. We have been holding back on using the forest firefighting fund before a fire starts to a greater degree than the BLM did this last year.

FIRE PRESUPPRESSION ACTIVITIES

Mr. CLIFF. Thank you, Mr. Nelson, for that clarification. The regular fire control funds in the budget amount to $30,305,000. This is used for what we call presuppression activities. This includes the employment and training of fire suppression crews, detection, employment of lookouts, purchase of equipment and maintenance of the equipment and facilities, and so forth—all of the things you need to do prior to the start of fires.

During emergencies we do use some of the FFF funds for additional manning. As Mr. Nelson stated, we haven't gone as far as this committee permitted the BLM to go last year.

EMERGENCY REHABILITATION WORK

Mrs. HANSEN. Why is it not possible to have the same kind of agreement on the reseeding and cleanup of the forests, rather than, as you have with firefighting, having to shortchange other activities by reprograming funds?

When you have a fire, it would seem to me a major goal of our Government, as long as we are talking about good environment and good management, to request an adequate amount of funds for firefighting itself, rather than reprograming funds from other activities. This is essential for an orderly management of a forest so that you don't shortchange other on-going programs.

I think you will admit that your forest roads and trails are very essential in firefighting. I can't see why you can't begin, budgetwise, to recognize that the cleanup costs are an innate part of the total costs of a forest fire disaster.

Mr. CLIFF. I think that is a very good question. The experience this past year really underlines the problem that we get into. With this large burned-over area, of course, there is emergency restoration work that needs to be done to protect life and property. We know that floods will follow these fires if we get the right climatic conditions, and they usually come. This year, we had to reprogram from other funds—mainly the road funds—to meet the most urgent emergency needs.

We have available in the Department of Agriculture a total of $300,000, which is available under the terms of the Flood Control Act of 1950, for emergency flood prevention work. That amount was totally inadequate. It was more than used up on the first group of fires.

Mrs. HANSEN. How much did the Wenatchee fire cost?

REPROGRAMING OF FUNDS

Mr. M. NELSON. On the Wenatchee fires, we had to reprogram $700,000 of road funds for emergency rehabilitation work following the fires.

Mrs. HANSEN. How much did the California fires cost?

Mr. M. NELSON. $2,836,000, of which $1,900,000 was reprogramed from road funds.

Mrs. HANSEN. These were emergency activities?

Mr. M. NELSON. Yes. In Arizona we also had a $400,000 reprograming from road funds for emergency rehabilitation following floods.

Mrs. HANSEN. Mr. Cliff, I think you should consider making it a policy, to request enough funds for emergency cleanup so that you do not have to reprogram funds from other essential activities, such as, forest roads and trails or research.

As you well recall, your Department wrote me a letter, asking to reprogram the congressional add-ons in your construction programs to meet additional fire suppression and related costs. I wrote a letter in reply, indicating the committee's aversion to your reprograming of available funds to cover these costs.

On November 3, 1970, I received a letter from Mr. J. Phil Campbell, Under Secretary of Agriculture, indicating you would transfer $3.8 million from the forest roads and trails appropriation in order to accomplish the required work on the national forest lands. Please explain how you could afford to transfer $3.8 million from forest roads and trails instead of submitting a regular supplemental request.

I think the program directors in the Office of Management and Budget, in view of our national directives on environment and on prevention of floods, should include enough funds for firefighting activities in the budget so that other activities are not shortchanged.

Mr. M. NELSON. Madam Chairman, if I might add to that, another reason why it would be desirable to handle this in the same manner that we handle the forest firefighting is that it's very difficult to predict. For example, in 1962 we only had 63,000 acres that were burned and needed treatment. In 1970 it was 471,000 acres. It varies greatly from year to year.

As you point out, the importance of prompt rehabilitation after fires has changed tremendously over the years. The damage that can be done to downstream improvements is much greater than it used to be simply because of the much greater value and number of improvements themselves.

Mrs. HANSEN. Isn't it true, Mr. Nelson, that your emergency work must be done within a certain time frame?

Mr. M. NELSON. That is very true.

Mr. CLIFF. Before the fall storms in order to be most effective.

Mrs. HANSEN. That is right. Isn't it really poor management not to have funds available for emergency fire work?

Mr. CLIFF. We were right up against this problem last fall. It wasn't a very comfortable feeling to be caught between your strong letter to the Secretary saying you didn't approve of the reprograming and the strong position taken by the Office of Management and Budget telling us to reprogram.

Mrs. HANSEN. The Secretary of Agriculture is going to find out how deeply the committee feels about having programs that we consider important constantly being placed in the deep freeze by either reprograming or by holdbacks on expenditures.

REPROGRAMING IN LIEU OF SUPPLEMENTAL FUNDS

Mr. CLIFF. At the same time, we had equally strong instructions from the Office of Management and Budget that we had to reprogram, that we couldn't send up a supplemental.

Mrs. HANSEN. Why?

Mr. CLIFF. I think at the time they were trying to hold the line on expenditures. This was last October.

Mrs. HANSEN. I don't believe there is any person in the United States who would object to showing the true costs of a fire, particularly when you indicate in your justifications how fires have been increasing due to the influx of tourists and campers.

MAN-CAUSED VS. LIGHTNING FIRES

Please insert in the record the number of manmade fires compared to the number of lightning and industry related fires.

Mr. CLIFF. We will be glad to put that into the record.

(The information follows:)

STATEMENT REGARDING FOREST FIRES RELATED TO
INDUSTRIAL OPERATIONS ON THE NATIONAL FORESTS

The following table shows equipment, smoking and occupancy as general fire causes. Available data is insufficient to accurately determine the number of fires caused by the timbering industry; however, it is estimated approximately 500 fires, on the average, result from this cause.

Calendar Year	Lightning	Man-Caused								
		Equipment	Smoking	Recreation	Forest Utilization	Land Occupancy	Incendiary	Miscellaneous	Subtotal Man-caused	Total
1970	7,825			(Not available)					7,174	14,999
1969	4,726	703	1,097	1,280	170	744	978	336	5,308	10,034
1968	4,809	616	1,049	1,054	243	801	808	351	4,922	9,731
1967	6,790	686	1,145	1,194	172	687	818	279	4,981	11,771
1966	5,858	636	1,236	1,395	219	790	740	371	5,387	11,245
1965	5,243	398	957	1,079	177	610	629	273	4,123	9,366

5-Year Average, 1965-1969:

Lightning	5,485
Man-caused	4,944
	10,429

DISASTER RELIEF

Mr. CLIFF. The next part of my statement had to do with this matter of disaster relief. It ties right into what I was saying. The dilemma we faced when this committee was telling us not to reprogram and when the administration was telling us we could not have a supplemental—we felt that we had no choice other than to proceed with the most urgent priority work.

Mrs. HANSEN. I feel now is the time for the Office of Management and Budget to recognize this problem and to provide adequate funds for overall emergency cleanup.

Mr. CLIFF. I appreciate this discussion because this is a very important subject to us.

DISASTER REPAIR

Emergency flood control work was required in and adjacent to these burned areas. We felt that we had no choice other than to proceed promptly with the most urgent priority rehabilitation work. The major portion of the emergency treatment necessary to protect the environment after the catastrophic fires in Washington, Oregon, and California has been completed. But much rehabilitation of a less urgent nature still remains to be done.

Mrs. HANSEN. How much?

Mr. CLIFF. I am not sure that I can give you a total estimate. There is a large amount of reforestation that needs to be done and, of course, this isn't of an immediate emergency nature. It can be handled in subsequent years. Usually you have to produce the nursery stock and it takes a little time to get that kind of work done. We can supply the total amount for the record.

Mrs. HANSEN. Please do. I think the public should see what deficiencies exist in your department.

(The information follows:)

Long-Term Costs for Remainder of Rehabilitation and Reforestation Needs Following the Disastrous 1970 Fires on the National Forests

Prescribed Treatment	Washington State	Southern California	Total
Watershed Rehabilitation	$1,326,000	$2,060,000	$3,386,000
Reforestation	2,877,000	300,000	3,177,000
Recreation-Public Use Improvements, Restoration	56,000	990,000	1,046,000
Range and Wildlife Habitat Rehabilitation	54,000	1,150,000	1,204,000
TOTAL	4,313,000	4,500,000	8,813,000

Mr. CLIFF. There also was a big salvage job to be done after the Washington fires.

The magnitude of this fire season resulted in our personnel being tied up for long periods on fire suppression activities. This has affected our ability to meet some of the production commitments we gave to you last year.

As if fire and flood didn't create enough disaster, a very serious earthquake was centered, last month, on the Angeles National Forest. We had some serious damage to buildings and very high damage to much of our road system.

CALIFORNIA EARTHQUAKE DAMAGES

Mrs. HANSEN. Do you have an estimate on the amount?

Mr. CLIFF. A preliminary estimate is $1,610,000 damage to the road system and about $750,000 to structures. This is being further refined.

Mrs. HANSEN. Will this be reflected in a supplemental request?

Mr. CLIFF. No, ma'am.

Mrs. HANSEN. What are you going to do, reprogram funds from other areas?

Mr. M. NELSON. Madam Chairman, on the road part, the Congress has arranged for an emergency fund in the Highway Act. We will recommend to the Federal Highway Administration that road repair costs be handled through that emergency fund. We expect favorable consideration.

Mrs. HANSEN. What about the cost to replace building damage?

Mr. M. NELSON. That is a different proposition.

Mrs. HANSEN. Will that decrease this year's budget?

Mr. CLIFF. If we replace and repair those buildings, we will have to take it out of our regular construction funds.

Mrs. HANSEN. What do you propose to take it out of? The committee takes a dismal view of taking it out of projects we consider important. When we fund for those high priority projects we don't expect them to be reprogramed.

Mr. CLIFF. There was one fire control barracks that was completely destroyed. Other buildings were pretty badly shook up. We don't know the full dimensions of this yet. The estimate we got from the field is $750,000. It may be less. It could be more, but I would expect it might be less. If we do the reconstruction and repair work this year, we would have to reprogram some of the money that we got in this budget.

Mrs. HANSEN. Here you are talking about reprograming even before the hearings on the 1972 appropriation bill are completed. That is very unrealistic budget making. If you are planning on reprograming at this early stage, we would like to know which part of the budget you consider so unimportant that it can be deleted.

Mr. M. NELSON. The earthquake, of course, just happened, Madam Chairman.

NATIONAL CATASTROPHES

Mrs. HANSEN. I understand this. But you have to be more cognizant of these national catastrophes that befall us, in your budget process.

You don't seem to recognize that this is an inherent part of the management of your domain as well as all the other outdoor domains that this committee oversees. It is inevitable that you will have hurricanes and storms. I have been on the committee 8 years and there has never been a time in the history of this country that we weren't facing either a hurricane, earthquake, or forest fire. I think you have to face it, that this is one of the things that befall us.

RESOURCES OF OFFICE OF EMERGENCY PREPAREDNESS

Mr. CLIFF. The administration did make funds available for emergency work on privately owned lands through the Office of Emergency Preparedness.

Mrs. HANSEN. I understand.

Mr. CLIFF. Those moneys have not been available for use on public lands.

Mrs. HANSEN. It is just as vital that our public lands be maintained and managed. The other night the Capitol was bombed. It would be very poor management if we had to move Congress because there were no funds to rehabilitate the Capitol.

In future budgets you must provide for a contingency fund for national catastrophes so that it isn't necessary to curtail other essential activities.

ENVIRONMENTAL CONSIDERATIONS

Mr. CLIFF. One other item that stands out this year is the extent to which environmental concerns have brought about new problems and challenges. Some of our heretofore most useful tools have been removed or their use is being challenged. This includes pesticides, fungicides, and fertilizers.

This change will have an effect on our ability to meet goals. Some forest pests are getting out of hand. For instance, the gypsy moth, a defoliator of both hardwoods and conifers in the northeastern part of the United States, has now become epidemic. It is equally serious to shade trees in cities as well as to forests. At the same time though I am happy to report progress in new insect and disease control measures. We have ready for pilot control testing, viruses to control two defoliators, attractant and repellent compounds to control behavior of destructive beetles and termites, and two chemical substitutes for hard pesticides. Zectran has just been cleared. So we will be able to use Zectran. This just happened over the last few days.

OUTDOOR RECREATION

There has been no slackening the steady increase in forest recreation use; a trend which has remained fairly constant for more than 2 decades—about 6 percent compounded.

Last season we accommodated an estimated record of 173 million visitor-days of recreation use, with increases in all major kinds of use. There is no reason to believe the rising trend in recreation activity will slow down. Consequently, in calendar year 1971 we anticipate an additional 10 million visitor-days of use, to a total of 183 million.

Last year we held public hearings on three new wilderness proposals, and this year we will hold four more hearings. From these and earlier hearings, we plan to make 10 wilderness area recommendations to the President for transmittal to Congress before September 3, the second deadline under the act for this activity.

This will put us right on schedule, as required by Congress, in the reexamination of the primitive areas.

WATERSHED MANAGEMENT

This activity continues to be of urgent importance. We need to increase the use of watershed and soils information so as to more adequately guide other activities such as roadbuilding, winter sports, and timber harvest.

Serious flooding in Arizona resulted in extensive resource and property damage and restoration work is currently underway. More recent floods in the Northwest remain to be assessed.

MINERAL MANAGEMENT

The forecast of mineral shortages has prompted a tremendous surge in exploration and development activities all over the West. There are 42 national forests on which extensive mineral exploration and development activities are taking place. One dramatic illustration is that on two ranger districts in the Humboldt National Forest in Nevada over 1,000 mining claims were located each month during the 1970 field season, resulting in a total of nearly 10,000 new claims.

We have just got to pay a great deal more attention to the mining activities on these public lands, especially on those places where considerable damage is being done.

TIMBER ACTIVITIES

During fiscal year 1970, 11.5 billion board feet of timber were cut and 13.4 billion board feet of timber were sold in 26,610 sales. More than 25,000 or 97 percent of these sales were of a size that small timber operators could bid on or handle. Timber receipts totaled $284 million, down $23 million from fiscal year 1969. This decrease reflected the slow 1969 lumber market because of a reduction in housing starts. Housing starts are now on the rise. This is largely due to reduction in interest rates, and other things the administration has been doing to encourage housing. Consequently, for fiscal year 1972, we anticipate timber receipts will be at about $352 million.

The reforestation and timber stand improvement programs were continued in fiscal year 1970 at the same level as in fiscal year 1969. About 102,000 acres were reforested and nearly 124,000 acres were treated with timber stand improvement cultural measures.

This year we will be increasing these activities and this is an effort to get additional growth so we can get additional harvest under sustained yield principles. We have scheduled an increase in these vital programs in fiscal year 1972. We plan to reforest about 127,000 acres and thin or release 264,000 acres.

REFORESTATION PROGRESS

Mrs. HANSEN. The Forest Service last year lost 556,000 acres by burning. You plan to reforest about 127,000 acres. Therefore, you are going to be about 430,000 acres behind in reforestation just from last year's fire damage.

Mr. CLIFF. That is what the figures might indicate, Madam Chairman, but that isn't a true picture, because much of the acreage that was burned was nontimberland. This is particularly true in southern California where the lands that were burned were watershed lands, chaparral covered land.

Mrs. HANSEN. Wait a minute. Aren't watershed lands just as important as timberlands?

Mr. CLIFF. Yes, ma'am; but they don't all require reforestation. The chaparral lands do not require reforestation in the usual sense of the term.

Mrs. HANSEN. When you have planted the 127,000 acres, how many acres of land remain in the national forest domain to be reforested?

Mr. CLIFF. About 5 million acres in round figures.

Mrs. HANSEN. You are not catching up very fast.

Mr. CLIFF. We are making progress very slowly.

Mr. M. NELSON. You pointed out the heavy loss from fires. This year, in the State of Washington alone, in the large fires, we lost 152,000 acres compared with what we intend to plant——

Mrs. HANSEN. At the current rate how long will it take you to reforest the 5 million acres?

Mr. CLIFF. Thirty-eight years, Madam Chairman, and it will take about 50 years to catch up on the timber stand improvement work at the rate we are going.

Mrs. HANSEN. Don't you think it would be better managementwise to increase funds for timber stand improvement so you can better maintain your lands?

Mr. CLIFF. Yes; I do. I certainly do.

Mrs. HANSEN. Let us make it clear that while some will call this an adequate budget it isn't adequate in the sense that it does not reflect the total long range necessities.

Mr. MCDADE. Will the chairman yield?

Mrs. HANSEN. Yes.

COMMERCIAL FOREST LANDS

Mr. MCDADE. In that connection, how many acres do we have available of forest land for use in supplying timber to our economy?

Mr. CLIFF. In the country as a whole we have about 510 million acres of commercial forest lands. This includes the privately owned land, the industrially owned land, the land managed by public agencies including the national forests.

Mrs. HANSEN. Please insert in the record, the acres of commercial forest lands that are managed privately, by the States, other Federal agencies, and the Forest Service.

Mr. CLIFF. Yes.

(The information follows:)

Commercial forest land in the United States—January 1, 1968

Ownership:	*Thousand acres*
National Forest	96,870.6
Other, public	45,095.7
Forest industry	65,370.0
Other, private	302,876.2
Total	510,212.5

PRODUCTIVE COMMERCIAL FOREST LAND

Mr. CLIFF. All of that might not be available for commercial production. Much of it is owned by people who own very small tracts and they own it for various purposes. We don't know just how much of the private lands, especially those in small private ownerships, is available for production of wood for housing, for example. We do have some estimates based on our surveys and research.

The Forest Service has a little less than 100 million acres of so-called commercial forest land in the national forests.

Mr. MCDADE. That could be considered in a sense, available for production?

Mr. CLIFF. Yes, but even this is subject to modified management to meet other multiple-use needs. The same forests produce wildlife, recreation and protect watersheds.

Mr. MCDADE. I don't think anybody is suggesting you cut all the trees down. Of that 100 million acres, what would be your estimate as to how much would be available in the situation the chairman has brought up?

Mr. CLIFF. We include this 100 million acres in our management planning for timber production. It is a little less than 100 million—96 million acres to be exact.

Mr. MCDADE. As a gross figure though, not suggesting the other use you have to put that land to, is that right?

Mr. CLIFF. That is the amount of commercial forest lands on which we make management plans in which timber production is one of the objectives.

Mr. MCDADE. So you get down to a net figure, don't you? You go from 100 million down, don't you?

Mr. CLIFF. There would be some less, but generally this is the area we figure the growth on. Then we may have to make some modification when we develop the management plans. Approximately 27 million acres of the land is classified as commercial.

In addition to that there is quite a large acreage of noncommercial forest land in the national forests. There are about 15 million acres in the National Wilderness Preservation System and in the primitive areas. About half of this area supports commercial sized timber but harvesting is not permitted.

There is also timber that just isn't operable because of high elevation or location on fragile soils which isn't included in the base planning figure that we are talking about.

PERCENTAGE OF SOFTWOOD PRODUCED ON NATIONAL FORESTS

Mr. McDade. Can you give us a rough estimate as to what percent of the nationwide demand for wood products the national forests produce?

Mr. Cliff. Yes, about 40 percent of the softwood is coming from the public lands and most of that is from the national forests.

Mr. McDade. Forty percent, most from the national forests.

Mr. Cliff. Yes, sir.

HOUSING STARTS

Mr. McDade. You have indicated in your testimony that you expect an increasing demand this year because housing starts are up?

Mr. Cliff. Absolutely.

Mr. McDade. How much more demand is that going to place on the national forests?

Mr. Cliff. That is somewhat conjectural, Congressman. The housing starts last year were about 1.5 million. They increased to a seasonally adjusted rate of 1.985 million in December, and it is variously estimated there would be in 1971 new housing starts from 1.8 million to 2 million, or even more. Some of the more optimistic estimates indicate they may exceed 2 million. There will be increased demand for lumber and plywood for housing without doubt.

There will be some substitution of other structural materials for wood and some of the needed lumber will come from imports. When you put it all together it is just a guess as to how much would have to come from the national forests.

This budget we are talking about provides for only a small increase in the harvest from the national forests and for no increase in the level of the sales program. It provides for an increase in the quality of our performance but not for any significant increases in the total production.

TIMBER HARVEST

Mr. McDade. So you propose to meet the increased demand not by cutting more timber but by being more selective, is that right?

Mr. Cliff. Under this budget we don't propose to increase our cut except by a very small amount.

Mr. M. Nelson. The increase is about 370 million board feet. The sell program will be at the same level as last year.

Mr. McDade. Can you express it in terms of acres? That is where this discussion started.

Mr. Cliff. No, I don't think I can.

I have taken the position consistently that in order to increase harvest in the national forests we need to do certain things required to increase the growth.

In order to increase growth we need to promptly reforest non-stocked areas, the 5 million acres we have been talking about. We also need to do everything we can as fast as we can on the 13 million acres needing timber stand improvement to increase the growth so we can increase harvest within sustained yield principles. This is where the acreage figures come in. We should be doing several times more.

Mrs. Hansen. But your budget doesn't reflect it.

Mr. CLIFF. There is a rather substantial increase for this work in terms of dollars.

Mrs. HANSEN. But today's dollar doesn't buy as much as it did.

REFORESTATION AND TIMBER STAND IMPROVEMENT

Mr. CLIFF. That is correct.

We will be increasing reforestation by about 10,000 acres. We will be increasing timber stand improvement by about 110,000 acres under this budget.

Mrs. HANSEN. But, Mr. Cliff, at the same time your recreation use is increasing, which in turn causes increased fire damage. So actually you are not moving ahead at all.

You have testified year after year that if you are going to have a tree 40 years from now it has to be in the ground now. You are many years behind. It doesn't seem as if you are ever going to catch up.

Mr. CLIFF. Not fast enough at the rate we are going.

Mrs. HANSEN. That is the point.

Mr. WYATT. Will the chairman yield?

Mrs. HANSEN. Yes.

INCREASED COSTS OF SALES PREPARATION

Mr. WYATT. In connection with your sales program, in order to maintain your sales for fiscal 1972 at the same rate as fiscal 1971, in other words no increase in the sales, you are having to increase the amount of dollars required to maintain this rate by nearly $3 million because of the necessity to grind into the process much more effort by way of environmental consideration for soil analysis, for landscape layout, for wildlife management and the other purposes you have described in the justification including multidiscipline planning. Is that correct?

Mr. CLIFF. That is correct.

Mr. WYATT. In other words, there is over a 10-percent increase in the cost of sales preparation because of these other factors without really increasing the sales by a single board foot.

Mr. CLIFF. That is correct. I think this is very important to recognize. We have been under, as you know, rather severe criticism for the appearance of some of our timber sales. People don't like the way they look.

We have decided, and have very strong feelings about it, if we are going to keep on harvesting timber we have to do a much more acceptable job from an environmental and esthetic standpoint. That is why we are putting this extra effort in. We know we can do the job so it will be more acceptable and we can avoid some of the erosion and other problems that have resulted in criticism. The Administration has recognized this and has given top priority to harvesting the timber in an environmentally sound way. I think this is important.

Mr. M. NELSON. I might say in the last year we had 153 sales that were delayed because of objections and concern of environmentalists. For 19 of those we actually had suits in court to stop the sales. On 18, there were formal appeals under Department appeals procedure.

SALES PROGRAM VS. WOOD DEMAND

Mr. WYATT. I will just make this comment and get into this more later. I think this committee generally is very favorable to your considering these other factors, but assuming that the cutting can be increased without violating the sustained yield principle, and I am certain it can, I think the sales program is totally unrealistic in connection with the anticipated demand for wood during the coming fiscal year even before the fiscal year starts.

I am sure you know what has happened to the price of softwood lumber and plywood just in the last week, which to me is a clear indication that once the southern California demand and east coast demand for softwood lumber and plywood hits we are going to be where we were a year and a half ago, and nobody has really made any plans in this administration to deal with this demand.

Thank you, Madam Chairman.

Mrs. HANSON. Mr. Cliff please proceed.

FOREST ROADS AND TRAILS

Mr. CLIFF. Last year we built the equivalent of about 1,325 miles of federally financed road, and provided both engineering and some supplementation for about 6,400 miles of purchaser built roads.

This rate of construction is enough to about maintain recent levels of allowable cut. We are not getting out ahead very fast for intensifying management operations through thinnings.

Mrs. HANSEN. Please insert in the record the amount that would be necessary to do a good management job.

Mr. CLIFF. We will be glad to do that.

(The information follows:)

STATEMENT ON ROADS FOR SUPPORT OF TIMBER PROGRAM

In the statement to this Committee concerning H. Doc. 91-94, amendment to the 1970 Budget estimate, Mr. Cliff discussed the immediate needs to support an accelerated timber production program. The statement supported an increase of $14 million in appropriations for construction of an additional 500 miles of roads in fiscal year 1970. (A $35 million increase in obligations.)

The basis for this amendment to the 1970 Budget was our projection of need to catch up on timber sales in areas with inadequate access. The $35 million was the first of several proposed incremental increases to that portion of our road program, in support of timber management, from the $65 million being spent in 1969 to a total of $205 million per year by 1973. Our projections also indicated that this would stabilize and possibly reduce somewhat the amount of main access roads which the timber purchaser would have to construct under terms of sale contracts.

Increased thinnings, and salvage sales, and growth rates which can be obtained from full and intensive management were the principal benefits to be derived from this program. We feel this is still a good projection of needs.

Through the actions of the Appropriation Committees, the program was increased by a $35 million increment in FY 1970. However, only a $11 million increment in 1971 was included in the budget and the program leveled off with no increase in 1972. As a result of this leveling off, and the demands for increased quality, less miles are being built under this long-range program than was projected. To maintain and expand timber production from National Forests, without additional appropriated funds, an increase in purchaser construction will be necessary. This in turn will require increasing the dollars programed for the supporting activities of survey, design, construction engineering, and supplementation of the purchaser program, further reducing available construction dollars in support of a needed advanced roading program.

FOREST DEVELOPMENT ROAD PROGRAM SUPPORTING TIMBER ACTIVITIES 10 YEAR PROJECTION OF BUDGET NEED

[Dollars in millions]

Fiscal year:	Proposed in fiscal year 1970 budget amendment			Progress and revised projection		
	Increment of increase	Increase over fiscal year 1969	Total program	Increment of increase	Increase over fiscal year 1969	Total program
1969 (base year)			65			65
1970	35	35	100	35	35	100
1971	35	70	135	11	46	111
1972	35	105	170	0	46	111
1973	35	140	205	35	81	146
1974	0	140	205	35	116	181
1975	0	140	205	35	151	216
1976	0	140	205	28	179	244
1977	0	140	205	0	179	244
1978	0	140	205	0	179	244
1979	0	140	205	0	179	244

Note: This table does not reflect needs in road and trail maintenance, road construction supporting fire, recreation, grazing, and trail construction.

Mr. CLIFF. Funds left for construction and reconstruction of road and trail systems supporting recreation and other activities, such as grazing, fire control, and recreation, are at minimal levels.

POLLUTION ABATEMENT

Our pollution abatement program is a major environmental effort. Executive Order 11507 directed that abatement of water and air pollution at existing Federal facilities must be completed or underway by December 31, 1972. Under this budget we will be making a substantial effort to meet that objective.

Mrs. HANSEN. What percent of pollution abatement needs is going to be completed by the end of the fiscal year 1972?

Mr. CLIFF. Most of our effort will go into engineering and design, but we will be completing a number of projects. I will ask Mr. Nelson to provide the details.

Mr. M. NELSON. Completed projects through fiscal year 1972 will be a pretty small part of the total—about 15 percent. There is a total of 1,613 water pollution abatement projects, of which about 250 will be financed for completion in 1972.

Mrs. HANSEN. How are you going to have it all completed by December 31, 1972?

Mr. M. NELSON. Whether this is the proper time I don't know, but I do want to get into the record the need for some changes in the list of projects in the budget submission. The basic reason is in order to meet the time schedule, as now interpreted, we have to first do more of the engineering-architectural work in the design of the project this fiscal year. We have gone into this major job assignment in great detail, including a team of experts visiting each region.

Mrs. HANSEN. Your planning budgets never seem to reflect the needs. Isn't this true, Mr. Cliff?

Mr. CLIFF. I wouldn't say they never reflect it.

Mrs. HANSEN. They don't seem to because you never catch up.

Mr. CLIFF. That is true, and this problem has really grown on us. The sewer and water systems that were adequate just a few years ago are no longer adequate under the new standards set by State or Federal Government.

Mrs. HANSEN. They are also not adequate because of increased use.

Mr. CLIFF. The increased use has made some of them completely inadequate.

ENVIRONMENT PROTECTION COSTS

Mrs. HANSEN. Mr. Cliff, it all gets down to the fact that the protection of the environment is going to be costly. Pollution abatement is going to be costly, and these costs are going to have to be reflected in an increased Federal budget, and they have to be increased to the extent that they aren't continually lagging.

Mr. CLIFF. I do appreciate your statement that these environmental efforts are going to cost money.

Mrs. HANSEN. The taxpayers are going to have to pay for these costs.

Mr. CLIFF. Even protection of wilderness costs money, and this is about as pure as you can get in protecting the environment. It costs money to protect those wilderness areas from damage by people, by fire, and other forces.

If we are going to use our resources and at the same time maintain environmental quality it is going to cost money. This hasn't been recognized in the past, and I don't think it is recognized by many of the people who are the principal advocates of environmental protection.

Mr. M. NELSON. As an example of what the chairman is saying, you remember last year we came before this committee just a short time after the President had made his announcement that we were going to correct all pollution at Federal installations.

The announcment was made after the budget had been submitted. We talked at that time of about $44 million of water pollution abatement needed on national forests. Since that time we have received the standards the Water and Pollution Control Agency is talking about.

We have analyzed the projects we have, and we have some 1,613 projects needing water pollution abatement. The cost is now at the $80 million level.

Mrs. HANSEN. Your budget should reflect adequate planning funds, if you are going to meet the December 31, 1972 deadline. Is that not correct?

Mr. M. NELSON. That is correct. We now plan to do engineering and design on 859 projects in fiscal year 1972. A little later—I can do it now if you like—we can discuss this in greater detail. I have updated tables to go into the record.

Mrs. HANSEN. The tables will be inserted in the record at that time so that the public will understand that more is needed than just more speeches and parades.

STATE AND PRIVATE FORESTRY

Mr. CLIFF. Madam Chairman, I have a brief statement to make on State and private forestry and research and then I will be through with this opening statement.

I stated earlier that this budget does not provide for any increases in State and private forestry. There is at this time a great deal of interest—public interest, interest in the timber industry and among timberland owners on the subject of State and private forestry.

There is increased recognition of the role this 59 percent of our commercial land in nonindustrial private ownership should play in providing the goods and services this country is going to require.

We have been working with groups like the committee for the South's Third Forest, which is a private group that has studied and made recommendations on State and private forestry in the Southern States, and the Trees for People Task Force, another national committee directing its attention to State and private forestry needs.

Working cooperatively with the States, we have stressed planning and development activities this past year which provide forest resource expertise for local situations. Forest Service and State forestry personnel provided direct assistance to 200 nonmetropolitan planning districts.

The States service foresters and State and Federal forest utilization specialists, working with the States, each year show an increase in production work. But the progress measured against the needs and demands for services is so small that it is giving us increased cause for concern.

RESPONSIBILITY FOR LEADERSHIP IN PRODUCTION WORK

Mrs. HANSEN. You should be providing real leadership in this field.

Mr. CLIFF. Yes, that is one of our responsibilities. It has been one of my disappointments in that we have not been able to move faster in this field.

We have underway a proposed program we haven't been able to make public yet. It hasn't received full approval of the administration as yet, but we have been working on it in response to the President's directive to come forth with a strong program for State and private forestry. It isn't ready to unveil and we can't really talk about it.

We are glad to report that Federal-State programs designed to increase production of improved genetic quality tree seedlings are beginning to pay handsome dividends. For the current planting season, we estimate that over 135 million seedlings, or about 22 percent of the total planted in the South, were first generation improved stock. This is a major development.

The concern for environment has resulted in more critical evaluations in protecting our forests from insects and diseases by chemical means, and these impacts are on private land as well as on public lands. The stringent environmental guidelines have made the job of evaluation and control much more complex, more sensitive, and a great deal more costly.

We have a new responsibility for gypsy moth control which we haven't had heretofore. Responsibilities for cost sharing with the States to control gypsy moth will be assumed in the spring of 1971 by the Forest Service. The Agriculture Research Service has had total responsibility for gypsy moth heretofore. They are still in the picture, but the forested land responsibilites have shifted to us. There is a real possibility that higher funding levels will be needed in the future for detection, evaluation, and suppression of this pest.

RESEARCH

This budget contains no increase for forestry research. We are increasing our multidisciplinary studies on critical problems and are putting together strong research teams by redirection of individual efforts. Within the guidelines prescribed by Congress, we redirected in the last year approximately one-fifth of our scientific effort to new research. This has permitted us to make a start on such important research as development of new techniques for nonchemical control of forest pests, on solutions to key environmental problems, and on methods to lessen impacts of timber production on the forest environment.

I would like the committee to know that in research we have been doing some internal adjusting to provide the best balance we can within our existing budget. Over one-half of our research tackles problems which are both production and environment. Another 30 percent is directly aimed to improve the quality of the environment, while an additional 20 is aimed to produce knowledge required to increase timber supply only.

So we are shifting, we are using our best efforts within the budget that we have to meet head on the important problems that we are facing.

In accordance with the instructions of this committee in fiscal year 1970, we are completing the Wildlife Habitat and Silviculture Laboratory in Nacogdoches, Tex., and an addition to the Forestry Sciences Laboratory in Corvallis, Ore. The Nacogdoches Laboratory will provide facilities to perform critical research on how to manage Southern forests for both timber and wildlife. The Laboratory addition at Corvallis provides part of the facilities needed to speed up research on biological control of forest pests.

Mrs. HANSEN. Please insert in the record the timber supply, the number of acres of timber involved, and the board feet that is involved with the management of Nacogdoches and Corvallis Laboratories I think sometimes Members and the public are prone to look at dollar values without seeing related values of the resources.

Mr. CLIFF. We will be glad to supply that for the record.

(The information follows:)

Research at the Corvallis Forestry Sciences Laboratory will apply to approximately 28 million acres of commercial forest in the Pacific Northwest. Timber volumes in this area total about 716 billion board feet of sawtimber.

Research at the Nacogdoches Laboratory will apply to the wildlife timber on about 90 million acres of commercial forestland in the South. Timber volumes in this area total about 200 billion board feet.

RESEARCH CONSTRUCTION

Mr. CLIFF. In addition, we have on hand 15 sets of architectural and engineering plans for which Congress has appropriated planning funds. That is for additional research construction. We have completed the planning for 15 projects.

Mrs. HANSEN. Isn't it time to start construction?

Mr. CLIFF. There is no money in this budget for any additional research construction this year.

Thank you for the opportunity to make these comments. We will be glad to answer any questions you might have.

Mrs. HANSEN. Mr. Obey.

Mr. OBEY. No questions right now.

Mrs. HANSEN. Mr. McDade.

FOREST FIRE DETECTION

Mr. MCDADE. Thank you, Madam Chairman.

If I might go back to your colloquy about the forest fire problem, is there one predominant method used by the Forest Service in forest fire detection?

Mr. CLIFF. I would say no predominant method. We have depended for many years on the fire towers, the lookouts, or fire watchers. It is still an important element in fire detection.

Mr. MCDADE. How much money do we spend on that system?

Mr. M. NELSON. Total funding for detection is $3.929 million for the national forests system in fiscal year 1971.

AERIAL DETECTION

Mr. CLIFF. The States have detection systems which are more or less similar to ours. In recent years we have shifted over to aerial detection with aircraft patrols especially in the West but also in other parts of the country.

We also arrange for special airplane detection during particularly hazardous weather. This complements the detection from the towers. We are experimenting and it is becoming very close to operational with electronic devices and infrared imagery from aircraft as a fire detection system.

This has great promise, we think, for pinpointing fires. It is operational as far as mapping existing fires. Dr. Arnold can probably elaborate on that for you if you want more details. This is an important part of our forest fire research.

We get quite a few fire reports from the general public. Many fires are first discovered by people traveling through the country or who live in the country. I don't recall what percentage it is.

Mr. M. NELSON. It is quite high, especially in the more populated areas.

Mr. MCDADE. What does quite high mean?

Mr. M. NELSON. I would say it must be 25 percent or even as high as 50 percent on a forest like the Angeles where there are hordes of people and smog limits effectiveness of lookouts.

Mr. McDade. Of all your reported fires?

Mr. M. Nelson. I am sure it is in southern California.

Mr. Cliff. We will get a reliable figure on that for the record if you are interested.

Mr. McDade. I am interested really in two things.

One, how you presently allocate your budget between the older systems and the newer efforts, whether it be infrared or electronic methods, and which of those methods produce reports about the fires.

If it is 25 percent public, how much could you get from the use of infrared or aerial inspections or from your system of towers.

(Information follows:)

NATIONAL FOREST DETECTION SYSTEM

The Forest Service relies on three methods for detecting fires, that is, fixed detectors such as lookouts, aerial patrol, and cooperator reports. In small areas any single method may be the only source of fire reports, usually however, two or more of the methods are relied upon.

In the past, lookouts have been the backbone of fire detection. However, in an effort to provide adequate detection at less cost the trend in recent years has been to reduce lookout numbers and to increase aerial patrol. On a number of National Forests in the East, aerial patrol and cooperators are the sole means of fire detection.

There is no distinction between old and new detection systems per se. In determining which methods will be used, fire occurrence, fuels, topography, values and past fire reports are analyzed. Lookouts have proven necessary in areas of high values, high fire occurrence, rapid rate of spread fuels and low reporting frequency by cooperators.

By contrast in areas of low fire risk, aerial patrol is more economic than lookouts because use can be geared to fire danger. However, to be satisfactory, it must meet prompt reporting time standards. A combination of aerial patrol-lookout detection works well in the West for detecting lightning-caused fires. Infrared aerial patrol is still in the final research stage. Operational tests will be made in 1971 to ascertain how it can be worked into present systems. Some advantages seen in the infrared detection are that it can be used at night to detect fires almost immediately following lightning storms, and will be able to detect fires through smoke-haze.

Allocation of funds for detection servicewide is based on detailed analysis by field units to determine which system meets reporting standards needed to assure initial attack forces can arrive at fires and control them at 10 acres or less under average worst fire danger conditions. Fund allocation for detection on a particular national forest will depend on local conditions and the optimum mix of detection methods needed to meet prescribed standards.

INFRARED DETECTION

Mr. Cliff. We are shifting to more modern methods just as fast as we are convinced they are sound and applicable. The infrared detection is not operational yet. It is getting fairly close. It could be exceedingly important especially in the big back country areas like interior Alaska where you don't have people to report fires and you don't have lookout towers and you can't cover the whole country with airplanes constantly.

Some kind of electronic or infrared imagery or combination is going to be the answer in much of our back country areas.

Mr. M. Nelson. Mr. Cliff has made it quite clear that we have different situations in different places.

In southern California where we have lots of people it is one thing as against Montana and Alaska, where we have very few people and

very rough terrain. There lookouts can't see as much of the country as they can in the eastern national forests where the terrain is more flat. We have different problems in different areas.

In each of the areas where we have shifted from fire tower protection to aerial detection the decision has been based upon studies indicating it was cheaper and more practical to use the aircraft for detection.

Usually we will have a few fire towers left for primary detection within these areas.

CONTRACTING AIRCRAFT

Mr. McDade. Are you contracting for these services now?

Mr. M. Nelson. We contract for the aircraft.

Mr. McDade. How many aircraft are under contract?

Mr. M. Nelson. We will have to put that in the record but it must be several hundred under contract or available under agreement.

Mr. McDade. Mainly in what part of the country?

Mr. M. Nelson. I know most of them would be in the Western United States. Every national forest will have agreements with local air operators in order to have planes available when needed. They may be needed in some places only two or three times a year. Other places they may be used most of the summer fire season.

Mr. McDade. Are these contracts on competitive bids?

Mr. M. Nelson. All aircraft for which we have a firm use contract are on competitive bid except air tankers.

Mr. Cliff. The air tanker contracts are negotiated.

Mr. McDade. Is it a uniform rate nationwide?

Mr. Nelson. No, sir.

Mr. Droege. We usually use local operators and we might use any of two or three at a local base depending on availability at the time they are needed. The rates are pretty standard in an area for a particular type of plane.

A Cessna 180 is one that is used quite often for detection purposes. The rates for these are fairly consistent. The aerial tankers are more expensive. We had 75 under contract this past year. These contracts are on a negotiated basis.

After we have determined the service we need, we go to the available operators to see where we can negotiate the most satisfactory service at the most satisfactory rates.

AIRCRAFT OPERATION COSTS

Mr. McDade. Will you put in the record at this point the highest cost operation that you have and where it is and the lowest cost operation that you have?

Mr. Cliff. For detection?

Mr. McDade. Yes, and the types of aircraft.

Mr. Droege. For air tankers and detection?

Mr. McDade. Yes.

Mr. Cliff. The air tanker is a different problem. We can supply this if you want to at this point, but the air tanker is used for delivering retardants in firefighting. It is a combat instrument and not a detection instrument. Do you want them both?

(Off the record discussion.)

Mr. DROEGE. The problem in trying to compare the air tankers is that there is quite a variance in size—ranging from planes that can haul 3,000 gallons down to those hauling 600 gallons.

But we can give you a rate scale for comparable planes in different areas if that would be satisfactory.

Mr. MCDADE. That will be fine.

(The information follows:)

Privately Owned Aircraft Under Contract or Available to Forest Service for Use in Fighting Forest Fires

Aircraft Type	No. Under Formal Contract From 6/15-9/15/70	No. Approved for Use in Case of Emergency (Not under formal contract)
Detection (3 passengers)	52	605
Smokejumper (Medium twin engine)	8	6
Interregion firefighting crew (25 passengers)	6	10
Air Tankers:		
600 gallon	29	16
1,000 gallon	26	8
2,000 gallon	20	12
Helicopters:		
3-4 passengers	81	160
15 passengers	3	12
Total	225	829

FLIGHT HOUR COST OF AIRCRAFT USED BY FOREST SERVICE

	Area			
	California	Montana	Georgia	New Mexico
Airplanes				
Single engine detection (3 passengers)	$40.00	$35.00	$30.00	$40.00
Light twin (5 passengers)	90.00	90.00	85.00	110.00
Medium twin smokejumper (7 passengers)	100.00	145.00	115.00	150.00
Large twin (C-47) IR crew (25 passengers)	260.00	298.00	220.00	315.00
Helicopters				
Small (2 passengers)	160.00	137.00	150.00	170.00
Medium (15 passengers)	870.00	None	None	825.00
Air Tankers				
TBM - 600 gallon	223.00	230.00	200.00	220.00
Twin - 1,000 gallon	380.00	375.00	440.00	408.00
Multi - 2,000 gallon	465.00	470.00	470.00	490.00

NATIONAL FOREST MANAGEMENT AND PROTECTION, COSTS, AND REVENUES PER ACRE

Mr. McDade. Let me pursue one other matter with you.

Is there any way you can tell me expressing it in terms of acres—the justifications indicate about 180 million acres under the jurisdiction of the Forest Service. Is that right?

Mr. Cliff. 187 million acres.

Mr. McDade. Is there any way you can estimate for me the cost per acre to the taxpayers in terms of appropriated funds in managing and protecting those acres and how much revenue we get on a per-acre basis into the general receipts of the Treasury?

(Note: A statement was filed with the committee.)

Mr. Cliff. We could give you average figures or we could give you refined figures for each section of the country or each national forest on the income and the outgo.

Mrs. Hansen. Please do this for each national forest.

Mr. M. Nelson. That will be our operation and maintenance of the national forest and not involved with the State and private forestry or research?

Mr. McDade. Just the national forest, yes, just your direct responsibilities.

Mr. Droege. For further clarification on that question, do you want the investment cost of one particular year? Some of the investments, like our roads, have a long-term life of at least 20 years. This involves operation and maintenance plus investment costs.

Mr. McDade. I want your costs in the broadest sense of the word.

Mr. M. Nelson. In the past we have worked up similar figures for the national forests as a whole based on our costs in operation and maintenance and treated the capital investments as a depreciation items. Tht would be one way.

That would be more like a company would show their investments.

Mr. Cliff. I am sure the committee understands that many of our activities provide benefits for which we get no revenue.

(Information requested follows:)

6550
STATEMENT NO. 1

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE
STATEMENT OF CASH RECEIPTS, APPROPRIATION EXPENDITURES, OTHER INCOME AND EXPENSES
NATIONAL FORESTS PROGRAMS FOR FISCAL YEAR ENDED JUNE 30, 1970

Cash Receipts from Sale and Use of Forest Resources	National Forests (Other than shown at right)	Oregon and Calif. Grant Lands (National Forest)	National Grasslands and Land Utilization Areas	Total
Timber and Forest Products				
Regular Receipts	$269,818,910	$9,862,962	$ 16,231	$279,698,103
Special Account for Alaska	4,208,977			4,208,977
Grazing	3,771,663	302	598,894	4,370,859
Land Uses	835,976	21,244	19,082	875,902
Recreation	2,982,512		105	2,982,617
Power	193,377		1,936	195,313
Mineral Leases and Permits	4,801,422		1,411,856	6,213,278
Admission and User Fees	1,157,414		744	1,158,158
Total	$287,769,851	$9,884,508	$ 2,048,848	$299,703,207
Cash Receipts from Deposits for Expenditure on National Forests				
Timber Sale Area Betterment	$ 26,754,203			
Brush Disposal	12,776,558			
Cooperator Contributions	8,507,915			
Total	$ 48,038,676			$ 48,038,676
Other Cash Receipts				
Restoration of Improvements	$ 28,461			
Miscellaneous (Sales, Rentals, Etc.)	2,425,188			
Total	$ 2,453,649			$ 2,453,649
Other Income				
Collections by Federal Power Commission for Power Licenses Issued on Public Domain National Forest Lands (Approximate)	$ 186,047			
Collections in Conjunction With Department of Interior for Mineral Leases, Licenses, and Permits on Public Domain National Forest Land(Approximate)	$ 20,909,073			
Estimated Value of Roads Built by Timber Purchasers Through Allowances in Selling Prices of Timber	$ 51,902,005			
Total				$ 80,997,125
TOTAL CASH RECEIPTS AND OTHER INCOME				$431,092,657

Appropriation Expenditures	Total	Asset	Operating
Protection and Management	$182,335,271	$ 18,884,862	$163,450,409
Fighting Forest Fires	28,428,828	93,795	28,335,033
Insect and Disease Control	6,212,958	126,520	6,086,438
Water Resource Development	6,750,770	1,685,062	5,065,708
Forest Roads and Trails	155,099,516	96,499,998	58,599,518
Acquisition of Land	1,387,653	1,063,774	323,879
Flood Prevention and Watershed Protection	3,977,083	1,211,978	2,765,105
Restoration of Lands and Improvements	27,324		27,324
Cooperator Funds	8,442,500	1,384,002	7,058,498
Timber Sale Area Betterment (K-V)	25,079,858	16,238,492	8,841,366
Brush Disposal	11,375,732	256,090	11,119,642
Rural Community Development Service	5,853		5,853
Federal Aid Highways	9,575,518	2,532,492	7,043,026
Total	$438,698,864	$139,977,065	$298,721,799
Other Expenses			
Depreciation Expenses on Roads, Trails Other Improvements and Equipment (Other than Working Capital Fund). (Included for the purpose of giving recognition to the principle of allocating asset depreciation costs to operating expenses. The amount shown is an estimate and is not shown in the accounting records)			$ 77,230,536
TOTAL OPERATING EXPENDITURES			$375,952,335 — 375,952,335
EXCESS OF RECEIPTS AND OTHER INCOME OVER OPERATING EXPENDITURES			$55,140,322

Mrs. HANSEN. We are well aware of that.

NONREVENUE-PRODUCING ACTIVITIES—WATERSHED PROTECTION

Mr. CLIFF. Watershed protection is a major activity in the national forest. It is part of our charge to protect the environment. We get no revenue from the water which originates on the national forests, or for the efforts that are made to keep that water clean. This is a contribution to the general public. It is an important one.

There are revenues from the mining activities but except for mineral leases on acquired land, they don't show up in our national forest revenue statements.

Mr. MCDADE. Where doesn't it show up?

MINING ACTIVITIES

Mr. CLIFF. For mining of locatable mineral on the national forests created from the public domain lands. Under the 1872 mining laws, there is no revenue and yet there is a big workload involved in administering the mining laws.

Mr. M. NELSON. There is an estimated $23 million received by the Federal Government from mining permits and leases on the public domain lands of the national forests and that goes into Interior's receipts.

To show the full picture of the national forest, I would think we would want to include that type of an income.

Mr. CLIFF. It is only under the leasing laws where the Federal Government gets any revenue. The hard rock minerals, on public domain, are administered under the 1872 mining laws. This is the discovery and location system. No revenues accrue to the Federal Government except through income taxes later on if the mining companies make any money.

Mr. MCDADE. If a prospector makes a discovery, he doesn't pay royalty?

Mr. CLIFF. That is correct.

Mr. MCDADE. This is an 1872 law?

Mr. CLIFF. That is correct.

Mr. MCDADE. Are such discoveries being made in the national forests now?

Mr. CLIFF. Yes, sir.

Mr. MCDADE. What kind of minerals?

Mr. CLIFF. All the hard rock minerals. Gold, lead, silver, zinc, molybdenum, copper, and others.

Mr. MCDADE. Is it the position of the Forest Service that the 1872 law remain unchanged?

Mr. CLIFF. No, we think it should be changed. It should be modernized and changed to give us better opportunity to coordinate mining activity with other land activities. We have recommended changes to the Public Land Law Review Commission. No doubt Congress will be considering changes in mining laws this session.

Mr. MCDADE. How much money are we talking about?

Mr. CLIFF. I have no idea how much we are talking about under the location system. Certain minerals are subject to leasing—coal, oil, gas,

phosphate, sulphur, and several others. They are leasable minerals, even on the public domain. These do pay revenues. The leaseholders pay for the lease and pay royalties for anything they produce. It is only on the acquired lands where the revenues are credited to the Forest Service. On the public domain lands where these leases take place, Mr. Nelson stated that something like $23 million estimated revenues come from leasing and it is credited to the account of the Department of the Interior. They collect the money.

Mr. M. NELSON. On the acquired land, our revenues for 1970 were $6,213,227 from leases and permits. This is shown as national forest receipts.

The value of minerals, oil, or gas from the national forest system in fiscal year 1970 is estimated to exceed $100 million. It is big business. There is lots of it going on.

WILDLIFE HABITAT MANAGEMENT AND RECREATION

Mr. CLIFF. We were talking about non-revenue-producing activities which we think are important. Another which is virtually nonrevenue producing as far as Federal Government is concerned is the wildlife habitat management. We have traditionally recognized the rights of the States to control the hunting and fishing on the national forests. They sell the licenses and get the revenue. We have responsibility for maintaining the wildlife environment. That is part of our job which reflects no direct returns to the Federal Government, though it is important to the public.

Our recreation costs are far greater than the revenues we receive from public recreation. The principal activity that brings in revenues, of course, is the timber sale activity. Our timber sale program is based on fair market value principles and it is a major revenue producer.

Mrs. HANSEN. If you don't consider the revenue generated from timber sales, then you will have an idea what the taxpayer of the United States pays for recreation use and it is going to be very small.

Mr. CLIFF. I guess this discussion started when we talked about the balance sheet showing costs and revenues. I was merely trying to point out that the dollar revenue doesn't show all of the benefits that accrue.

Grazing is a revenue producer and we get revenues from commercial recreation permits, concessionnaire permits, but timber is the principal revenue producer.

Mr. MCDADE. With a $100 million mining activity——

Mr. M. NELSON. That is the value of the mineral or oil taken from the national forest system lands in 1 year.

Mr. MCDADE. And you get no revenue from that at all?

Mr. M. NELSON. We got about $6 million revenue in 1970 from the leases and permits on the acquired lands. These are the lands we have acquired for national forests and the mineral receipts are credited to our accounts.

FOREST RESEARCH

Mr. WYATT. I am sure that many of us are quite disappointed in some of the budgetary areas and one of them is in forest research which, I am very disappointed to see. It is funded at a continuing level, when we all recognize the very great necessity of accelerating

the activity in this area. This is particularly true in consideration of a very substantial demand, an increasing demand on wood supply that we are all going to have to confront here in the weeks and months and the years ahead.

I view this big demand that is coming for housing as something not to be solved as easily as it was before.

The administration did come in and by way of a supplementary request ask for a little more money for the Forest Service and also for the BLM, but they took it all away in the next fiscal year. We had to pay for what was taken out plus a little bit more over what was planned to be appropriated for sales.

I am very distressed to see the research program continuing at about the same level of funding. We must know and recognize there will be less research because of the increased costs in the meantime and those costs have to be taken out of the programs.

I am also, of course, disturbed that there are no built-in programs in the budget here for increased sales and for the production of wood fiber.

We all recognize the extreme importance of what you are doing in connection with environment. All of the things we went over previously, I think, are extremely important, but the result is that we are not going to have any more sales in fiscal 1971 and just a very minuscule increase in actual cutting in fiscal 1972 over fiscal 1971.

This probably is an unfair question and if you can't answer it, I will understand, but I wonder if you could hazard an estimate as to how much additional money you could intelligently spend for additional reforestation over and above what is in the budget for fiscal year 1972, to get at some of the additional millions of acres that need reforestation.

FUNDS FOR REFORESTATION

Mr. M. NELSON. I think the best way to answer that is to indicate the amount we felt we could effectively use for reforestation and stand improvement when we first considered the 1972 budget. The amount was $32.8 million.

Mr. WYATT. That compares to how much that is in the budget?

Mr. M. NELSON. $27 million is in the budget for this item. It is an increase of $7 million over the fiscal year 1971 amount.

Mr. WYATT. Mr. Nelson, are you saying the amount you requested really was all that you could spend for reforestation then?

Mr. CLIFF. That is all we felt we could spend efficiently the first year. You see, you don't turn reforestation on and off like a water tap. You have to collect seed; you have to produce the nursery stock. We can do some direct seeding and we are doing some of that, but there is a lag especially where nursery grown trees are used.

Mr. WYATT. The potential for dollars in stepped-up reforestation is very, very great and what you are saying is the first year dollars are small but they would increase dramatically I assume maybe in the second, third, fourth and fifth years.

Mr. CLIFF. Yes, that is correct. If you had a program that you knew was going to be aimed at meeting these goals in 10 years, we could get most of the job done in 10 years; most of the five million acres.

REFORESTATION BUDGET PAST FIVE YEARS

Mrs. Hansen. How adequate have the budgets been in the previous five fiscal years for reforestation? How much lag is there in this budget?

Mr. Cliff. Unfortunately, this is one of the areas of our programs that has been furtherest behind and most poorly financed over the years.

Mrs. Hansen. Please insert in the record the total acres that need reforestation.

(The information follows:)

ADEQUACY OF REFORESTATION AND STAND IMPROVEMENT PROGRAM

Fiscal Year	Reforestation Planned 1/ Amount	Reforestation Planned 1/ Acres	Reforestation Accomplished 1/ Amount	Reforestation Accomplished 1/ Acres	Cumulative Lag in Reforestation Program Amount	Cumulative Lag in Reforestation Program Acres
1967	$27,256,000	450,000	$10,700,000	115,981	$16,556,000	334,019
1968	27,256,000	450,000	9,719,000	107,525	34,093,000	676,494
1969	27,256,000	450,000	10,548,000	112,455	50,801,000	1,014,039
1970	27,256,000	450,000	11,135,000	101,845	66,922,000	1,362,194
1971 2/	27,256,000	450,000	12,125,000	117,400	82,053,000	1,694,794
Totals	136,280,000	2,250,000	54,227,000	555,206	82,053,000	1,694,794

Fiscal Year	Stand Improvement Planned 1/ Amount	Stand Improvement Planned 1/ Acres	Stand Improvement Accomplished 1/ Amount	Stand Improvement Accomplished 1/ Acres	Cumulative Lag in Stand Improvement Program Amount	Cumulative Lag in Stand Improvement Program Acres
1967	$22,670,000	1,180,000	$5,525,000	194,033	$17,145,000	985,967
1968	22,670,000	1,180,000	4,703,000	143,521	35,112,000	2,022,446
1969	22,670,000	1,180,000	4,033,000	122,432	53,749,000	3,080,014
1970	22,670,000	1,180,000	4,691,000	123,558	71,728,000	4,136,456
1971 2/	22,670,000	1,180,000	6,046,000	154,000	88,352,000	5,162,456
Totals	113,350,000	5,900,000	24,998,000	737,544	88,352,000	5,162,456

1/ Development Program for National Forests--excludes Knutsen-Vandenberg funds. Planned figures do not include such items as increased pay costs, effects of inflation on contract costs, wage board rates, material and equipment costs, etc.

2/ Estimated.

The above two tables show the lag in the reforestation-stand improvement program from the 10-year National Forest Development Program during the past five years. The difference between the proposed program and what has been accomplished has been about 350,000 acres of reforestation and 1,030,000 acres of stand improvement during each of the five years. Comparisons of the lag in funds may be misleading because all National Forest Development Program funds are shown in terms of 1962 dollar values whereas funds spent are in terms of dollar values at the year shown. Costs have almost doubled during this five-year period.

The irretrievable loss in growth caused by lack of financing to carry out the program on schedule is estimated at 899 million cubic feet (4.5 billion board feet).

FINANCING REFORESTATION

Mr. CLIFF. When we get into a tight budget year somebody makes a decision this sort of work can be postponed. An important part of what I am saying here is that in the development program for the national forests, we recommended a 10-year program for reforestation and timber stand improvement. It has been financed during the fiscal years 1963 through 1971, at 39.4 percent of our estimated need.

Mr. WYATT. That is all of your timber development?

Mr. CLIFF. Reforestation and timber stand improvement. Timber sales have been financed at 96.5 percent of planned level. The work that we really need to do to grow more timber and to get these lands fully productive has been financed at 39.4 percent. All activities on the national forests have been financed at 66.6 percent of our planned program estimates. The timber stand improvement has been financed at the lowest percentage of any of our activities in the whole 10-year program except land acquisition under the Weeks Act.

Mr. WYATT. This is a question of simple addition, but I want to be sure it is plainly in the record. How much additional money could be used for reforestation by the Forest Service in activities throughout the United States in fiscal year 1972 more than is in the budget?

Mr. M. NELSON. I would say $5 million.

Mr. CLIFF. It is really $5.7 million. Our original estimate was $5.7 million more than the budget——

Mr. WYATT. Can you give me the comparable figure you could use over and above the budget request figure for timber stand improvement?

Mr. M. NELSON. That was included. The line item includes both reforestation and timber stand improvement.

Mr. WYATT. Can you break that 5.7 down into the two components?

Mr. CLIFF. Yes, sir.

Mr. WYATT. Would you do that for the record, please?

Mr. CLIFF. Yes, sir.

(The information follows:)

Use of additional reforestation and stand improvement funds

If the 1972 budget were increased by $5.7 million, it is recommended that it be distributed as follows:

Reforestation—55,000 acres advanced site preparation for reforestation in fiscal year 1973	$3,267,500
Timber stand improvement—40,000 acres precommercial thinning	2,432,500
Total	5,700,000

ALLOWABLE CUT

Mr. WYATT. If you had that $5.7 million in the budget, what if any effect would that have upon your allowable cut figure for 1972?

Mr. CLIFF. It wouldn't have an immediate effect until the work is

accomplished and successfully installed. We estimate that the work that we will be funding this year for reforestation and timber stand improvement will result in our annual growth increase in the nature of 138 million board feet per year.

Mr. WYATT. That is each and every year for the foreseeable future, is it not?

Mr. CLIFF. That is right, sir.

FOREST RESEARCH FUNDING

Mr. WYATT. I don't want to embarrass anyone, but can you give us the figure as to what you requested for forest research total compared to what you were allowed in the budget?

Mr. CLIFF. Yes, I will be glad to supply that.

The amount available in 1971 for research was $47,805,000. Our estimate for 1972 totaled $56,926,000 for an increase of about $9,200,000. The budget allowance is slightly less than last year, $47,668,000. The difference is due to the elimination of flood and repair work in watershed management research and some information and education money. The program financing would be the same.

Mr. WYATT. Except haven't you had some unit cost increases in your research?

Mr. CLIFF. The cost of doing research has been increasing at the rate of about 7 percent a year, so when you stay at the same level of funding you are actually losing ground as far as effective work is concerned.

RESEARCH CONSTRUCTION

Mr. M. NELSON. To cover the research figure completely, we should point out the figures Mr. Cliff quoted do not have the construction item because that is now a separate item. The amount for 1971 was $1,185,000. We requested $6,816,000 in 1972 and ended up with nothing.

Mr. WYATT. For construction——

Mr. M. NELSON. For construction of research items in 1972.

WOOD AND WOOD FIBER DEMANDS

Mr. WYATT. Generally does the Forest Service recognize there is going to be a huge demand for wood fiber for softwood lumber and for plywood because of a pent-up housing demand which I think is now in the process of breaking loose?

Mr. CLIFF. Yes; we do. We estimate that the demand for wood and wood fiber in this country is going to double by the end of the century.

Mr. WYATT. How about the next years?

Mr. CLIFF. We have made these estimates in the course of supplying information for the President's task force. We have tried to keep them as current as possible. We do have estimates for what the demands will be for lumber and for other wood products. We will supply that for the record.

(The information follows:)

Table 3.--Summary of consumption, imports, exports, and domestic production of softwood timber products by selected years and alternative price levels.

Item	1967	1968	Projections			
			1970	1980	1990	2000
	- - - - - Billion board feet, lumber tally - - - -					
Lumber and plywood:						
Consumption:						
1962-67 prices	37.8	--	43.6	58.7	72.4	82.4
1968 prices 1/	--	41.9	42.3	51.7	61.5	70.0
1968 prices plus 1 percent annual increase 2/	--	--	42.2	48.4	51.8	52.3
Imports:						
1962-67 prices	4.8	--	6.4	7.5	9.5	10.0
1968 prices 1/	--	5.8	7.0	9.8	10.5	11.0
1968 prices plus 1 percent annual increase 2/	--	--	7.0	10.8	11.5	12.0
Exports:						
1962-67 prices	3.3	--	4.5	5.5	5.0	4.5
1968 prices 1/	--	4.1	4.0	3.5	3.0	2.5
1968 prices plus 1 percent annual increase 2/	--	--	3.9	3.2	2.5	2.0
U.S. production:						
1962-67 prices	36.4	--	41.7	56.7	67.9	76.9
1968 prices 1/	--	40.2	39.3	45.4	54.0	61.5
1968 prices plus 1 percent annual increase 2/	--	--	39.1	40.8	42.8	42.3

See footnotes at end of table.

Table 3.--Summary of consumption, imports, exports, and domestic production of softwood timber products by selected years and alternative price levels--Continued

Item	1967	1968	Projections			
			1970	1980	1990	2000
	- - Billion board feet, International 1/4" log rule - -					
Lumber and plywood (continued):						
U.S. roundwood demand:						
1962-67 prices	36.0	--	40.4	54.5	64.8	72.5
1968 prices 1/	--	39.3	38.1	43.6	51.5	58.0
1968 prices plus 1 percent annual increase 2/	--	--	37.9	39.2	40.8	39.9
Pulpwood and miscellaneous products						
U.S. roundwood demand:						
1962-67 prices	8.1	--	9.0	13.0	18.0	22.0
1968 prices 1/	--	8.4	8.7	11.4	15.3	18.7
1968 prices plus 1 percent annual increase 2/	--	--	8.6	10.7	12.9	14.0
U.S. total roundwood demand:						
1962-67 prices	44.1	--	49.4	67.5	82.8	94.5
1968 prices 1/	--	47.7	46.8	55.0	66.8	76.7
1968 prices plus 1 percent annual increase 2/	--	--	46.5	49.9	53.7	53.9

See footnotes next page.

Table 3.--Summary of consumption, imports, exports, and domestic production of softwood timber products by selected years and alternative price levels (Continued).

1/ The "1968" prices used in this table were 30 percent above the 1962-67 averages. This approximated the average increase in the last half of 1968. Relative prices in the second half of 1968 were 27 percent above the 1962-67 average for softwood lumber, 29 percent for softwood plywood, and 5 percent for hardwood lumber.

2/ The assumed percentage increases over 1962-67 average prices are as follows: 1970 - 33 percent, 1980 - 48 percent, 1990 - 63 percent, and 2000 - 80 percent.

NOTE: The projections in 1962-67 prices in this table were derived from a detailed analysis of lumber and plywood demands in major end uses such as new residential construction, maintenance and repair, manufacturing and shipping. These projections are based on an implicit assumption that the trends in technology and in institutional changes during the 1962-67 period would continue through the projection period.

The base projections derived under the 1962-67 price assumption were adjusted to show the effect of the alternative prices on demand. In making the adjustments, it was assumed the coefficients of price elasticity of demand, given 1968 prices, would be 0.1 in 1970, 0.4 in 1980, and 0.5 in 1990 and 2000. The increase in the size of the coefficient is a reflection of the time needed to bring about all price induced technological and institutional changes. The same coefficients, adjusted for the timing of the price increases, were used in estimating the effect of the third price assumption on demand, i.e., 1968 prices plus 1 percent annual increase. These coefficients were largely a matter of judgment because there is very little quantitative information on the price elasticity of demand for softwood lumber and plywood in the various markets.

SOURCE: "Possibilities For Meeting Future Demands For Softwood Timber in the United States," prepared by Forest Service, United States Department of Agriculture for Working Group of the Cabinet Task Force on Lumber; September 29, 1969.

Mr. CLIFF. All indications are that there will be substantial increases in demand for wood, even if the predictions of substitutions are borne out. We expect there will be some substitutions and we have made allowance for that in our projections. We have made allowance for some increases in imports and even making these allowances, and making allowance for decreased per capita consumption of lumber, there would still be a need for substantial increases in timber that we produce domestically to meet our needs. There is no question about it in my mind.

Mrs. HANSEN. If you do not properly manage your forests and provide the timber to meet the demands then you will be contributing to inflation because the shortage of timber supply drives the price up.

Mr. CLIFF. That is very true. Of course, increased prices would also tend to lower the demand for timber.

Mrs. HANSEN. This is exactly what has happened ever since I have been on this committee. You are always in trouble because the timber supply isn't always able to meet the demand for timber and the price goes up.

Mr. M. NELSON. Probably no other commodity follows price demand relationship in pricing as much as lumber. On reason is that it is a commodity you can't store very much of to meet fluctuating demands.

Mrs. HANSEN. The committee will reconvene at 1 o'clock.

CURRENT TIMBER SUPPLY OUTLOOK

Mrs. HANSEN. The committee will come to order. With the expectations that housing starts are going to increase during this fiscal year, what is the current timber supply outlook for those housing starts? Is it adequate?

Mr. CLIFF. That question is difficult to answer, Madam Chairman, because there are a number of factors that are involved.

Mrs. HANSEN. Such as?

Mr. CLIFF. The lumber and plywood market has been slow during the past year. There are some inventories on hand to draw on to start meeting this increased market demand.

Mrs. HANSEN. Could you tell us whether the inventories on hand represent 5, 10, 15 or 20 percent of adequacy?

Mr. CLIFF. No, I couldn't at this moment. We might find some information on that, but that is one of the factors.

Another is the fact that there has been a slowdown in logging by some of the mills during this slow market period. They are prepared to increase their activities in response to the increased prices.

Mrs. HANSEN. You mean increased prices of lumber?

Mr. CLIFF. Increased prices of lumber and plywood.

Mrs. HANSEN. Then are you going to have inflation?

Mr. CLIFF. No. What I am saying is that there is a productive capacity waiting to be tapped, to be released. They have some log supplies available to them.

TIMBER UNDER CONTRACT

Mrs. HANSEN. Do you have any idea about how many contracts have been let for timber that has not been cut because the market has been down?

Mr. CLIFF. We know there has been a number of these. I don't know if we have the number. Do you, Mr. Nelson?

Mr. M. NELSON. I don't know about the number of sales, but we currently have 2½ years' supply of timber under contract in the western regions that has not been logged—it is some 26 billion feet. In 1968 we had less.

Mrs. HANSEN. In 1968 you had less?

Mr. M. NELSON. Yes, in 1968 we had 22.1 billion feet under contract but not yet cut.

Mrs. HANSEN. If you combine what you have on hand in inventory with what you expect to make available in sales, would you assume that the total supply will be sufficient to furnish the timber to meet the demand?

Mr. M. NELSON. I would think so. We have 25.8 billion feet under contract in the Western States excluding Alaska that hasn't been cut yet. We would expect to make available the 12.4 billion feet in sales during the fiscal year.

TIMBER NEEDS FOR HOUSING STARTS

Mrs. HANSEN. How many billion board feet of timber is consumed with a million and a half housing starts?

Mr. CLIFF. How much total timber in lumber and plywood do we consume with a million and a half housing starts?

Mrs. HANSEN. Yes.

Mr. CLIFF. A round figure is that 1.5 million housing starts will require about 13 billion board feet of softwood lumber and plywood. The national forests have been producing annually between 11 and 12 billion board feet for stumpage for wood products use. All of the lumber and plywood for housing doesn't come from the national forests, of course. Seventy percent of it is coming from other sources. Part of this whole picture involves how much is available from the other sources.

We do know that the available sawtimber from private lands—that is from the nonindustrial private lands—has been declining because of overcutting. The industrial private lands, I think, can continue to supply about as much as they have, and maybe some more.

Mrs. HANSEN. Are these the tree farm industries?

Mr. CLIFF. Yes, the industries. The small nonindustrial private lands have been declining in both quality and value, as far as sawtimber is concerned.

TIMBER PRICES

Mrs. HANSEN. Mr. Cliff, do you expect timber prices to remain about the same level or to fluctuate?

Mr. CLIFF. I would expect there would be some increase in timber prices. In fact, there has been an increase since the first of the year of about 11 percent for Douglas-fir and Ponderosa pine lumber. Plywood rose 25 percent since the first of the year. This isn't alarming to me because lumber and plywood prices have been depressed. They have been depressed to the point where the industry had problems of operating, so they are entitled to some gain in prices.

Mrs. HANSEN. In other words, the timber price increase just about reflects the amount the prices were depressed?

Mr. CLIFF. I think they could stand even a further rise in prices and still not be ahead of the rest of the economy. As Congressman Wyatt indicated this morning, this has some of the earmarks of what happened 2 years ago when there was a supply-price squeeze, and the prices went much too high.

POSSIBILITY OF RECURRENCE OF RUNAWAY PRICES

Mrs. HANSEN. Could the same thing happen again?

Mr. CLIFF. The same thing could happen again. My guess is that it isn't going to happen because the Government is more aware of what happens in runaway prices. There were some factors 2 years ago that don't apply now.

Mrs. HANSEN. Such as?

Mr. CLIFF. If you remember, they had 2 successive years of poor logging seasons in the West. There was a shortage of inventory of lumber and inventory of logs to start with. This coincided with a shortage of railway cars and a strike and the passage of the Housing Act, which increased peoples' anticipations in wanting to get on with the job of building houses. So the builders started placing orders like mad. There was some degree of what you might call hysteria or bullish purchasing. All of these things combined to skyrocket the prices.

I don't see these same factors operating right now. There has been a longer period for planning. There is certainly an acute awareness of what can happen. I think the housing industry and the timber industry and the timber suppliers are in better positions to assess the trends as they occur to, perhaps, prevent the same kind of a runaway.

LOG EXPORTS

Mrs. HANSEN. Please insert in the record, the number of board feet of logs that are being exported out of the national forests.

Mr. CLIFF. 290 million board feet per year are authorized.

Mrs. HANSEN. 290 million?

Mr. CLIFF. Yes; from the national forests.

Mrs. HANSEN. Are these western national forests?

Mr. CLIFF. That is correct. This is in the form of sawlogs.

IMPORT OF WOOD PRODUCTS

Mrs. HANSEN. How much are you importing?

Mr. CLIFF. The net imports of all wood products—lumber, tropical hardwoods, pulp, and paper— amounts to about 8 percent of our total use in this country. The volume I would have to fill in for the record. As I remember, we are importing about 19 percent of what we use, and we are exporting an equivalent of about 11 percent. So there is a net import of about 8 percent.

Mrs. HANSEN. Is this largely from Canada?

Mr. CLIFF. Largely from Canada. But it includes an increase in volume of tropical hardwoods.

Mrs. HANSEN. From where?

Mr. CLIFF. From Asia, Southeast Asia, Africa, and some from Latin America. We are already a net importing country is what I am saying. It amounts to about 8 percent of all the wood we use. It's expected that imports will increase. Some of our housing needs will be met from increased imports.

LUMBER EXPORTS

Mrs. HANSEN. Please insert in the record, the amount of exports in finished lumber and plywood.

Mr. CLIFF. We could provide that for the record.

(Information requested follows:)

In calendar year 1970, 2.8 billion board feet of logs (local log rules), 1.3 billion board feet of lumber, 172 million square feet (surface measure) of plywood, and 11.2 million cords of pulpwood (including the roundwood equivalent of pulp and paper) was exported from the United States.

SAWLOG EXPORT TO JAPAN

Mrs. HANSEN. This is the time when trade balances are being considered rather carefully.

Mr. CLIFF. We are exporting lumber and plywood to the European countries. The export of logs to Japan this year is about 18 percent above last year. It amounted to 2,377 million feet.

Mrs. HANSEN. What was the reason for this sizable increase?

Mr. CLIFF. I think part of it was the depressed lumber market in this country and a continued strong demand for sawlogs from Japan.

1970 HOUSING STARTS—JAPAN V. UNITED STATES

Mrs. HANSEN. Please insert in the record the number of housing starts in Japan during 1970 as compared with housing starts in the United States.

Mr. CLIFF. We will attempt to get that for the record, Madam Chairman. A year ago Japan's housing starts were almost as large as the number in the United States.

(Information requested follows:)

There were 1,463,000 units of housing starts in the United States in calendar year 1970. In Japan, there was an average of approximately 1,340,000 units of housing starts annually in the 1966–70 period.

Mr. CLIFF. I think they were aiming at 1.3 million and we had about 1.5 million.

POPULATION STATISTICS

Mrs. HANSEN. Isn't the population of Japan about half of the United States?

Mr. CLIFF. A little more than half, just slightly more than half.

Mrs. HANSEN. How much?

Mr. CLIFF. 120 million people as against our 205 million people. They have a housing shortage problem in Japan as well as we do. They are aggressively attacking it, one of the means being the importation of the needed material. As you know, the amount of sawtimber that could be exported from the Federal lands in the United States is limited

by law and the bulk of the exported material is coming from privately owned lands and State-owned lands.

ANTISUBSTITUTION CLAUSE IN EXPORT LAW

Mrs. HANSEN. You know what sometimes can happen is that exports occasionally exceed the limitation and then are replaced by purchasing more National Forest timber to fill in the balance. Isn't that what can happen?

Mr. CLIFF. We doubt if there is very much of that going on. There is an antisubstitution clause in the law which authorizes the Secretary of Agriculture and the Secretary of the Interior to cut off the supply for those who got involved in substitution. We haven't implemented that by issuance of specific regulation. We made a rather strong effort to get information which would justify it, and developed possible procedures for the anti-substitution regulations. We got no agreement from the purchases. The studies that led up to this effort convinced us that there was not very much substitution going on and that it was hardly worth the cost and the effort to implement the antisubstitution regulation under the conditions that prevailed a year ago. This could change.

Mr. M. NELSON. I think we had one case where it appeared that there had been a substitution. We took it up with the people involved, and gave them a letter of reprimand, so to speak. We are watching it. They run the risk of having themselves put on a list where they couldn't bid on National Forest timber.

DIRECTIVE FROM DEPARTMENT OF INTERIOR ON RAFTING OF LOGS

Mrs. HANSEN. Mr. Cliff, the Department of the Interior has issued a new directive on rafting of logs which includes a provision regulating the placing of logs in navigable rivers or streams. Are you familiar with this directive?

Mr. CLIFF. No; I am not familiar with that.

Mrs. HANSEN. I will insert in the record correspondence relative to this directive.

(The information follows:)

DEPARTMENT OF
ENVIRONMENTAL QUALITY

STATE OFFICE BUILDING • 1400 S.W. 5th AVENUE • PORTLAND, OREGON • 97201

January 15, 1971

Mr. Elmer Brown, General Manager
Multnomah Plywood Corporation
P. O. Box 305
St. Helens, Oregon 97051

Re: U.S.Corps of Engineers
NP 70-85

Dear Mr. Brown:

In compliance with provisions of the 1970 Federal Water Pollution Control Act the Department of Environmental Quality herewith responds to the U. S. Corps of Engineers Public Notice NP 70-85, wherein you have applied for a permit to dredge materials from your corporation's log dump in Scappoose Slough. Such a permit can be granted only after this Department certifies that there is reasonable assurance that such activity will not violate applicable water quality standards.

Activities at the log dump already violate the water quality standards, as related to you by letter from this Department dated October 16, 1970. It is doubtful that dredging can be accomplished in the same area without further violating the standards. Because of this on-going poor water quality situation, the Department of Environmental Quality will certify your application for a Corps of Engineers permit only after receiving a written statement from you agreeing to the following conditions:

1. That your corporation will submit to the Department of Environmental Quality a plan not later than July 1, 1971, for phasing all log dumping and mill-side log handling out of Scappoose Slough waters by not later than January 1, 1975.

2. That dredging of the log dump area during the phase out period will be limited to one week each year and timed between December 1 and May 1.

3. That all dredge spoils will be placed on land where they will not return to the slough.

Very truly yours,

Kenneth H. Spies
Director

GDC:lb

cc: John Payne
cc: Water Resources Board
cc: Federal Water Quality Admin.

United States Department of the Interior

OFFICE OF THE SECRETARY
PACIFIC NORTHWEST REGION
P.O. Box 3621, Portland, Oregon 97208

September 4, 1970

Mr. George E. Hyde
Chief, Navigation Division
Portland District, Corps of Engineers
P. O. Box 2946
Portland, Oregon 97208

Re: Public Notice No. NPP-70-85
Scappoose Bay, St. Helens, Oregon
Multnomah Plywood Corp.

Dear Mr. Hyde:

The Department of the Interior does not object to the issuance of this permit.

However, our approval is based on the condition that no material flows back into the Bay, and that all passes with the clamshell bucket be complete. There will be no stockpiling of spoils in the water, so as to obtain full buckets.

In addition, we would like to take this opportunity to inform the company of our long-term objectives concerning the handling of logs in water.

The placing of logs in water with a resultant detrimental effect has been of concern to fishery agencies and others for some time. Only recently has it been explicitly pointed out by research and investigation that this detrimental effect is highly significant.

The "Industrial waste guide on logging practices" by Federal Water Pollution Control Administration published in February 1970 indicates in detail logging practices which will be required before water quality degradation can be prevented. The elimination of debris due to logs and logging is one very important requirement.

"Water quality degradation by wood bark pollutants" published by the Water Resources Center, University of Maine, June 1968, has extensive detail on the detrimental effect of wood bark.

Logs and wood bark are a source of debris whenever logs are dumped, rafted and transported, or stored in the water. This debris contributes pollutional materials which lower the water quality of

surface and ground waters. The pollutional materials reduce the esthetic value of the water, decrease the value of the water as fish habitat and cause increased costs for treatment of the water.

Water quality degradation due to such debris has been measured by the parameters of biological oxygen demand (BOD), chemical oxygen demand (COD), color, turbidity, acidity, alkalinity, pH, odor, solids, tanninlignin content, simple sugar content, and carbon dioxide balance in benthal bark deposit studies.

The water quality degradation results from color, oxygen-demanding materials, organic materials potentially toxic to fish and odor imparted to the water.

Color is not physiologically harmful but it presents an important problem because of the public's awareness and fear of colored waters. Carbon dioxide balance studies of benthal deposits of bark have shown an average of about o.6 to 0.8 pounds of oxygen per day per ton of dry bark continuing undiminished for at least 80 days. These oxygen demands would be sufficient to reduce the dissolved oxygen concentrations to zero on many streams.

Other studies have shown that water extract liquor from hemlock bark, for example, is toxic to aquatic life.

Log dumping and storage are especially detrimental as a source of the debris which contributes the pollutional materials. In addition, log rafts take up too much space, interfere with and prevent fishing, force fishermen, water skiers, and boaters to use only central water areas, and present a safety hazard by preventing shore access to boats and individuals in the water. The cost both in money and the well-being of society from this degradation of water and environment is borne by the public at large.

In general, the Department of the Interior is encouraging industry to develop alternate means for the storage and handling of logs for commercial purposes and we wish to promote the land operation in order to protect our water resources.

We hope to instigate better management of our water resources which will result in increased value as recreational, industrial, and domestic water supplies. As a long-term objective, we believe that the dumping and storage of logs in the waterways should be curtailed and that generally such practices should be conducted on dry land.

It is not our desire to eliminate or unnecessarily hamper the lumber industry. In addition, we are aware that significant changes in industry operation require time for consideration and implementation and this we intend to see is available.

In order that the desired changes may be achieved, we intend to use this phasing process to develop alternate means such as land storage for logs over the next five to ten year period, thus allowing the industry an equitable amount of time to accomplish this important task.

Cooperation on this policy will be most appreciated and we would be glad to discuss the subject with anyone desiring to do so at any convenient time for them.

Your cooperation is most appreciated.

Sincerely,

L. S. Dey
Field Representative

cc: Messrs. Agee, Cleaver, Findlay, Overly, Rutter, Simmons

Interoffice Communication

Weyerhaeuser Company

Location Centralia FRC

Date February 24, 1971

From J. S. Larsen

Subject Army Corps of Engineers

To Art Smyth

On Monday, February 23, 1971, Jack Wolff, Allen Garrett and myself attended a meeting in Portland at the invitation of Governor McCall. The purpose of the meeting was to afford industrial representatives the opportunity to meet with Corps officials to provide industry's perspective of the situation we presently find ourselves in with regard to log handling, storage and transportation.

Mr. Kessler Cannon, representing the Governor; Colonel Paul Triem, Corps District Engineer; Cliff Comisky, Counsel for the Corps, and Roy Brockschink, Chief of Navigation were the governmental representatives in attendance.

Mr. Cannon and Colonel Triem opened the meeting by explaining to the group that the ball game had changed with regard to permits for log handling, storage, and transportation. They indicated that it was now the responsibility of all concerned to develop more effective ways of meeting the present problems. Colonel Triem stated that:

1. The timber industry is extremely important to the economy of the area.

2. Industry needs to be brought into the discussions taking place with regard to log storage, etc.

3. The storage and handling of logs appears to be the most critical problem -- log transportation of lesser significance.

4. Some waters in the State of Oregon are more sensitive than others.

5. Waters of the State should be used for multi-purpose activities.

Colonel Triem explained the activities of the present PNW Pollution Control Association Task Force on log handling and storage. He stated that their purpose was to:

1. Summarize existing research.
2. Conduct an inventory of log handling, storage, and transportation operations.
3. Develop guidelines.
4. Report on potential impacts from proposed regulations.
5. Develop implementation plans.

There were a number of statements made by industry people. The three main points were:

1. The present regulation of log storage and transportation is too arbitrary with little regard to specific conditions.
2. The fragmentation of agencies involved with the problem makes it impossible to develop objective plans and programs.
3. There has been an over reaction on the part of government in reacting to the problem.

Mr. Cannon and Colonel Triem expressed an interest in getting industrial representatives together with the regulatory agencies in some type of forum discussion to see if some of the problems could be worked out.

Colonel Triem ended the meeting by advising the group that the present situation was not favorable for securing approvals from the Department of Interior or Environmental Protection Agency with regard to any permit that involved log storage or handling. He stated that delays would be probable and that individual actions would have to be taken by the permittees directly with these agencies to work out problems.

Colonel Triem closed the meeting by stating that the group would be contacted in the near future concerning further possible discussions.

Jack Larsen/pf

JSL/pf
cc: A. E. Garrott
O. Malm
J. L. McClintock
R. N. Wittor
R. M. (Jack) Wolff

(Dictated by Mr. Larsen and signed in his absence.)

Mrs. HANSEN. You should be familiar with it because it's going to affect the whole Gifford Pinchot Forest. Let me explain. You have to get a permit to have log dumps.

Mr. CLIFF. Yes, ma'am.

Mrs. HANSEN. Let's take the case of the Columbia River. The great majority of logs coming out of private forests and public lands go into the river from log dumps and are then rafted and taken to the mill. They have what they call their booming sites up and down the river.

In Skamania County the logs coming out of the Gifford Pinchot Forest for years and years have been coming down, rafted at Wind River, then gone down to the mill site, some of them directly across the river into Oregon, some of them to mills down the river. I understand now it is almost impossible to get a permit to do this.

If this provision is continued you are going to have to remove from the river all rafting of logs. Therefore, at least two things are going to happen. You are going to pile onto the highways additional log tonnage which the present type of highway construction cannot accommodate. For example, on Highway 830 going through Skamania County it's a two-lane highway. It's very narrow. The construction has never contemplated any more log trucks than are there now.

If you have to cross the river and take them down Oregon's interstate, it is questionable if the bridge would be able to hold all that tonnage. What is going to happen is that you are going to add more pollution to the environment from the additional truck fumes, and at the same time you will demolish the roads. Also in many instances on a highway like 830, this will cause a constant hazard for the traveling public, particularly in the spring, winter, and fall, when you have frosts and fog.

The second thing, is that it is necessary to cold deck all timber and this is going to require a different kind of cutting and purchasing. The policy of many companies is to put their logs in the river and leave them until they are ready to use them. The new regulation is certainly going to change this whole policy.

Are you working with the Department of the Interior and the Army Corps of Engineers on the discussions relative to this rather sizable change?

I had the towboat operators of Mr. Wyatt's district in my office last week. They are having some difficulty in getting piling driven in order to repair their booming grounds because this might cause "some damage to the environment." They are rather disturbed.

I think the traveling public is also going to be disturbed when all these logs are suddenly dumped on the highways rather than on the waterways.

It would seem to me that putting logs into the river is different than trees falling into the river. What are you going to do about this?

Mr. CLIFF. Madam Chairman, I personally was not aware that the Interior Department had issued regulations or even announced regulations. This could be something that the Corps might be requiring

under the old antipollution law. We haven't had any discussions with the Corps, have we?

Mr. M. NELSON. We have in Alaska, where it is the same problem.

Mrs. HANSEN. I think your greatest problem in the West is going to be on the Columbia River.

Mr. WYATT. Yes, that is right.

Mrs. HANSEN. Because this is going to affect a large number of booming grounds all the way down Klickitat County to lower Wahkiakum and Pacific Counties.

Mr. CLIFF. This is the practice in many other places, Puget Sound, Grays Harbor and the streams leading therein. And the estuaries of the Oregon and northern California coastal streams.

NEED FOR A PUBLIC DISCUSSION

Mrs. HANSEN. I wish you would discuss this. I think there should be some public understanding. I hope, Mr. Wyatt will join me in asking that you, the Corps of Engineers, and the Department of the Interior hold a public discussion with the timber operators, the towboat operators, the highway people, and the environmentalists. I would like to know to what extent bark damages the water.

Mr. WYATT. If the chairman will yield, I certainly will join her in these comments. Chief, I would say that the fact that BLM is proceeding to these considerations without consultation with the Forest Service and without the coordination with the Forest Service lends weight to the argument of those who feel that the services should be combined. I think it's of unusual importance that the two agencies do get together, because obviously anything that is done just in a rather high-handed sudden manner to change the way a major industry has been operating probably for over a century should have very deep thought and consideration and study.

I appreciate the fact that this is coming to you like a bolt out of the sky, but it is important to us all.

Mr. CLIFF. Thank you, Mr. Wyatt.

There could very well have been discussions at the field level and staff level that I am not aware of. I agree that this could result in a major change in the traditional practice of water transport of logs in the Northwest and Alaska that could have major impact on our ability to produce the lumber and plywood that we need, and pulpwood, too. We will certainly dig into it to see what, if anything, we can do about it.

Mrs. HANSEN. The committee would appreciate it.

RESPONSIBILITIES OF THE CORPS OF ENGINEERS

Mr. CLIFF. The major responsibility for this, as I understand what we are talking about, would be with the Corps of Engineers. Most of this, virtually all of it, is outside of the lands that we administer.

Mrs. HANSEN. This is true, Mr. Cliff, but they are putting into practice certain requirements that will eventually affect other agencies of Government. It will affect your timber production, your timber sales, and it will certainly affect the highways and bridges of the two States. I wonder what research was done that resulted in this policy?

Don't tell me that the Columbia River hasn't been flowing fast enough in the last 2 months. I am a reasonably practical person and I would like to have some explanation of what they found that is damaging to the environment.

What are they going to do about those trees which are swept down river in a flood? They are just as damaging.

Mr. WYATT. Madam Chairman, I don't think there is anybody in Congress who is more concerned with the maintenance of the habitat of the salmon than the chairman and myself, because we straddle the Columbia River, so to speak, from the mouth of the ocean to Portland. We are very sensitive to these problems. I understand it's the successor agency to the Bureau of Commercial Fisheries that is raising all the hubbub now. So far as I know, they have made no effort to contact either one of us or anybody on our staff, or really anybody in the industry. I don't think the commercial industry or the sports people are even aware of this. Of course, where you are involved is that probably pretty quickly it is going to affect the Forest Service and the BLM in their timber sales programs.

Mrs. HANSEN. Wendell, I think you will agree with me that this will determine which companies will survive and which ones won't because some companies with booming grounds do not have land for cold decking. They also have no contracts with large trucking outfits.

This is a determining factor in which companies survive. I would be very interested in a report from the Forest Service.

CLEAN UP OF LITTER

I have a question, that comes from watching the continual litter that is on our lands. How much did the Forest Service spend this year in cleaning up after our messy Americans?

Mr. CLIFF. Madam Chairman, I am going to ask Deputy Chief Nelson to respond to these questions pertaining to specific programs on the national forests.

Mrs. HANSEN. All right.

Mr. CLIFF. He will answer this question on recreation. I will feel free to intervene as it seems necessary.

Mrs. HANSEN. I am sure you will.

Mr. M. NELSON. In the developed recreation areas, we are spending this year, over $12 million for administration, operation, cleanup and sanitation. I don't have that divided between cleanup and administration.

Mrs. HANSEN. How much are you spending overall in the national forests for cleanup of litter?

Mr. M. NELSON. It's a little difficult to specifically answer. I will have to supply that for the record.

Mrs. HANSEN. Please do.

(Information requested follows:)

RECREATION CLEANUP COSTS ON THE NATIONAL FORESTS

A recently completed inventory and survey of all National Forest recreation facilities and areas shows needed expenditures for cleanup to be $17,580,698. This amount does not include operation costs such as for public safety, law enforcement, prevention of vandalism, fee collection, and sewage treatment or sanitary land fills for solid waste disposal.

Actual expenditures for cleanup during FY 1971 or preceding years are not available. Present accounting procedures do not separate cleanup costs from other necessary operation costs.

This still does not provide specific information on the total expenditures for cleanup after recreationists in the National Forests. We are not trying to be evasive. The best estimate we can furnish is that about 75 percent of our "Administration, operation, cleanup and sanitation" budget allotment is associated with costs for cleanup. For FY 1971 this would amount to about $9,200,000.

Mrs. HANSEN. I think it has become apparent to a lot of people that if each person would clean up after himself we would not have to spend such a large amount of money for cleanup.

SELF-CLEANUP OF LITTER

Mr. M. NELSON. On the Chattahoochee National Forest in Georgia we conducted an experiment where we took two campgrounds and two picnic grounds and posted them well and told the people what we were trying to do. We furnished the bags and asked them to take their own litter and deposit it in a nearby landfill. We didn't go into the campgrounds then for a month to pick up litter. What we found was that the people who stayed more than overnight were excellent cooperators. They picked up their litter and disposed of it. But the one-night campers or the picnickers didn't respond at all. They just came and left a mess. We expect to experiment more with this approach. It indicates that there is a chance of saving some money in the cleanup and disposal of refuse from these campgrounds. I thought you would be interested in that little experiment that we had this year.

Mrs. HANSEN. We are. Driving in the other morning on the parkway down by the Kennedy Center where the trees are planted, the roadway was simply littered with beer cans and milk cartons and everything else under the sun. I dare say part of the litter was placed there by some of the people who have been talking about "environment."

Mr. M. NELSON. It undoubtedly is the same as we found in our experiment—the day users are litterbugs.

FOREST FIRE EDUCATION PROGRAM AT VISITOR CENTERS

Mrs. HANSEN. Fire damage increases with increased recreation use. What can be done to implement a forest fire program to teach people how not to use the forest? Do you have any programs planned at your visitor centers. Do the visitor centers enable you to put on a program to bring these costs down?

Mr. M. NELSON. I think it does. I am sure that we have some in relation to our visitor centers. As you realize, I am sure, the reason the Forest Service originally got into the recreation business was because of the fire situation. We found people camped everyplace, so we started picking out safe places and then started developing them. Over the years they have become very popular. We find that we have very little trouble with fire in developed recreation sites.

Mrs. HANSEN. At the recreation areas?

Mr. M. NELSON. At the areas that are developed for recreation. Unfortunately development of recreation sites isn't going nearly as fast

as our increased recreation use on the national forests. Consequently, more and more people are taking their recreation outside of the developed recreation areas. That always increases the chances of having fires start by campers smoking, building campfires, children playing with matches, and so forth.

One way of aiding fire prevention would be to get on with the program of developing the sites that are planned for development over the years in order to put the people in safer places.

Mrs. HANSEN. It would seem to me that it would be better management to spend more funds on developing recreation areas which in turn would lower your firefighting costs.

MAN-CAUSED FIRES

Mr. CLIFF. I think that is sound, Madam Chairman. Of course, it has proved out this way in the past. To put this in its proper perspective, there has been an increase in man-caused fires since 1965. The general trend has been up in man-caused fires.

Mrs. HANSEN. What percent is it now?

Mr. M. NELSON. In 1970 about 50 percent of our fires were man-caused.

Mr. CLIFF. Fifty percent in the national forest, and in calendar year 1970 there were approximately 15,000 fires, 7,174 of which were man-caused. 1970 was the highest year that we have had in 9 years. The man-caused fires haven't increased in proportion to the increased human use. I say this because it shows that some of our prevention efforts have paid off. The increase in human use has been going up very dramatically.

Mrs. HANSEN. Your man-made fires could decrease with more recreation installations.

Mr. CLIFF. That is correct.

Mrs. HANSEN. Therefore it seems sensible to increase funds for development of recreation areas rather than spending a larger amount later for cleanup. You not only have the cost of your fire fighting but the value of the timber destroyed.

Mr. CLIFF. I agree with you fully.

Mrs. HANSEN. Let that message go forward to the Office of Management and Budget.

GRAZING FEE POLICY

Mr. Cliff, what is your policy this year on grazing fees?

Mr. CLIFF. Our grazing fees, as you know, will be increased this year. This will be the second installment in our proposed 10-year program of increasing grazing fees to what we consider to be fair market value. This increase resulted from studies that we made over the past 10 years in cooperation with the livestock industry and with some of the western universities. I think we are in complete agreement on most of the items that went into the Federal calculations except one, and that is that the grazing industry feels that they should be allowed an item of cost for owning or acquiring a permit. This is a value that has been described as the permit value. The public land managing agencies have been unwilling to recognize this as a legitimate cost. If we

recognized it, there would be no increase in fees. There might even be a reduction.

Our studies show that the grazing fees on public lands are not comparable to the fees on private lands, even after you make all of the adjustments for differences in costs. To get comparable, we would have to raise them to an average level of about $1.23 per animal unit month plus whatever increment needed each year to keep pace with the forage index. Our fees will increase this year by $0.17.

Mrs. HANSEN. What is the total?

Mr. CLIFF. Making it a total of about $0.78 per animal unit month on the average.

GRAZING FEES IN THE PAST

Mrs. HANSEN. Please insert in the record the grazing fees 5 years ago.

Mr. CLIFF. I will be glad to place that in the record.

(Information requested follows:)

Average grazing fee per animal unit month charged in the National Forests of the 11 Western States, 1966–70:

Year:	*Fee (cents)*
1966	51
1967	56
1968	56
1969	60
1970	60

GRAZING FEES ON PRIVATE LANDS

Mrs. HANSEN. Also insert in the record the comparable fees on private lands.

Mr. CLIFF. We will be glad to do that, Madam Chairman.

(Information requested follows:)

Average monthly rate per head for pasturing cattle on privately owned land in 11 Western States:

Year:	*Rate*
1966	$3.71
1967	3.73
1968	3.74
1969	3.82
1970	4.05

These rates were obtained from the CD 75-Farm Real Estate Market Development—Economic Research Service, USDA, September 1970.

Mr. CLIFF. We feel we need to go ahead with this increase in grazing fees and that it's fully justified by the background information.

USE CHARGE POLICY

Mrs. HANSEN. Has your policy on charges for the use of your facilities changed?

Mr. M. NELSON. No change in the policy. The policy is to charge for regular use of national forest land 5 percent annually of the appraised value of the land that is being used. We are in the process of implementing that policy more completely. Of course, as the value of the land changes, the fee would change. Our policy is to look at

the permits each 5 years. Every year we are currently reviewing about one-fifth of our special-use permits.

What I am referring to is the general permits for use of land. We also have some that are commercial uses of land. Fees for those are usually based upon a different formula which involves both the costs of installation at the resort or ski area, or permits of that type, and the receipts generated at the use area. It's a percentage of receipts basically. Fees for this group normally vary from year to year, depending upon the business of the previous year.

RECREATION RECEIPTS

Mrs. HANSEN. What are your annual receipts per year for general permits?

Mr. M. NELSON. On permits for recreation uses for 1972 it is expected to be $4 million. For permits for other land uses it is projected at $975,000. In addition to that, we have the admission and user fees for which we expect the receipts to be $1,750,000 in 1972.

FIRE CONTROL UNDER CLARKE-M'NARY ACT

Mrs. HANSEN. Do you feel that the amount of funds that you have requested under the Clarke-McNary Act in this budget are adequate to assist the States to the desire that they wish? The committee increased these funds by about $2 million last year. Our friends down in the Office of Management and Budget accepted the $2 million and used it as a base for this year's request. Do you think this should be increased again this year to more adequately reflect the rising costs to the States?

Mr. CLIFF. Madam Chairman, I am obligated to support the budget as submitted.

Mrs. Hansen. That is an awful position to be in, isn't it?

Mr. CLIFF. Your first question was whether the amount we recommended was enough to satisfy the desires of the States. The answer to that is "No." The States feel very strongly that this appropriation item is inadequate. It's below the authorized amount in basic legislation.

Mrs. HANSEN. What is the authorized limitation?

Mr. CLIFF. $20 million.

Mrs. HANSEN. What is the funding level now?

Mr. CLIFF. Slightly over $16 million.

INCREASED FIRE COSTS

Mrs. HANSEN. Isn't it true that firefighting costs are rising in the States every day?

Mr. CLIFF. Costs have increased in this activity, as well as others. The facts will show that the States are contributing increasingly larger amounts of money of State and other funds. This is supposed to be a matching fund. It requires a minimum of 50–50 matching by the States, but it doesn't require the Government to match all the States' input. The record shows the States are contributing about five times as much to the program as the Federal Government.

Mr. M. NELSON. Madam Chairman, to show increased costs—and I am sure this same thing applies to the States—$500 this year buys only

about half as much handbuilt fireline as it did in 1965. In 1965, it took $500 for a 16-man crew for a 12-hour shift. Now we only have nine men paid from our $500 cost. I am sure the States have the same situation in relation to costs of firefighting.

Mrs. HANSEN. There is one thing I want to say on behalf of the States, they have as many or more problems with manmade fires as you do. The States all charge the owners of the private lands to participate in their fire costs, and all of them do.

As you travel along any State highway today, a great many of the people traveling are not State inhabitants. They are visitors from every part of the Nation.

It seems to me that there is an increasingly large built-in responsibility in a mobile nation for the Federal Government to have some additional responsibility in this field.

Mr. CLIFF. Of course, the reason for the Clarke-McNary legislation in the beginning was a recognition that the whole public did have the strong interest in protecting these private forest lands from the standpoint of protecting watersheds as well as the growing of timber and providing other resources. But the public is responsible in a large part for the fire problem. This responsibility, plus the public interest in having thrifty growing forests and protected watersheds, was the basic reason for the Clarke-McNary Act in the beginning. The $20 million authorization has not changed for many years.

Mrs. HANSEN. There is not much use changing it until it is funded at the authorized limitation.

Mr. CLIFF. Of course, we have never really met the authorization as yet with appropriations.

Mrs. HANSEN. The committee has had a sizable number of letters, as I have had, from the States, the foresters, the Governors, and people involved in State government, who feel that the funding should be increased.

SUPERVISION OF MINING ACTIVITIES

Mr. Cliff, we talked about mineral rights this morning. One of the Senators from Montana has been particularly interested in closer supervision of mining activities on the forest lands. What are you doing about increasing the supervision so there is no demolition of the land?

Mr. CLIFF. Madam Chairman, we are not unaware of this problem. We talked about it this morning. I also testified that I was convinced we had to pay closer attention to mining activities on our national forest lands.

In places where the damage has been substantial, we have taken measures, such as closing areas to use of motorized equipment without permit, in an effort to get control of the use of bulldozers and other motorized equipment. This has been done in Idaho and in Nevada.

MINING IN MONTANA

Mrs. HANSEN. How about Montana?

Mr. CLIFF. To my knowledge, it hasn't been done in Montana, but we have made an effort to get better contact with the miners so that we know where they are, what they are doing, and to put their roads

under permit. We have a regulation that requires them to get a permit if they build a road off a mining claim on the national forest land. We are attempting to enforce that with our regular field forces. In many places this is reasonably successful. In other places, we have had problems with enforcement.

The last Congress gave us a supplemental appropriation of $150,000 to be used primarily in stepping up our efforts to work with the miners in preventing these land disturbance problems. We are using that in Montana to try to get control of the situation there. What is needed are really some basic changes in the mining laws that require miners and prospectors to get permits to enter public lands to prospect and mine.

We are now currently working on administrative regulations which we would propose to put into effect until the necessary changes can be made in the mining laws which will give us better control of prospecting and mining activities.

Mrs. HANSEN. I had a feeling last fall when I was in eastern Montana that there were many people who might welcome a moratorium on all mining ventures in Montana. I am not sure they wouldn't also welcome a moratorium on tourists also.

Mr. CLIFF. I am sure there are many people who feel this way. There are many people who are concerned about the impact of mining and prospecting that has been going on.

There are also many people who depend on mining for a livelihood. Mineral production is one of our basic industries in this country. We must find ways of utilizing minerals that are needed in a way that is not disruptive of other environmental and resource values.

MINERAL IMPORTS

Mrs. HANSEN. Isn't it true, Mr. Cliff, that the United States is importing many of the minerals that it needs?

Mr. CLIFF. That is correct. We are already a very big importer of strategic minerals. We have to depend on foreign sources.

Mrs. HANSEN. In some instances even the Soviet Union?

Mr. CLIFF. I am not sure about that. This country is going to need increasing amounts of minerals if we continue to grow. We are increasingly dependent on foreign sources. We do need to utilize our minerals, and do it properly. I think the emphasis should be placed on utilizing this resource as other basic resources, but to do it in a way that is harmonious with other resource protection and management needs. But there are places where maybe we shouldn't be utilizing materials.

STUDY OF IMPROPER USE OF MINING LAWS

Mrs. HANSEN. Do you presently have a study going on that will indicate which areas should not be developed; and if not, why? Also, do you have a stipulation in your leasing permits that the damage caused by mineral development must be borne by the users?

Mr. CLIFF. We have what you might call a continuous study of this problem, of this whole activity. I remember back 20 years ago where we made surveys and studies of the improper use of the mining

laws. We have been involved in this ever since all over the country. We don't have a formal, nationwide study of the kind that you mentioned, but we have had studies of specific areas where there are particular problems. Just recently we asked that a tract of some 11,000 acres be withdrawn in the Front Range back of Colorado Springs. This is in a very fragile area, one close to population centers where some damage has been done. We have asked that this be withdrawn from entry under the mineral laws. We have taken similar action in many other cases where we have had particular problems.

Mrs. HANSEN. The problem is becoming increasingly serious, not only in this field but in other fields. There was a section of road in my own district that went into the river this year. Behind the road, some rocks had been removed from the private land which loosened the whole area. When rains and snow came, the road went into the river. The States shouldn't always have to repair damages done by something for which they are not to blame. The same thing happens in your forests.

CRIME INVESTIGATIONS AND RESPONSIBILITIES

Not quite a year ago this September there was a well-known artist in my district who was camping with his wife and family in a national forest. They were sitting at dusk just playing cards and all of a sudden a car drove up and a spotlight shined on them. The man got up to find out if someone was in trouble. Whoever was in the car took a rifle and shot the artist's wife and the artist's little son in the head. To date there has been no determination as to who did it. The same thing had happened a year before with some people who were gathering ferns. Who does your investigative work, the FBI?

Mr. CLIFF. If it involves a Federal offense, we can and do call in the FBI for a criminal investigation.

The typical situation, the general situation on the national forests is that the States retain jurisdiction for the administration of civil laws and criminal laws. We have responsibility for enforcement of Federal laws and regulations.

The type of crime that you have mentioned would definitely clearly come under the jurisdiction of the State or the county sheriff, and we have traditionally relied on the local law-enforcement officers for the enforcement of criminal and civil laws.

What you say about crime within the public land areas is true. It is becoming a definite problem. We recognize it. We have employed more Federal investigators to help us with the enforcement of the Federal laws and regulations.

We are having to put on more caretakers at our campgrounds full time to help protect the public, and we are doing other things to try to protect the public, but I don't think we have an effective way to guarantee the kind of public safety that is desired.

Mrs. HANSEN. Isn't it true that most national forest areas are in rural areas of the country, and the counties usually do not receive any portion of the forest receipts for the use of their general funds?

Mr. CLIFF. That is correct.

Mrs. HANSEN. So the budgets of the counties have to be raised from the taxable lands around them which do not include the national for-

ests. Yet as the wave of crime increases in the national forests the counties' ability to pay is not rising as fast as the rising rate of crime. You can't possibly expect the county to maintain the kind of service that is necessary.

Mr. CLIFF. The cooperation from the local law-enforcement officers has generally been very good. By and large it has been excellent. But what you say is true. These are rural counties, and when you get a big influx of recreationists during a short season the counties are not equipped to cope with it. They are not equipped to cope with it either with manpower or with money.

We have tried to help by supplementing the work the counties can do but this is getting to be a very serious problem.

We have made a study of our law enforcement problems which is now being reviewed by our field unit. Perhaps Mr. Schultz or Mr. Nelson would like to comment on this further.

STUDY OF LAW VIOLATIONS ON NATIONAL FORESTS

Mr. SCHULTZ. Madam Chairman, we recently completed a rather comprehensive study of all types of law violations on the national forests throughout the United States. Many of the kind of violations you mentioned are tallied up in this inventory. It shows up the problem we have nationwide and we formulated some recommendations to counter this, increasing our own capability in the field to cope with this in our recreation areas.

We already have in every region except Alaska professional investigators (19), who are available to look into these, but frequently in some areas of heavy use it is beyond their capability of covering.

Of course, as Mr. Cliff said, our main approach to this has been to work with the local law-enforcement people on it.

Mrs. HANSEN. I sympathize with the local law-enforcement people because they are limited by a certain tax bases. In the area around a national forest where timber production and the economy is down, the tax base is falling, and therefore you don't have adequate amounts of funds for the local governments to do a proper law-enforcement job. I would think there should be continuing discussions with local and State people on how to solve some of the kinds of crime that are now evident on the national forests which were not evident 25 years ago.

You don't have the same kind of forest recreation users today as you did 15 years ago.

Mr. CLIFF. That is very true.

CHANGE IN TYPE OF FOREST USERS

Mrs. HANSEN. You had hunters, fishermen, and dedicated campers years ago.

But now you have the trailer group, the so-called hippies, and the casual recreationist who has never seen a forest before, who hasn't the vaguest idea what to do about protecting himself or how to build a fire.

You have to develop a program to teach these people about forest use.

LAW-ENFORCEMENT TRAINING

Mr. M. NELSON. Madam Chairman, in relation to the study that has been made, we are recognizing the problem a little bit more. We are doing more training of our personnel handling campgrounds in the law-enforcement features.

It is a tremendous problem to us even without considering law enforcement that affects so many of our users. We have an estimated $2 million of damage from vandalism to our campgrounds every year.

In the Southern and California regions the known law violations in 1969 were 11,970. There is a tremendously large problem here.

In the type of problem you mentioned, you might be interested in something similar we had in Arizona. One of our campgrounds and picnic grounds is used a lot by the people out of Tucson. They had trouble with the type of people you mentioned here a little while ago, even to the extent of their coming out and physically beating our guard. We hired an officer trained in law enforcement and put him in there to do the work. He corrected the situation in short order. Our alternative was to close that campground and the local people wouldn't be able to use it.

This is one place where a trained law enforcement officer has helped the situation. We are looking into how much more need we have for that type in other places.

The vandalism in that recreation area was also reduced. Any reduction in vandalism is good business.

INTENSIFIED ADMINISTRATION OF RECREATION AREAS

Mr. CLIFF. Madam Chairman, this budget provides an increase in recreation of about $2 million which is going to be used for managing the existing recreation areas to greater intensity, including action such as night patrols, full-time attendants, tighter law enforcement, as well as giving additional attention to cleanup, maintenance, and operation costs that go with increased recreation use.

We are aware of this problem. We are trying to do something about it, and a substantial part of the increase we asked for this year will be used to intensify our administration of these recreation areas.

Mrs. HANSEN. I say this, not in criticism of the Forest Service, I assure you, but to make the people of the United States aware of what increasing crime is costing them taxwise in all of the recreation areas.

And it isn't only in your area. The Bureau of Land Management, the Bureau of Indian Affairs, and the National Park Service have found tremendous increases.

MAN-CAUSED FIRE IN CALIFORNIA

Mr. M. NELSON. You mentioned the hippie group. One of our large fires during the high winds period in California on the Los Padres National Forest was started by a hippie group camping in one of the watersheds next to the Pacific Ocean where there weren't any improved facilities. They took over and camped on that land.

Stolkowski, Joseph, 1917–

Endocrinologie des vertébrés; à l'usage des candidats à la licence et à la maîtrise ès sciences. Paris, Vuibert, 1969.

184 p. illus. 25 cm. (De l'enseignement à la recherche) 18.00
F***

Bibliography: p. [181]

1. Endocrinology. I. Title.

QP187.S83 75–457975

Library of Congress 70 [13]

Mrs. HANSEN. Did they have a permit?

Mr. M. NELSON. No, they had no permit. The sheriff's office, like the sheriff you were mentioning, would run them out of one area. They would just move into another one. During the high winds this group had an open flare on the end of a stick so they could see to get from the level place on which they were camping down to the stream. Somebody dropped it.

Mrs. HANSEN. How many acres were destroyed in that fire?

Mr. M. NELSON. About 44,000 acres. It was one of the large southern California fires which burned in late September.

COMPENSATING LOCAL GOVERNMENTS

Mr. SCHULTZ. In the study mentioned we took also into consideration the idea of compensating the local government in some way by providing cooperative funds for them. However, it would require legislation to take this approach.

Mrs. HANSEN. If it takes legislation to do something to help these people, very well, because otherwise you are not going to have adequate law enforcement.

(Discussion off the record.)

PROPOSED DEPARTMENT OF NATURAL RESOURCES

Mrs. HANSEN. Secretary Cowden, what is the reaction of your department with regard to the President's proposal to put the Forest Service in the Department of Natural Resources?

Mr. COWDEN. Of course, Madam Chairman, I would say the reaction of our department would be favorable to the President's complete reorganization. If that does not come about we think the Forest Service should stay in Agriculture.

Mrs. HANSEN. That is what I call a good cagey answer.

BUDGET SUMMARY MATERIAL

Please insert pages 1 through 11 of the justifications in the record.

(The justification follows:)

FOREST SERVICE

Purpose Statement

The Forest Service is responsible for promoting the conservation and wise use of the country's forest and related watershed lands, which comprise one-third of the total land area of the United States. To meet its responsibility the Forest Service engages in three main lines of work, as follows:

1. Management, protection, and development of the National Forests and National Grasslands. The 154 National Forests and 19 National Grasslands are managed under multiple use and for sustained yield. Under these principles natural resources of outdoor recreation, range, timber, watershed, and wildlife are utilized in a planned combination that will best meet the needs of the Nation without impairing the productivity of the land.

   Direct as well as generated employment for rural residents contribute to community development and to environmental protection and improvement. Gross area within unit boundaries encompasses about 226 million acres in 44 States and Puerto Rico, of which some 187 million acres are under Forest Service administration.

   In managing the National Forests, technical forestry is applied to the growing and harvesting of timber crops. Grazing use is managed to obtain proper range conservation along with utilization of the annual growth of forage. Watersheds are managed to regulate stream flow, prevent floods, and provide water for power, irrigation, navigation, and municipalities.

   Management includes the development, maintenance, and protection of sites and facilities for the millions of people who visit the National Forests each year for recreation purposes. Emphasis is given to protecting scenic quality while at the same time assuring availability for forest users. Wildlife habitat is managed to provide a suitable land and water environment for both game and nongame wildlife.

   Under the multiple use principles most areas are used for, or serve, more than one purpose or objective. For example, about 50 percent of the area within the National Forests serves five different purposes:

   (a) Timber production
   (b) Watershed protection
   (c) Forage production
   (d) Wildlife production
   (e) Recreation

   An additional 28 percent serves four purposes in varying combinations. Of the remainder, 21 percent of the total serves three purposes with only 1 percent of the total reserved exclusively for a single purpose, mainly campgrounds and special use areas, such as summer homesites, pastures, and corrals.

The varied interests which frequently conflict and which must be reconciled, and the vast areas covered, clearly require careful planning and skillful management of the National Forest properties to most effectively serve the Nation's people.

The protection of the National Forests includes the control of forest fires, the control of tree disease and insect epidemics, and the prevention of trespass.

The major development activities of the National Forests are reforestation; timber stand improvement; revegetation; construction of roads, recreational facilities, range and other necessary improvements; and land acquisition and exchanges. Each of these activities contributes to the local economy and in many areas serves to improve incomes of the rural poor.

The economic importance of the National Forests and National Grasslands is evident when it is considered that:

(a) They produced a cash income in fiscal year 1970 of over $299.7 million. Approximately 65 percent of this amount is credited to the general fund in the Federal Treasury (miscellaneous receipts). The remainder is distributed in accordance with special acts of Congress, including 25 percent to the States or counties in which lands are located, and 10 percent made available for construction and maintenance of the Forest Service system of roads and trails. In addition to these cash receipts, there are the even greater economic values which result from the processing of end products derived from this utilization of National Forest timber, forage, and minerals. Recreation, wildlife and water result in important economic activity in local, State, and national economies. There are also important intangible values of water, recreation, and wildlife such as the esthetic enjoyment of natural beauty.

(b) The area within National Forests boundaries is equivalent to some 10 percent of the area of the continental United States. Over 40 percent of this land is within areas now experiencing economic distress. Proper management, development, and utilization of these lands are important factors in permanent improvement of these local economies. Millions of people who live in and near the National Forests are supported in whole or in part through the economic development arising from the forests and their resources. These resources offer the most favorable basis for developing prosperous and vigorous local economies and communities.

(c) The National Forests supplied 11.5 billion board feet of timber in fiscal year 1970 to the Nation's forest products industries. This is expected to increase to 13.4 billion board feet in 1971. Dependence of the forest products industries on National Forest timber continues to increase as the result of depletion of good quality timber on private lands. In some areas, the dependence of local industry on National Forest timber is almost 100 percent. Without this supply some small communities could not exist.

(d) About 7.2 million head of domestic livestock (including calves and lambs) are grazed on the National Forests and Grasslands. In many local areas this is a major industry. Without such Federal rangelands the economic activity would be drastically curtailed from currently depressed levels.

(e) These lands provide protection to municipal water supplies for nearly all western cities and towns and many in the East, to irrigation water used on about 20 million acres of western lands, and to many streams with water power developments. They provide flood protection to thousands of acres of rich valley lands and help to prevent more rapid siltation of reservoirs and stream channels. A dependable water supply is an important prerequisite for economic and community development.

(f) They provide a habitat for a large part of the big game animal population, for birds, for millions of small game animals and furbearers, and for fish. Hunting and fishing constitute an important supplementary source of income for numerous communities, many of which are economically depressed.

(g) They provide opportunities for healthful outdoor recreation, with a minimum of restrictions. Outdoor recreation is an important source of supplementary income in most areas as well as providing recreational opportunities for local residents. In some relatively depressed communities it becomes even more important.

2. Forestry research. The Forest Service conducts research in the entire field of forestry and the management of forest and related ranges. This includes the growth and harvesting of timber, its protection from fire, insects, and diseases, the protection and management of watersheds, and improved methods for development

and management of recreation resources. It conducts studies in forest economics, marketing of forest products, and a survey of the present extent and potential growth and use of the Nation's forest resources. It also conducts research to develop new and improved products from wood, to increase efficiency of utilizing forest products, and to advance the efficiency and mechanization of forestry operations.

The research program has a two-fold objective:

(a) To backstop the National Forest development program by devising more efficient practices for protecting, managing, and utilizing forest resources.

(b) To develop new and improved practices that will lead to sounder uses of forests in other public and private ownerships and more efficient and profitable utilization and marketing of forest products.

Results of research are made available to owners of private forest and rangelands, to public agencies which administer such lands, to forest product industries, and to consumers. Research in the growing, harvesting, processing, and marketing of forest products results in increased competitiveness for forest products. Contribution of the forest resource to the economic and social welfare is made more effective. Research in the management of resources for water, forage, wildlife, and recreation has similar effects as a basis for community development and satisfaction of national demands.

3. Cooperation with State and private forest landowners. The Forest Service cooperates with State agencies and private owners to improve management of non-Federal forest lands. Technical help is also provided by the Forest Service in cooperation with the State agencies to the processors of forest products. Opportunities exist for greatly increasing the contribution of these lands to social and economic welfare of the Nation as a whole and more particularly through rural development and outreach activities in rural America to improve the economic levels, employment opportunities, and general welfare of the people living in these areas. Specific programs are designed to:

(a) Better protect the 519 million acres of State and privately owned forests and critical watersheds against fires, insects, and diseases.

(b) Encourage better forest practices, for resource conservation, betterment, and profit, on the 395 million acres of non-Federal forest land.

(c) Aid in the distribution of planting stock for forests, shelterbelts, and wood lots.

(d) Assist the harvesters, processors, and marketers of forest products in doing a better job and thereby bring about greater use of forest products and increased income and employment for rural people.

(e) The Forest Service also provides assistance to States for tree planting, reforestation, and tree improvement under Section 401 of the Agricultural Act of 1956 (16 USC 568e-568g), through the State forester or equivalent State official, including advice, technical assistance, and financial contributions, in accordance with plans submitted by the State and approved by the Secretary of Agriculture.

(f) Provide assistance to local communities in planning and development of new and greater opportunities for creative and satisfying living, work, and recreation in rural America.

Other work related to forestry includes:

4. Insect and disease control. Activities to suppress and control destructive insects and diseases that threaten timber areas include two types of work carried on jointly by Federal, State, and private agencies.

(a) Surveys on forest lands to detect and evaluate infestations of forest insects and infections of tree diseases and determination of protective measures to be taken.

(b) Control operations to suppress or eradicate forest insects and diseases, including white pine blister rust in a manner that does not impair the quality of our environment.

5. Flood prevention and watershed protection. The Forest Service cooperates with the Soil Conservation Service, appropriate State agencies and the local organizations sponsoring small watershed protection projects initiated under the Watershed Protection and Flood Prevention Act of 1954 (16 USC 1001-1007) in planning and installing forestry and related land resource measures on the watersheds. The Forest Service also collaborates with the Soil Conservation Service, other Federal and State agencies in the conduct of comprehensive river basin studies relating to the development of water and related land resources under authority of the Water Resources Planning Act (42 USC 1962) and 16 USC 1006 mentioned above. Such studies can form part of the basis of plans for regional and community economic development.

On National Forest lands and on non-Federal forest lands within the watersheds authorized for treatment by the Department of Agriculture under the Flood Control Act (33 USC 701), the Forest Service plans and installs watershed improvement measures, in the form of minor physical structures, cultural measures, and intensified fire control, to retard runoff and reduce flood water and sediment damage. Work on non-Federal land is carried on in cooperation with the Soil Conservation Service and the appropriate State and local agencies.

The Forest Service cooperates with the Soil Conservation Service and other Federal, State, and local agencies or groups in the emergency treatment of watersheds impaired by fire or other similar disasters to prevent the loss of life or serious flood and sediment damages. This work is performed under the authority of Section 216 of the Flood Control Act of 1950 (33 USC 701b-1) with funds allotted to the Forest Service by the Soil Conservation Service. This section of the Act provides that not more than $300,000 of the regular appropriations for Flood Prevention may be expended during any one fiscal year for emergency measures.

Generally, this work is performed with funds allotted to the Forest Service by the Soil Conservation Service. Forest Service funds are used to finance land treatment and certain other measures on small watershed projects located on National Forest lands.

6. Job Corps Civilian Conservation Centers. The Forest Service operates 20 Job Corps Civilian Conservation Centers on National Forests throughout the United States under agreement with the Department of Labor. The Forest Service provides the staffing, administration and logistical support to physically operate and maintain the Centers and conduct the basic education, plan and supervise the recreation, and fully implement the vocational training of corpsmen. The funds for this program are transferred from Department of Labor. There are 41 to 60 permanent staff assigned to each Center based upon enrollee capacity of 112 to 224. Total capacity of all Centers is 3,548 corpsmen and Centers operate on a 24-hour, seven-day week basis. Both human and natural resources are being upgraded through these Civilian Conservation Centers, as young men improve their education and job skills in preparation for a more productive life.

7. Timber stand improvement. Funds collected from timber purchasers in connection with timber sales, under authority of the Knutson-Vandenberg Act, make possible some timber stand improvement work on cut-over areas each year looking to the establishment of natural tree growth and protecting it through the critical period of early growth. This work also helps to obtain stocking of trees of

desirable species, form and quality. Timber stand improvement in promosing young growth not associated with timber sale cuttings is done with funds directly appropriated by Congress.

8. Brush disposal. National Forest timber sale contracts require treatment of debris from cutting operations or deposit of funds to pay for the work. If it is not feasible for the timber purchaser to dispose of the logging slash, which is the case in most sales, it is done by the Forest Service using deposits made by the purchaser. This work is essential because logging slash increases the fire hazard and may contribute to the buildup of insect populations, increase certain disease infestations, and cause damage to stream channels.

9. Land and Water Conservation Fund. This fund, transferred from the appropriation made to the Department of the Interior, finances the acquisition of lands, waters, or interests in lands or waters by the Forest Service as well as certain other Federal agencies. The Act creating the fund from which appropriations are made requires that the lands and waters acquired be primarily of value for outdoor recreation. Means are provided for expanding outdoor recreation opportunities and protecting and improving environmental quality including natural beauty. The fund derives revenues from admission and user fees, sales of surplus real property, and motor boat fuel tax. The first purchase of recreation land made by the Forest Service was on October 19, 1965.

10. Rural fire defense. The Forest Service, as a part of its regular programs, also directs Federal activities and provides technical guidance and training to States concerned with the prevention and control of fires which might be caused by an enemy attack or a nuclear accident in rural areas of the United States.

11. Appalachian regional development program. Under the Appalachian Regional Development Act (40 USC app. 204), the Forest Service provides technical assistance to timber development organizations to improve development and utilization of timber stands in the Appalachian region. Regional and community development is encouraged and assisted with attendant progress in eliminating rural poverty. The funds for this program are transferred from the Appalachian Regional Development Commission.

ORGANIZATIONAL STRUCTURE

The Forest Service maintains its central office in Washington with program activities decentralized to 9 regional offices, 129 forest supervisors' offices, 760 district rangers' offices, 2 State and private forestry area offices, 8 forest and range experiment stations, the Institute of Tropical Forestry, and the Forest Products Laboratory. Location of headquarters offices:

Regional Offices:
Missoula, Montana
Denver, Colorado
Albuquerque, New Mexico
Ogden, Utah
San Francisco, California
Portland, Oregon
Atlanta, Georgia
Milwaukee, Wisconsin
Juneau, Alaska

State and private forestry area offices: Upper Darby, Pennsylvania
Atlanta, Georgia

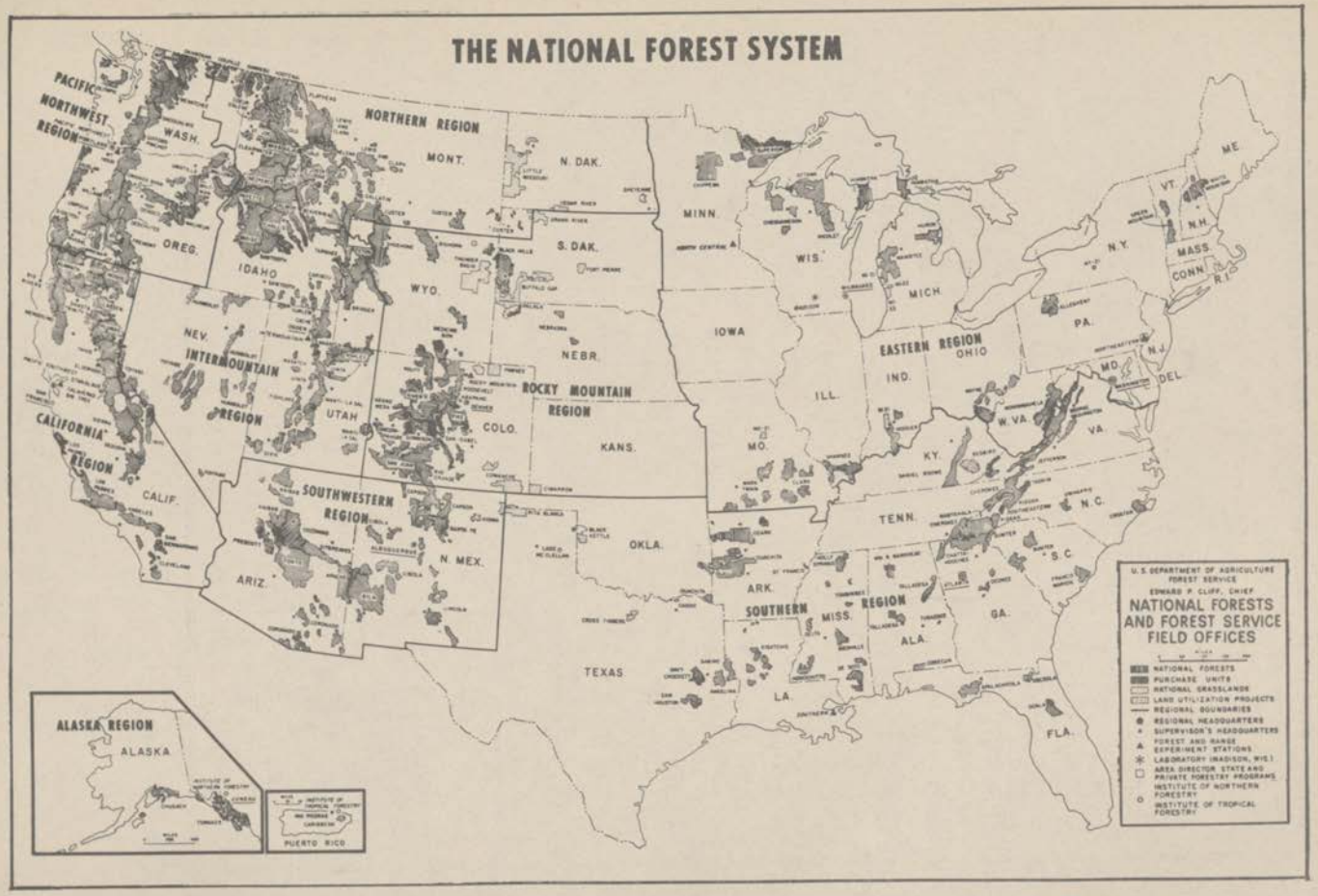
Experiment stations:
Ogden, Utah
St. Paul, Minnesota
Upper Darby, Pennsylvania
Portland, Oregon
Berkeley California
Fort Collins, Colorado
Asheville, North Carolina
New Orleans, Louisiana

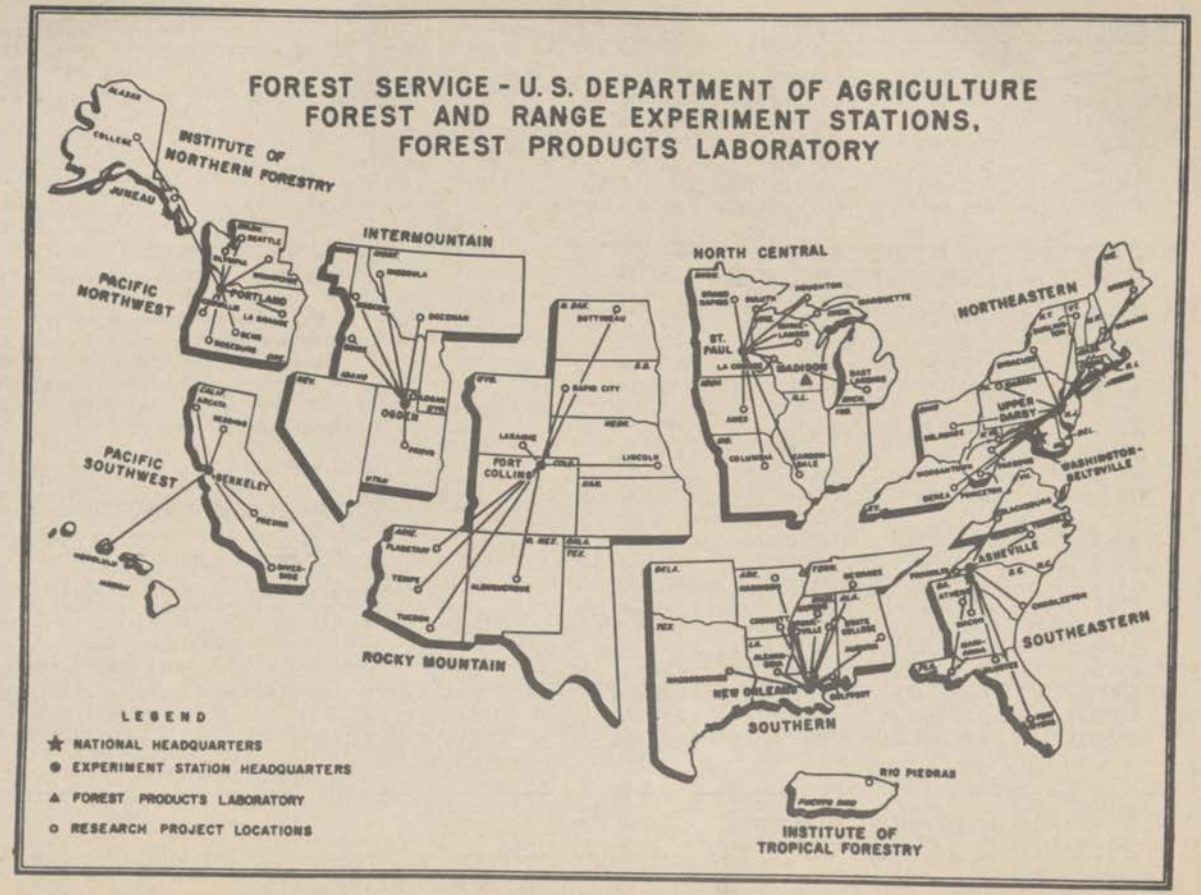
Forest Products Laboratory: Madison, Wisconsin

Institute of Tropical Forestry: Rio Piedras, Puerto Rico

National Forest, National Grasslands, and Utilization lands administered by the Forest Service are located in all States except the following six:

Delaware
Hawaii
Maryland
Massachusetts
New Jersey
Rhode Island


THE NATIONAL FOREST SYSTEM
PACIFIC NORTHWEST REGION
WASH.
OREG.
CALIFORNIA REGION
CALIF.
NORTHERN REGION
MONT.
N. DAK.
IDAHO
WYO.
S. DAK.
NEV.
INTERMOUNTAIN REGION
UTAH
COLO.
NEBR.
ROCKY MOUNTAIN REGION
KANS.
SOUTHWESTERN REGION
ARIZ.
N. MEX.
OKLA.
TEXAS
MINN.
IOWA
MO.
ARK.
LA.
WIS.
MICH.
ILL.
IND.
OHIO
KY.
TENN.
MISS.
ALA.
GA.
FLA.
S.C.
N.C.
VA.
W.VA.
PA.
N.Y.
ME
VT.
N.H.
MASS.
CONN.
R.I.
N.J.
MD.
DEL
SOUTHERN REGION
EASTERN REGION
ALASKA REGION
ALASKA
PUERTO RICO
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
EDWARD P. CLIFF, CHIEF
NATIONAL FORESTS AND FOREST SERVICE FIELD OFFICES
NATIONAL FORESTS
PURCHASE UNITS
NATIONAL GRASSLANDS
LAND UTILIZATION PROJECTS
REGIONAL BOUNDARIES
REGIONAL HEADQUARTERS
SUPERVISOR'S HEADQUARTERS
FOREST AND RANGE EXPERIMENT STATIONS
LABORATORY (MADISON, WIS.)
AREA DIRECTOR STATE AND PRIVATE FORESTRY PROGRAMS
INSTITUTE OF NORTHERN FORESTRY
INSTITUTE OF TROPICAL FORESTRY


FOREST SERVICE - U. S. DEPARTMENT OF AGRICULTURE
FOREST AND RANGE EXPERIMENT STATIONS,
FOREST PRODUCTS LABORATORY
INSTITUTE OF NORTHERN FORESTRY
ALASKA
COLLEGE
JUNEAU
PACIFIC NORTHWEST
SEATTLE
PORTLAND
BEND
ROSEBURG
INTERMOUNTAIN
MISSOULA
BOZEMAN
OGDEN
PROVO
PACIFIC SOUTHWEST
BERKELEY
RIVERSIDE
HONOLULU
HAWAII
ROCKY MOUNTAIN
FORT COLLINS
RAPID CITY
LINCOLN
LARAMIE
FLAGSTAFF
TEMPE
TUCSON
ALBUQUERQUE
NORTH CENTRAL
ST. PAUL
MADISON
EAST LANSING
COLUMBIA
NORTHEASTERN
UPPER DARBY
WASHINGTON-BELTSVILLE
ASHEVILLE
SOUTHEASTERN
SOUTHERN
NEW ORLEANS
STARKVILLE
RIO PIEDRAS
INSTITUTE OF TROPICAL FORESTRY
LEGEND
NATIONAL HEADQUARTERS
EXPERIMENT STATION HEADQUARTERS
FOREST PRODUCTS LABORATORY
RESEARCH PROJECT LOCATIONS

Summary of Estimated Appropriations and Receipts

Page No.	Item	Available 1970 1/	Estimated Available 1971 2/	Budget Estimates 1972	Increase or Decrease 1972 over 1971
	Appropriated Funds				
	Forest protection and utilization:				
19	Forest land management	$226,705,000	$207,147,000	$225,118,000	+$17,971,000
72	Forest research	45,590,000	47,805,000	47,668,000	-137,000
101	State and private forestry cooperation	22,910,000	24,081,000	24,067,000	-14,000
	Total, Forest protection and utilization	295,205,000	279,033,000	296,853,000	+17,820,000
111	Construction and land acquisition	- -	15,819,700	24,912,000	+9,092,300
131	Forest roads and trails 3/	100,570,000	115,000,000	135,300,000	+20,300,000
135	Acquisition of lands for National Forests, Special Acts	80,000	80,000	80,000	- -
137	Acquisition of lands to complete land exchanges	700,000	700,000	26,035 700,000	+26,035 - -
130	Cooperative range improvements	1,000,000	1,013,000	1,013,000	- -
138	Assistance to States for tree planting 3/	- -	2,500,000	- -	-2,500,000
140	Youth conservation corps				
	Permanent Appropriations				
150	Expenses, brush disposal 3/	12,776,558	12,800,000	14,000,000	+1,200,000
149	Roads and trails for States, National Forests Fund	31,206,198	28,761,091	32,760,000	+3,998,909
152	Forest fire prevention 3/	108,568	133,000	135,000	+2,000
153	Restoration of forest lands and improvements 3/	28,461	35,000	50,000	+15,000
154	Payment to Minnesota (Cook, Lake, and St. Louis Counties) from the National Forests Fund	257,955	258,006	265,000	+6,994
155	Payments to counties, National Grasslands	505,888	512,500	512,500	- -
156	Payments to school funds, Arizona and New Mexico	124,709	84,338	100,000	+15,662
157	Payments to States, National Forests Fund	78,012,921	71,896,615	81,891,000	+9,994,385
	Total	520,576,258	528,626,250	588,597,535	+59,971,285
	Deduct permanent appropriations shown above	123,021,258	114,480,550	129,713,500	+15,232,950
	Total (excluding permanent appropriations)	397,555,000	414,145,700	458,884,035	+44,738,335
	Receipts 4/				
	Timber sales	$283,912,394	$322,320,000	$351,900,000	+$29,580,000
	Grazing	3,771,663	3,850,000	5,000,000	+1,150,000
	Power	193,377	200,000	220,000	+20,000
	Recreation	2,982,512	3,500,000	4,000,000	+500,000
	Land uses	835,576	900,000	975,000	+75,000
	Mineral leases and permits	4,801,422	5,500,000	6,000,000	+500,000
	Admission and user fees	1,157,414	1,500,000	1,750,000	+250,000
	National grasslands and land utilization	2,048,848	2,050,000	2,050,000	- -
	Total receipts	299,703,206	339,820,000	371,895,000	+32,075,000

(Footnotes on next page)

Summary of Estimated Appropriations and Receipts--continued

1/ Includes: $10,266,000 made available pursuant to provisions of House Joint Resolution 1232 (PL 91-257, 5/19/70) for increased pay costs; Second Supplemental Appropriations Act, 1970 (PL 91-305, 7/6/70)--$21 million for fighting forest fires, $172,000 for recreation-public use, and transfer of $5,373,000 from other accounts for increased pay costs; also includes $1 million of trust funds used for fighting forest fires repaid in fiscal year 1971 and transfer of $13,000 from Rural Community Development Services.
Excludes GSA space transfers of $295,000.

2/ Includes following proposed supplemental for increased pay costs:

	Proposed Supplemental
Forest Protection and Utilization:	
Forest land management	$7,800,000
Forest research	+2,120,000
State and private forestry cooperation	+142,000
Total	10,062,000
Assistance to States for Tree Planting	13,000

Excludes following: GSA space transfers of $434,000 (Forest land management, $420,000 and Forest research, $14,000) and proposed supplemental for fighting forest fires of $68 million.

3/ In addition, prior year balances are available.

4/ Amounts include:

	1970	1971	1972
Suspense account, Alaska a/	$4,208,977	$4,500,000	$4,500,000
Suspense account, O&C lands b/	9,884,508	10,000,000	10,000,000

a/ Account established pending settlement of Indian rights on Tongass National Forest, Alaska.
b/ Account established for Oregon and California railroad grant lands, for which receipts are transferred to Department of the Interior for distribution under the Acts of August 28, 1937, June 24, 1954, and August 3, 1961 (43 USC 1181f-g).

JOB CORPS CIVILIAN CONSERVATION CENTERS

(Funds transferred to Forest Service by Department of Labor)

	Available 1970		Estimate 1971		Estimate 1972	
	No. of Permanent Positions	Amount (in thousands)	No. of Permanent Positions	Amount (in thousands)	No. of Permanent Positions	Amount (in thousands)
Center readiness	- -	$3,199	- -	$1,618	- -	$2,000
Center operation	987	22,461	992	21,910	992	24,269
Program direction and training	144	2,040	139	1,920	139	2,102
Total	1,131	27,700	1,131	25,448	1,131	28,371

NOTE: Fiscal years 1971 and 1972 estimates are based on best information available to the Forest Service as of January 20, 1971.

Mrs. HANSEN. I think this might be a highly appropriate moment to insert in the record the funds placed in reserve by the Office of Management and Budget.

On February 24, 1971, we had a communication from the Forest Service relative to the amount of funds placed in reserve for the last 5 fiscal years. I will now place that letter in the record.

(The letter follows:)

FOREST SERVICE FREEZES

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

WO

REPLY TO: 6510 Appropriations and Funds February 24, 1971

SUBJECT: Funds Put in Reserve by Budget Bureau (OMB)

TO: Byron Nielsen, House Appropriations Committee Staff

This will confirm my telephone conversation with you concerning the amounts put in reserve by the Budget Bureau (OMB) during the past five years:

Fiscal Year 1966 and Fiscal Year 1967: Nothing

Fiscal Year 1968

As a result of PL 90-218 (Joint Resolution - Reduction in obligations and expenditures):

FP&U	$6,365,000
FR&T	15,000,000
CSC Board of Examiners:	
FP&U	112,280
FR&T	35,000
Total	21,512,280

Fiscal Year 1969

As a result of PL 90-364 (Revenue and Expenditure Control Act - Section 201, Employment Limitation):

FP&U	$1,676,000
FR&T	294,000
Assistance to States for Tree Planting ..	2,000
Total	1,972,000

Fiscal Year 1970

Construction Deferral:

FP&U	$2,480,900
FR&T	2,203,200
Total	4,684,100

Wm. A. CAMPBELL
Budget Officer

FISCAL YEAR 1970 CONSTRUCTION DEFERRALS

Mrs. HANSEN. Would you please list for the committee the projects that are presently in budget reserve. I would be very interested in seeing them.

Mr. CLIFF. I would ask Mr. Schultz to respond to that.

Mr. SCHULTZ. We can provide that for the record.

Mrs. HANSEN. Please list the items for the committee.

Mr. SCHULTZ. In fiscal 1970, $873,200 of the forest roads and trails funds were released for the natural disasters and completion of some projects that were started by the Job Corps but weren't completed at the time of closure of some of the camps. Five hundred and fifty-three thousand dollars were released for natural disasters and $320,200 for Job Corps projects. One million, six hundred and forty thousand dollars of the forest protection and utilization funds was released for increased pay costs and $840,900 was used for natural disasters.

Mrs. HANSEN. Are the Cave Run, June Lake, and Lake Tahoe projects in reserve?

Mr. SCHULTZ. The three projects you mentioned were not deferred. Several others were. We will list them for the record.

Mrs. HANSEN. Are they in the deep freeze?

Mr. SCHULTZ. That is correct for fiscal year 1970.

CORVALLIS LABORATORY

Mrs. HANSEN. What about the funds for Corvallis Laboratory, are they still in reserve?

Mr. SCHULTZ. No, they are not.

Mrs. HANSEN. Mr. Wyatt, you ought to be grateful you sit on this committee.

Mr. WYATT. I certainly am grateful.

CAVE RUN

Mrs. HANSEN. What is the present status of the Cave Run project?

Mr. M. NELSON. We are doing the work with the money that was available in this current fiscal year.

However, there wasn't enough fiscal year 1971 funding to do the whole job that needs to be done before all the reservoir is filled. We have in this budget $102,000 for Cave Run.

Mrs. HANSEN. If you haven't spent last year's funds, why are you requesting more funds in this budget?

Mr. M. NELSON. We are spending last year's appropriation. But this coming fiscal year, to do the job that should be done before the water comes up there, $966,000 would be needed. We have $102,000 in the budget to do part of the job.

JUNE LAKE

Mrs. HANSEN. What about the June Lake project?

Mr. M. NELSON. I believe the June Lake one was a planning job in relation to a zoning proposal, and it involved a sewer system for the whole community. In other words, we had to cooperate with the community in the planning for a system for the whole area.

Mrs. HANSEN. Are you doing the planning?

Mr. M. NELSON. $204,000 would be needed to move into the new campground, move us out of June Lake area that we talked about last year where there was an exchange involved. But the planning job at June Lake is being done.

Mrs. HANSEN. You should be ready for action.

Mr. M. NELSON. I think we will be ready for some action.

Mrs. HANSEN. Are you requesting funds in this budget for June Lake?

Mr. DROEGE. With regard to pollution abatement at June Lake, Mr. Nelson indicated he intended to give you a table that indicates some postponed action. This will include June Lake pollution abatement work. The June Lake pollution abatement project is one of the ones we propose to postpone. The reason for this is that it involves the local community, and they are not ready to go ahead on the project with us. The regional forester doesn't think they would be ready to start construction in fiscal year 1972.

In the event they do get ready we might have to make some other adjustments. At the present moment it doesn't look like the total construction project need be in fiscal year 1972.

TIMBERLINE LODGE

Mrs. HANSEN. Is the $101,700 appropriated last year for the Timberline Lodge in reserve?

Mr. M. NELSON. That is being used this fiscal year to do the job that was indicated. I am sure Congressman Wyatt read the budget enough to know there is nothing in the budget this year to continue with the necessary and desirable work at Timberline Lodge.

Mr. WYATT. I intend to make every effort to remedy that omission with the help of our chairman who also has an interest in this fine facility which is just across the river from her district.

Mr. M. NELSON. I think both of you can understand the position that we face. In construction item we have a little over $1 million for recreation improvements.

Mr. WYATT. Chief, in connection with the Forest Service plans for the renovation of Timberline Lodge, Oregon, would you please describe the need for continuing this program?

Mr. M. NELSON. Timberline Lodge is the hub of a recreation complex. Use of the lodge has outgrown facilities. To prevent deterioration of the lodge, a unique landmark, and to accommodate increasing use, a comprehensive expansion plan and design drawings have been prepared. In fiscal year 1971, $207,700 was appropriated to implement expansion. These funds provided a new equipment maintenance building and improvement of sewage treatment facilities to meet modern standards.

Mr. WYATT. It is my understanding that the building of the convention wing is the next highest item by priority in the Timberline program. Would you please state the estimate of dollars for these lodge modifications?

Mr. M. NELSON. The next highest priority item is the lodge addition or convention wing and the initial phase of lodge modifications. The current project cost estimate for these items is $951,000. Another $53,000 will be needed for the final phase of lodge modification. To complete the Timberline program, a day-use building costing $2,328,000 and employee housing costing $1,154,000 will be needed. Additional parking facilities are also needed, but these will be designed and constructed with other funds through the cooperation of State and other public agencies.

Mrs. HANSEN. Wouldn't it be cheaper to build more recreation facilities which might help stop so much spending on fire damage?

Mr. M. NELSON. That is correct. What I was indicating is our need for the next phase of Timberline is $951,000 and that would have used all of our allowance.

Mrs. HANSEN. I am hoping the people that strike out funds downtown will read this and maybe decide it might be cheaper.

CONSTRUCTION FUNDS FOR RECREATION FACILITIES

Mr. CLIFF. This budget actually represents a reduction of about $2 million in recreation construction, exclusive of pollution abatement.

Mrs. HANSEN. This is a shortsighted approach.

Mr. CLIFF. In other words, $3 million to a little over $1 million.

Mrs. HANSEN. In spite of the increased use by visitors?

Mr. CLIFF. That is correct. The $2 million reduction in construction of recreation facilities is being shifted to the pollution control activity, which is considered to be of higher priority than building new recreation facilities.

Mrs. HANSEN. Mr. Cliff, I don't see how people can possibly justify cutting a budget that is going to prevent additional costs to the forests in not only acreage burned but in funds spent. You don't have to justify this. This is purely to point out it isn't good management to allow the destruction of forests when it could be prevented.

I will be extremely interested in seeing the amount of funds in reserve.

Mr. CLIFF. We will supply that for the record.

(The information follows:)

FISCAL YEAR 1970 CONSTRUCTION PROJECTS DEFERRED

State	National Forest	Project	Amount
		FOREST PROTECTION AND UTILIZATION	
Fire and general purpose improvements:			
Montana	Lolo	Seeley Lake pollution abatement	$11,500
Colorado	San Isabel	Barracks, storage buildings, etc. ..	52,600
Idaho	Challis	2 dwellings and power system	46,000
California	Eldorado	Water system	22,000
	Klamath	2 water systems	12,000
	Plumas	Water system	1,800
Oregon	Mt. Hood	Office	99,000
Virginia	Jefferson	Office	36,200
Alaska		Gas and oil house	3,000
Pennsylvania	Allegheny	Office	65,000
Subtotal			349,100
Recreation, VIS, Water Resource Development Related Projects:			
Montana	Kootenai	Big Creek section of Libby Dam	$45,000
Colorado	Black Hills	Horsethief Campground	8,400
Arizona	Sitgreaves	Chevelon Canyon	38,000
New Mexico	Gila	Dipping Vat	22,000
New Mexico	Apache	Largo	39,000
Arizona	Coronado	Amphitheater and nature trails	6,000
Texas	Panhandle National Grasslands	Handicap Trail	2,000
New Mexico	Cibola	Amphitheater	6,000
Arizona	Kaibab	Interpretive Trail	3,000
Arizona	Apache	Big Lake	149,000
Arizona	Apache	Winn Campground	9,000
New Mexico	Santa Fe	Jacks Creek Campground	6,000
Utah	Ashley	Firehole Campground, Flaming Gorge .	195,800
Nevada	Toiyabe	Las Vegas Exhibit	3,200
California	Tahoe	Stampede Reservoir	130,700
California	Angeles	Pyramid	25,000
California	Six Rivers	Information Station	30,000
California	Cleveland	El Prado Campground	10,000
California	Shasta-Trinity	Shasta-Trinity National Recreation Area	8,800
California	Stanislaus	Lake Alpine	59,000
Washington	Snoqualmie	Information station	17,000
Washington	Mt. Baker	Heather Meadows	5,000
Oregon	Umpqua	Diamond Lake	518,400
Oregon	Umatilla	Jubilee Lake	5,700
Oregon	Ochoco	Haystack	6,500

State	National Forest	Project	Amount
Washington	Okanogan	Toroda Creek and Klip Creek	80,600
Washington	Mt. Baker	Baker Lake	142,900
Virginia	Jefferson	Straight Creek Campground (Mt. Rogers NRA)	151,400
Virginia	Jefferson	Straight Creek Dam (NRA)	32,400
West Virginia	Monongahela	Big Bend Campground and Spruce Knob Lake	35,000
Indiana	Wayne-Hoosier	Monroe Reservoir	5,000
Indiana	Wayne-Hoosier	Cannelton Lock and Dam	14,000
Pennsylvania	Allegheny	Allegheny Reservoir	24,000
Indiana	Wayne-Hoosier	Middle Fork Anderson	148,000
California	Plumas	Antelope	69,000
California	Eldorado	Upper American River	115,000
Pennsylvania	Allegheny	Allegheny	155,000
Utah	Wasatch	Meeks Creek	171,000
Subtotal			2,491,800
Total, Forest Protection and Utilization			2,840,900
		FOREST ROADS AND TRAILS	
Montana	Couer d'Alene	Lookout	40,000
	Custer	Eastside	102,000
	Kootenai	Big Creek Campground	55,000
	Helena	Aspin Campground	12,000
Nebraska	Central Plain Forestry Office	Fred Johnson	56,400
Nebraska	Central Plain Forestry Office	Slope stabilization	9,400
Colorado	Gunnison	Coal Creek Bridge	39,200
Wyoming	Medicine Bow	Encampment Ranger	5,000
Colorado	Rio Grande	South Fork Campground	25,000
	Routt	Muddy Pass Lake Park	3,000
Colorado	Routt	Granite picnic ground	2,300
	San Juan	West Fork	10,200
	San Juan	Mavresso Campground	3,900
	San Juan	West Dolore Campground	6,500
	San Juan	Burro Bridge Campground	3,300
Colorado	San Juan	West Fork Campground	5,800
	San Juan	Wolf Creek Campground	4,700
	San Juan	Lost Fork Campground	2,600
Wyoming	Shoshone	Sand Creek Bridge	12,000
	Shoshone	Dickinson Creek Bridge	12,000

State	National Forest	Project	Amount
Wyoming	Shoshone	Roaring Fork	20,000
	Shoshone	Worthen Campground	12,000
Colorado	San Isabel	Matchless Marina	26,000
	San Isabel	Maid of Erin picnic ground	4,000
Wyoming	Shoshone	South Fork Trail	47,700
New Mexico	Gila	Dipping Vat	63,000
Arizona	Coronado	Rucker Canyon	4,000
Wyoming	Ashley	Firehole Campground	106,500
Utah	Dixie	Te-Ha Campground	50,000
Nevada	Humboldt	Lamoille Canyon	286,500
Oregon	Deschutes	Metclius River	56,300
	Deschutes	Lava Island	47,000
	Deschutes	Jim Egan	25,000
	Deschutes	Wickiup Camp	4,500
	Deschutes	Lava Butte	17,300
Oregon	Deschutes	Crane Prairie	1,500
	Deschutes	Phil Brogan Trail	12,000
	Malheur	Strawberry Basin	1,900
	Malheur	Strawberry Lake	900
	Siskiyou	Grayback Campground	4,000
Oregon	Siskiyou	Vulcan Lake	4,500
	Siskiyou	Illinois River	2,300
	Siskiyou	Illinois River	4,000
	Wallowa-Whitman	North Gumboat	400
	Winema	Spring Creek	4,100
Washington	Mt. Baker	Bay View Campground	100,000
	Mt. Baker	Boardman Lake	10,000
	Okanogan	Klip Chuck Campground	29,500
	Snoqualmie	Cascade Crest	10,000
Arkansas	Ouachita	Ridge Mountain	15,000
Arkansas	Ozark	Hector Ranger Station	4,396
	Ozark	Mt. Burg AS	3,654
	Ozark	Clarksville AS	3,950
	Ozark	Big Spring Road	35,500
Florida	Florida	Juniper Spring	15,000
Georgia	Georgia	Toccoa Ranger Station	2,000
Kentucky	Daniel Boone	Cave Run	225,500
Louisiana	Kisatchie	Johnson Road	14,000
	Kisatchie	Caney AS	9,200
Mississippi	Mississippi	Harrison Exp. Road	5,000
Mississippi	Mississippi	Cypress Creek Road	9,000
Tennessee	Cherokee	Oswald Vista	3,000
Texas	Texas	Sandy Creek	78,000
	Texas	Alberta	78,000
Virginia	Jefferson	Beartree Gap	51,800

State	National Forest	Project	Amount
Missouri	Mark Twain	Bay Nothing	52,000
Michigan	Ottawa	Snap Jack Long Lake	23,000
	Ottawa	Clark Lake Campground	76,000
Illinois	Shawnee	Levee	28,000
	Shawnee	Dutchman	24,000
Minnesota	Superior	Crane Lake Spur	59,000
Alaska	North Tongass	Harbor Mountain	13,000
	North Tongass	Wilson Cove	5,000
	North Tongass	Situk	5,000
Total, Forest Roads and Trails			2,203,200
GRAND TOTAL			5,044,100

MOUNT ROGERS NATIONAL RECREATION AREA

Mrs. HANSEN. Will you tell us the current status of your development of the Mount Rogers National Recreation Area and the future needs there?

Mr. DROEGE. Current improvements in the Mount Rogers National Recreation Area will accommodate 1,075 persons at one time. The improvements include the Comers Rock observation site (10 PAOT), Grindstone swimming site (100 PAOT), Comers Rock, Raccoon Branch, Hurricane, and Grindstone campgrounds (795 PAOT), and Comers Rock, Long Branch, and Skulls Gap picnic sites (145 PAOT). In addition to these facilities, there are four shelters accommodating 25 persons at one time. These are located along the Appalachian Trail which runs through the national recreation area.

The Job Corps and Operation Mainstream (manpower) programs are currently involved in developing a critically needed administrative headquarters and some trail facilities.

Mrs. HANSEN. Have any funds been included in this year's budget for work at Mount Rogers?

Mr. DROEGE. There are no construction funds in this budget for Mount Rogers National Recreation Area; $75,000 has been programed for administration, operation, and cleanup, and $46,000 for maintenance. In addition, $1,600,000 has been programed for land acquisition in the area under the land and water conservation fund.

Mrs. HANSEN. Which of your needs at Mount Rogers is the most important as far as development this year?

Mr. DROEGE. The Bear Tree complex with related roads is the most important need for development this year. This complex will provide camping accommodations for 1,150 visitors. Detailed site designs and construction plans are complete. Recreation facilities construction is estimated at $2,394,000 and road construction is estimated at $1,140,000. However, a substantial portion of the campground could be opened with $450,000 in recreation construction and $250,000 road construction funds.

BLANCHARD SPRINGS

Mrs. HANSEN. What is the total cost of the work remaining to be done to develop Blanchard Springs in Arkansas?

Mr. DROEGE. The cost of the remaining work to be done at Blanchard Springs Caverns in Arkansas is estimated to be $2,858,500.

Mrs. HANSEN. What amount could be used in 1972 at this location?

Mr. DROEGE. The fiscal year 1972 budget request has $107,300 planned for construction at Blanchard Springs Caverns. In addition, $60,000 is planned for land acquisition from the land and water conservation fund. An additional amount of $882,200 for construction could be used to advantage in fiscal year 1972.

ECONOMIC IMPORTANCE OF THE NATIONAL FORESTS

Mrs. HANSEN. What proportion of our national economy is dependent upon the use of timber and watersheds in the national forests? Also what happens when you are unable to supply timber to the areas which are utterly dependent upon it?

Mr. CLIFF. Madam Chairman, we can handle this one of two ways. We could discuss it here or write a statement along those lines to insert in the record. We do have in our notes on page 2 a brief statement on the economic importance of the national forests and the national grasslands which you have already included in the record. We can elaborate on this.

Mrs. HANSEN. I think you should elaborate substantially for the record because you have to relate the part the national forest plays in the economy of this Nation. Isn't your role increasing as you continue to acquire more land?

Mr. CLIFF. We are acquiring some additional national forest lands primarily to round out recreation areas.

Mrs. HANSEN. Recreation in the national forests has a great impact on the total economy of the United States.

For example, there are communities that are utterly dependent upon timber sales, and there are other communities that are utterly dependent upon hunters, fishermen, and recreation users.

I was in a community last fall in Montana and it was utterly dependent upon recreation use.

Mr. CLIFF. There are many communities to whom recreation is the major component——

Mrs. HANSEN. How much money is generated by the recreation user from the national forest?

Mr. CLIFF. I can't answer that categorically right now, Madam Chairman. I will be glad to develop it for the record.

Mrs. HANSEN. Please do.

(The information follows:)

NATIONAL FORESTS CONTRIBUTE TO THE NATIONAL ECONOMY

The National Forests contribute significantly to the economic life of the Nation as a whole. On a national basis, over 600,000 people are employed in the lumber and wood products industry, while over 220,000 are employed in the pulp and paper industry. Total United States roundwood timber demand to supply these industries was about 50 billion board feet in 1969. National Forests supplied about 28 percent of the timber harvested to meet this demand.

During 1970, hunters and fishermen spent about $530,000,000 while visiting our National Forests. Recreationists involved in camping, picnicking, and other related activities (excluding hunting and fishing) spent about $707,000,000.

The economic importance of the flow of water from National Forest watersheds is increasing each year as greater demands arise for water in industry, agriculture, and human consumption. Studies have been made that illustrate the relative importance of water flowing from our National Forest watersheds. Total water yield for the Nation has been estimated to be about 2 billion acre-feet per year. The average annual runoff from National Forest lands is estimated at 390.4 million acre feet, or about 20 percent of the runoff for the entire Nation.

In areas of the West where water is of relative high economic value, the percentage of runoff from National Forests tends to run higher than the national average.

Following is an example of the percentage of runoff from National Forests for selected drainage basins:

Runoff for National Forest and Non-National Forest Areas in Certain Western Basins

Drainage Basin	Average Annual Runoff Volume	
	NF	Outside NF
Columbia (in US)	59%	41%
Colorado (in US)	56%	44%
Rio Grande above El Paso	58%	42%
Central Valley (California only)	63%	37%
Rogue-Umpqua area	42%	58%
North Platte & South Platte	41%	59%
Arkansas above Dodge City	38%	62%

These are only a few of the many ways that the National Forests contribute to the National economy. Other items of significance which relate to overall Forest Service programs are economic benefits derived from research, State and private forestry cooperation, and from other National Forest activities such as minerals management, range management, fire control, insect and disease control, and engineering. In addition, the long range economic benefits to be accrued through sustained yield-multiple use management will provide the basis for continued economic growth in the future.

JOB CORPS CONSERVATION CENTERS

Mrs. HANSEN. How many Job Corps centers are still in operation?

Mr. SCHULTZ. We still operate 20 of the Civilian Conservation centers. We recently increased our capacity of corpsmen by 280 slots bringing it up to 3,800 enrollees.

Mrs. HANSEN. Please insert in the record a list of your Job Corps centers. Can you give us an idea of what they are contributing to your total forest programs.

Mr. SCHULTZ. We can give you a list of that for the record.

(The information follows:)

JOB CORPS CIVILIAN CONSERVATION CENTERS

CENTER	CITY	STATE
Anaconda	Anaconda	Montana
Angell	Yachats	Oregon
Arrowood	Franklin	North Carolina
Blackwell	Laona	Wisconsin
Boxelder	Nemo	South Dakota
Branchville	Branchville	Indiana
Cass	Ozark	Arkansas
Cottonwood	Cottonwood	Idaho
Curlew	Curlew	Washington
Flatwoods	Coeburn	Virginia
Golconda	Golconda	Illinois
Heber	Heber	Arizona
Jacobs Creek	Bristol	Tennessee
Ouachita	Royal	Arkansas
Pine Knot	Pine Knot	Kentucky
Pine Ridge	Chadron	Nebraska
Schenck	Pisgah Forest	North Carolina
Timberlake	Estacada	Oregon
Trapper Creek	Conner	Montana
Wolf Creek	Glide	Oregon

In general for fiscal 1970, they have contributed about $3.5 million on conservation and related projects on the national forests; about $877,000 on center construction and rehabilitation, and about $72,000 on community projects.

For the record we can supply the detail.

Mrs. HANSEN. How much work in firefighting did they do?

Mr. SCHULTZ. I am not sure. We will supply that.

(The information follows:)

FISCAL YEAR 1970
CIVILIAN CONSERVATION CENTERS
WORK PROGRAM ACCOMPLISHMENT SUMMARY

Description	Quantity	Appraised Value
CONSERVATION PROJECTS		
Nonstructural range improvements	4,500 acres	$44,150
Fences, stock trails, and feedways	29.2 miles	31,350
Structural range improvements	220 each	73,370
Range, other	10 each	1,665
Fish habitat improvement (lakes)	21.2 acres	15,500
Game habitat improvement	67 acres	25,700
Other fish and game projects	4 each	4,300
Wildlife, other	13 each	5,200
Sheet erosion control	109 acres	49,000
Construction of recreation facilities	1,058 PAOT	450,750
Reconstruction of recreation sites and facilities	1 man-month	500
Construction of recreation improvements and fabrication of components	2,044.6 each	476,565
Recreation, other	1 each	8,500
Fire hazard reduction	100 acres	8,869
Fire suppression	61 man-months	27,540
Presuppression training	10 individuals	7,396
Engineering assistance	1 mile	4,400
Road construction	22.5 miles	768,665
Road reconstruction	38.9 miles	604,355
Trail construction	1 mile	8,800
Bridge reconstruction	2 each	9,465
Building construction	41,959 sq. ft.	530,200
Building reconstruction, restoration and remodeling	124.5 each	174,180
Landscaping and site development	11 each	36,300
Utility system	2 each	46,500
Sign construction and installation	3,806 each	61,460
VIS exhibits	1 each	20,000
Center support	48 man-months	20,000
Agency support (corpsmen assigned to District crews)	162 man-months	6,200
Total Conservation Projects		3,520,880

Description	Quantity	Appraised Value
ON-SITE CENTER PROJECTS		
Recreation construction	1 PAOT	$7,000
Recreation (picnic tables, etc.)	1,225 each	17,000
Road construction	6 miles	29,000
Parking area, culvert	4 miles	4,000
Building construction	5,600 square feet	153,300
Restoration	207 each	504,907
Landscaping	20 each	80,603
Utilities systems	8.7 each	19,300
Sign construction	1 each	2,700
Center support	218 man-months	56,043
Agency support	10 man-months	3,480
Total On-Site Center Projects		877,333
COMMUNITY DEVELOPMENT		
Road construction	1 mile	$15,000
Building construction	264 sq. ft.	3,500
Community projects	10 man-months	53,790
Total Community Development		72,290
SERVICE OCCUPATIONAL TRAINING		
Landscaping	1 each	$6,050
Center support	1,910 man-months	359,150
Total Service Occupational Training		365,200
GRAND TOTAL		4,835,703

INCREASE IN TIMBER SALES

Mrs. HANSEN. You are anticipating a $29.5 million increase in timber sales. Will you elaborate on that?

Mr. M. NELSON. That, Madam Chairman, is our anticipated increase in receipts from timber sales. As we indicated a while ago sales had been running rather slow. In fact, I have the figures here for the first 6 months of this present current fiscal year and the decrease in timber receipts during that period was $50 million.

We expect, however, that receipts in the second half of the fiscal year will increase considerably. All of it is due to the better market for the timber, resulting from the increased housing starts. Many sales will be under operation just as fast as they can get there because of the heavy demand for the lumber.

Many of the operators will be operating on some of the sales that they purchased during the last high peak when there was a higher value per thousand board feet than they are now paying us.

So consequently we feel this fiscal year we won't make up the 50 million, of course, but that demand and increased cutting on the national forests will go ahead next fiscal year. As I indicated a while ago we have 2½ years of our allowable annual sell quota under contract at the present time.

Some of this is at the higher prices, and consequently we expect that much of an increase in income.

YOUTH CONSERVATION CORPS

Mrs. HANSEN. Why haven't you requested funds in this budget for the Youth Conservation Corps?

Mr. CLIFF. Mr. Schultz will answer that. The Congress appropriated $2.5 million under one of the supplemental bills to get the program started.

Mrs. HANSEN. This year?

Mr. CLIFF. The money was appropriated during the last session of Congress, but these funds carry over to next fiscal year. They don't expire at the end of this fiscal year. We are just now getting the program organized. It will be started rather late in this fiscal year and most of the $2.5 million will be available for fiscal 1972.

YCC EXPENDITURES IN 1971

Mrs. HANSEN. How much do you anticipate spending this year?

Mr. SCHULTZ. For this year all of it will be spent for the one summer program. That is $2.5 million for both the Departments of the Interior and Agriculture.

Mrs. HANSEN. How much are you going to spend in 1971?

Mr. SCHULTZ. About $500,000 by the Forest Service.

Mrs. HANSEN. Give us the details on the program for current fiscal year.

LOCATION OF YCC CAMPS

Mr. SCHULTZ. This is the initial start to get the locations ready, doing some recruiting of enrollees.

Mrs. HANSEN. What locations?

Mr. SCHULTZ. I have the locations of the Forest Service projects. It is quite a long list.

Mrs. HANSEN. Please insert them in the record.

(The information follows:)

YOUTH CONSERVATION CORPS PROJECTS

Project	National Forest	State
Residential		
Condon	Flathead	Montana
Lolo Work-Education Center	Lolo	Montana
Ninemile	Lolo	Montana
Spearfish	Black Hills	South Dakota
Continental Divide	Cibola	New Mexico
San Antonio	Santa Fe	New Mexico
Alta Ski Area	Wasatch	Utah
Idaho City Jumper Base	Boise	Idaho
Chiquita	Sierra	California
Ole	Cleveland	California
Camp Rimrock	Snoqualmie	Washington
Spirit Lake	Gifford Pinchot	Washington
Ochoco	Ochoco	Oregon
Rager	Ochoco	Oregon
Yellow Pine	Angelina	Texas
Camp Doe	Ocala	Florida
Clear Fork	Ouachita	Arkansas
Monongahela	Monongahela	West Virginia
Alpha Tau	Wayne-Hoosier	Indiana
Hardin Ridge	Wayne-Hoosier	Indiana
Golden Lake	Ottawa	Michigan
Clam Lake	Chequamegon	Wisconsin
Lydick Lake	Chippewa	Minnesota
Trump Lake Lodge	Nicolet	Wisconsin
Braddock	Mark Twain	Missouri
Iroquois	Hiawatha	Michigan
Non-Residential		
Pike	Pike	Colorado
Coconino	Coconino	Arizona
Shasta-Trinity	Shasta-Trinity	California
Daniel Boone	Daniel Boone	Kentucky
Kisatchie	Kisatchie	Louisiana
White Mountain	White Mountain	New Hampshire

58-287 O—71—pt. 4——7

Mrs. HANSEN. How many camps are there?

Mr. SCHULTZ. There will be 33 project locations. This will serve about 1,134 youths.

Mrs. HANSEN. Will the camps be located all over the Nation?

Mr. SCHULTZ. Thirty different national forests in 22 States.

Mrs. HANSEN. What period of time will the camps be open?

Mr. SCHULTZ. This would be for the summer period.

Mrs. HANSEN. Summers vary. Is it July 1 to August 1?

Mr. SCHULTZ. We will start as early as June 15 and run through to about September 15.

Mr. CLIFF. This is primarily a school vacation period program. That is the reason most of the money would not be spent until the beginning of the next fiscal year.

Mrs. HANSEN. Are you going to begin this summer?

Mr. CLIFF. In June. We are getting ready with the camps and facilities.

Mrs. HANSEN. Will you have 33 locations this summer?

Mr. CLIFF. And we will have about 15 days of operation in June.

Mrs. HANSEN. You are going to have 1,134 young people?

Mr. CLIFF. Yes, ma'am.

Mrs. HANSEN. Will you be able to spend all of the funds appropriated in this current fiscal year?

Mr. SCHULTZ. We will through the summer season.

Mrs. HANSEN. Are you geared up for next year?

Mr. SCHULTZ. No. The funds provided were for the 1 year only for both the Departments of the Interior and Agriculture. The $2.5 million was appropriated to the Forest Service but we will transfer $1.25 million of that to the Interior.

FEASIBILITY STUDY OF YCC

The basis for it under the legislation was that the program was to be a 3-year pilot study. Funds have only been made available for the one summer season. Along with this we are obligated to conduct a feasibility study, both the Department of the Interior and the Department of Agriculture, and report back the feasibility of the States running such a program, and also along——

Mrs. HANSEN. Where are the States going to get the funds?

Mr. SCHULTZ. This would be based upon the feasibility study.

Mrs. HANSEN. Do you think you are going to get a State to admit they have money enough to run this program?

Mr. SCHULTZ. This would probably be Federal funds, made available to the States, instead of being made available to Agriculture and Interior.

Mrs. HANSEN. In other words, you would provide the money to give to the States?

Mr. SCHULTZ. This would probably be the basis. We are doing the pilot testing.

Mrs. HANSEN. So at the end of this summer you should be able to come up with an evaluation of whether the program is good, whether it should be continued, and how it should be continued?

Mr. SCHULTZ. This is correct. Along with this feasibility study we also have to make a report on the cost-benefit aspects of the program, a determination of what the value was.

YOUTH CONSERVATION CORPS PROGRAM

Mrs. HANSEN. What type of program will you have?
Mr. SCHULTZ. The content of the program?
Mrs. HANSEN. Yes.
Mr. SCHULTZ. It is a combination education and work program. One of the more important points is to indoctrinate these youths with the feeling and understanding of environment and conservation.
Another one is for them to get actual experience on the ground on conservation projects so it gives them a feel of the work that goes on.
One of the things we plan on doing, having these youths in these locations, is to give them a pretty good briefing to start with about the total conservation effort so they can see how the work they do during the summer fits into the overall effort, so they are not operating in a vacuum.
So one of the prime considerations is that we give them conservation and environmental education along with this.
Mrs. HANSEN. Does anyone else have a question on this point?
Mr. WYATT. I do, Madam Chairman.
Mrs. HANSEN. Mr. Wyatt.
Mr. WYATT. This is on the Youth Conservation Corps. Will they be doing much work in reforestation itself? I assume thinning and salvaging is probably a little too complex an operation involving heavy equipment, but what about reforestation?
Mr. SCHULTZ. They will be doing some reforestation work. They will be doing wildlife habitat improvements. They will be working on recreation sites, helping us out with visitor information centers. They will also be working, some of them, in offices, to provide additional help and learn from that standpoint. Incidentally, 40 percent of enrollees will be girls.
Mr. WYATT. How do you plan to integrate the ladies in the program?
Mr. SCHULTZ. We will have them in separate locations.

REFORESTATION WORK BY YCC ENROLLEES

Mr. CLIFF. The amount of reforestation work that can be done by these summer employees is limited by the seasons they work. Most of the tree planting in nearly all parts of the country is either in the spring or the fall and would be before these people are on the job and afterward. They might be able to do some work in weeding, perhaps some nursery work, but I wouldn't anticipate they will be planting many trees in the ground except maybe at recreation sites where we have special plantings.
Mr. WYATT. For beautification purposes primarily?
Mr. CLIFF. That is right.
Mr. M. NELSON. I don't believe they will be taking over a lot of the work at the Wind River Nursery.

LOCATION OF AREAS

Mrs. HANSEN. Are some of these areas being located near urban centers?
Mr. SCHULTZ. Yes, Madam Chairman, they are. We have a split on the 1,134 enrollees. Approximately 1,000 of them will be in residence

at the projects and facilities we have. There will be another approximately 200 that will be nonresidential. These will be youth that come from the urban areas. So will some of the residential ones. But they will be too far out to be transported back and forth everyday. But the mix will be probably about 40 percent coming from urban areas and 60 percent from rural areas.

Mrs. HANSEN. What age?

Mr. SCHULTZ. Fifteen through eighteen.

Mrs. HANSEN. Mr. Obey.

CONTRIBUTIONS TO THE SOCIAL AND ECONOMIC WELFARE OF THE NATION

Mr. OBEY. On page 3 you say in the justifications that—

> Opportunities exist for greatly increasing the contribution of these lands to the social and economic welfare of the Nation as a whole and most particularly through rural development and outreach activities in rural America.

I am sure you are aware of the fact in some of these areas where the forests are located you run into a great deal of opinion that these forests in fact don't help the economy, that they take money off the tax base without sufficient compensation. I would appreciate it if you could expand for the record, if nothing else, your own views on how in fact that statement is carried out, what advantages these areas do provide for the small towns and the surrounding rural areas.

Mr. CLIFF. We will be very glad to develop it for the record. I am very much aware of this tax problem. We have some good examples of that in your State where the local communities and the counties feel that they are not getting adequate contributions in lieu of taxes. But there are contributions that are made in the way of payments in kind, construction of roads, investments in recreation areas that do contribute to their economy and indirectly do help the local communities and counties.

We have made some studies of this problem in different areas, and we will be glad to elaborate on it in the record.

I know that when we acquired the two national forests we have in your State they were nothing but cutover forests and burned-over brushland. Now they have grown to the point where they are real economic assets both from the standpoint of recreation and commodity production. In the future they will even be more valuable. Had the Federal Government not made that contribution it wouldn't have been made, or perhaps the State or local Government would have had to make it. We think we did relieve the local community of considerable expense by being in there.

Mr. OBEY. I was up in Forest County last August, and one thing that struck me was that the only part of the operation up there that many people were not antagonistic toward was the Job Corps Center. They are very pleased about that Center and say it has been very helpful to the area. They were raising Cain for awhile when they thought they were going to lose it.

If you could just expand on some of the other benefits, it would be helpful to me.

Mrs. HANSEN. You mean they object to a national forest?

Mr. OBEY. You get a lot of objection from the standpoint that the areas really aren't reimbursed adequately for those lands being taken

off the tax base—the old line of thought you have heard for 30 years. I heard it in the Legislature and hear it even more now.

Mr. CLIFF. It is primarily a payment in lieu of taxes problem.

Mr. M. NELSON. And especially for that county. It is one of the poorer counties of Wisconsin with very little tax base.

Mr. OBEY. I think it would be helpful if we can spell out in the record, for the benefit of anybody who wants to use it, just what value these areas have to the local areas involved.

Mr. CLIFF. We welcome an opportunity to do this, Congressman.

(The information follows:)

HOW NATIONAL FORESTS CONTRIBUTE TO LOCAL ECONOMY

The economic importance of National Forests to local economies is reflected directly in the Federal employment on the National Forests, the employment by contractors making capital improvements on the National Forests, the employment in harvesting and manufacturing the National Forests products, the expenditures for supplies and materials for the above operations, the direct payments to the counties (25 percent of the total receipts), and the expenditures by users drawn by the attractions of the National Forests.

An example in Wisconsin is the 650,000 acre Nicolet National Forest.

During FY 1970, direct expenditures for salaries, supplies, materials, and contracts amounted to $2,813,800 on the Nicolet National Forest. Additionally, the annual timber harvest of 5.9 million board feet of sawtimber and 93,000 cords of pulpwood provided about 360 man-years of harvesting and manufacturing employment worth perhaps $2 million to the local area. None of these dollar amounts include the multiplier effect.

Direct payments from National Forest receipts to the counties within the Nicolet National Forest amounted to $91,867 in 1971. These payments will increase rapidly in 10 to 20 years as the young timber stands progress from near devastation when the Nicolet was established in the 1930's to young maturity products such as high grade hardwood veneer. Several National Forests--such as the Green Mountain and Allegheny National Forests in Vermont and Pennsylvania, respectively--with a good proportion of high value mature hardwoods now support payments of more than 55 cents per acre per year to the counties in which they are located.

During CY 1970, recreationists spent about 1,270,000 visitor-days (a visitor-day equals 12 hours of visitor use) and an estimated $5,129,000 while visiting the Nicolet National Forest. In addition, hunters and fishermen spent 391,600 visitor-days and an estimated $6,300,000.

Indirectly, the attractions--such as trails, lakes, streams, scenic beauty, solitude, and fish and wildlife--of the Nicolet and most other National Forests provide the drawing power which makes possible the heavy recreation use on nearby private lands. Private resorts, commercial campgrounds, stables, stores, and restaurants thrive on this attracted use. These businesses furnish local employment and contribute to the local tax base.

IMPORTANCE OF NATIONAL FORESTS

Mrs. HANSEN. Don't your national forests actually serve as kind of a balance wheel to the overall forest supply?

Mr. CLIFF. Yes, I think they do.

Mrs. HANSEN. If there were only private sources of timber, the country would be utterly at their mercy.

Mr. CLIFF. Yes, ma'am.

Mrs. HANSEN. There would be very little opportunity in some areas to have any chance for a good economic life if the private lands had all been logged off and were not replanted. If it were not for the Forest Service, the timber economy in many areas would be dead.

I think this is true in Mr. Wyatt's State and it is also true in mine.

Mr. CLIFF. I personally feel, and I think there is good evidence to substantiate it, that the national forests are of immense importance to many, many local communities, not only from the standpoint of producing resources they need but there are about 1,100 communities whose watersheds are located within the national forests, and this is the life-blood of those communities.

The recreation industry is of growing importance to many of the communities.

I think the measure of this is a little difficult to evaluate if you have to consider all of the resource values, some of which are difficult to measure, but I think on the whole the national forests are performing a very important function both socially and economically in this country.

Mrs. HANSEN. Isn't it true that, and I am not referring to the people who are in the timber industry as a business, but I am talking of the small timber owner, sometimes they are not aware of their contribution to watershed management?

Mr. CLIFF. I think that is true, yes.

Mr. M. NELSON. And the wildlife values follow right along with the watershed value.

FOREST PROTECTION AND UTILIZATION

FOREST LAND MANAGEMENT

Mrs. HANSEN. Please insert pages 12 through 68 of the justifications in the record.

(Pages 12 through 68 of the justification follow:)

FOREST SERVICE

Forest Protection and Utilization

	Forest Land Management	Forest Research	State and Private Forestry Cooperation	Total
Appropriation Act, 1971	$199,767,000 a/	$45,699,000	$23,939,000	$269,405,000
Budget estimate, 1972	225,118,000	47,668,000	24,067,000	296,853,000
Increase in appropriation	+25,351,000	+1,969,000	+128,000	+27,448,000
Adjustments to 1971 appropriation:				
Appropriation Act, 1971	199,767,000 a/	45,699,000	23,939,000	269,405,000
Transfer to General Services Administration for rental of space	-420,000	-14,000	- -	-434,000
Proposed supplemental for pay costs	+7,800,000	+2,120,000	+142,000	+10,062,000
Adjusted appropriation	207,147,000	47,805,000	24,081,000	279,033,000
Budget estimate, 1972	225,118,000 a/	47,668,000	24,067,000	296,853,000
Increase in 1972 program level	+17,971,000	-137,000	-14,000	+17,820,000

a/ In addition, $700,000 is available by transfer from Cooperative Range Improvements.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	1971 Available	1972 Estimate	Increase or decrease
Forest land management:			
Timber sales administration and management--To increase harvest in the regular timber sale program by 370 million board feet ($2,880,000); for increased costs of inventory and management plan preparation ($980,000); to increase regular timber sale preparation ($2,851,000)	$54,453,000	$61,164,000	+$6,711,000
Reforestation and stand improvement--To accelerate the total net timber growth for the National Forests and increase the long-term sustainable harvest	19,907,000	27,075,000	+7,168,000
Recreation-public use--To more intensively administer fee program under Land and Water Conservation Fund Act; to reduce vandalism; to maintain operation, cleanup, and sanitation services for increased recreation use; to comply with E.O. 11507 (Air and Water Pollution Control at Federal Facilities) and E.O. 11514 (Protection and Enhancement of Environmental Quality)	36,530,000	38,697,000	+2,167,000

SUMMARY OF INCREASES AND DECREASES--continued

	1971 Available	1972 Estimate	Increase or decrease
Forest land management--continued:			
Wildlife habitat management--To coordinate wildlife needs with other resource activities ($200,000) and for habitat restoration and development ($900,000)	$4,843,000	$5,943,000	+$1,100,000
Soil and water management--To provide higher quality land and resource management on National Forest System lands and additional job opportunities in areas of underemployment	6,596,000	8,796,000	+2,200,000
Payments to Employees' Compensation Fund--To increase amount needed to reimburse Employees' Compensation Fund	1,459,000	1,622,000	+163,000
Insect and disease control--Increase of $140,000 (1) to protect the environment on 100,000 acres of hardwood forests in the Northeastern and Central States from depredation caused by defoliating insects such as cankerworms, leaf rollers, and gypsy moths, and (2) to treat critically infested high-value conifer stands on the National Forests with Zectran to control spruce budworm outbreaks; decrease of $1,500,000 for nonrecurring purchase of Zectran	11,610,000	10,250,000	-1,360,000
Mineral claims, leases, and special uses--Decrease to provide funds for higher priority Forest Service programs	5,034,000	4,884,000	-150,000
Forest fire protection--Decrease due to reduction in public relations activities	30,333,000	30,305,000	-28,000
All other Forest land management:			
Range management	6,940,000	6,940,000	- -
Range revegetation	3,339,000	3,339,000	- -
Range improvements	3,811,000	3,811,000	- -
Land classification, adjustments and surveys	7,089,000	7,089,000	- -
Maintenance of improvements for fire and general purposes (including communications)	7,230,000	7,230,000	- -
Water resource development related activities	3,698,000	3,698,000	- -
Fighting forest fires	4,275,000	4,275,000	- -
Subtotal, Forest land management	207,147,000	225,118,000	+17,971,000
Forest research:			
Watershed management research --Decrease on flood and repair work on Beaver Creek Experimental Area	4,732,000	4,624,000	-108,000
Decreases due to reduction in public relations activities:			
Timber management research	10,963,000	10,943,000	-20,000
Forest products utilization research	8,579,000	8,570,000	-9,000

SUMMARY OF INCREASES AND DECREASES--continued

	1971 Available	1972 Estimate	Increase or decrease
Forest research--continued:			
All other Forest research:			
Range management research	$1,497,000	$1,497,000	- -
Wildlife habitat research	1,401,000	1,401,000	- -
Forest recreation research	1,019,000	1,019,000	- -
Forect and atmospheric science research	3,988,000	3,988,000	- -
Forest insect research	4,998,000	4,998,000	- -
Forest disease research	2,954,000	2,954,000	- -
Forest engineering research	1,130,000	1,130,000	- -
Forest survey	3,266,000	3,266,000	- -
Forest products marketing research	1,943,000	1,943,000	- -
Forest economics research	1,335,000	1,335,000	- -
Subtotal, Forest research	47,805,000	47,668,000	-137,000
State and private forestry cooperation:			
Decreases due to reduction in public relations activities:			
Cooperation in forest fire control	16,505,000	16,494,000	-11,000
Cooperation in forest management and processing	4,973,000	4,970,000	-3,000
All other State and private forestry cooperation:			
Cooperation in forest tree planting	319,000	319,000	- -
General forestry assistance	2,284,000	2,284,000	- -
Subtotal, State and private forestry cooperation	24,081,000	24,067,000	-14,000
Total	279,033,000	296,853,000	+17,820,000

PROJECT STATEMENT

Project	1970	1971 Current Estimate	1972 Estimate	Increase or decrease
FOREST LAND MANAGEMENT:				
National Forest protection and management:				
(1) Timber resource management:				
(a) Sales administration and management	1/ $47,470,091	$54,453,000	$61,164,000	+$6,711,000
(b) Reforestation and stand improvement	15,331,215	19,907,000	27,075,000	+7,168,000
(2) Recreation-public use 2/	40,837,382	1/ 36,530,000	38,697,000	+2,167,000
(3) Wildlife habitat management	4,406,687	4,843,000	5,943,000	+1,100,000
(4) Range resource management:				
(a) Management	7,561,325	6,940,000	6,940,000	- -
(b) Revegetation	2,750,206	3,339,000	3,339,000	- -
(c) Improvements	3,476,138	4,511,000	4,511,000	- -
(5) Soil and water management	6,857,516	6,596,000	8,796,000	+2,200,000
(6) Mineral claims, leases, and special uses	5,610,479	5,034,000	4,884,000	-150,000
(7) Land classification, adjustments, and surveys 3/	7,221,587	7,089,000	7,089,000	- -
(8) Forest fire protection	28,242,977	30,333,000	30,305,000	-28,000
(9) Maintenance of improvements for fire and general purposes (including communications) 2/	11,260,499	7,230,000	7,230,000	- -
(10) Payments to Employees' Compensation Fund	1,100,209	1,459,000	1,622,000	+163,000
Subtotal	182,126,311	188,264,000	207,595,000	+19,331,000
Amount advanced from Cooperative Range Improvements	-700,000	-700,000	-700,000	- -
Subtotal, National Forest protection and management	181,426,311	187,564,000	206,895,000	+19,331,000
(11) Water resource development related activities 2/	6,750,770	3,698,000	3,698,000	- -
(12) Fighting forest fires	27,428,828	4/ 4,275,000	4,275,000	- -
(13) Insect and disease control 5/	9,504,038	11,610,000	10,250,000	-1,360,000
(14) Acquisition of lands, Weeks Act 2/	1,299,221	- -	- -	- -
Total, Forest Land Management	226,409,168	207,147,000	225,118,000	+17,971,000
FOREST RESEARCH:				
Forest and range management research:				
(15) Timber management research	10,408,670	10,963,000	10,943,000	-20,000
(16) Watershed management research	4,504,730	4,732,000	4,624,000	-108,000
(17) Range management research	1,599,897	1,497,000	1,497,000	- -
(18) Wildlife habitat research	1,258,343	1,401,000	1,401,000	- -
(19) Forest recreation research	927,107	1,019,000	1,019,000	- -
Subtotal, Forest and range management research	18,698,747	19,612,000	19,484,000	-128,000

Project	1970	1971 Current Estimate	1972 Estimate	Increase or decrease
FOREST RESEARCH -- continued				
Forest protection research:				
(20) Fire and atmospheric sciences research	3,713,910	3,988,000	3,988,000	- -
(21) Forest insect research	4,546,418	4,998,000	4,998,000	- -
(22) Forest disease research	3,047,273	2,954,000	2,954,000	- -
Subtotal, Forest protection research	11,307,601	11,940,000	11,940,000	- -
Forest products and engineering research:				
(23) Forest products utilization research	8,027,531	8,579,000	8,570,000	-9,000
(24) Forest engineering research	903,141	1,130,000	1,130,000	- -
Subtotal, Forest products and engineering research	8,930,672	9,709,000	9,700,000	-9,000
Forest resource economics research:				
(25) Forest survey	2,676,815	3,266,000	3,266,000	- -
(26) Forest products marketing research	1,735,672	1,943,000	1,943,000	- -
(27) Forest economics research	1,309,923	1,335,000	1,335,000	- -
Subtotal, Forest resource economics research	5,722,410	6,544,000	6,544,000	- -
(28) Forest research construction 2/	930,238	- -	- -	- -
Total, Forest Research	45,589,668	47,805,000	47,668,000	-137,000
STATE AND PRIVATE FORESTRY COOPERATION:				
(29) Cooperation in forest fire control	16,411,442	16,505,000	16,494,000	-11,000
(30) Cooperation in forest tree planting	316,054	319,000	319,000	- -
(31) Cooperation in forest management and processing	4,116,915	4,973,000	4,970,000	-3,000
(32) General forestry assistance	2,065,196	2,284,000	2,284,000	- -
Total, State and Private Forestry Cooperation	22,909,607	24,081,000	24,067,000	-14,000
Total obligations or estimate	294,908,443	279,033,000	296,853,000	+17,820,000
Unobligated balance 6/	296,233	- -		
Total available or estimate	295,204,676	279,033,000		
Supplemental appropriations for pay cost increases	- -	-10,062,000		
Transfer to General Services Administration for space rental	295,324	434,000		
Transfer from other accounts	-6,386,000	- -		
Appropriation or estimate	289,114,000	269,405,000		

1/ Does not include obligations of $455,194 incurred pursuant to 1969 supplemental for timber sale acceleration (PL 91-47, 7/22/69) available until September 30, 1969) and $172,000 obligations to be incurred in 1971 pursuant to PL 91-305, Second Supplemental Appropriations Act, 1970.

2/ In fiscal year 1971 a new appropriation, Construction and Land Acquisition, was added. Amounts shown for fiscal year 1970 include following obligations in activities for which funds are provided in the appropriation Construction and Land Acquisition in 1971 and 1972:

Recreation-public use	$8,950,382
Maintenance of improvements for fire and general purposes (including communications)	3,358,712
Water resource development related activities	3,205,162
Acquisition of lands, Weeks Act	1,299,221
Forest research construction	930,238
Total	17,743,715

3/ Includes allocations to the Department of the Interior, Bureau of Land Management: 1970, $270,000; 1971, $270,000; 1972, $270,000

4/ Excludes proposed supplemental for fighting forest fires, $68 million.

5/ Includes allocation to the Department of the Interior, Bureau of Land Management: 1970, $750,000; 1971, $918,500; 1972, $977,300

6/ Includes $172,000 to be obligated in 1971--see footnote 1/

NOTE: Reductions in public relations activities made in 1971 and 1972 are distributed above by activities as follows:

		1971	1972
Forest land management:	Sales administration and management	$39,000	$78,000
	Reforestation and stand improvement	32,000	64,000
	Recreation-public use	33,000	66,000
	Forest fire prevention	27,000	55,000
Forest research:	Timber management research	20,000	40,000
	Forest products utilization research	10,000	19,000
State and private forestry cooperation:			
	Cooperation in forest fire control	11,000	22,000
	Cooperation in forest management and processing	3,000	6,000
	Total	175,000	350,000

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

National Forest Protection and Management
(includes Projects (1) through (10) on following pages)

	1971 estimate	1972 estimate	Change
Alabama	$1,460,700	$1,660,000	+$199,300
Alaska	4,024,100	4,562,000	+537,900
Arizona	8,462,400	9,636,000	+1,173,600
Arkansas	3,707,300	4,028,000	+320,700
California	33,509,900	36,654,800	+3,144,900
Colorado	8,291,300	9,100,000	+808,700
District of Columbia	8,664,900	8,973,000	+308,100
Florida	2,103,400	2,358,000	+254,600
Georgia	1,604,700	1,724,000	+119,300
Idaho	15,020,400	17,200,000	+2,179,600
Illinois	625,500	773,000	+147,500
Indiana	364,400	392,000	+27,600
Kansas	55,100	55,100	- -
Kentucky	1,333,100	1,420,000	+86,900
Louisiana	1,561,100	1,662,000	+100,900
Maine	85,600	86,000	+400
Maryland	192,100	192,100	- -
Michigan	3,511,600	3,730,000	+218,400
Minnesota	3,872,600	4,139,000	+266,400
Mississippi	2,443,300	2,591,000	+147,700
Missouri	2,346,700	2,457,000	+110,300
Montana	10,740,000	12,289,000	+1,549,000
Nebraska	258,300	260,000	+1,700
Nevada	1,977,000	2,116,000	+139,000
New Hampshire	984,600	1,074,000	+89,400
New Mexico	7,126,800	7,996,000	+869,200
New York	51,000	51,000	- -
North Carolina	2,413,600	2,710,000	+296,400
North Dakota	315,600	352,000	+36,400
Ohio	454,500	478,000	+23,500
Oklahoma	428,300	453,000	+24,700
Oregon	23,103,800	25,380,000	+2,276,200
Pennsylvania	1,245,800	1,322,000	+76,200
Puerto Rico	58,700	61,000	+2,300
South Carolina	1,482,500	1,559,000	+76,500
South Dakota	2,251,200	2,420,000	+168,800
Tennessee	1,330,100	1,470,000	+139,900
Texas	1,757,700	1,878,000	+120,300
Utah	7,045,200	7,639,000	+593,800
Vermont	475,200	521,000	+45,800
Virginia	2,486,200	2,698,000	+211,800
Washington	10,425,100	12,016,000	+1,590,900
West Virginia	1,801,900	1,960,000	+158,100
Wisconsin	2,337,700	2,524,000	+186,300
Wyoming	4,473,000	4,975,000	+502,000
Total	188,264,000	207,595,000	+19,331,000

TIMBER RESOURCE MANAGEMENT - Sales administration and management

1970	$48,491,000
1971	54,453,000
1972	61,164,000
Increase	+6,711,000

An increase of $6,711,000 is needed as follows:

(1) $2,880,000 increase in the regular timber harvest program will provide for an increased harvest of 370 million board feet over fiscal year 1971. Unit costs have increased because of higher standards necessary to meet environmental quality needs and timber sales work is moving further into more remote and difficult areas.

(2) $980,000 increase in inventories and management plans will provide for more frequent and improved timber inventories which are needed as a basis for recalculating annual allowable harvest.

(3) $2,851,000 increase in regular timber sale preparation will maintain the fiscal year 1971 level of outputs for timber sale preparation in fiscal year 1972. Unit costs have been increased to accommodate the additional assistance of specialists in soil analysis, landscape layout, wildlife management and ecology and the multidiscipline planning of sale areas required to improve the quality of the timber management program.

The total program for fiscal year 1972, compared with 1970 and 1971, follows:

	1970	1971	1972	Increase
		(in thousands)		
Regular program				
Harvest	$16,753	$21,428	$24,308	+$2,880
Sale preparation	24,835	24,867	27,718	+2,851
Enforcement of Log Export Act	510	517	517	- -
Thinning and salvage				
Harvest	1,400	2,316	2,316	- -
Sale preparation	2,660	2,503	2,503	- -
Timber inventories and management plans	2,333	2,822	3,802	+980
Total	48,491	54,453	61,164	+6,711

The following tabulation reflects workload and cost information for fiscal years 1970, 1971, and 1972. The unit costs for fiscal year 1972 reflect the increased costs needed to improve the quality of the timber management program including items such as:

(1) Public meetings on sale offerings.

(2) Impact studies needed for sales in sensitive areas.

(3) Different sale layout design needed because of environmental and esthetic consideration.

(4) Increased number of appeals on sale offerings and intensifed training of field timber management personnel in ecological and environmental issues and practices. The increased unit cost for the regular harvest program reflects the need for more administration and inspection to protect the soil, ensure more complete utilization and cleanup and maintain the habitat structure.

	1970	1971	1972
(1) Regular program			
(a) Harvest			
Million board feet	11,099	12,730	13,100
Cost per thousand board feet	$1.51	$1.68	$1.86
Total cost (in thousands)	$16,753	$21,428	$24,308
(b) Sale preparation			
Million board feet	12,736	11,795	11,795
Cost per thousand board feet	$1.95	$2.11	$2.35
Total cost (in thousands)	$24,835	$24,867	$27,718
(c) Enforcement of Log Export Act (in thousands)	$510	$517	$517
(2) Thinning and salvage			
(a) Harvest			
Million board feet	428	700	700
Cost per thousand board feet	$3.27	$3.31	$3.31
Total cost (in thousands)	$1,400	$2,316	$2,316
(b) Sale preparation			
Million board feet	646	600	600
Cost per thousand board feet	$4.12	$4.17	$4.17
Total cost (in thousands)	$2,660	$2,503	$2,503
(3) Timber inventories and management plans			
Thousands of acres	9,600	9,600	11,000
Cost per acre	$0.24	$0.29	$0.35
Total cost (in thousands)	$2,333	$2,822	$3,802

The Forest Service timber harvesting program for fiscal year 1972 maintains timber harvesting at allowable cut levels wherever possible and continues the fiscal year 1971 level of offerings of timber not normally included under allowable cut levels (thinning and salvage material).

It is planned to sell 11.8 billion board feet of regular material and 0.6 billion board feet of thinning and salvage material, or a total 12.4 billion board feet. This will cost $30,221,000, or $2,851,000 over fiscal year 1971.

It is planned to harvest 13.1 billion board feet of regular material and 0.7 billion board feet of thinning and salvage material, or a total of 13.8 billion board feet. This will cost $26,624,000, or $2,880,000 over fiscal year 1971.

Returns to the Treasury from the timber harvest program will increase over fiscal year 1971. The following tabulation shows receipts from the harvest of National Forest timber:

Fiscal Year	Receipts (in millions)
1965	$138.8
1966	164.9
1967	172.8
1968	205.6
1969	306.8
1970	283.9
1971	322.3 (estimated)
1972	351.9 (estimated)

Based on the above tabulation, each dollar of program cost for 1972 will return over $5.75 to the United States Treasury in the form of timber receipts.

The program for timber inventories and management plans is at a higher level than for fiscal year 1971, $3,802,000--up $980,000. The need for "in-place" information by the unit manager to enable him to select a suitable mix of uses has changed the

design and increased the intensity of timber inventories. Frequent updating of timber management plans must be done to more rapidly reflect the changes in allowable cut resulting from reforestation of deforested areas and thinning of overcrowded young stands to increase the growth rate of the best trees. Special inventories are necessary on study areas that are subject to public hearings and possible withdrawals from the allowable cut base. Special inventories are also necessary for mortality and catastrophic losses.

Part IV of the Foreign Assistance Act of 1968 included a section specifying that for each of the calendar years 1969 through 1971, not more than 350 million board feet of unprocessed timber may be sold for export from the United States from Federal lands located west of the 100th meridian. The Secretary of Agriculture is responsible for enforcement of the Act on National Forest lands. This includes not only log export control but holding of public hearings to determine any timber surpluses and prevention of substitution of timber restricted from export for exported non-Federal timber. Program costs have been maintained at the same level for fiscal year 1972 as for fiscal year 1971 as the Housing and Urban Act of 1970 (PL 91-609, December 31, 1970) amended the Foreign Assistance Act of 1968 to extend the log export controls through calendar year 1973.

Examples of Recent Accomplishments

Sales administration. Volume harvested during fiscal year 1970 amounted to 11.5 billion board feet--down 0.3 billion board feet from fiscal year 1969. The decrease reflects the effect of the tight money market on housing construction. Receipts also declined, down $22.9 million from the preceding year, with $283.9 million deposited in the Treasury. A total of 13.4 billion board feet of timber was sold on the National Forests in fiscal year 1970.

The record of timber cut and sold during the past five years is compared with the annual allowable cut in the following table:

Fiscal Year	Annual Allowable Cut 1/	Actual Volume Cut	Percent of Allowable Cut Harvested	Actual Volume Sold	Percent of Allowable Cut Sold
1966	12.4	12.1	97	11.3	91
1967	12.2	10.9	89	11.6	95
1968	12.2	12.1	99	11.6	95
1969	12.8	11.8	92	18.9 2/	148
1970	12.9	11.5	89	13.4	104

1/ As of January 1 preceding the fiscal year. Annual allowable cut includes only sawtimber for National Forests west of the Great Plains and in Alaska, and sawtimber and convertible products for National Forests in the eastern half of the United States.

2/ Includes Juneau Unit Pulp Sale in Alaska of 8.75 billion board feet.

TIMBER RESOURCE MANAGEMENT - Reforestation and Stand Improvement

1970	$17,170,000
1971	19,907,000
1972	27,075,000
Increase	+7,168,000

An increase of $7,168,000 is proposed to accelerate the total net timber growth on the National Forests and to raise both short-term and long-term sustainable harvests from National Forests. This helps to avoid increases in timber product prices, especially during periods of increasing demand for wood products. Funds will be allocated regionally to achieve maximum growth response and, wherever possible, to provide additional employment to Indians.

The program for fiscal year 1972, compared with fiscal year 1971, follows:

	1971	1972 (in thousands)	Increase or decrease
Reforestation	$12,125	$13,267	+$1,142
Timber stand improvement	6,046	12,154	+6,108
Genetic tree improvement	1,443	1,334	-109
Nursery operation and development	293	320	+27
Total	19,907	27,075	+7,168

The $1,142,000 increase in the reforestation program will be used to reforest 9,800 additional acres by planting or seeding understocked or brush-covered land capable of producing high quality timber at a good growth rate. The average annual growth increase from this acreage is estimated at 1.085 million cubic feet (approximately 5.5 million board feet).

The $6,108,000 increase in the timber stand improvement program will be used to treat 110,000 additional acres by thinning overcrowded young conifer stands in order to increase the growth rate of the residual trees. The average annual growth increase from this acreage is estimated at 5.5 million cubic feet (approximately 27.5 million board feet).

The $109,000 decrease in the genetic tree improvement program results from fewer acres of seed orchards and seed production areas being established for fiscal year 1972.

The $27,000 increase in the nursery development program reflects the need for expanded irrigation systems, fencing, and improvement of facilities.

The proposed programing of total funds available in fiscal year 1972 (including the proposed increase) and comparison with 1971 and 1970 follows:

	1970		1971 (estimate)		1972 (estimate)	
		Acres		Acres		Acres
Reforestation	$11,135,000	101,845	$12,125,300	117,400	$13,267,000	127,200
Timber stand improvement	4,691,000	123,558	6,045,800	154,000	12,154,000	264,000
Genetic tree improvement	1,180,000		1,443,200		1,334,000	
Nursery operation and development	164,000		292,700		320,000	
Total	17,170,000	225,403	19,907,000	271,400	27,075,000	391,200

The average annual growth increase from the total 127,200 acres to be reforested is estimated at 13.7 million cubic feet (approximately 68.7 million board feet).

The average annual growth increase from the total 264,000 acres to be treated by stand improvement measures is estimated at 13.8 million cubic feet (approximately 68.9 million board feet).

It is estimated that the total program will provide 468,000 man-days of employment to semiskilled workers, generally in low-income rural areas.

An estimate of the acreage to be treated in each State is shown in Table 1 at the end of this section.

The locations and descriptions of the nursery projects are shown in Table 2.

Examples of Recent Accomplishments

Reforestation. An area of 91,421 acres of National Forest land was reforested with appropriated funds in 1970--73,596 by planting and 17,825 by seeding. In addition, 10,424 acres were artifically reforested by preparing the ground to promote regeneration from natural seed-fall. Other reforestation accomplishments in 1970 include:

(1) Procurement of 14,303 pounds of clean tree seed. Forest Service seed extractories processed 13,869 pounds of seed and 434 pounds of seed were purchased from commercial seed companies.

(2) Production of 102.7 million trees in 14 Forest Service nurseries.

(3) Establishment of 49 acres of new seed production areas and 259 acres of new seed orchards. About fifty percent of the southern pine seedlings outplanted were grown from the better quality seed produced in seed orchards or seed production areas.

In addition to reforestation done with appropriated funds, the following work was done with funds collected under the authority of the Knutson-Vandenberg Act:

		Acres
Reforested by:	Tree planting	133,295
	Seeding	34,808
	Ground preparation to regenerate from natural seed fall	37,067
	Total	205,170

An additional 2,425 acres of National Forest land were reforested by other Federal and cooperative programs.

The total area reforested where some treatment such as planting, seeding or site preparation was applied in 1970 was 309,440 acres.

Timber stand improvement. An area of 123,558 acres was treated by the following cultural measures with appropriated funds in 1970:

	Acres
Thinning	58,483
Release	63,071
Pruning	504
Fertilization	1,500

Timber stand improvement was also done for the same purpose with Knutson-Vandenberg funds on the following acreage in 1970:

	Acres
Thinning	100,050
Release	62,200
Pruning	2,094

Table 1 - Estimate of Reforestation - Timber Stand Improvement to be Done
Fiscal Year 1972--Appropriated Funds

State	Reforestation (Acres)	Timber Stand Improvement (Acres)
Alabama	6,300	4,800
Alaska	- -	500
Arizona	1,900	15,600
Arkansas	12,400	6,100
California	10,600	34,600
Colorado	3,350	6,400
Florida	8,800	2,900
Georgia	800	1,000
Idaho	12,000	20,700
Illinois	700	200
Indiana	800	100
Kentucky	1,700	2,400
Louisiana	2,200	1,100
Maine	- -	700
Michigan	5,900	5,600
Minnesota	8,700	9,600
Mississippi	4,500	800
Missouri	4,000	3,300
Montana	4,900	19,900
Nevada	100	- -
New Hampshire	- -	3,700
New Mexico	1,600	10,200
North Carolina	4,400	5,400
Ohio	800	200
Oklahoma	600	1,700
Oregon	14,100	49,600
Pennsylvania	- -	2,700
South Carolina	900	- -
South Dakota	400	1,400
Tennessee	900	2,200
Texas	1,200	500
Utah	500	5,300
Vermont	- -	1,000
Virginia	2,200	3,400
Washington	3,000	27,600
West Virginia	400	4,600
Wisconsin	4,000	4,000
Wyoming	2,550	4,200
Total	127,200	264,000

Table 2 - Nursery Operation and Development Projects -- FY 1972

Coeur d'Alene Nursery, Coeur d'Alene, Idaho		
Chain link fence	$21,300	
Pave nursery compound and service areas	24,500	$45,800
Mt. Sopris Nursery, Basalt, Colorado		
Land development, additional irrigation system and well	19,000	
Construct greenhouse	24,500	
Minor betterment items	4,000	
Construct garage	6,500	54,000
Santa Fe Extractory, Santa Fe, New Mexico		
Cone collection	24,000	
Operation of extractory and storage	30,000	54,000
Lucky Peak Nursery, Boise, Idaho		
Pave service area	8,000	
Expand irrigation system	24,000	
Minor betterment items	3,000	35,000
Placerville Nursery, Placerville, California		
Replace residence	25,000	
Minor betterment items	5,000	30,000
Humboldt Nursery, Humboldt, California		
Complete land preparation and irrigation system for blocks 5, 6, and 7	21,500	
Clear block 8	12,600	
Minor betterment items	3,600	37,700
Wind River Nursery, Carson, Washington		
Land development (Bunker Hill Division)	3,000	
Replace portion of irrigation system	11,500	
Minor betterment items	8,500	23,000
W. W. Ashe Nursery, Brooklyn, Mississippi		
Chain link fence	5,600	
Pave service area	6,400	12,000
J. W. Toumey Nursery, Watersmeet, Michigan		
Purchase subsoiler, grading tables, conveyor belt, manure spreader and cone tray	5,600	
Windbreak removal and maintenance	4,100	
Minor betterment items	3,100	12,800
Eveleth Nursery, Eveleth, Minnesota		
Construct chemical storage building	7,400	
Minor betterment items	5,300	12,700
Chittenden Nursery, Wellston, Michigan		
Minor betterment items	3,000	3,000
Total		320,000

RECREATION-PUBLIC USE

1970	$39,452,000
1971	36,530,000
1972	38,697,000
Increase	+2,167,000

An increase of $2,167,000 is proposed to:

(1) Allow a more intensively administered fee program under the Land and Water Conservation Fund Act. It will provide additional revenue into the U. S. Treasury.
(2) Help cope with problems in public safety and to reduce the more than $2 million of vandalism which occurs annually in developed sites and dispersed areas. This will be accomplished by increasing night patrols as a preventive measure and providing law enforcement training to seasonal and permanent employees.
(3) Provide and maintain essential operation, cleanup, and sanitation services for an expected 5 percent increase in recreation use.
(4) Begin a program to achieve compliance with Executive Orders 11507 (Solid Waste Disposal) and 11514 (Protection and Enhancement of Environmental Quality). Emphasis will be placed on disposal locations which can provide the lowest possible operation costs as reflected in equipment availability, haul distances, and soil types. Sites to be replaced first will be those with the greatest potential for air or water pollution abatement.
(5) Extend the recreation season to accommodate the growth in use of the National Forests. The funds will allow increased cleanup efforts, and general administration to protect the forest environment.

The Forest Service manages recreation use through the National Forest System. The following tabulation shows the total planned financing for fiscal year 1972 as compared with 1971:

	FY 1971	FY 1972	Change
	(in thousands)		
Operation, Maintenance, and Administration			
(1) Recreation inventories and plans	$1,794	$1,794	
(2) Managing National Forest recreation:			
(a) Administration, operation, cleanup, and sanitation of developed sites and areas	12,216	15,272	+$3,056
(b) Maintenance of developed sites and areas	10,342	9,342	-1,000
(c) Concession and recreation use permits	1,638	1,338	-300
(3) Administration, cleanup, and sanitation of dispersed recreation use	2,823	2,823	
(4) Management of areas specially classified by Acts of Congress:			
(a) Administration, operation and cleanup of National Recreation Areas	1,413	1,413	
(b) Maintenance of National Recreation Areas	446	345	-101
(c) National Wilderness Preservation System	2,818	2,818	
(d) National Wild and Scenic Rivers System	100	256	+156
(e) Nationwide system of trails	55	187	+132
(5) Identification, protection and administration of the use of historical, geological, botanical, archeological, and other recognized areas of unique and special interest		65	+65

	FY 1971	FY 1972	Change
Operation, Maintenance, and Administration--continued		(in thousands)	
(6) Environmental architecture	$138	$138	
(7) Administration, operation, and manning of Visitor Information Service	2,747	2,906	+$159
Total	36,530	38,697	+2,167

In fiscal year 1970 and prior years, funds for quality improvement of existing facilities, new recreation construction, and water pollution abatement were provided under this activity. Beginning in fiscal year 1971, these funds were appropriated under the fund, Construction and land acquisition. The 1970 accomplishments are shown under the new Construction and land acquisition appropriation.

It is estimated that recreation use on the National Forests in calendar year 1972 will aggregate 186.7 million visitor days, an increase of 5 percent over estimated use in 1971 and an increase of nearly 19 percent over use of 156.6 million in 1968. In order to maximize recreation benefits in the National Forests, it will be necessary to adjust some funds between major recreation program activities as shown above.

Designation by Congress of National Wild and Scenic Rivers and a Nationwide System of Trails emphasizes the importance and public interest in these areas. It is the responsibility of the Forest Service to effectively protect, administer, and operate these areas for public enjoyment and benefit without jeopardizing their unique esthetic and recreation attributes.

Law enforcement has traditionally been a low key Forest Service activity. Normally, National Forest officials could depend upon local law enforcement officials to handle most problems. This is changing. Laws enforced by the Forest Service must be stressed to ensure National Forest visitors a safe and quality recreation experience.

To maintain health and safe standards, and to prevent additional pollution, operation, cleanup, and sanitation in developed sites has been identified for increased financing.

A more detailed explanation of financial needs and funding priorities is as follows:

(1) Recreation inventories and plans $1,794,000
These funds will be used for maintaining 1959 to 1961 National Forest Recreation Survey and unit management plans, and the preparation of the highest priority plans for new developments.

(2) Managing National Forest Recreation

(a) Administration, operation, cleanup, and sanitation of developed sites and areas $15,272,000
The increase of $3,056,000 will be used to administer an expected increase of 3 million visitor-day use and begin a program to comply with Executive Order 11507 (Air and Water Pollution Control at Federal Facilities) and Executive Order 11514 (Protection and Enhancement of Environmental Quality). There were 11,970 known law violations during 1969 in National Forest recreation areas in the California and Southern Regions, and more than $2 million of damage from vandalism in National Forest recreation sites. Increased intensity of administration, including actions such as night patrols and full-time attendants, should alleviate some of the problems.

(b) Maintenance of developed sites $9,342,000
The funding (decrease of $1 million) will allow essential recurring maintenance and correction of unsafe conditions at Forest Service operated sites.

(c) Concession and recreation use permits $1,338,000

In fiscal year 1972, approximately 28.2 million visitor-days, or 40 percent of the use of all developed sites on the National Forests, will be accommodated by facilities built and operated under Forest Service supervision, by special-use permittees and/or concessioners.

The decrease of $300,000 reflects the relative priority of the work compared to the pressing needs of operation, cleanup, and sanitation of developed public use sites and the need to finance administration of National Wild and Scenic Rivers and the Nationwide System of Trails. The funding level will administer 1,777 concession and 20,000 recreation special-use permits. This work is necessary to assure compliance with permit requirements that sites continue to serve the purpose for which they have been established.

(3) Administration, cleanup, and sanitation of dispersed recreation use $2,823,000

Maintaining this level of funding will permit administration of dispersed-type recreation such as hiking, riding, hunting, fishing, and snow play on 171 million acres of National Forest lands (outside of wilderness, special areas, and developed sites) which will accommodate 111 million visitor-days of use in 1972. This work includes cleanup, providing for the reasonable safety of users, some minimal sanitation facilities to prevent pollution, and enforcement of Secretary of Agriculture regulations.

(4) Management of areas specially classified by Acts of Congress

(a) Administration, operation and cleanup of developed sites and areas, National Recreation Areas $1,413,000

(b) Maintenance of developed sites and areas, National Rec.Areas $345,000

This is a decrease of $101,000. Recreation use at some of these special areas has not increased as rapidly as projected. Upon assuming management of that part of Flaming Gorge National Recreation Area formerly administered by the National Park Service, operation plans were made on the basis of National Park Service projections of future use of in excess of one million visitor days. Actual use as estimated and reported by the Forest Service was only 484,000 visitor days.

The level of funding will provide administration for the 181 developed sites at National Recreation Areas. It will also provide for satisfactory cleanup after use.

(c) National Wilderness Preservation System $2,818,000

This funding will provide an acceptable level of cleanup and sanitation on the 14.2 million acres of National Forest Wilderness and Primitive Areas.

Studies leading towards reclassification of Primitive Areas as directed by the Wilderness Act of 1964 will also remain on schedule to assure completion within the alloted time directed by the Act.

(d) National Wild and Scenic Rivers System $256,000

The $156,000 increase will provide for cleanup and sanitation within newly established units of the Wild and Scenic Rivers System. It will provide the cleanup necessary to accommodate 300,000 visitor-days of use these areas will receive. Cleanup costs are high due to difficult accessibility, and programs will be adopted to encourage visitor self cleanup. In addition, the increase will provide the necessary administration of recreation use along the 478 miles of wild, scenic, and recreational rivers.

(e) Nationwide system of trails $187,000

The $132,000 increase will be used for cleanup and administration necessary to accommodate the 600,000 visitor-days of use expected on over 2,000 miles of the recently established Appalachian and Pacific Crest National Scenic Trails on the National Forests.

(5) Identification, protection, and administration of the use of historical, geological, botanical, archeological, and other recognized areas of special unique and special interest $65,000

An increase of $65,000 is necessary to:
(a) Identify key archeological sites.
(b) Develop and maintain information on archeological sites.
(c) Protect those sites and artifacts endangered by threatened vandalism.

This funding will permit initiating urgent work primarily in the Southwest Region. Excavation of endangered sites would be allowed on an emergency basis, if necessary.

(6) Environmental architecture $138,000

The funding will allow developing procedural instructions and training programs for all National Forest land managers to insure that all commodity uses which the National Forests must support are so planned and administered as to be compatible with the environmental and ecological integrity of all the landscapes involved.

(7) Visitor Information Service $2,906,000

The $159,000 increase will be used to continue the existing program throughout the National Forest System.

It is expected there will be a 6 percent increase in activities provided at existing visitor centers, information stations, roadside exhibits, guided interpretive walks for the blind and handicapped, auto tours, amphitheater and campfire talks.

New facilities which have recently opened or expanded their capacity are:
(a) Sylvania Visitor Center (Michigan).
(b) Ghost Ranch Visitor Center (New Mexico).
(c) Visitor programs on four Marine Highway Ships (Alaska).
(d) Three interpretive trails for the blind (California, Florida, New Mexico).
(e) Sixteen interpretive trails and 37 signs for the general public throughout the National Forest System.

The naturalist programs provided at these locations contribute to public understanding and appreciation of natural resources and the role of natural resources on the quality of the human environment. These programs are the foundation of the Forest Service's people-to-people environmental and ecological education activities.

WILDLIFE HABITAT MANAGEMENT

1970	$4,731,000
1971	4,843,000
1972	5,943,000
Increase	+1,100,000

An increase of $1.1 million is proposed as follows:

Habitat enhancement for fish and wildlife is needed to meet the ever increasing recreation demands. Special emphasis will be placed on rare and endangered wildlife species and fish stream habitat work. Fish stream work will also have the benefit of improving water quality for other uses. Improvement projects will include seeding, permanent wildlife openings, spring developments, small dams, water guzzlers, pothole construction, nest boxes, debris removal from streams, construction of fish spawning beds, and development of fish shelters. These types of projects will not only provide jobs for temporary laborers and increase hunting and fishing opportunities, but will directly improve the quality of the forest environment.

A balanced program of land use and development that gives adequate consideration to wildlife and fish habitat requires the expertise of trained biologists and subprofessional personnel. These men, working with other disciplines (foresters, engineers, range managers, recreation planners, and soil scientists) during the planning and development stages of resource management activity, will incorporate specific measures into the plans that will most nearly satisfy the habitat requirements of the wildlife and fish species that are present.

During the past several years the level of activity on the National Forests in timber stand improvement, timber regeneration, recreation, road and trail construction, and watershed management, has increased tremendously. These activities, along with timber harvesting, can have adverse impacts upon wildlife and fish habitat unless fully coordinated with the biological needs of the wildlife and fish species inhabiting the areas where the work is performed.

Emphasis will be placed on projects and coordination activities that will provide employment opportunities for local people, especially American Indians.

The planned level of financing for fiscal year 1972, as compared with 1970 and 1971, is as follows:

	1970	1971	1972
		(in thousands)	
(1) Recurrent Work			
(a) Coordinating wildlife needs with other resource activities	$1,280	$1,273	$1,473
(b) Cooperation with State and Federal agencies	989	1,059	1,059
(c) Surveys and plans	999	970	970
(d) Maintenance of habitat improvements	387	410	410
(2) Habitat Restoration and Development			
(a) Food and cover development	342	323	498
(b) Water developments	92	97	222
(c) Wetland development	295	334	509
(d) Fish stream improvement	204	229	504
(e) Fish lake development	143	148	298
Totals	4,731	4,843	5,943

Recurrent work is the heart of the wildlife program which involves relatively fixed annual costs in relation to other resource uses and programs.

1(a) Coordination. Coordinating wildlife environmental needs in all other resource uses and activities. Wildlife biologists are assigned to all

regional offices and to a number of the National Forests to work on multi-discipline planning teams and give technical guidance to this activity. The intensity of coordination determines the degree to which wildlife values are protected or enhanced. The control of animal damage to other resources also requires intensive coordination.

1(b) Cooperation. Cooperating with State conservation departments, the agencies responsible for protecting wildlife and regulating the harvest of game populations, is an important part of the Forest Service wildlife program. Habitat management on the National Forests is essential to the success of State fish and game programs because habitat and wildlife populations cannot be managed independently of each other. The States contribute a substantial share of the cost of habitat and fishing water improvements. In 1970, the States financed 36 percent of the habitat work on the National Forests. This amounts to an expenditure of a little under $1 million.

1(c) Surveys and plans. Evaluating wildlife, fish, and rare or endangered species habitat, preparing or revising wildlife management plans, and assisting with multiple use planning are continuing activities which are basic to an effective wildlife program.

1(d) Maintenance. Maintaining habitat improvements already in place is a recurring job that generally takes precedence over new development work. The States share in this work under terms of cooperative agreements.

Habitat restoration and development include a wide variety of activities designed to increase wildlife and fish production for the use and enjoyment of the public.

2(a) Food and cover. Developing either food or protective cover to enhance the quality of the wildlife environment. This is a broad-based program applicable on all Forest Service administered lands.

2(b) Water developments. Includes several types of projects aimed at providing drinking water for wildlife. This work is particularly important in the arid regions of the West.

2(c) Wetland developments. About 90 percent of this work consists of marshland improvement for waterfowl in the north central States and the development of greentree reservoirs along the Mississippi drainage. This work is extremely important in the total national effort to maintain waterfowl production.

2(d) Fish stream improvement. Includes removal of migration barriers establishing in-stream improvement devices, mechanical gravel cleaning, streambank stabilization, streambank fencing, and construction of streamflow maintenance. Program emphasis will be directed toward the western forests and Alaska.

2(e) Fish lake improvement. Includes development of new fishing lakes and the improvement of existing lakes. New lake development is a cooperative program with the State conservation departments.

Work accomplishments during 1970

A summary of habitat restoration and development accomplishments follows:

(1) Food and cover development	180,182 acres
(2) Water development	958 units
(3) Wetland development	5,779 acres
(4) Fish stream improvement:	
(a) In-stream structures	617 units
(b) Barrier removal	761 units
(c) Spawnbed improvements	1,038 rods
(d) Channel fencing	2,184 rods
(e) Rough fish removal	13 miles
(5) Fish lake development:	
(a) Spawnbeds and shelters	269 units
(b) Aquatic plant control	1,882 acres
(c) Rough fish removal	39,743 acres
(d) New fishing lakes	722 acres

Selected Examples of Accomplishment

The improvement of waterfowl habitat on the Buffalo Gap Grasslands and the Nebraska National Forest is proving quite successful. Work has included:

(1) Fencing reservoir areas for the protection of shoreline vegetation.
(2) Construction of nesting platforms and cones.
(3) Planting of food plots.
(4) The introduction of wing-clipped Canada geese by the State.

At the present time, 28 of the 47 rare and endangered species on Forest Service administered lands are receiving special management attention. Seventy-four masked bobwhite quail (an endangered species) were released on the Nogales District of the Coronado National Forest, Arizona. This is the result of a cooperative endeavor with the Bureau of Sport Fisheries and Wildlife and the Arizona Game and Fish Department.

A stream habitat evaluation technique manual was published in the Southwest Region. This publication provides a uniform method for determining the needs for improvement work in fisheries habitat surveys.

At Portage Creek on Afognak Island, Alaska, the completion of an aluminum fish ladder was marked by almost immediate success. The ladder permitted 4,000 pink salmon to reach upstream spawning areas otherwise inaccessible due to the extremely low water conditions last summer. The odd-year runs are traditionally weak in this area, and the loss of these fish would have meant a significant loss in production. This project is typical of the dramatic success of the fish habitat improvement program for anadromous fish in Alaska.

Public use and enjoyment of the wildlife resources continue to grow. This use includes both hunting and fishing and appreciative uses. In calendar year 1969, the estimated public wildlife use of Forest Service administered lands amounted to:

Hunter visitor-days 14,148,000
Fisherman visitor-days 14,868,000
(The visitor-day is a unit of measure amounting to 12 hours.)

In addition, there was an estimated 10.4 million days of appreciative use which includesbird and animal watching, wildlife photography, and forest visits to observe all forms of wildlife, including rare and endangered species. Wildlife activities not only provide for an outdoor recreation experience and the suitable environment for all wildlife species but it is also important from an economic standpoint. This is expecially true in rural areas and communities. Estimated user expenditures for wildlife-oriented activities on the National Forests for fiscal year 1970 are as follows:

Activity	Days Use*	User Expenditures**
	(in millions)	
Appreciative (bird watching and photography) ..	10.4	$52
Big-game hunting	24.2	231
Small-game hunting	8.4	40
Waterfowl hunting	1.4	9
Freshwater fishing	44.2	220
Saltwater fishing	0.4	4
Commercial salmon fishing	0.4	26

*Days use--calculated from visitor-days use reports, using the following conversions:

(1) Each hunter averages 5 hours of hunting time per day.
(2) Each freshwater fisherman averages 4 hours of fishing per day.
(3) Each saltwater salmon fisherman averages 6 hours of fishing per day.
(4) Each bird watcher/photographer is estimated to spend 4 hours per day.

**User expenditures--based on average expenditures for sport fishing and hunting as determined in the National Survey of Fishing and Hunting (1965). For commercial fishing, the output value is based on the value of the salmon catch of fish spawned in waters within National Forests but caught in offshore saltwater.

RANGE RESOURCE MANAGEMENT

1970	$6,784,000
1971	6,940,000
1972	6,940,000

It is proposed to continue this program at the 1971 level.

The principal function of the range resource management program is the development and stewardship of the range resources of the National Forest System. More specifically the tasks include:

(1) Inventorying and analyzing the resource.

(2) Planning and carrying out its developments.

(3) Allocating and administering its use.

There are 105.5 million acres of National Forest System land included in some 11,900 range allotments. Closely associated with the public lands are 66 million acres of private land which complete the land base for some 18,000 livestock operations. Nearly all of these are small family-type operations. In addition to these commercial users of public range, some 68,500 local residents, recreationists, and incidental forest travelers are issued permits free of charge to graze their milk cows, work horses, or transportation stock.

Neither the National Forest System grazing lands nor the commensurate private lands are producing at their reasonably attainable potential. The grazing capacity of the National Forest System rangelands can be increased by an estimated 6.4 million animal unit months through long-term economically sound development investment and improved management. The production potential of the commensurate private lands parallels that of the public lands.

There are some 350,000 acres of National Forest System lands infested with noxious farm weeds. The problem has grown in recent years parallel with the increased use of the public land. The weeds are introduced by such activities as fire suppression, logging, road construction, hunting and recreation use, and livestock and wildlife grazing.

Since many of the major drainages and their tributaries have their source on the National Forests, infested National Forest lands are a potential source of infestation for vast areas of high value agricultural lands downstream.

Public Law 90-583 (80 Stat. 1146) authorizes the Congress to appropriate to Federal agencies and departments such sums as it determines necessary to facilitate cooperation with States having active weed control programs. Subsequent to enactment of this Act, counties throughout the country are formulating weed control programs and asking the Forest Service to participate in a coordinated effort.

Recent and planned accomplishments

	1970 (accomplished)	1971 (estimated)	1972 (planned)
Allotments analyzed and plans completed (cumulative)	6,440	6,940	7,440
Allotments currently under intensive management	5,150	5,400	5,650
Noxious farm weed control (acres)	4,000	4,000	4,000

RANGE REVEGETATION

1970	$3,291,000
1971	3,339,000
1972	3,339,000

It is proposed to continue this program at the 1971 level.

Range revegetation establishes by cultural means a vegetation cover which provides desirable forage for livestock and game and which adequately protects the soils. The program is carried out in badly deteriorated areas that need to be expeditiously restored. There are some 8 million acres of severely depleted rangeland in the National Forest System which needs to be restored by cultural means. Restoration of these lands through improved management of the livestock or even through complete deferment from grazing would be too slow to save the soil resource.

Revegetation work is undertaken allotment-by-allotment and is part of the management package for each allotment. Cultural treatment must be followed by improved management in order for it to be effective.

Recent and planned accomplishments

	1970 (accomplished)	1971 (estimated)	1972 (planned)
Acres revegetated:			
With appropriated funds	178,100	180,000	180,000
With permittee funds	48,680	48,000	48,000
Total	226,780	228,000	228,000

RANGE IMPROVEMENTS

1970	$3,897,000
1971	4,511,000
1972	4,511,000

It is proposed to continue this program at the 1971 level.

Range improvements consist of the construction and maintenance of the structural improvements needed to manage the livestock on the range and properly utilize the forage resource.

The protection and management of the range environment is highly dependent upon fences, water developments and other facilitating structures. Range fences provide control over distribution of livestock. They also make possible the resting of portions of the range on a systematic rotation basis. Water developments benefit the range by making otherwise unused areas available for use and by spreading out the livestock, thus preventing concentration of grazing use and depletion of vegetation and soil.

Presently, there are some 54,000 miles of fences and 38,000 water developments on the National Forest System ranges. About 50,000 additional miles of fence and 37,000 additional water developments are needed to make possible the intensive management of all 11,900 range allotments in the National Forest System. Existing improvements must be maintained to keep them effective.

Recent and planned accomplishments

	1970 (accomplished)	1971 (estimated)	1972 (planned)
Miles of fence constructed:			
With appropriated funds	1,100	1,270	1,270
With permittee funds	660	690	690
Water developments:			
With appropriated funds	900	1,040	1,040
With permittee funds	850	900	900

SOIL AND WATER MANAGEMENT

1970	$6,746,000
1971	6,596,000
1972	8,796,000
Increase	+2,200,000

An increase of $2.2 million is proposed to provide both higher quality land and resource management on National Forest System lands and additional job opportunities in areas of underemployment. Benefits to the nation will accrue through:

(a) Increased resource production supported by scientific soil, geology, and hydrology inputs.

(b) Higher level of environmental quality through protection requirements and restoration activities.

(c) Providing additional utilization of manpower in areas with a shortage of employment opportunities.

(1) Resource protection requirements and design services ($1,810,000)

An increase of $300,000 is requested to permit providing essential management services and job opportunities on an additional 250 projects over the fiscal year 1971 plan of 1,000 projects. Included are a wide variety of projects relating to timber management, range management, recreation, and road construction. The additional projects would be primarily related to timber management and transportation requirements in multiple-use management. The principal objectives of the soil and water management services are three-fold:

(a) Development of standards, criteria, and methods for evaluating degrees of impact to, or the enhancement of, the soil and water resources.

(b) Development of prescriptions to assure that resource programs are designed and implemented in a manner that protects the soil, water, and other environmental values.

(c) Appraisal of the effects of appropriate alternatives and uses on the soil and water resources.

The overall goal is the avoidance of costly mistakes in terms of soil, water, and environmental damage for both long-term and short-term project proposals. Among other things, this activity is needed to keep water clean.

Included will be job opportunities for local people in obtaining resource facts in the acceleration of developing local soil and water protection standards for the 1,100 municipal water supply watersheds that occupy 40 million acres of valuable timberlands. Especially important are the 700 watersheds which supply municipal and domestic water to small, rural communities where the water is not adequately treated and where, under the timber harvest program, increased logging activity will occur.

The accomplishment of these objectives will be directly aided by the employment of Indians and other local people in rural areas. The job opportunities for earning adequate income by local people will aid in promoting greater income stability and additional sources of income from expanded resource uses.

Examples of Accomplishments

Increasing emphasis is being placed on getting soils, geologic, and hydrologic information into project design. On the Mendocino National Forest in California the landscape architect, the ecologist, and the soil scientist have

developed the landscaping details for a newly constructed forest highway. Similarly on the South Tongass National Forest in Alaska, some 150 acres of road cuts, fills, and other bare soil areas were treated. On the El Dorado National Forest in California, a prescription involving soil trenching, seeding, mulching, and irrigation was developed for the purpose of stabilizing the exposed soils on a set of ski runs in the Lake Tahoe area.

The watershed scientist on the Sitgreaves National Forest was instrumental in determining that an Arizona Game and Fish Lake was leaking and would not be suitable for recreation purposes during low precipitation periods. Geologic investigations identified the fault through which the reservoir was losing the water and recreation development is being withheld pending repair of the leak. Potentially, this action could save about $150,000.

On the Siskiyou National Forest in Oregon, soil protection standards have been developed that specifically relate to compaction damage through the use of heavy logging equipment during periods of wet weather.

Resource protection requirements and design services were provided on over 1,000 projects in fiscal year 1970.

(2) Reconnaissance surveys: soil, water, geology, and hydrology ($1,227,000)

An increase of $216,000 will be used to obtain resource inventory on an additional 2 million acres of National Forest lands in rural America. These inventories conducted by scientists with the aid of temporary technicians, provide selected basic information that is needed for both short- and long-term planning efforts such as timber management planning, transportation planning, and both the management plan and study phase of the Wild and Scenic Rivers program.

As management and development activities move increasingly into the remote, more difficult, and more fragile areas, the need for at least minimal levels of basic information about the watersheds becomes more critical. Such information is essential in the support of multiple-use planning on a broad-scale basis in the nonmetropolitan areas of the nation. Information provided by these reconnaissance resource surveys and inventories has and is being used in the development of many resource plans that directly aid local employment by sustaining or increasing economic activities such as timber harvest, reforestation, range improvement, wildlife habitat improvement, and recreation.

Examples of Accomplishments

In fiscal year 1970, reconnaissance surveys and inventories were conducted on over 7 million acres.

(3) Surveillance of management activities ($615,000)

An increase of $180,000 will permit water condition and trend studies to be started at 14 additional locations, making a total of 55 locations receiving this service. This program is necessary to:

(a) Provide surveillance that assures National Forest uses and programs are compatible with the protection of man's environment, especially enhancement of water quality.

(b) Identify streams with existing or emerging water quality problems so that corrective action can be formulated and implemented.

(c) Meet constantly increasing demands for documenting the effects of activities on the quality of soil and water in relation to existing State and Federal standards.

There are approximately 4,000 designated watersheds on National Forest System lands including 1,100 which are the principal source of community water supplies.

The program is guided by scientists and provides opportunities for the employment, development, and training of area residents to carry out development, maintenance, and data collecting aspects of the surveillance system.

There will be at least one additional monitoring station on a designated watershed in each region such as rivers in the Wild and Scenic Rivers Act, Boundary Waters Canoe Area in Minnesota, watersheds having high recreation use, and watersheds with sanitation treatment systems needing correction.

This surveillance program includes:

(a) General evaluation on the effect of land, vegetation, and soil management practices on the soil and water resource.

(b) The effect of increasing public uses of water discharging from National Forest System lands.

(c) Determination of the quality of water leaving the National Forest.

The purpose of this continuing program is to:

(a) Provide improved watershed protection through early identification of potential changes and trends in water quality that may occur in accommodating increasing use and development of resources associated with existing and accelerated programs, and new projects so that prompt adjustments or corrective action can be undertaken.

(b) Provide a sound management basis for evaluation and interpretation of technical data on the effect of land use activities upon the soil and water resource.

(c) Provide methods and procedures for predicting effects of land management activities on water behavior and quality of the soil and water resource in rural areas.

The continued work involves 41 surveillance stations in 19 States, and a reconnaissance survey involving selected water quality criteria for surface waters in Arizona and New Mexico. The sampling covers such diverse activities and areas as timber harvest in fragile areas, mineral developments, Boundary Waters Canoe Area, and suspected pollution problem sites where people physically use the water resource.

To meet the national policy for non-impairment of existing high quality waters, the local water quality standards are translated into design and performance limits and controls for action programs on the ground.

(4) Watershed restoration ($1,410,000)

An increase of $1 million is requested for the restoration and maintenance of surface disturbed areas to enhance the quality of the environment and restore productive capacity of renewable resources. High priority projects to be undertaken include:

(a) The South Fork Salmon River Project (Idaho) where sedimentation has severely damaged anadromous and resident fisheries of regional and possibly national importance.

(b) The Palzo tract project (Illinois) where chemicals and sediment from old surface coal mining operations have seriously degraded water quality and caused the United States to be cited in court by State water quality authorities.

(c) South Fork Holston River and New River Watershed (Virginia) where sedimentation from old manganese mining operations affect stock water, wildlife and resident fisheries.

Restoring the hydrologic functioning of rural lands damaged beyond the point of natural recovery is essential to protecting the beauty and quality of the rural environment. This is a continuing program planned to:

(a) Meet soil stability and water quality requirements.

(b) Encourage the orderly development of watershed resources.

(c) Repair degraded watersheds.

(d) Provide continuing maintenance to projects completed to keep them effective.

These funds will be used in providing opportunities to utilize the skills, and to furnish jobs and timely income for Indians and other local people in rural areas of low income and critical underemployment. Illustrative of some of the specific activities are:

(a) Emergency treatment and maintenance for the highest priority areas in the 184,000 acres of National Forest System lands burned annually by wildfires.

(b) Being responsive to treatment and maintenance needs on thousands of miles of abandoned roads and trails that are the greatest contributors of sediment, uncontrolled runoff, and local problems of flooding and inability of the water supply to serve agricultural, domestic, or recreational needs.

(c) Maintenance on the highest priority areas for the 250,000 acres of eroding and gullied lands treated during the last 5 years.

(d) Removal of debris in stream channels above reservoirs and in anadromous fish streams.

Examples of Recent Accomplishments

Restoring damaged watersheds. Rehabilitation of damaged areas is progressing in all parts of the country, but much of this work still needs to be done. Rehabilitation work is coordinated with other resources and service divisions to accomplish an integrated program of management under multiple use.

In fiscal year 1970, Forest Service crews treated and stabilized:

Acres of sheet eroded and deteriorated areas	20,000
Miles of gullies	100
Miles of streambanks	100
Mile of shorelines	1
Miles of roads and trails	1,200
Acres of lands disturbed by surface mining and prospecting	400

Treatments to aid in restoring favorable watershed conditions on lands damaged by wildfire continued. Emergency measures (initial treatment on new burns and maintenance on older burns) were applied to 10 fires on 25,000 acres that required onsite protection and posed threats to life, property, public health, and watershed functioning.

Priority attention was given to areas damaged in Virginia and West Virginia by Hurricane Camille. There were 75 miles of clearing channels of debris obstruction, 38 miles of channel improvement, 1,200 feet of gabion structures, and 64 stream improvement structures to halt channel deterioration and to prevent subsequent surges of runoff with localized flood and sediment potential. The Forest Service worked effectively with State fish and game departments to protect and improve fisheries habitat. The work provided a significant amount of temporary employment for residents of this disaster area.

(5) Wild and scenic river studies ($600,000)

An increase of $194,000 is needed to carry out continuing studies on eight of the nine study rivers for which the Secretary of Agriculture has responsibility under the Wild and Scenic Rivers Act (PL 90-542). This Act requires that studies be made and reports prepared by the Secretaries of the Interior and Agriculture for 27 rivers as potential additions to the National Wild and Scenic Rivers System. All studies are cooperative endeavors with States, Federal agencies, and other interested parties participating.

The Forest Service is the lead agency for Agriculture's river study work. The nine rivers for which Agriculture has study leadership responsibility are: Chattooga in North Carolina, South Carolina, and Georgia; Flathead in Montana; Illinois in Oregon; Moyie in Idaho; Pere Marquette in Michigan; Priest, St. Joe, and Salmon (Main Stem) in Idaho; and the Skagit in Washington.

The funding for fiscal year 1972 will largely complete the Pere Marquette River study and permit work to continue on the seven other remaining Agriculture-led river studies. It also provides recognition for employment of local people in obtaining data on resource uses and in measuring and evaluating productive capability of soil and water resources.

Examples of Accomplishments

In fiscal year 1970, study efforts were essentially completed on the Chattooga River, and substantial work was accomplished on the Pere Marquette; less intensive starts were made on the remaining rivers. Also, a National Forest contribution was made to the Interior-led Clarion River study in Pennsylvania.

(6) Soil and water resource analysis, planning, predictions, and evaluation ($1,560,000)

An increase of $310,000 is needed to accelerate soil and water resource aspects of broad interdisciplinary environmental planning. Priority will be given to areas with critical underemployment by providing temporary job opportunities and training of local technicians in strengthening, at the forest level, the base upon which resource and management projects are planned, implemented, and evaluated in protecting the environment.

This involves the skills and knowledge of scientists, aided by technicians recruited from students and local residents, in determining the response of forest lands to the multiple activities and uses that may be applied to them. It includes an analysis of interrelations between various factors of the environment, and predictions regarding the soil and water outputs that will probably be associated with given management alternatives. It provides guidance for:

(a) Maintaining soil stability and productivity.

(b) Avoiding watershed damage.

(c) Managing floodflows.

(d) Avoiding flood-prone areas.

(e) Reducing sediment loads.

(f) Increasing the yields or improving the timing and quality of waterflows as the various resource development and management operations take place.

This program provides information essential to:

(a) Development of the detailed environment statement required by the National Environmental Policy Act of 1969 (PL 91-190).

(b) Comprehensive management planning.

(c) Meet the President's request for an increased effort in establishing wilderness areas.

This program will be accelerated to encompass 57 watersheds in fiscal year 1972. It will include work for intermittently employed technicians in such key areas as the Idaho Batholith where sediment problems pose a major threat to the Salmon fishery, the Lake Tahoe Basin, the Appalachia Region, the Boundary Waters Canoe Area in Minnesota, the major timber management and road activities in Alaska, California, Montana, Oregon, and Washington, and the important range, wildlife, and multiple-purpose activities in Arizona and New Mexico.

Examples of Accomplishment

Soil and water resource analysis, planning, predictions, and evaluations on the Mark Twain and the Clark National Forests in Missouri have led to a better understanding of water movement in Karst areas. They have shown that much of the rainfall that falls on such areas moves rapidly into and through underground caverns in the underlying geologic formations and that the effects of management activities on the water resource often appear in areas well outside the area to which the activity is applied. Through this work, watershed planners have become aware of dam feasibility problems not previously recognized and the dangers associated with using natural depressions or "sinks" on the ground surface for the dumping of refuse.

Soil and water resource analyses, planning, predictions, and evaluations were made on 35 watersheds during fiscal year 1970.

(7) Detailed surveys ($850,000)

These are intensive surveys designed to provide the technical information and scientific interpretations needed to aid in the design of projects or programs for a specific unit of land in nonmetropolitan areas.

The sound and efficient use of National Forest System lands must be in accord with the capabilities of the soil and geologic resources and satisfactory hydrologic conditions in the watersheds. As overall use of the land base expands and becomes more intensive, the more critical becomes the need for for detailed technical (physical, chemical, biological) information about the basic resources and their functioning.

To provide detailed information for priority watershed areas it is planned to survey 1.8 million acres in fiscal year 1972.

Examples of Accomplishment

To provide soil information for a wide variety of planning efforts on lands within the Cal-Neva Resource Conservation and Development area, a detailed soil survey was initiated on some 280,000 acres of the Modoc National Forest in California.

Because of the important environmental issues involved, a detailed, comprehensive hydrologic survey has been initiated on the White Clouds area of the Challis National Forest in Idaho.

A water quality and sanitation survey was conducted in cooperation with the State Board of Health on a 12,500-acre watershed on the Homochitto National Forest in Mississippi. The scope of this survey included examinations of water supply and quality sewerage and solid waste disposal, agricultural pollution, and a vector study. This watershed contains the site of a proposed recreation lake.

The fiscal year 1970 goal of 2 million acres was reached.

(8) Water yield improvement ($480,000)

This program, which helps individuals and communities in rural areas improve their quality of life, is an integral part of multiple-use management. Specific water resource related outputs of the program include:

(a) Augmentation of existing water supplies.

(b) Reduction in sediment yields and flood flows.

(c) Protection and enhancement of water quality.

(d) Better timing of waterflows.

However, additional outputs achieved through the program include:

(a) Improved carrying capacity for livestock.

(b) Improved fish and wildlife habitat.

(c) Reduction in hazard from wildfire.

(d) Maintenance of soil productivity.

(e) Reduction of soil movement and/or loss.

(f) Improved water oriented recreation environment.

The Forest Service water yield improvement program has been limited principally to four pilot projects. One of these projects is a joint administration-research project being carried out under a cooperative agreement with, and partially financed by, the Salt River Valley Water Users Association in Arizona.

Costs of Forest Service water yield improvement work are very favorable when compared with alternative methods for water supply augmentation.

The water yield improvement activity for fiscal year 1972 will consist primarily of maintenance of existing water yield improvement projects to insure continuation of the full effectiveness of the work done to date. There will also be some additional work on continuing projects.

Examples of Accomplishment

Water yield improvement accomplishments on National Forest System lands during fiscal year 1970 included:

(a) Six thousand nine hundred thirty acres of permanent conversion from deep-rooted, low value brush to shallower rooted, high value grasses in Arizona, southern California, Utah, Colorado, and Wyoming, with an estimated increase in water yields of about 1,500 acre-feet of new water per year, and a reduction in sediment of about 16,000 tons per year.

(b) Treatment of 20 acres for water control in Arizona, to augment critical low flows during the summer months and added to available groundwater supplies.

(c) Hydrologically designed timber harvest was applied on about 15,000 acres in the snowpack zone of Arizona, New Mexico, Oregon, and Washington with an estimated initial increase in water yields of about 3,300 acre-feet.

(d) Maintenance of previously completed water yield improvement projects in California, Colorado, and Arizona.

(9) Water use requirements and availability ($244,000)

In the West, particularly, more and more demands are being made upon available water supplies. The Congress and the courts have determined that the United States has a right to reasonable use of water on National Forests reserved from the public domain except those waters appropriated before the National Forests were created. The objective is to obtain sufficient quantities of water in accordance with legal authority for the administration and development of the National Forest System. This project on a watershed basis includes:

(a) An inventory of present and foreseeable needs.

(b) A determination of water availability.

(c) The potential for increasing yields in water-short areas.

(d) Action to secure the water needed for National Forest purposes.

The western States have indicated their interest in having the Forest Service complete this program as rapidly as possible. During fiscal year 1970, the field inventory of Forest Service water uses was about 60 percent completed. A major part of this project is expected to be completed by 1975.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

Soil and Water Management

State	FY 1971 estimate	FY 1972 estimate
Alabama	$40,000	$50,000
Alaska	310,000	540,000
Arizona	676,000	715,000
Arkansas	90,000	110,000
California	750,000	1,030,000
Colorado	510,000	615,000
Florida	20,000	35,000
Georgia	220,000	255,000
Idaho	575,000	986,000
Illinois	40,000	150,000
Indiana	20,000	20,000
Kentucky	40,000	70,000
Louisiana	20,000	25,000
Michigan	70,000	95,000
Minnesota	270,000	310,000
Mississippi	20,000	35,000
Missouri	170,000	170,000
Montana	475,000	650,000
Nevada	70,000	90,000
New Hampshire	50,000	50,000
New Mexico	155,000	285,000
North Carolina	60,000	80,000
Ohio	20,000	20,000
Oregon	330,000	460,000
Pennsylvania	50,000	50,000
South Carolina	50,000	60,000
South Dakota	50,000	72,000
Tennessee	40,000	50,000
Texas	40,000	50,000
Utah	510,000	550,000
Virginia	60,000	100,000
Washington	500,000	620,000
West Virginia	50,000	90,000
Wisconsin	115,000	145,000
Wyoming	130,000	163,000
Total	6,596,000	8,796,000

MINERAL CLAIMS, LEASES AND PERMITS

1970	$4,758,000
1971	5,034,000
1972	4,884,000
Decrease	-150,000

A decrease of $150,000 is proposed to provide funds for higher priority Forest Service programs.

Mineral claims, leases and permits ($2,297,000, a decrease of $53,000)

Mineral operations conducted under the 1872 mining laws are generally subject to minimal State or Federal legislative restraints. Safeguarding other resource values from serious and lasting damage is therefore dependent upon timely--often daily--contact with miners. Particularly during prospecting, miners build poorly designed and improperly located access roads. Bulldozer trenches are excavated only to comply with annual assessment work requirements. Timely supervision can avoid much damage to other resources.

Examination of mining claims is a time-consuming job for qualified mining engineers and geologists. To protect the public interest and encourage bona fide development, it is necessary to examine and report on claims:

(1) For which patent applications have been filed.

(2) Of doubtful validity that are being misused or that conflict with Forest Service programs.

(3) Located in wilderness where applications for prospecting permits have been filed.

The mineral leasing job requires:

(1) Review of applications for prospecting permits and leases to determine if mineral activities are compatible with other uses.

(2) The preparation of stipulations and operating plans to protect the environment.

(3) The preparation of mineral title reports on all acquired lands.

(4) On-the-ground administration to ascertain that terms of leases, permits, stipulations and operating plans are understood and followed.

Examples of Recent Accomplishments

Mining claims. New reserves of uranium, copper, silver, gold, lead, zinc and molybdenum are in great demand by mining companies. Management of surface resources on mining claims was accomplished on 38,456 claims during fiscal year 1970, or an increase of 120 percent. A total of 3,811 mining claims were examined for compliance with the mining laws during the year. There were 85 mineral patent applications, involving 489 claims, pending at the close of calendar year 1969. Actions on 231 claims were completed during this period; 17 claims (5 applications) aggregating 263 acres were patented during the calendar year.

Only 19 applications under the Church-Johnson Mining Claims Occupancy Act were received and action was completed on 31 cases.

A total of 428 Occupancy Act applications have been received as of July 1, 1970. As of that date, 345 cases had been completed with fee title offered in 61, a lease offered in 123, and a Forest Service special-use permit granted in 11. Because applicants were not qualified under the law, 130 cases have been rejected.

Mineral leases and permits. Demand for low-sulphur coal that will reduce air pollution in urban areas is very high. Exploration for oil and gas and phosphates continues at a high level. Some 14,500 leases and permits were active during fiscal year 1970, thus requiring Forest Service administration to protect the environment and coordinate uses. Nearly 3,000 sales and free use permits were granted involving disposal of common varieties of mineral materials. More than 800 mineral operations were active on acquired lands as a result of reserved or outstanding mineral rights. These too, require action to avoid or reduce environmental degradation.

Total revenue from leases and permits on acquired lands amounted to $6,213,227 during fiscal year 1970. This was more than a 12 percent increase over the previous year. In addition, an estimated $23 million was received from leases and permits on public domain lands. Mine or well-head value of minerals from National Forest System lands during fiscal year 1970 is estimated to exceed $100 million.

Special uses - non-recreation ($2,587,000, a decrease of $97,000)

Occupancy and use permits, easements and memoranda of understanding authorized 45,700 special land uses on 5.3 million acres of the National Forests in 1970. There is a constant turnover of these authorized uses of about 5 percent each year. The number of new permits issued has increased about 3 percent each year. It is estimated in fiscal year 1972 that the number will increase to around 48,300, covering a total of 5.7 million acres.

Users include public and private enterprise representing individuals, corporations and city, county, State and Federal government agencies. The special land uses are grouped in eight broad categories consisting of about 60 kinds of use excluding recreation. They are:

(1) Agriculture.
(2) Community improvement.
(3) Industrial.
(4) Public information.
(5) Research, study, and training.
(6) Transportation.
(7) Utilities and communications.
(8) Water.

Areas of particular interest are antiquities, electronic installations, fences, pastures, powerlines, reservoirs, roads, telephone lines, and water transmission facilities.

Special land uses assist economic development of rural areas by making suitable land available to farmers, ranchers, and local communities. The Federal Government is the major landowner in many localities. Denial of the use of National Forest System land would create hardships on the local communities, deter further business development, and materially affect on-going Federal programs.

More than 25,000 new applications, applications for amendment, applications for transfer, and inquiries were received in fiscal year 1969 from individuals, companies, corporations, and city, county, and State governments, as well as Federal agencies, to fill their needs. Of this total number, approximately 6,500 are new applications.

Based on past experience, less than a third of the new applications can be approved as being compatible with resource and environmental factors and the needs of the general public. Each new application requires an impact survey, multiple-use report or comparison with multiple-use plan. Investigations identify conflicts with management plans and existing uses. Recommendations attempt to assure conformance with multiple-use and individual resource plans and programs and actions to protect the quality of the environment. A permitted use must be activated with improvements designed and installed or constructed in compliance with all existing laws, regulations, and local codes under a carefully drawn special-use document embodying all recommended protection measures. Of particular importance are the National Environmental Policy Act of 1969 (PL 91-190) and the Water Quality Improvement Act of 1970 (PL 91-224).

After permits are issued, periodic compliance inspections are made to determine whether the authorized conditions, responsibilities, and duties are met according to acceptable standards.

These standards are those which:

(1) Maintain acceptable levels of water and air quality.
(2) Protect the natural resources from excessive soil erosion.
(3) Prevent unnecessary damage to natural beauty and esthetics of the environment.
(4) Protect renewable resources such as timber, forage, and wildlife from careless or wanton damage.
(5) Do not unnecessarily increase fire hazard.
(6) Protect the public and other users from physical hazards.
(7) Maintain fees or rentals equal to the value of the use authorized comparable with fair market value.

Of the total funds available, about $50,000 would be used to develop and maintain information on National Forest archaeological sites and to protect such sites and artifacts from vandalism or other damage by unauthorized persons, including, if necessary, excavation of endangered sites on an emergency basis.

Under special authorities almost two-thirds of all permitted uses are allowed without charge. The remaining one-third pay fees for the privilege of occupying National Forest land. Fiscal year 1970 receipts from special land uses were $1,049,971, an increase of $212,933 over the previous year. In addition, to the actual receipts collected by the Forest Service, at least $2 million of assistance, through free permits, should be recognized. The total direct monetary value of receipts and benefits is over $3 million. However, many of these free permits no longer qualify, and they will be converted to charge permits. There will be a proportionate increase in receipts to the Treasury.

LAND CLASSIFICATION, ADJUSTMENTS, AND SURVEYS

1970	$7,122,000
1971	7,089,000
1972	7,089,000

It is proposed to continue this program at the 1971 level.

Subactivities of this program are identified below:

(1) Land Classification ($419,000)

The function is to structure and recommend programs concerning the extent, location and composition of the National Forest System that will most effectively further national objectives for betterment of rural areas. Purposes and activities are to:

(a) Improve the land base to provide for current and prospective public needs for outdoor recreation space.
(b) Improve the landownership pattern to facilitate development and use of recreation, timber, range forage, water, and wildlife resources which can contribute to growth of rural economies.
(c) Encourage land adjustment for protection and improvement of watersheds.
(d) Promote stability and encourage economic growth of communities in and near areas in the National Forest System.
(e) Improve efficiency in the administration of public land programs.
(f) Improve land use patterns to promote the preservation and enhancement of the environment.
(g) Survey the degree of utilization of public lands pursuant to Executive Order 11508.

Financing at the level indicated will enable Forest Service to meet pressing needs for:

(a) Identification and detailed analyses of areas within the National Forests and National Grasslands to determine the land exchange and land consolidation which should be made to best accomplish national objectives for rural areas.
(b) Determination of the merits of opportunities to transfer Federal land to or from the National Forest System, including consideration of lands claimed by Indians, and jurisdictional transfers at numerous Federal water control projects important for outdoor recreation. Recent legislation and revised interdepartmental agreements are resulting in an increasing number of such cases.
(c) Analysis and classification of lands with potential for national recreation areas, monuments, wildlife preserves or other special status.
(d) Consideration of applications made by the State of Alaska for State land selections. Rapid acceleration of selections is expected.
(e) Further action based upon the survey of public land utilization made pursuant to Executive Order 11508.

Continual review of the location and extent of the National Forest System components is desirable to determine the direction land use and ownership patterns should take in relation to new developments and needs. The 154 National Forests and 19 National Grasslands located in 44 States and Puerto Rico include more than 40 million acres of non-Federal land. Programs for consolidations of landownership within existing boundaries of these units need to be based upon sound consideration of their short and long-range effects.

Water-oriented recreational use of land at or near Federal reservoirs has assumed large proportions and often is a significant economic factor in the locality. An interdepartmental agreement exists on management of land at Department of the Army reservoir projects. Also the law provides for

transfers of land at Bureau of Reclamation projects where such projects are located within or adjacent to National Forests. Accelerated action concerning land jurisdiction at more than two dozen reservoirs in and near National Forests is necessary to:

(a) Avoid duplication of plans and programs.
(b) Utilize existing National Forest organizations for most efficient management.
(c) Assure timely and economical development of recreation and land use facilities.

Elsewhere, expanded activity in transfers of public land jurisdiction based upon joint studies with the National Park Service or Bureau of Land Management is called for in the interest of more economical or effective public and private service.

Examples of Recent Accomplishments

Criteria were developed for the approval of State land selections from National Forest areas in Alaska where the State is authorized to select up to 400,000 acres of National Forest land.

Numerous interdepartmental transfers of land jurisdiction were accomplished in the interest of efficient administration of public land programs.

Examples:

(a) An Army-Agriculture interchange involving about 1,500 acres resulted in transfers of suitable reservoir project lands for resource management as part of the adjacent Hoosier National Forest in Indiana, and transfer from the National Forest of tracts needed for project structures.
(b) Transfers of lands from the public domain to National Forests involved about 7,000 acres in Montana, 12,000 acres in Nevada, and 6,000 acres in New Mexico. Transfers from National Forest to public domain involved over 21,000 acres in Colorado.
(c) Transfer of 1,500 acres from the Bureau of Reclamation to the Tahoe National Forest in California for recreation and other National Forest purposes around Prosser Reservoir of the Washoe Project.
(d) Transfer to the National Park Service of 455 National Forest acres within the shoreline zone of the Pictured Rocks National Seashore in Michigan.

In response to Executive Order 11508 lands under Forest Service jurisdiction, except lands in the National Forest System, experimental forests and ranges, were reviewed and ranked according to priority of need.

In order to better conform National Forest boundary locations with foreseeable needs for National Forest programs, boundaries were extended to include an additional 7,300 acres and retracted to exclude over 21,000 acres.

(2) Land Exchange ($3,241,000)

Properly conceived land exchanges result in alleviating the need to construct certain road segments, the location and marking of property lines, the issuance of certain special-use permits, and other management costs. The consolidation of ownership through land exchanges results in a 10-year cost avoidance for every dollar spent in accomplishing the program. Selected examples of estimated cost avoidance which will result during the next 10 years, from the fiscal year 1972 exchange program, are:

Reductions	Units	Amount (in thousands)
(a) Property lines and corners	1,900 miles	$2,000
(b) Road construction and maintenance	330 miles	9,900
(c) Use permits and occupancy trespass	600 cases	2,400
(d) Road right-of-way needs	400 cases	280
Total		14,580

Material revenue increases to the United States Treasury can also result through well planned exchanges. Access road problems can be eliminated and make heretofore inaccessible mature timber stands available for harvest to the mutual benefit of the United States and timber companies in need of timber supplies. The rural economy is also benefited. Significant benefits can be realized for both the United States and private owners engaged in livestock operations through the consolidation of ownerships, thus reducing costs and improving management of the ranges.

Carefully designed land exchanges can make material contributions in bettering rural America and the communities located within or near the boundaries of the National Forest System. Farmers and ranchers operating marginal operations can frequently acquire the adjoining National Forest System lands suitable for grazing, thus permitting development of an economic unit. Communities are frequently aided through exchanges that provide lands for expansion and development.

The fiscal year 1972 land exchange program will involve the examination and appraisal of 500,000 acres involving an estimated 400 proposed exchanges. The land the Government gives and receives in exchanges must be examined and appraised. Following examination and appraisal, negotiations are expected to be completed and 218 cases approved during the fiscal year involving a total of 209,600 acres.

Examples of Recent Accomplishments

In fiscal year 1970, 183 land exchanges were approved. In these exchanges, the United States will acquire 126,185 acres valued at $24,669,367 and will grant 89,535 acres valued at $21,946,470. A total of 161 land exchanges were fully completed with title to 79,950 acres passing to the United States and 53,043 acres passing to the other landowners. The net increase in National Forest acreage was 26,907 acres.

(3) Land Status Records and Land Line Location ($2,388,000)

(a) Land status records. This is a systematic search of records and the presentation in plat, tabular record, and supplementary form of all ownership interests, and Congressional and administrative actions which limit or otherwise affect administration of the National Forest System or the use of adjoining lands by the owners thereof. It is the record of what land interests the Forest Service must administer. Significant progress is necessary to meet the expanding need for correct currently available records of Forest Service landownership, use and encumbrances.

The National Forest System was created and altered to meet changing needs by many Acts of Congress and administrative actions in accordance therewith. Some 160 million acres were reserved from the public domain.

Over 27 million acres were acquired by several agencies of Government. Over the years many exchange, acquisition, and disposal actions have occurred. The great number of records of the status of such lands as to ownership, encumbrances, and restrictions on use were never satisfactorily assembled, checked, and placed in a system readily used and currently maintained as changes occurred. As a result, the Forest Service has been handicapped in meeting the impact of the vast increase in resource use in recent years.

A system has been developed to assure that accurate status information is assembled and records kept current at a central point and supplied to all field offices of the Forest Service. In converting to this system, all public records are reviewed and entered. Maintenance of records is done in the nine regional offices and supplied currently to some one thousand field offices. The project is about 70 percent completed. The conversion job is scheduled for completion by the end of fiscal year 1974.

The systematic search and review of records in the conversion project continues to reveal, and identify more clearly, many parcels and general areas which have previously been misunderstood, identified inaccurately, or overlooked in administration due to inadequate records and poor identifying ties between records and ground location.

Users of the new system records (Forest Service and other Government agencies, adjoiners, and other public users) are enthusiastic about these records. They give confidence in administration and reduce areas of potential ill-will with adjoiners and users of public and private resources.

Work Proposed for 1972

	1970 Actual	1971 Planned	1972 Estimated
Townships completed	1,660	1,780	1,700

(Total program 17,000. Accomplished through 1970 - 12,660)

(b) Land line location (cadastral program). Accurate plainly marked property lines are essential to effective management of lands and land based resources. Significant progress in this activity must be made so that National Forest lands can be managed to meet Forest Service multiple use-sustained yield policy and contribute to the stability and growth of the rural economy.

An inventory of property corners and miles of property line to determine the ownership of boundaries between lands of the United States administered by the Forest Service and those of all adjoining ownerships follows:

1,160,472 corners on property lines
210,924 additional corners needed for control
272,487 miles of property lines

Many of the corners were established 50 to 200 or more years ago. Over 30 percent of these corners have disappeared because of decay and neglect. Skillful search for corners in recent years indicates that some of these corners were never established even though the official survey record indicates otherwise.

In public land States, surveys by the United States were mainly of township and section exteriors as a basis for sales and grants of the public lands. Subdivision of sections by cadastral survey was not required to issue patents based on aliquot parts of sections. Sales and grants from the sovereign were expected to continue; therefore, the need for the United States to maintain corners and lines on the remaining Government lands was not present. This situation was changed by the first large scale reservation of public lands authorized by the Forest Reserve Act of March 3, 1891 (26 Stat. 1103). Over 160 million acres were reserved from the public domain for the National Forests. In addition, the United States has purchased some 27 million acres since 1911 and placed them in the National Forest System. This created the need for the United States to know the legal boundaries of its lands in order to develop their full public use under permanent management. However, there was little provision for this work until 1958, when the first modest land line location appropriation was made to the Department of Agriculture. Since then annual appropriations for this program have been made. These are being used primarily to search for corners to determine the true situation and to prevent further loss. The search thus far has revealed that about 32 percent of the previously established corners are missing and must be restored through relatively expensive cadastral surveys. The search phase is also revealing that many corners are in such poor condition that

their loss is imminent. Those recovered under this program are being remonumented currently, or within a year or two.

The average cost to search out and permanently preserve a corner by remonumentation is $60. The average cost to restore a missing corner by cadastral surveys is $600.

The following has been accomplished since the program was initiated in 1958:

1958 - 1970

Corners:

1.	Searched	229,999
2.	Found acceptable evidence of corner	157,895
	(a) Do not need remonumentation	37,228
	(b) Need remonumentation	120,667
	(1) Remonumented by Forest Service	62,177
	(2) Remonumented by Bureau of Land Management/Forest Service cooperation	39,687
3.	No acceptable evidence of corners found, cadastral surveys needed to establish corners	72,104
	(a) Corners established by Forest Service cadastral surveys	21,560
	(b) Corners established by Bureau of Land Management cadastral surveys	11,558
4.	Miles of cadastral surveys run to reestablish missing corners and establish new corners required:	
	(a) By Forest Service	8,900
	(b) By Bureau of Land Management	6,025

Property Lines:

Miles marked to standard	12,590
Miles marked to interim standard	9,053
Miles inspected and maintained	3,144

The search and remonumentation of "thread hanging" corners have been carried out based on most urgent needs, and to the extent possible, on cooperative opportunities with adjoiners. For every corner searched in time and preserved a future expenditure of nearly $600 is saved (Figure 7). This is why most of the appropriation has been used in the "search and rescue" phase. Most of the expensive job of restoring missing corners has been postponed.

Since 1966 an annual transfer of part of the land line location appropriation has been made to the Department of the Interior for use by the Bureau of Land Management. This is to obtain urgent cadastral surveys to reestablish corners on public domain lands administered by the Forest Service, that were found to be missing during Forest Service corner search activities. The Bureau of Land Management has the authority for cadastral surveys of such lands. In fiscal year 1971, $270,000 was transferred. The same amount is planned for transfer in 1972. Most of these funds are used in the States west of the Mississippi River, since this is the area of public domain lands. The Forest Service makes careful search for corners in critical areas where property lines are an issue with adjoiners, or where such lines must be established before timber sales or other public uses may be undertaken. Cadastral surveys to reestablish missing corners are then programed jointly by Bureau of Land Management and the Forest Service.

The work to be done under this program is shown in the following table. This work is carried on in every State in which the Forest Service administers lands:

Work Proposed for 1972 as Compared with 1971 and 1970

	FY 1970 Accomplished	Planned FY 1971	Planned FY 1972
Corners			
Search	27,945	27,200	27,200
Remonument	12,651	11,700	11,700
Establish	1,325	1,300	1,300
Maintenance	450	600	600
Miles			
Locate and mark:			
To full standard	2,125	1,450	1,450
To partial standard	620	850	850
Maintenance	359	1,000	1,000

Examples of Accomplishment

The accomplishment since 1958 in comparison to the total inventory of property corners and lines is as follows:

Corners searched	17 percent of total
Property lines marked	8 percent of total

Work has been programed in areas of most urgent need, thus obtaining maximum immediate benefits.

One-third of the corners revealed as missing by the corner search phase to date has been reestablished by cadastral surveys. This work is also done where most urgently needed, thus obtaining maximum immediate benefits.

(4) Geometronics ($1,041,000)

Multiple use planning requires a particular knowledge of the terrain, the extent and location of the natural resources and how these resources are related and tied in with existing and planned transportation and recreational facilities. Elevational information is essential in the planning of transportation systems, timber sales and recreational facilities.

Technological advancements have provided new means of improving and extending management of National Forest resources and related facilities. The adaptation and development of such techniques as the analytical approach to control extension for the essential control of remote sensing is being pursued. This promises significant reductions in field-going operations. Remote sensing investigations are underway in providing display mechanisms for interpreting, plotting, digitizing and retrieving of such data. This promises greater speed, greater reliability, and comparability of terrain data. This may include material such as tabular data, selected map features, resource classification by imagery characteristics, and orthophoto mapping.

These developmental operations are supplemental to and coexistent with the acquisition of conventional line mapping in the quadrangle format for the National mapping program.

The data are needed on some 640,000 square miles of area within the National Forests for a wide range of engineering planning, timber, range, wildlife control, recreation facilities, and watershed management activities. Approximately 57 percent of this area is adequately covered in National accuracy line mapping. The scale, format, and accuracy of this material would be such that it can be released to the U. S. Geological Survey and form an integral part of the standard topographic mapping program of the United States. Thus, duplication of effort is avoided, costs are reduced, and the availability of standard topographic maps is speeded up.

The funds for fiscal year 1972 would be used to secure aerial photography, establish horizontal and vertical control for an equivalent of 2,600 square miles of the area for which these data are needed. In addition, the funds would be used to prepare, from existing terrain data, bases on the scale and format needed for showing the interrelationship of all National Forest resources affecting the multiple use management of the National Forest System. The scale and format of the prepared material must be compatible with the scale of the aerial photographs used in the execution of resource inventory surveys. These data are transferred to the multiple use management plans by photogrammetric means.

Utilizing the terrain data and resource data procured through photogrammetric procedures, it is proposed to prepare several management bases on an adequate scale and format for approximately 8 National Forests.

		1970	1971	1972
Terrain Data (topographic)	thousands of acres	575	791	791
	square miles	898	1,080	1,080
Resource inventory data (planimetric)	thousands of acres	5,414	3,200	1,920
	square miles	8,459	5,000	3,000
General management	forests	5	10	8

$SAVER$

It makes good cents (and dollars) to

SEARCH for ↓ this and RESCUE like this ↓ for ($60)



Remaining evidence of Corner Location



Corner recovered, durable monument set and protected by guard post and signs

BECAUSE delay until this disappears will require a $600 survey to reestablish the corner

OUR RECORD

Savings effected by corner search and remonumentation accomplished under this program:

Fiscal year 1970 (12,651 corners remonumented x $600)... $7,590,600

Since start of program in 1958 (101,864 corners remonumented x $600) $61,118,400

Search

And

Verify

Evaluate

Remonument

Figure 7

FOREST FIRE PROTECTION

1970	$29,655,000
1971	30,333,000
1972	30,305,000
Decrease	-28,000

A decrease of $28,000 in public relations activities.

The objectives of the National Forest Fire Protection Program are to:

(1) Hold fire losses to a level consistent with immediate long-range land management objectives.

(2) Use fire to increase productivity of National Forest lands.

(3) Reduce to tolerable limits the fire threat to life and resources in rural areas in case of enemy attack.

(4) Accomplish the above objectives economically and with a high degree of personal safety.

This program is designed to protect all forest resources. It directly affects the quality of the environment by saving timber, protecting watersheds, scenic areas, wildlife, grasslands, and other land resources. It aims to prevent fires that smoke up recreation areas during the summer use period. Damage from uncontrolled fires becomes less tolerable each year as resource values steadily increase.

Land and resources protected by the Forest Service are subjected to more use by recreationists, travelers and others for special purposes, collectively increasing the risk from man-caused fires. Paradoxically, response of the land to good management practice often creates combustible fuels where few existed before. The challenge is to meet the burgeoning problem of increased hazard and risk. Wherever possible, effort has been made to make improvements in fire prevention, preparedness, suppression, and modification of fuels to reduce fire spread potential.

The proposed budget will be used to finance protection measures approximately as follows:

Protection Measures	FY 1970	FY 1971	FY 1972
		(in thousands)	
Fire prevention	$4,056	$4,152	$4,152
Fire detection	3,837	3,929	3,929
Fire attack forces	16,538	16,931	16,931
Air operations	3,620	3,705	3,705
Fuel modification	346	353	353
Equipment development and testing	681	697	697
Studies, surveys, plans and training	577	566	538
Total	29,655	30,333	30,305

Examples of Recent Accomplishments

General. Major suppression efforts in 1970 employed many more women than ever before for a greater variety of jobs. They drove trucks, kept time, operated radios, handled supplies, cooked and did other jobs directly contributing to

firefighting. Minority groups were used as one of the largest forces for fireline duties. Their efforts were generally of a high order. More attention was given this year to the protection of timber, soil, streams and other parts of the environment in the actual firefighting job. The work was directed at preventing soil erosion, road damage, stream scouring and similar adverse effects upon the environment.

Mobilization. During 1970, the Boise Interagency Fire Center dispatched more than 8,000 firefighters and overhead to combat the huge fires in the Western States. Firefighting equipment, communication systems, infrared mapping devices, and transport aircraft were furnished to help control these fires.

Towards improved effectiveness. A periodic project in National Fire Planning, now underway, will produce plans for all areas of fire control and provide a basis for meeting future fire control objectives in a cost-effective manner. During 1970, a special task force has developed instructions which will incorporate the latest computer techniques in developing an optimum prevention, detection, and initial attack organization. These instructions will consider damage plus resource values to obtain the optimum mix of financing to meet the resource protection needs of the 1970s.

Fire prevention and law enforcement. A new fire prevention training film is nearing completion and national distribution is planned for early 1971.

Action on fire trespass cases during fiscal year 1970 resulted in collections of $358,574.

Normally, about 25 percent of the man-caused fires of the country occur in the 11 Southern States. Giving particular emphasis to research needs and direction, a special task force of Forest Service and State fire leaders has been studying the fire prevention problem in this area. Their recommendations will be of material help in planning and directing prevention in this important fire area in the future.

Fuel treatment. Included in the fuel treatment program was an effort to add to a planned system of fuel breaks which will divide large blocks of high hazard fuels. Such a system, will reduce fire spread and intensity in the treated areas. Ultimately the result will be fewer acres consumed by wildfire, less resource damage, and a reduction in protection costs.

Air operations. Large modern helicopters proved their worth by delivering firefighters and their equipment, and by dousing fires with retardant drops from special sling buckets.

The Forest Service converted a P2V Navy surplus aircraft to an air tanker capable of carrying 3,000 gallons of fire retardant chemical slurry. Liquid concentrate retardant used extensively in Western States for the first time made a major contribution to the effectiveness of the P2V, other air tankers and helicopters. Liquid concentrate shows promise for reducing cost and providing greater versatility in adapting mixing facilities to temporary locations. These improvements are significant considering the 12 million gallons of retardant dropped during the 1970 season.

Equipment development. Two current equipment development projects are aimed at giving more treatment to 1,250,000 acres of logging slash each year. Their short-term goals are:

(1) To evaluate and report on existing equipment for treating slash and other debris and develop new equipment.

(2) Accomplish fuel treatment without creating a smoke problem. These projects are expected to produce equipment and methods for effectively treating a wide variety of forest fuels.

MAINTENANCE OF IMPROVEMENTS FOR FIRE AND GENERAL PURPOSES (INCLUDING COMMUNICATIONS)

1970	$9,474,000
1971	7,230,000
1972	7,230,000

It is proposed to continue this program at the 1971 level.

The program provides for the maintenance of buildings, utilities, airfields, communication systems, and related facilities throughout the National Forests and National Grasslands to an acceptable standard. The replacement value of these improvements is in excess of $300 million. It is essential that the physical plant upon which these activities depend be adequately maintained. These funds will be used to maintain the following:

Type of facility	Number
Fire lookouts, towers, and observatories	1,500
Dwellings, cabins, barracks, and trailers	5,400
Field offices	800
Storage and service buildings	7,000
Water and sewer systems	5,000
Radio units	22,100
Landing fields and heliports	500
Miles of telephone line	7,500
Miles of administrative fences	1,200

Maintenance funds are distributed to field units based on number of improvements by classes currently justified by program use and an analyzed unit maintenance cost.

In fiscal year 1970 and prior years, funds for construction of fire and general purpose improvements were provided under this activity. Beginning in fiscal year 1971, these funds were appropriated under the fund, Construction and land acquisition. The 1970 accomplishments are shown under the new Construction and land acquisition appropriation.

PAYMENTS TO EMPLOYEES' COMPENSATION FUND

1970	$1,100,209
1971	1,459,000
1972	1,622,000
Increase	+163,000

An increase of $163,000 is proposed to reimburse the Employees' Compensation Fund, Department of Labor, in accordance with PL 86-767 (5 USC 785), which was enacted September 13, 1960, for benefit payments made from that fund to employees of the Forest Service who are injured while in the performance of duty. The 1971 payment was $1,458,772. The payment for 1972 will be $1,622,187.

WATER RESOURCE DEVELOPMENT RELATED ACTIVITIES

1970	$6,403,000
1971	3,698,000
1972	3,698,000

It is proposed to continue this program at the 1971 level.

The proposed level of funding will help avoid gross misuse of resources in the most sensitive areas and will enable the Forest Service to redeem the most crucial elements of the Department of Agriculture's obligation to water development projects of other agencies.

The construction agencies, frequently through separate Congressional authorization, initiate the projects and schedule the performance. The Forest Service cooperates in the planning, development, and management of the water and related resource development associated with National Forest System lands.

Each water development project poses resource problems and opportunities peculiar to the individual site under consideration, to adjacent and tributary lands, and to the associated rural area environment. This requires a comprehensive environmental impact survey by the Forest Service to determine the effect of each water resource development proposal on all the resources, facilities, and the rural areas affected by the project. These surveys determine the best pattern for multiple-use management of project associated land, prescribe the resource management adjustments needed to assure a maximum National Forest contribution to the water project, and identify Department-wide opportunities for utilizing project potential for the enhancement of rural America.

In addition to impact surveys, the work performed under this program includes:

(1) Liaison with the construction agency to assure the benefits of a combined and harmonious interagency effort.

(2) Treatment of lands, tributary to or within the project area to provide improved water yields and reduced sedimentation which will better serve operating requirements of reservoirs, maintain or increase the useful life of the project, and provide for public safety and enjoyment.

Work and financing planned for fiscal year 1972 is compared with that for fiscal year 1971:

	Fiscal Year 1971		Fiscal Year 1972	
	No. of Units	Cost	No. of Units	Cost
(1) Impact surveys and construction liaison ..	541	$2,648,000	458	$2,648,000
(2) Land treatment, soil stabilization and and cover improvement	76	1,050,000	1/ 93	1,050,000
Totals	617	3,698,000	551	3,698,000

1/ Eight of these projects ($191,000) represent Forest Service obligation to finance land treatments on National Forest lands at those PL-566 projects where work plans have been approved since March 21, 1966.

(1) Impact surveys and construction liaison ($2,648,000)

Impact surveys delineate the effect, define necessary mitigating measures, and identify enhancement opportunities relative to proposed water resources developments associated with National Forests and National Grasslands. Reports resulting from such surveys document measures which are essential to the attainment of National Forest multiple-use objectives and identify how National Forest management can contribute to project purposes to optimize their economic and social contribution to rural America. To be effective, the surveys and reports must be concurrent with the construction agency's preliminary planning to permit their findings to be incorporated in the licensing or authorizing document.

Liaison with the construction agency during the construction period is necessary to facilitate coordination between the construction agency and the Forest Service. Protection of the land and resources, minimizing interference with regular protection and management activities, and facilitating construction agency operations are direct economic dividends derived from this program.

Experience has shown that without adequate analysis and liaison effort such as is provided by this activity, natural resources often suffer from enormous waste and misuse and the project works fail to make their maximum contribution. Natural beauty and high quality water are among those resources most susceptible to loss. The rising value of forest resources and constant increase in demands against the declining resource base requires increased perception, imagination, and thoroughness in the preparation of impact surveys. The impact survey effort and construction liaison work reflects an involvement at 458 projects. Based on an average project construction cost of $30.5 million these 458 projects represent a total construction cost of about $14 billion.

The enormous cost of this construction program associated with the National Forests provides some indication of extent of activity going on. A fiscal year 1972 investment of $2,648,000 by the Forest Service (.017 of 1 percent of construction costs) will help assure that projects are constructed in maximum harmony and minimum conflict with associated land, resource, and human values. Forest Service impact survey and construction liaison work will continue on all projects at a sustained level of effort.

Fiscal year 1970 accomplishment included preparation of environmental impact survey reports for: Dos Rios Project, Big Creek Power Project, Uinta Unit-Central Utah Project, Days Creek Dam, English Ridge Dam and Northfield Reservoir.

(2) Land treatment, soil stabilization, and cover improvement ($1,050,000)

Treatment of lands tributary to water resource development projects to reduce sediment yield or to modify the pattern of runoff lengthens the life and increases the utility of the water control structures. This work is done on National Forest System lands tributary to the project, only where hydrologic analysis and other elements of the impact survey determine that such work is needed and that benefits to the project purpose are clearly established. Treatment programs include the following:

(a) Modifying the vegetation to decrease erosion, to reduce flood peaks, and to increase the annual quantity and improve the timing of water yielded from the tributary lands.

(b) Clearing reservoir areas, where not done as part of construction, and keeping the reservoir free of debris to make the area safe for public use and to maintain scenic beauty.

(c) Land treatment measures such as contour terracing, gully plugs, headwaters debris and flow retarding structures, and streambank and shoreline stabilization measures.

Essential land treatment and related measures are planned at 93 projects, including 8 PL-566 small watershed projects approved after March 21, 1966. Reservoir sweeping, debris and stump removal, and vector and aquatic weed control will be accomplished on about 37,000 acres at 47 projects in order to provide for public safety and user enjoyment of the reservoir area. At the remaining projects a combination of treatment measures, including some of the above, will be performed to improve water quality and quantity.

Fiscal year 1970 accomplishments included the application of land treatment measures at Sebastian Martin-Black Mesa, Monroe-Annabella, Trail Creek, Cottonwood, Vernon, Georgetown Creek, Star Valley-Dry Creek, South Fourche, Little Mulberry Creek, Johns Creek, Tesnatee Creek, Salt Lick Creek and Upper Leaf River PL-566 projects. About 660 acres of stumps were removed at 3 projects for protection of the reservoir users and for esthetic reasons, and reservoir sweeping and debris removal was accomplished on approximately 60,000 surface acres at 15 reservoir projects. In addition, measures such as gully stabilization, sheet erosion control, lakeshore stabilization, and contour trenching aimed at improving water quality and quantity were done at 35 projects.

(3) Public use, access, and management facilities

In fiscal year 1970 and prior years, funds for designing and developing public use facilities on National Forest System lands at, and adjacent to, project reservoirs built by other agencies were provided under this activity. Beginning in fiscal year 1971, these funds were appropriated under the fund, Construction and land acquisition. The 1970 accomplishments are shown under the new Construction and land acquisition appropriation.

FIGHTING FOREST FIRES

1970	$26,429,000
1971	4,275,000
1972	4,275,000

This program provides an initial amount for suppressing fires on National Forests and Grasslands which cannot be handled by the regular forest fire protection program. This initial appropriation is supplemented each year to the extent necessary to cover all emergency forest fire fighting costs.

Included are expenditures for men and equipment to control large fires. In addition, when critical conditions present an unusual threat, men are engaged in special efforts to prevent fires and temporary forces are used at strategic locations to be available to attack fast-spreading fires.

The volume and scope of emergency forest firefighting (FFF) varies annually according to severity of burning conditions and the extent of the forest protection program. These two programs are directly related and the cost of protecting the National Forests and Grasslands is the total sum of their respective expenditures.

Calendar Year 1970 Fire Season

The severe spring and summer drought spelled disaster for the Northwest and California during the 1970 fire season. Lack of rain combined with high temperatures created extreme fire danger in the western United States from July through October. It was the combination of bone-dry fuels, lightning, and careless man which caused huge conflagrations, the highest acreage burned since 1936, and the greatest number of fires in 9 years.

Severe lightning storms in July and August started a record number of fires in the Northwest. These were followed by high winds and resulted in a complex of huge fires on the Okanogan-Wenatchee National Forests in Washington. California experienced the same drought into November. There man-caused fires fanned by 80 mph Santa Ana winds developed into one of the worst series of conflagrations ever experienced in southern California. In November the Bear Fire destroyed 55,000 acres of prime watershed on the San Bernardino National Forest in California.

Through November 30, 1970, 14,600 fires burned 552,800 acres of Forest Service protected area. Of these fires, 6,670 were man-caused. The burned acreage on Forest Service protected area was over three times greater than the previous five-year average. Man-caused fires increased 40 percent over the five-year average. The major increases were in the far West and Southeastern States.

Geographic Breakdown of Obligations--Fiscal Year 1970

Alabama	$24,888	Minnesota	$16,944	South Carolina	$31,197
Alaska	24,235	Mississippi	91,714	South Dakota	174,457
Arizona	2,818,778	Missouri	117,233	Tennessee	148,080
Arkansas	312,923	Montana	2,222,426	Texas	55,932
California	9,922,899	Nebraska	20,016	Utah	320,074
Colorado	290,480	Nevada	162,568	Vermont	129
Florida	150,088	New Hampshire	1,396	Virginia	86,779
Georgia	38,709	New Mexico	1,314,682	Washington	1,304,848
Idaho	3,019,770	North Carolina	158,053	West Virginia	17,439
Illinois	24,039	North Dakota	21	Wisconsin	10,363
Indiana	10,823	Ohio	14,465	Wyoming	863,723
Kentucky	87,004	Oklahoma	27,881	Loan from trust fund	-1,000,000
Louisiana	115,667	Oregon	3,341,936		
Michigan	85,184	Pennsylvania	985	Total	26,428,828

The amounts for 1971 and 1972 have not been distributed by States. Locations of emergency firefighting funds cannot be forecast with any degree of accuracy.

INSECT AND DISEASE CONTROL

1970	$9,590,000
1971	11,610,000
1972	10,250,000
Decrease	-1,360,000

A net decrease of $1,360,000 is proposed as follows:

(1) An increase of $140,000:

(a) To protect the environment on 100,000 acres of hardwood forests in the Northeastern and Central States from depredation by defoliating insects such as cankerworms, leaf rollers, and gypsy moths.

(b) To treat critically infested high-value conifer stands on the National Forests with Zectran to control spruce budworm outbreaks.

(2) Decrease of $1,500,000 for the non-recurring purchase of Zectran, a non-persistent carbamate insecticide to be used as a substitute for DDT to control spruce budworm. Purchase of this product in 1971 should meet control needs for a 2-3 year period.

Annual losses from forest insects and diseases are estimated to be about 40 percent of the current annual timber harvest. Losses from physiological disturbances other than insects and infectious diseases are also highly significant. These are losses caused by:

(1) Adverse soil conditions.

(2) Atmospheric pollution.

(3) Climatic factors such as temperature and moisture.

Damages caused by these conditions can only be identified through careful examination and evaluation. Diagonsis of the cause and recommendations for elimination or control are prime responsibilities of the pest control scientist.

Damage from insects and diseases cannot be viewed or considered only on the basis of timber value. With today's emphasis on maintaining and improving the quality of the environment, the adverse effects of insect and disease outbreaks--such as the marring of the natural beauty of the countryside, impairing or eliminating the ideal habitat for fish and wildlife, increasing the hazard of forest fires, and protecting the cherished recreation sites that trees make possible--cannot be ignored. Timely action through insect suppression and disease prevention or control must be a major part of the program to protect these environmental values so basic to the American way of life.

Bark beetles are now the most destructive forest insect pests. They are responsible for about 90 percent of the timber losses triggered by insects. During fiscal year 1970, losses from insect attacks, reported by Oregon and Washington, amounted to about one-half billion board feet. Spruce beetle activity is on the increase in Alaska and in the Rockies from Canada to the Pacific Southwest. Mountain pine beetle outbreaks continue to deplete lodgepole and ponderosa pine stands in South Dakota, Wyoming, Northeastern Idaho, Colorado, and Utah. Vigorous control programs that have proven to be successful must be continued to prevent further tree mortality.

Douglas-fir beetle, the fir engravers, and the western pine beetle continue to be active. It is expected the infestation will expand as a result of the summer and

fall fires in the Pacific Northwest and California. Every attempt is being made to minimize losses from these beetles by close surveillance of the areas and prompt removal of brood trees in salvage logging operations. Where salvage is impractical, infested trees are cut and then burned or chemically treated.

In the South and Southeast, the southern pine beetle continues as the principle forest pest. Control projects to contain beetle activity and to minimize losses are necessary. Below freezing temperatures in the winter of 1969-70 over an extended period wiped out beetle populations in some localities and decimated them in others. It has been possible to reduce control operations in some areas as a result. Hurricane Camille provided ideal conditions for beetle development and spread into standing healthy trees. The affected area has been under very close surveillance since the hurricane. Outbreaks are being controlled on National Forest, State, and private lands.

Defoliating insects--caterpillars, loopers, tussock moths, sawflies, and many others--weaken or kill trees by eating the leaves and needles. Such defoliators are the most destructive forest insects of the hardwood forests and hardwood trees in recreation areas of the East. These leaf and needle eaters defoliated over 3 million acres in the summer of 1970. Repeated defoliations and resultant tree-killing is causing highly increased concern about tree losses from all segments of the population:

(1) Timber owners.

(2) Industry.

(3) Park and recreational area users.

(4) Community, urban, and city officials as well as private citizens.

The gypsy moth, a defoliator of both hardwoods and conifers, became increasingly troublesome in Connecticut, New York, New Jersey, and Pennsylvania during the summer of 1970. Some forest areas were so completely defoliated, that they gave the appearance of mid-winter in the middle of the summer. This forest pest, introduced over 100 years ago from Europe into the New England States, has now spread to western Pennsylvania and the Shenandoah Valley of Virginia. Since oaks are a favorite food of the gypsy moth there is much concern about the potential damage to the vast oak forests of the Appalachians.

The Federal Government entered the cooperative gypsy moth control effort in 1906. Control efforts have been largely regulatory and directed toward preventing spread of the insect into areas free of the pest and/or eradication of newly discovered infestations in areas previously classified as free of the insect. Little attention or Federal assistance has been directed to managing the gypsy moth populations in areas where the insect has become established.

It is now appropriate to place this pest in the same category as other forest insects. Responsibilities for cost-sharing with the States to control gypsy moth outbreaks will be assumed in the spring of 1971. Additional funds will be needed for the technical services related to detection, evaluation, and suppression work.

Previously, all Federal activities were administered through the Federal Plant Pest Act by Agricultural Research Service. In a recent reexamination of policies it was determined that the Forest Service under the Forest Pest Control Act of 1947, also has responsibilities in gypsy moth control. The Forest Service and the Agricultural Research Service are working together to develop guidelines to insure that the Forest Service's efforts to protect the forest resources and the Agricultural Research Service's regulatory efforts are coordinated to prevent duplication.

Suppression of two major diseases--dwarfmistletoe and white pine blister rust--require continued effort. The dwarfmistletoes are parasitic plants that attack and kill many coniferous tree species in the West. Studies show that a high rate of return can be realized from control work when done in conjunction with thinning. Control of white pine blister rust continues in those stands providing the most favorable cost/benefit ratios. In the East these control efforts are expected to provide an additional 47 billion board feet of harvestable timber.

Technical service provided to National Forests, other Federal land managing agencies, States, private industry, and small forest owners is a major activity of forest pest control. This service involves:

(1) Coordination.

(2) Systematic aerial and ground detection.

(3) Diagnosis.

(4) Evaluation.

(5) Control recommendations.

(6) Training.

(7) Demonstrations.

Pest control scientists help to protect the environment by carefully weighing and determining the adverse effects of unchecked pest outbreaks and those which might result from prescribed control treatment with the benefits to be derived.

Impact data for most forest insects and diseases are sketchy or lacking. Good data is essential to properly analyze and evaluate outbreaks and make suppression recommendations. Studies to develop standards and implement collection of impact data for forest pests of high economic importance are on the priority job list for 1972.

Another high priority job is the pilot testing of promising nonpersistent chemicals and biological agents to replace the more hazardous pesticides.

Pest outbreaks fluctuate greatly. The cost to check and contain outbreaks cannot be accurately predicted. Using past experience as a guide, along with the knowledge of developing situations, Federal fund needs for fiscal year 1972, as compared with 1970 and 1971, are as follows:

Item	1970	1971	1972
		(in thousands)	
(1) Administration, detection, and evaluation	$4,300	$5,000	$5,200
(2) Methods improvement	720	720	700
(3) Purchase Zectran	- -	1,500	- -
(4) Bark beetle control	2,686	2,420	2,060
(5) Defoliator control	245	380	670
(6) Other insect control	91	125	125
(7) Blister rust control	800	852	852
(8) Oak wilt control	68	68	68
(9) Dwarfmistletoe control	622	520	550
(10) Other disease control	58	25	25
Total	9,590	11,610	10,250

Examples of Recent Accomplishments

Maine spruce-fir forests protected. A cooperative project was carried out to control spruce budworm on 210,000 acres of spruce-fir forests in Northern Maine. An organophosphate insecticide (Accothion) was applied by aircraft in two separate applications approximately a week apart. The rate of application was 2 ounces per acre on each application.

Bark beetle control. Suppression of bark beetle outbreaks involved treatment of 381,000 trees on both National Forest and non-Federal lands. In addition to direct treatment, accessible areas supporting heavy beetle populations were salvaged-logged to remove infested trees.

Disease control. Oak wilt presuppression surveys were conducted on 34,358,770 acres in Pennsylvania, North Carolina, Virginia, and West Virginia. A total of 5,395 infected trees were found and treated to prevent spread of the disease. Blister rust control work was performed on 40,472 acres. Approximately 16,292 acres were sanitized to prevent spread of dwarfmistletoe on western conifers.

Cooperation with Fort Apache Indian Reservation. Southwestern Region pest control scientists surveyed an Engelmann spruce bark beetle outbreak on 6,272 acres in the Mt. Baldy section of the Reservation and made recommendations for a control program.

New policy for control of balsam woolly aphid in the Southern Appalachians. Under the new policy, spraying for the aphid is carried out only after an aphid infestation has been detected and only in the actual infested area. Formerly all of the trees in the "protection zone" were systematically treated at 3-year intervals. The new policy is made possible by an efficient system of detecting aphid infestations before they reach critical proportions.

Accordingly, only 12 acres, approximately 1,800 trees, were treated with a spray containing one-eighth percent lindane in fiscal year 1970 as opposed to 43,000 trees which were treated the previous year on a ranger district. The new policy has therefore reduced to a bare minimum the environmental impact of protecting the fraser fir, and also has resulted in considerable savings in protection costs.

Forest insect surveys modernized. A computer is now being used by entomologists in the South to analyze detection survey and biological evaluation data. Prompt and accurate data analysis provide land managers with reliable up-to-date information on insect conditions enabling them to do a better job in planning control projects. The ADP system being used is less costly than previous methods for analyzing data. Also, human resources are more fully utilized.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS
Insect and Disease Control

	1971 estimate	1972 estimate
Alabama	$130,000	$50,000
Alaska	80,000	108,000
Arizona	140,000	160,000
Arkansas	50,000	60,000
California	1,200,000	1,200,000
Colorado	220,000	260,000
Connecticut	25,000	25,000
Delaware	3,000	3,000
District of Columbia	377,000	360,000
Florida	60,000	40,000
Georgia	70,000	60,000

	1971 estimate	1972 estimate
Hawaii	$8,000	$20,000
Idaho	2,600,000	1,790,000
Illinois	18,000	30,000
Indiana	9,000	18,000
Iowa	1,000	3,000
Kansas	- -	5,000
Kentucky	40,000	40,000
Louisiana	180,000	200,000
Maine	340,000	300,000
Maryland	16,000	25,000
Massachusetts	20,000	20,000
Michigan	200,000	200,000
Minnesota	320,000	115,000
Mississippi	280,000	60,000
Missouri	70,000	70,000
Montana	510,000	610,000
Nebraska	36,000	8,000
Nevada	80,000	30,000
New Hampshire	110,000	180,000
New Jersey	80,000	90,000
New Mexico	170,000	250,000
New York	269,000	300,000
North Carolina	250,000	250,000
Ohio	45,000	50,000
Oklahoma	5,000	7,000
Oregon	1,090,000	1,090,000
Pennsylvania	160,000	170,000
Rhode Island	3,000	3,000
South Carolina	110,000	80,000
South Dakota	120,000	200,000
Tennessee	40,000	50,000
Texas	190,000	190,000
Utah	277,000	130,000
Vermont	110,000	90,000
Virginia	180,000	170,000
Washington	270,000	270,000
West Virginia	190,000	180,000
Wisconsin	180,000	180,000
Wyoming	678,000	450,000
Total	11,610,000	10,250,000

Note: Estimates of project needs are forecast a year or more in advance of anticipated needs and are always subject to fluctuations. Adjustments are made between projects as necessary, depending on discovery of new outbreaks and expanded needs on approved projects.

ACQUISITION OF LAND, WEEKS ACT

1970 ..... $1,300,000

In fiscal year 1970 and prior years, funds for acquisition of key inholdings within the National Forests and the National Forest purchase units were provided under this activity in the appropriation, Forest protection and utilization. Beginning in fiscal year 1971, these funds were appropriated under the fund, Construction and land acquisition.

The 1970 accomplishments are shown under the new Construction and land acquisition appropriation.

POLLUTION CONTROL

Mrs. HANSEN. Please insert in the record a tabulation of funds included in your 1972 budget estimate for pollution control. This tabulation should include the names of the location, the activity, and the amount budgeted in each instance.

(The information follows:)

WATER POLLUTION ABATEMENT CONSTRUCTION PROJECTS
PROPOSED FOR FUNDING FY 1972

REGION	STATE	PROJECT	NATIONAL FOREST	ESTIMATED COST
Northern	Montana	Missoula Aerial Fire Depot		$160,000
	Idaho	Powell Ranger Station	Clearwater	80,000
	Idaho	Outlet	Kaniksu	81,000
	Idaho	Slate Creek Ranger Station	Nezperce	90,000
		126 Planning and Design Projects		831,000
		Total		1,242,000
Rocky Mountain	Colorado	Dillon	Arapaho	380,000
	Colorado	Maroon Lake	White River	230,000
	Colorado	Rollinsville Central Disposal	Roosevelt	160,000
	Colorado	Upper Poudre Central Disposal	Roosevelt	160,000
	Wyoming	N. Fork Shoshone Central Disposal	Shoshone	175,000
	Wyoming	Burgess Central Disposal	Bighorn	160,000
	Wyoming	Snowy Range Central Disposal	Medicine Bow	90,000
		39 Planning and Design Projects		330,000
		Total		1,685,000
South-western	Arizona	Big Lake Recreation Area	Apache	1,400,000
	Arizona	Sabino Canyon Visitor Center	Coronado	162,000
	New Mexico	Lake Roberts Picnic Ground	Gila	115,000
	New Mexico	Canjilon Administrative Site	Carson	86,000
		115 Planning and Design Projects		1,220,000
		Total		2,983,000
Inter-mountain	Utah	Mirron Lake Central Disposal	Wasatch	120,000
		120 Planning and Design Projects		1,353,000
		Total		1,473,000
California	California	Pope-Baldwin	Eldorado	480,000
	California	Bass Lake	Sierra	156,000
	California	Harrison Gulch Ranger Station	Shasta-Trinity	236,000
	California	Barton Flats Area Sewer	San Bernardino	526,000
		207 Planning and Design Projects		1,953,000
		Total		3,351,000
Pacific Northwest	Oregon	Diamond Lake	Umpqua	675,000
	Oregon	Multnomah Falls	Mt. Hood	100,000
	Oregon	Rigdon Ranger Station	Willamette	100,000
	Oregon	Redmond Air Center	Deschutes	137,000
	Oregon	Steamboat Ranger Station	Umpqua	155,000
	Oregon	Unity Ranger Station	Wallowa	80,000
		109 Planning and Design Projects		1,997,000
		Total		3,244,000
Southern	Virginia	Powells Fort	George Washington	110,000
	Florida	Olustee Beach	Osceola	292,000
	Florida	Juniper Springs	Ocala	415,000
	Louisiana	Caney Lakes	Kisatchie	759,000
		49 Planning and Design Projects		929,000
		Total		2,505,000
Eastern	Missouri	Clearwater Beach Central Disposal	Mark Twain	140,000
	West Virginia	Lake Sherwood Recreation Area	Monongahela	330,000
	Pennsylvania	Twin Lake Recreation Area	Allegheny	120,000
	Minnesota	North Star Campground	Chippewa	75,000
	Michigan	Lake Michigan Campground	Hiawatha	120,000
	Michigan	Brevoort Lake Campground	Hiawatha	235,000
		84 Planning and Design Projects		899,000
		Total		1,919,000

WATER POLLUTION ABATEMENT CONSTRUCTION PROJECTS
PROPOSED FOR FUNDING FY 1972-continued

REGION	STATE	PROJECT	NATIONAL FOREST	ESTIMATED COST
Alaska	Alaska	Craig Ranger Station	South Tongass	$50,000
	Alaska	Thorne River Recreation Area	South Tongass	8,000
	Alaska	Hollis Campground	South Tongass	10,000
	Alaska	Shoal Cove	South Tongass	5,000
	Alaska	Angoon	North Tongass	10,000
	Alaska	Kake Work Center	North Tongass	4,000
	Alaska	Quartz Trailer Disposal	Chugach	8,000
	Alaska	Portage	Chugach	35,000
	Alaska	Quartz Creek	Chugach	75,000
		10 Planning and Design Projects	Chugach	43,000
		Total		248,000
TOTAL PROGRAM - 45 CONSTRUCTION PROJECTS AND 859 PLANNING AND DESIGN PROJECTS				18,650,000

Mrs. HANSEN. Following that, please insert in the record a tabulation of the same type indicating all amounts in your 1972 budget estimate related to environmental protection other than those already listed under the pollution control tabulation.

Mr. CLIFF. We will be happy to.

Mr. M. NELSON. As a matter of clarification, Madam Chairman, we have the table I mentioned on the pollution abatement, but the environmental side we could do that by broad items quite readily to give you an indication of the total part of our budget that is directed towards the environment.

When we say, "By Project" that is what I am a little worried about.

Mrs. HANSEN. By areas.

Mr. M. NELSON. Yes.

(The information follows:)

STATEMENT OF FOREST SERVICE MISSION IN RELATION
TO NATIONAL ENVIRONMENTAL POLICY ACT

The Congress, through the National Environmental Policy Act of 1969, declared it is our national policy "to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations." (underlining added)

From a forestry standpoint the Congress, more than 75 years ago, was concerned with the relationship of the forest environment to productivity, and its ability to contribute on a continuing basis to the social and economic life of the Nation. A first effort of the Congress resulted in establishment of Forest Reserves from the Public Domain. Next, in 1905, was the establishment of the Forest Service and transfer of the reserved land from Interior to Agriculture to become the National Forest of the west. By 1911, Congress recognized the eastern forests needed attention and enacted the Weeks Law under which some 23,000,000 acres in the east have been brought into the National Forest System.

With this early concern for the environment by the Congress and the Administration, the Forest Service began to scientifically protect and manage forest lands. In 1960 Congress further substantiated the managing policies of the Forest Service by enacting the Multiple Use Sustained-Yield Act. These events gave direction to accomplish the very policy now clearly stated in the National Environmental Policy Act of 1969.

Prior to the mentioned events, very little or no management was being applied to forest land. Timber and other resources were being stripped from the land with no regard for environmental protection, or for providing life's amenities for succeeding generations. As a result, fisheries, watersheds, rangelands, wildlife species, and other resource values suffered from severe degradation. For example, vast areas in the Lake States had been transformed from productive forests to barren sand hills, and continued burning in the Southern States had reduced forest land productivity to a very small part of its potential.

With the establishment of the National Forest System and with direction to apply scientific resource management to these lands, environmental quality began to take form while fulfilling national, social, and economic goals. The barren lands of the Lake States are again forested and the Southern forests are highly productive and a leading producer of the many products of the forests.

Forest Service programs have been, and are presently directed to achieve a balance in resource use, conservation, and protection which will permit a high standard of living, wide sharing of life's amenities, and regeneration of renewable resources--all in harmony with a quality environment. They are all directed toward environmental protection and improvement to meet national environmental goals.

It is not possible that social and economic considerations be separated from matters dealing with the protection and enhancement of the natural environment. As a result, Forest Service goals are directed at efforts to help meet the present and future resource needs of the American people with minimum impact on the environment, while at the same time carrying out positive programs to protect or enhance the quality of our environment.

The Forest Service applies new environmental forestry practices as rapidly as extensive research provides the technology. This in itself seeks a balance between ecological and biological factors with the production of social and economic factors to provide a better way of life for the American people. Some activities deal with restoration and maintenance of surface disturbed areas associated with major disasters, such as wildfires, floods, earthquakes, and deteriorated lands specifically acquired for rehabilitation. This restoration of areas damaged beyond the point of feasible natural recovery includes mechanical and vegetative stabilization of eroded areas, channel stabilization, strip mine restoration, and abandoned road stabilization. Other Forest Service activities such as fire control involves protecting the environment from devastation. Environmental protection and improvement, and the production of renewable natural resources are closely related. For example, planting trees on lands damaged by wildfire, on lands harvested for timber production or on idle denuded and eroding lands produces important long-term environmental benefits.

We fully believe that virtually all we do in the Forest Service, whether it be on the National Forest System, Forestry Research, or State and Private Forestry, is aimed at accomplishing the national policy as outlined by the Congress in the National Environmental Policy Act of 1969. We realize, however, that there are those that read the stated policy less broadly than we think was intended. Therefore, the following table does not claim that every dollar spent by the Forest Service is directly related to a quality of the environment.

Following is a summary of the program areas and funding levels of Forest Service activities that have a direct bearing on environmental protection and enhancement.

FOREST SERVICE APPROPRIATED FUNDS

To Preserve and Improve the Quality of Our Environment

	1972 Estimate (M)	Estimate for Environmental Protection & Improvement (M)
National Forest Land Management	227,198	197,072
Forest Research	47,668	38,252
State and Private Forestry Assistance	25,080	18,080
Subtotal	299,946	253,404
Facility Construction	23,612	23,612
Forest Roads and Trails	170,000	55,312
Brush Disposal	17,380	13,035
Cooperative Work (Trust Funds)	48,870	12,217
Grand Total	559,808	357,580

REDUCTIONS IN PUBLIC RELATIONS ACTIVITIES

Mrs. HANSEN. There are various reductions in your budget estimate related to, "reduction in public relations activities."

First I would like you to insert in the record a listing of the total reductions in this connection. I would also like a few comments from you at this time on what the genesis of these reductions is.

(The information follows:)

Reductions in Public Relations Activities

	1971	1972
Forest land management:		
Timber sales administration	$39,000	$78,000
Reforestation and timber stand improvement	32,000	64,000
Recreation - Public Use	33,000	66,000
Forest fire prevention	27,000	55,000
Subtotal	131,000	263,000
Forest research:		
Timber management research	20,000	40,000
Forest products utilization research	10,000	19,000
Subtotal	30,000	59,000
State and private forestry cooperation:		
Forest fire control	11,000	22,000
Forest management and processing	3,000	6,000
Subtotal	14,000	28,000
Total, FP&U	175,000	350,000

Mr. SCHULTZ. Madam Chairman, the President back on November 6, 1970, ordered a curtailment of certain public relations activities and in carrying out this directive the budget was reduced for funds available to the Forest Service and to the department.

Our reductions under that in terms of dollars is $175,000 in fiscal 1971.

Mrs. HANSEN. That is the total?

Mr. SCHULTZ. The grand total, $175,000 for fiscal 1971.

Mrs. HANSEN. What were you throwing away the $175,000 on if you don't need it now?

Mr. SCHULTZ. We had to reduce some press and motion pictures and contracts.

Mrs. HANSEN. Such as?

Mr. SCHULTZ. Things that, under the directive, were used to serve the image of the agency, build the image of the agency.

Mrs. HANSEN. Please explain that.

Mr. SCHULTZ. That is what was defined as public relations. This work included some exhibits and publications. We made a study of all the work we were doing and those types of things that were of lower priority.

Mrs. HANSEN. What is an example of low priority?

Mr. SCHULTZ. Some informational media that would advertise the agency as opposed to providing information to the public, what you might call a strictly public relations effort.

Mrs. HANSEN. I didn't think the Forest Service was very good at that or you wouldn't have some of the difficulties you have today.

Mr. SCHULTZ. This was a Government-wide cut on public relations activities as directed by the President. It happened this was our share of it.

Mrs. HANSEN. It is all right with me. I could care less about image-making. But the only thing I am concerned about, is that I thought most of your public relations were in the field of trying to make the people of the United States aware (1) of the value of the forests, (2) necessity for protection of the forest, (3) and their economic importance to the economy of the United States.

Mr. SCHULTZ. This, we feel, is true. In fact, in the inventory of the total servicewide work we were doing in this respect, it was very difficult to find anything to fit the pure definition of public relations.

Mrs. HANSEN. How did you decide on $175,000?

Mr. SCHULTZ. This was our share. It was about a 10-percent cut. What we had to do was look at the total inventory of all the work we were doing and start cutting the least effective type of things.

Mrs. HANSEN. Please insert in the record a sample of what you consider the least effective.

(Information requested follows:)

SAMPLES OF FOREST SERVICE REDUCTIONS IN
PUBLIC RELATIONS ACTIVITIES

The Forest Service carries out a program of Information, Education, and Interpretation to meet the public need to know about the wise use, protection, and enjoyment of Forest resources. A very limited amount of this work is termed public relations. However, the Forest Service has made necessary reductions or curtailment in manpower and money expenditures of the following types:

(1) Personnel Eliminated--Information Specialist Position (California). Technical advisor to major television programs such as Lassie, Wildfire, The American Wilderness, and Perry Mason. Elimination of this position will reduce to some extent the technical accuracy of programs presented to the American public that deal with natural resource management. We believe this advice can be provided without full-time employment of an advisor.

(2) Publications Eliminated. Five new sportsman's maps, and five recreation area brochures were eliminated. Other available maps and brochures will suffice to meet the need for the general public to be aware of, and to utilize, their National Forests for recreation and enjoyment.

(3) Exhibits Eliminated. The Western Forestry Center in Portland, Oregon, a cooperative venture of several Federal agencies and private industry, has been planned as an outstanding exhibit area for students and the general public of the West to study natural resource management practices and their relationship to environmental protection and commodity production. Forest Service participation in this exhibit was considered low priority in relation to needs at National Forest Visitor Information Centers to disseminate information on natural resource management.

(4) Motion Picture Films Eliminated. Modern Methods of Fire Control (working title), a film to illustrate the latest scientific, most up-to-date methods of fire control, was eliminated. Advances in aerial firefighting equipment and techniques provide unique opportunities for greater use of specialized aircraft, aerial tankers, and smokejumping in firefighting. The film was intended to illustrate potential uses of specialized aircraft, both to encourage greater "on fire" utilization and to stimulate greater industry, military, and other interest in research and development inputs to aerial firefighting science and technology. The privately produced motion picture "Wildfire" provided a large amount of film footage which can be adapted to meet the need in part.

(5) Visitor Information Services Curtailed. Part-time summer employment of Visitor Information Service Aids, who interpret the ecology of forest resources to growing numbers of public visitors, was curtailed. Most of the summer aids come from the ranks of school teachers and college students. We plan to train and use some Youth Conservation Corps enrollees to substitute for this employment.

Mr. CLIFF. The reduction under the 1972 budget is $350,000 as shown on page 17, just double the 1971 reduction.

Mrs. HANSEN. It makes me wonder what you have been spending those funds on?

FILM PRODUCTION

Mr. MCDADE. As a matter of information, on the film I referred to briefly today, was that part of your public relations?

Mr. SCHULTZ. No. This was included in the type of thing we do. However, that particular film would have been a public information education type of thing. Also the production of that did not involve any expenditures on the part of the Forest Service.

Mr. M. NELSON. MGM Co. had 10 motion-picture crews on the Washington fires, paid for by General Electric Corp. We had one man coordinator with that group.

Mr. MCDADE. Did it produce any revenue to the Forest Service?

Mr. SCHULTZ. No direct revenue. I think the returns from the standpoint of fire prevention will be immeasurable.

Mr. M. NELSON. That type of film will be tremendous from the standpoint of fire prevention and public understanding of the fire control job.

Mr. MCDADE. How many films were you producing a year?

Mr. SCHULTZ. On the average, two films a year directly with Forest Service funds. One was "The Eternal Forest" last year. For fiscal 1972 we had two films planned and we cut out one.

Mrs. HANSEN. What did you have planned?

Mr. SCHULTZ. It was one on fire.

Mrs. HANSEN. You cut that one out?

Mr. SCHULTZ. Yes, ma'am.

Mrs. HANSEN. That is not a very sensible investment?

Mr. SCHULTZ. What we had planned, in view of the picture "Wildfire" that came out, would have been small peanuts to what that was.

Mr. M. NELSON. The picture, "Wildfire," will serve much of the current need for public education on fire. While it was being filmed a great amount of footage was taken but not used. In fact it would take 40 hours to review the film they took to make that one hour TV film program.

The additional film is available to us for use in training pictures and so on. It is probably good to stop and take a look at producing a picture on fire this year.

Mrs. HANSEN. I guess you have made your contribution to the Pentagon's Public Relation.

Mr. M. NELSON. We will take it out in use of helicopters provided by the military.

Mr. DROEGE. We do have a fire prevention training film for 1971 nearing completion.

SMOKEY BEAR

Mrs. HANSEN. What happened to Smokey Bear? He hasn't been eliminated has he?

Mr. DROEGE. No, ma'am.

SALES ADMINISTRATION AND MANAGEMENT

Mrs. HANSEN. Justify your request for an increase of $6,711,000 for regular timber and harvest program, inventory and management plans, and the regular timber sale preparation program.

Mr. M. NELSON. I think we have already covered those pretty well except for the increase for management plans which we propose to increase by $980,000. The reason is to get on top of the problem that was discussed here this morning, especially by Mr. Wyatt, and that is to take advantage of what we do on the land toward increasing allowable cuts. In the past we have revised our management plans only once every 10 years. Presumably, if we planted additional areas that growth would not come into revised allowable cut until the 10th year after the previous revision.

We expect to get on a 5-year cycle. The group that is working on this now is working to such an extent that we will put much of it on computers and be able to take advantage of anything that is done within the next year after we know it is established on the ground. Examples are planting or a timber stand improvement. That is the reason we are placing more emphasis on the management plan part of the timber program.

THINNING AND SALVAGE

Mrs. HANSEN. Why didn't you increase your thinning and salvaging program?

Mr. M. NELSON. Partially, Madam Chairman, because we have caught up with the areas that are most suitable for thinning and salvaging and our advance road project hasn't gone forward as it had been planned. Advance roading is kind of a key to accomplishment of very much thinning and salvaging over much of our timber stand.

Mrs. HANSEN. How many miles of roads do you need to be able to complete your thinning and salvaging program?

Mr. M. NELSON. That is a difficult question to answer, Madam Chairman, but one of the basic reasons for an advanced roading system in the national forest is to take advantage of the opportunity that would be made for thinning and salvaging.

I presume that we will be able to put in the record some indication, at least examples, of areas that will show how much thinning and salvaging will be possible given certain roads that need to be built.

(Information follows:)

The following are five specific projects which were included in the fiscal year 1971 road program for accelerating timber management activities. The last column indicates the volume of thinning and salvage timber which will become available and is planned for harvest over the next 20 years upon completion of the road construction.

State	Forest	Project	Miles	Cost	Thinning and Salvage (million board feet)
Montana	Flathead	Griffin Creek	12.6	$720,000	300
Washington	Okanogan	Toats Coulee-Meadows	27.2	2,038,000	114
Oregon	Willamette	Brientenbush	11.0	750,000	54
Washington	Colville	No. Fork Chewlah	6.5	150,000	48
S. Dakota	Black Hills	Castel D. Soldier	13.0	366,000	266

REFORESTATION AND TIMBER STAND IMPROVEMENT

Mrs. HANSEN. You have requested an increase in reforestation and timber stand improvement. Is this related to your sales?

Mr. M. NELSON. This is related to timber management, of course, but not to sales.

Mrs. HANSEN. Justify your requested reduction of $109,000 for genetic tree improvement?

Mr. M. NELSON. We made a small reduction in that because this year we don't plan to continue to establish as much additional acreage of seed orchards or seed production areas as we did in the previous fiscal years.

Mrs. HANSEN. Why?

Mr. M. NELSON. We finished some of the projects we had worked on and consequently we won't be doing quite as much in that field as we were the year before. We will be adding to seed orchards and seed production acres but at a slightly slower pace.

LACK OF DOUGLAS-FIR SEED

Mrs. HANSEN. On October 19 the Oregonian said:

> Lack of Douglas-fir seed delays the planting program.
> Some reforestation in Oregon and Washington is being delayed by the lack of Douglas-fir seed.
> "The last good cone year was 1968. This year the cones are very wormy or hollow," said Bernard Douglass, production forester for the U.S. Forest Service in Portland.
> Murray Mason, Weyerhauser Co. spokesman in Longview, Washington bluntly stated, "We are out of seed for some elevations."

Do you have any comment on this?

Mr. M. NELSON. It is not surprising in a bad fire year where we have areas we want to plant that we might not have the proper seed for a particular area and the industry has done quite a bit of their planting by direct seeding.

I think it augurs well that we would talk about not having the proper seed for a particular area rather than just putting any seed on it which has proven in the past to be a bad practice.

REPLANTING ON SNOQUALMIE NATIONAL FOREST

Mrs. HANSEN. The Oregonian on October 18 comments on the Snoqualmie National Forest.

Stanley Pasin, silviculturist, says that—

> We'd like to do some replanting this fall, but we haven't got the seed. Replantation of charred and cut forests will have to wait until seedlings are transplanted years from now, or until a good cone crop, which usually comes once each 5 to 7 years.

Mr. NELSON. I don't know the specific case there, but we do normally plan ahead of where we want to do our planting. Where it is transplanted from a nursery it does take a few years. We want to use the seed from that elevation and that will be suitable for that particular area at the time it is planted in the nursery so that the seedlings will grow properly in the area. Often we may have a delay in one particular area because we don't have the proper seed.

The installation of seed production areas would not necessarily cure that. They are dependent somewhat on the cycle of good seed years. But the answer, of course, is a seed bank perhaps greater than we have at the present time.

MANAGING NATIONAL FOREST RECREATION

Mrs. HANSEN. Justify your request for an increase of $3,056,000 for administration, operation, cleanup, and sanitation of developed sites and areas.

Mr. M. NELSON. We discussed that considerably earlier.

I do want to comment on the backup for that particular area. We indicated on page 27 that we would expect 186.7 million visitors in calendar year 1972. The actual estimated amount now is 193.9 million visitor day use for 1972. We have just received the figures for 1970. We also found our increase was at the rate of 6 percent rather than the 5 percent indicated in the budget. We will have this coming year about 10 million more visitors to take care of. Consequently, it is going to take the increase of $3 million. In fact, that is rather small in relation to the indicated amount our field people have estimated that will be needed in recreation.

Last year we had them make a survey of what they felt was necessary for the operation and maintenance of our recreation facilities and taking care of the millions of people who are using the national forests for recreation. The field felt their real need would be $67 million. This is for the total administration of recreation, whereas you will notice our budget is only $38.7 million.

Mrs. HANSEN. Does that $67 million allow for the 10 million visitor increase each year that you apparently are having?

Mr. M. NELSON. The indicated amount the field estimated they would need would allow for that.

Mrs. HANSEN. For how many years?

Mr. M. NELSON. This is what they were estimating their needs to be for fiscal year 1972 if they were able to do the job like they felt——

Mrs. HANSEN. To catch up?

Mr. M. NELSON. Yes.

The biggest item is in the maintenance of our installations at our recreation areas where this fiscal year we will have only about $9 million and we have a backlog of maintenance to do at those sites of some $34 million.

Mrs. HANSEN. When do you expect to catch up on your maintenance backlog in the recreation areas?

Mr. M. NELSON. Madam Chairman, I am getting to the age where I am not going to be here when they catch up, I am sure of that.

WILD AND SCENIC RIVERS SYSTEM

Mrs. HANSEN. Justify your request for an increase of $156,000 for the national wild and scenic rivers system. Is this related to pollution?

Mr. M. NELSON. No, this is related to the job of maintaining the recreation on the wild and scenic rivers that have been established.

Mrs. HANSEN. Now, presumably when the Wild and Scenic Rivers Act was passed this was for the use of those people who so thoroughl

enjoyed wild rivers that they wouldn't cause one ounce of destruction. What kinds of destruction are they causing?

Mr. M. NELSON. I guess you used the right word when you said "presumably" because wherever we get people we find there is created a cleanup and sanitation problem. As regional forester, 10 years ago, I had responsibility for the Current River which was one of those later given to the Park Service. We found even then that the people who used that left a tremendous amount of litter.

LITTERBUGS

Mrs. HANSEN. We have created a system for, I would say, the enjoyment of beauty. How then can the users possibly desecrate it with their trash?

Mr. M. NELSON. I guess it is because we have all types of people.

We do find, as I indicated earlier, some of the overnight campers who camp for a period, such as for their vacation, are considerably more clean; they pick up their materials. We found the same thing with the boat campers on Shasta Lake where we established some boat camps available only to boaters. They were very good about carrying their trash out to the boat landings and we then put up containers where they could put that trash. They were much cleaner than the areas that were available to car users.

It varies considerably. We are working with the wilderness users trying to get them to carry out the trash, or the material they take in. That is quite successful in lots of places. People are different in different places. I guess that is the only answer.

NATIONWIDE SYSTEM OF TRAILS

Mrs. HANSEN. Justify your request of $187,000 for the cleanup of trails. Is this for the same activity?

Mr. M. NELSON. That is right. We have listed the nationwide or national system of trails separately for the first time this year, similar to the way we show the national recreation areas, the wild rivers and so forth. We indicate the areas especially considered by the Congress.

AREAS OF SPECIAL UNIQUE AND SPECIAL INTEREST

Mrs. HANSEN. $65,000 is requested for historical and geological, botanical and archeological work.

Since this is a new activity, would you give us a fairly complete and concise statement?

Mr. M. NELSON. We have in the national forest a good many areas that have a tremendous amount of geological, botanical, historical, or archeological interest to the public. In some of the areas in the past there has been considerable damage done to them. We are finding more areas that have a very keen archeological interest and consequently we feel it is in the interests of the public to pay more attention by placing some additional archeologists on the payroll in certain areas.

For example, down in southeastern Utah we have a ranger district that has a lot of Indian cave dwellings on it. Some of this in the back country hasn't been discovered by the public as yet. We want to pro-

tect those areas. Also, we have areas where there are dams and roads being built where there is some archeological interest. Sometimes it may require moving some items to a museum or something of that type.

We have responsibility under the Antiquities Act for this type of activity on the national forest system. This budget is in recognition of those types of areas.

VISITOR INFORMATION SERVICE

Mrs. HANSEN. Justify your increase of $159,000 for the visitors centers.

Mr. M. NELSON. Mr. Schultz handles the visitor centers.

Mr. SCHULTZ. The $159,000 increase is to take care of the increase in the activities—roughly a 6-percent increase. This is strictly for operation and maintenance of the visitors centers.

We have had some new facilities opened where we have expanded capacity, such as the Sylvania Center, the Ghost Ranch, and on four marine highway ships in Alaska. We have trails for the blind and 16 miscellaneous and interpretive trails.

The increase in use of the 24 major centers——

Mrs. HANSEN. Please insert in the record for the last 3 fiscal years the increasing use for the 24 major centers.

Mr. SCHULTZ. We can supply that for the record.

(The information follows:)

Increase in use of 24 major visitor centers

Calendar year:	*Visitor days*
1968	138,000
1969	140,100
1970	202,100

The use in calendar year 1970 represents a 44-percent increase over 1969. In addition to the normal rate of increase of use, this included an increase due to the opening of two new major centers, Sylvania and the Lake Tahoe Stream Profile Chamber, for a full season use in 1970.

WILDLIFE HABITAT MANAGEMENT

Mrs. HANSEN. Justify your increase of $1.1 million for wildlife habitat management.

Mr. M. NELSON. We have recognition of the needs of wildlife in an increase of $1.1 million. Along with the increases of this type came instructions that we were to use these types of increases, as far as possible, in areas where the labor would be local, or Indian labor and not to put on increased, permanent full-time personnel.

Consequently, we have put our major increases into the habitat and restoration and development of wildlife facilities on the national forests rather than putting it into additional full-time wildlife biologists, in spite of the fact that we have a tremendous need for about 50 more wildlife or fish biologists.

Mrs. HANSEN. Don't you cooperate with the Bureau of Sports Fisheries and Wildlife?

Mr. M. NELSON. Yes, we do, and we have a cooperative agreement in every State where we have national forest system land. These increases are spread over the five different types of habitat restoration

that we consider on the national forests. They are rather small. They go from a $135,000 increase for water developments to a $275,000 increase in a fish stream improvement item.

That will let us get on a little faster than we have in the past in doing some of the important wildlife habitat work, but it isn't letting us get on with it very fast.

MULTIPLE USE OF LAND

Mrs. HANSEN. You have a picture in your justifications showing "before" and "after" of wildlife and timber management.

Mr. M. NELSON. Yes.

Mrs. HANSEN. There are some people who maintain the "before" status should always be retained. May we have your comments?

Mr. M. NELSON. This picture illustrates a very interesting multiple use of land for wildlife and timber in a swampy-type area. This particular picture comes from South Carolina but other excellent examples are along the Mississippi River.

The objective here is to flood some of the bottom hardwood timberland during the winter months when it is used by migratory waterfowl. Excellent food is provided for the ducks such as acorns.

In the Spring when the trees come out of dormancy the water is drained down. With this system the timber growth is actually increased. We have indicated, in some places, growth is increased as much as 50 percent. So it helps both in the timber growth and in wildlife habitat.

It is important to use some of these lands on the national forests that can be developed for this purpose because so much of the private land along the Mississippi Flyway, for example, is being converted to other uses. Land that was formerly used by migratory waterfowl is going into other uses. We have one excellent area called the Oak Bottoms Green Tree Reservoir in southern Illinois between the Muddy River and the Mississippi River. There we have about 8,900 acres now developed and we would recommend it be enlarged by about 3,000 acres over the next 3, 4, 5 or 6 years.

That area has proven to be one of the outstanding examples of the use of that type of land for both timber production and for wildlife habitat.

Mrs. HANSEN. Mr. Obey, do you have any questions?

Mr. OBEY. No, Madam Chairman.

Mrs. HANSEN. Mr. McDade?

Mr. MCDADE. No questions, Madam Chairman.

Mrs. HANSEN. Mr. Wyatt?

ACRES REFORESTED AND INTENSIVE MANAGEMENT

Mr. WYATT. For the record, could you insert a figure on acres reforested by the Forest Service for the past 5-year period, going back to fiscal year 1967 up to the current time.

Also, the acres which have been the subject of thinning and salvage operations or intensive management during those same years.

Mr. CLIFF. We will be glad to do that.

(The information follows:)

NATIONAL FOREST REFORESTATION
(in acres)

	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971 (Est.)	Total 5 Years
PLANTING						
P&M funds	89,187	81,337	83,704	73,596	90,000	417,824
K-V funds	114,840	134,100	118,272	133,295	175,000	675,507
Other funds	2,524	1,930	1,849	1,493	1,500	9,296
Total	206,551	217,367	203,825	208,384	266,500	1,102,627
SEEDING						
P&M funds	26,794	26,188	28,751	17,825	27,400	126,958
K-V funds	23,396	24,881	23,919	34,808	41,600	148,604
Other funds	185	442	50	156	150	983
Total	50,375	51,511	52,720	52,789	69,150	276,545
NATURAL REGENERATION ON PREPARED SITES						
P&M funds	6,097	5,504	11,136	10,424	12,000	45,161
K-V funds	27,580	45,869	32,732	37,067	40,000	183,248
Other funds	40	1,013	- -	4,567	1,000	6,620
Total	33,717	52,386	43,868	52,058	53,000	235,029
TOTAL REFORESTATION						
P&M funds	122,078	113,029	123,591	101,845	129,400	589,943
K-V funds	165,816	204,850	174,923	205,170	256,600	1,007,359
Other funds	2,749	3,385	1,899	6,216	2,650	16,899
Total	290,643	321,264	300,413	313,231	388,650	1,614,201

Note: P&M funds -- Forest Protection and Utilization, forest land management, appropriated funds.
K-V funds -- Trust funds pursuant to Knutson-Vandenberg Act (16 USC 576).
Other funds -- Job Corps, anti-poverty, and miscellaneous programs.

NATIONAL FOREST RELEASE AND THINNING
(in Acres)

	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971 (Est.)	Total 5 Years
RELEASE						
P&M funds	107,241	74,014	70,813	63,071	87,500	402,639
K-V funds	130,933	106,411	102,215	62,200	130,000	531,759
Other funds	311	1,836	3,334	5,896	3,000	14,377
Total	238,485	182,261	176,362	131,167	220,500	948,775
THINNING						
P&M funds	86,081	68,391	50,988	58,483	66,000	329,943
K-V funds	91,665	105,349	87,110	100,050	210,000	594,174
Other funds	1,838	1,053	1,906	3,882	2,500	11,179
Total	179,584	174,793	140,004	162,415	278,500	935,296
TOTAL RELEASE AND THINNING						
P&M funds	193,322	142,405	121,801	121,554	153,500	732,582
K-V funds	222,598	211,760	189,325	162,250	340,000	1,125,933
Other funds	2,149	2,889	5,240	9,778	5,500	25,556
Total	418,069	357,054	316,366	293,582	499,000	1,884,071

Note: P&M funds -- Forest Protection and Utilization, forest land management, appropriated funds.
K-V funds -- Trust funds pursuant to Knutson-Vandenberg Act (16 USC 576).
Other funds -- Job Corps, anti-poverty, and miscellaneous programs.

ALLOWABLE CUT—NEW PROGRAM

Mr. WYATT. Mr. Nelson, the new program of calculating the allowable cut on a 5-year basis, when is that up again?

Mr. M. NELSON. It varies from forest to forest. If they had 10 forests in a region they might do one management plan every year. It would depend on when it was done last.

Mr. WYATT. It is done by forest rather than region?

Mr. M. NELSON. Yes, actually by working circles but often this is for an entire national forest.

Mr. WYATT. But you are phasing in the 5-year plan and phasing out the 10-year recalculation plan?

Mr. M. NELSON. That is right.

Mr. CLIFF. Yes, and we hope to get this set up so that we can make changes as changes occur on the ground each year. This is our ultimate objective. Anything that happens to affect timber production, such as planting or thinning or other intensive management, or adverse conditions, such as fire or blowdowns that affect it the other way, we would hope to have the system set up ultimately so we can take the data off the calculators and revise our cutting program to be responsive every year.

Mr. WYATT. I think that is all I have at the present time, Madam Chairman.

RANGE RESOURCE MANAGEMENT

Mrs. HANSEN. I see no increase for range resource management, range vegetation, or range improvement. Last year we had quite a discussion on the inadequacy of your land in New Mexico and in some areas in the southwest.

What is the reason for no increases, in view of the sad condition of these lands?

Mr. CLIFF. It isn't because there isn't work that needs to be done, Madam Chairman. In the consideration of the budget, together with limitations on the expenditures that can be made, this was given lower priority than some other activities.

Mrs. HANSEN. You know, Mr. Cliff, we went into this last year. You have, for example, a great many Indian people down in the southwest who are dependent upon rangeland in order to maintain a living. I think if I recall the discussion, the living standards, wages, and income of those people are so low that there isn't any chance of increasing it until there is an improvement in their rangelands.

What would you say is the percentage adequate of this budget to do the job that exists on this rangeland?

Mr. CLIFF. There is no question but what the highly dependent subsistence-type livestock operator's welfare keys pretty much to the ranges they use. We have a high percentage of these kinds of operators on the national forests. Most of our operators are small operators.

Mrs. HANSEN. Would it not be better to spend a little more on improving our range lands to try to improve the incomes of these people instead of having to spend more money for welfare?

Mr. CLIFF. I feel so, definitely.

We were granted some increases for range improvement and range revegetation, I think 2 years ago. We justified it on the basis of putting

most of it in areas of economic depression. We have been doing that and it has been very useful.

The one measure of how fast we are really going is that at the present rates of range revegetation it will take 50 years to complete the projected work on fences and on water development it will take about 35 years.

Mr. NELSON. About 8 million acres need range revegetation.

DEPENDENCY ON RANGELANDS

Mrs. HANSEN. At this rate you can just settle down to a long term welfare program. Mr. Cliff, as you well know, Congress is confronted with the problem of solving the welfare problems.

The President has offered solutions and we have many States who are pondering the trouble. There are States that are almost bankrupt from the welfare problem and interestingly enough, last year in March during our regular hearings we found that about 34 percent of the Navajos were on welfare, and by November when we had our supplemental hearing, 48 percent were on welfare. A great many of these people are dependent upon the rangelands and you could edge them much nearer to an acceptable income level if you would recognize the necessity for spending money to improve the condition that will enable them to work.

I think it is foolish to have resources that can't adequately be used and at the same time expend a great deal of money on welfare.

I think the pride of these people could be immensely improved in these 35 years while we wait for you to get your rangeland improved.

I don't think this is a sensible way to find the answer to one of America's most complex problems.

Mr. CLIFF. I agree with you. There is an opportunity to improve the lot of our permittees and especially those in the low income groups.

PERMITTEES IN NEW MEXICO

Mrs. HANSEN. How many permittees do you have in the State of New Mexico?

Mr. CLIFF. I would have to get that for the record, Madam Chairman. We have a total of about 18,000 paid permits on the National Forests Systems lands. New Mexico has 1,620 of those. In addition, we issued 114 permits free of charge for milk cows, workhorses, and so forth, in New Mexico. We have more small permittees in New Mexico than in any other State.

Mrs. HANSEN. This is where you have your real range problems.

Mr. CLIFF. Yes, if we define "problem" as need for range improvement and opportunity for social improvement. Most of the permittees in New Mexico are of Spanish-American origin and a good many of them are in the very low income brackets.

Mrs. HANSEN. I would like to have seen this budget reflect the kind of spending that this land needs for greater productivity.

Mr. CLIFF. We are making some progress.

Mrs. HANSEN. You can't make progress without adequate funds.

Mr. CLIFF. We have been devoting some additional money in New Mexico and southern Utah and southern Colorado on this very thing.

We have made enough progress to convince me that it is a worthwhile effort and if we could in fact help hold people on the land and increase their incomes by this kind of expenditure, it would be well worthwhile.

Mrs. HANSEN. I would like to see this done.

Mr. CLIFF. It is a difficult thing to show that it would result in more income to the Government when you have to justify budget on a cost benefit basis.

Mrs. HANSEN. Can't you justify it on the basis that this would show less outgo from the Government for welfare?

Mr. CLIFF. We have attempted to justify it on this basis too. If you try to justify it on the basis of income to the Government, then we don't have a very good story. If we can show the economic advantages to these people, we can make a much stronger justification.

Mr. M. NELSON. I think, too, we ought to recognize that range improvement is an improvement of the environment. A lot of people are concerned. We feel all of the money we spend in range management and improvements, such as revegetation, adds toward a better quality environment.

POOR RANGELAND IN NEW MEXICO

Mrs. HANSEN. I saw some very sad land conditions down in New Mexico and the poor, pitiful animals that were ranging on it. You would be ashamed to see them.

Mr. CLIFF. That must have been BLM land.

Mrs. HANSEN. No, it was your land.

Mr. CLIFF. We have some in that category we are trying very hard to improve.

SOIL AND WATER MANAGEMENT

Mrs. HANSEN. If a sheep could find his way around those rocks, he is deserving of a medal.

Justify your requested increase of $300,000 for resource protection requirements and design services.

Mr. M. NELSON. This is under the soil and water management item. This deals with the services that scientists assigned to our soil and water group perform in relation to this interdisciplinary-type analysis being made that is so desirable in almost any type of project we do, such as a timber sale or range management project, recreation project, and our road construction areas.

What we are paying more attention to is to make sure when we enter into a project, or plan a project, that we get the input of the best people we have, and this would be the soil scientists, the geological input, the hydrological input, into planning in relation to these type projects.

Mrs. HANSEN. Is the same type of consideration given to your purchaser-built roads?

Mr. M. NELSON. The purchaser-built roads, built in connection with timber sale, are designed by the Forest Service and, consequently, this same type of consideration is given to it. I would have to say, I believe, that even with this increased attention in this part of going into interdisciplinary looks at this type project we are still probably on the short side by quite a ways.

RECONNAISSANCE SURVEYS

Mrs. HANSEN. Justify your requested increase of $216,000 for reconnaissance survey on an additonal 2 millon acres of national forest land in rural America.

Mr. M. NELSON. We have found over the years there are two ways of going at the problem of getting the information and getting it recorded. One is a complete and full standard soil survey of the land and the other is what we have developed recently, a reconnaisance survey.

We will continue with some of the full and complete cooperative standard soil surveys that are done to the standards of the Soil Conservation Service. But we do want to increase the amount that we are covering by reconnaissance surveys that will get the information into the manager's hands regarding the condition of the land or the needs of the land in relation to the soils, the water, the geology, and the hydrological condition. The ranger, or the manager of the land, will have this information in advance when he is planning roads, timber sales, or recreation areas, or other land management activities.

An example is in the Siskiyou National Forest in Oregon where I was recently. They have this reconnaissance survey which shows, for example, the areas of unstable soils. It is not a standard soil survey but it shows the areas of unstable soils and that helps them in planning the timber sales or the roads. We want to move ahead on this.

SURVEILLANCE OF MANAGEMENT ACTIVITIES

Mrs. HANSEN. I think it is growing increasingly important.

Justify your requested increase of $180,000 for surveillance of management activities.

Mr. M. NELSON. This is in relation to watersheds where we have put in some instrumentation, and taken some readings in relation to water conditions, turbidity and so forth, in order to be able to tell what the effect of certain management situations or management changes are on those watersheds. This does not supplement or take away from the types of work that the Geological Survey does at their stations. These are generally temporary. It might be in for one, two or a few years.

Mrs. HANSEN. Do you work with the Geological Survey?

Mr. M. NELSON. Yes, we use all the information we get from them and we supplement in some of the areas with this type work. This will allow us to add 14 different locations for going into additional surveillance of this type on watersheds. We have some 4,000 watersheds and so you see, this is a drop in the bucket.

WATERSHED RESTORATION

Mrs. HANSEN. You are requesting an increase of $1 million for watershed restoration.

Isn't this going to become an increasingly important activity?

Mr. M. NELSON. This is going to be even more important than it is at the present time. Of the three projects that are listed, one is the South Fork of the Salmon River project in Idaho where soils are

very unstable and damage to a fine salmon stream is great. The second is the Palzo Tract in Illinois, which is in relation to an area that has already been stripmined. We are working there with the city of Chicago in some experimental work as to disposal of some of the sludge from their sewage treatment.

Also the two areas on the South Fork of the Holston River and the New River watershed in Virginia are related to past mining, the old manganese mining done during the war where they stripped off the top soil and it is a very difficult problem to rehabilitate.

The remainder of the stabilization work will be in relatively small projects, even smaller than those indicated, throughout much of the rest of the country.

Mr. CLIFF. These are just examples of the larger projects and I might mention the South Fork-Salmon River project in Idaho is estimated to cost $5 million to complete. We felt we should at least get a start on it, so part of this increase will be devoted to that project this year.

Mr. M. NELSON. This will be the same money that will be used in connection with some added work on some of the fires we weren't able to cover with the emergency rehabilitation work.

TREATMENT OF ROADS AND TRAILS

Mrs. HANSEN. You have listed in your justifications thousands of roads and trails that are great contributors to sediment and runoff.

Have these roads and trails been abandoned, and are they still part of your forest system?

Mr. M. NELSON. Basically these are roads not part of our forest system. Many of them were old mining roads, for example.

Mrs. HANSEN. Did you inherit these problems?

Mr. M. NELSON. Most of them are inherited although I don't want to say we don't have some early-day roads built by us which are not somewhat of a problem too. However, a good share of the abandoned ones were built for some other reason.

DEBRIS REMOVAL IN STREAM CHANNELS

Mrs. HANSEN. How adequate is your work on the removal of debris in fish stream channels above the reservoirs?

Mr. M. NELSON. That changes from time to time. After floods, as you know in the Northwest, some additional material gets in those streams and has to be removed.

Mrs. HANSEN. For your information they had snow the night before last and they have the prospect of another flood.

Mr. M. NELSON. That is one of the reasons we don't have a good inventory of all the damage that might have been done, because of the snow that has been on the ground.

There is much more that needs to be done in this general field, both from a water quality and from a fish standpoint. I don't believe the relatively small amount we are putting in this budget will get us very far down the road to take care of all the work that needs to be done.

WILD AND SCENIC RIVER STUDIES

Mrs. HANSEN. Justify your request of a $194,000 increase for wild and scenic rivers studies.

Mr. M. NELSON. Yes. Of the 27 wild and scenic rivers designated by Congress for study, the Forest Service has lead responsibility for 9.

We will finish one report in 1971 and we expect to finish the Pere Marquette in Michigan in 1972.

We have 7 others upon which we will get some work started this fiscal year.

While we are talking about the wild and scenic rivers, Madam Chairman, I believe we should mention the other 18 for which Interior has the lead responsibility. There has to be an input from the Department of Agriculture into their studies too. That has been assigned to the Forest Service and to State and private forests. I am not sure whether they have anything in their budget or not, to help get the input of the Secretary of Agriculture into those 18 studies.

Mr. CLIFF. There is no increase in our State and private forestry work for this activity. If we are really going to protect the forestry interests, we do need to participate in the studies of these rivers which are largely on private lands and many of which run through forested areas.

The landowners are certainly interested in seeing that these forestry interests are adequately considered. These nine rivers for which the Forest Service has primary responsibility are largely within the national forests. We do participate with Interior on others that are partly in the national forests, but largely outside.

Mr. M. NELSON. Madam Chairman, to back up just a minute, you wanted to know how big the job was for watershed rehabilitation work.

I do have on one page here an inventory listing the type of work that we have that needs to be done. I can furnish that for the record at this point if you like.

Mrs. HANSEN. Please do.

(The information follows:)

Inventory of needed soil and water rehabilitation work to be done

Prescribed treatment:	*Number of units*
Gully stabilization (miles)	41,000
Sheet erosion control (acres)	2,676,000
Rehabilitate abandoned roads and trails (miles)	52,000
Mined land restoration (acres)	126,000
Streambank stabilization (miles)	11,000
Lake and reservoir shoreline stabilization (miles)	1,500
Stream channel clearing (miles)	12,000
Lake and reservoir debris removal (acres)	9,000

SOIL AND WATER RESOURCE ANALYSIS

Mrs. HANSEN. You are requesting an increase of $310,000 for soil and water resource analysis. Is this more of your interdisciplinary work?

Mr. M. NELSON. Yes, ma'am.

Mrs. HANSEN. This will encompass 57 new watersheds.

Mr. M. NELSON. Yes, Madam Chairman.

Mrs. HANSEN. I notice Lake Tahoe Basin is listed as one of the new watersheds.

Mr. M. NELSON. This is where we study specific watersheds and furnish the expertise in relation to an analysis for planning, and so forth, on specific watersheds.

Mrs. HANSEN. You are requesting funds for road activities in California, Montana, Oregon, and Washington and yet you can't even plant your rangelands.

Mr. M. NELSON. We are planting some of it.

Mrs. HANSEN. Not very fast.

MINERAL CLAIMS, LEASES AND PERMITS

You are requesting a decrease of $150,000 for mineral claims, leases and permits—yet this is the area where many contend more supervision is needed to adequately protect forest land environment.

Mr. M. NELSON. The $150,000 was added on in the supplemental last year. This year we were allowed to ask for the same amount we had the year before without the increased supplemental that came along after they were down the road aways with the budget.

Mrs. HANSEN. Obviously you were not doing a very adequate job or that item wouldn't have been included in the supplemental bill.

Mr. M. NELSON. We have a tremendous need. We discussed some of that this morning. We have some 42 National Forests with extensive mineral activity on them. Mr. Cliff mentioned that most is in the West, which it is, but we also have about 8 National Forests in the East that have high mineral activity on them.

We are using the $150,000 for an additional 15 people in critical areas in fiscal year 1971. This does place us in a bad position, having to reduce by that amount because, frankly, we will have to probably drop some of them in the next fiscal year.

You have a map there, Mr. Deinema, which could illustrate our problem. The map is region 4, which is Utah, Nevada, and southern Idaho.

It includes the Humboldt National Forest that Mr. Cliff referred to this morning, where last year there were 1,000 claims staked per month in two ranger districts in northern and central Nevada. Each of the 17 circles represent a particular heavy mining activity. You might go around a few of those to indicate what types of minerals are involved.

Mr. DEINEMA. Minerals in the northern district are gold, copper, silver, and antimony. The central district has tungsten, copper, and silver. Both areas are receiving heavy attention right now. Elsewhere in the region minerals vary from the cobalt and fluorspar mines on the Salmon River in Idaho to the clay pits and uranium mines in central and southern Utah. Other minerals involved are molybdenum, lead, phosphate, and mercury.

LAND EXCHANGES

Mrs. HANSEN. How near completion is your land exchange program?

Mr. M. NELSON. Actually, Madam Chairman, it is difficult to say how near we are completed because it takes two to make a land exchange. We have a great deal of intermingled land with railroad companies, for example. We are progressing reasonably well with Burlington Northern on land exchanges and with several of the States. The State of Idaho, for example, recently got legislation that allowed them to make exchanges with us. Then there are always miscellaneous parcels. In the East for example, less than half of the total land in the national forest is national forest owned, so there are all kinds of private land where there might be a desirability of working exchanges that would better fit the private owners' plans as well as the plans for the national forests.

I don't think it is possible to really state that we are 25 percent done or 50 percent done with the eventual land exchanges that might be done in the future.

We do have, as indicated in the presentation, on an average, reductions. These exchanges result in a cost avoidance, rather, that more than pays for the cost of the exchanges.

Mrs. HANSEN. Do not the land exchanges result in better management of your roads, firefighting, and surveillance?

Mr. M. NELSON. And prevention of trespass. Almost all of this has a bearing.

Mr. CLIFF. I just wanted to supplement what Mr. Nelson said. This is a recurrent job. We have been making exchanges for many years, for 50 years or more, at varying degrees of intensity. Over the years we have acquired a considerable amount of land and have also disposed of a considerable amount to the benefit of the United States, and to the private landowners.

There is a big job ahead and I think it will be a recurrent job for us about as far as we can see into the future. As long as we have these mixed ownership patterns, there will be opportunities for improving the land pattern through exchange and I think it is a job that will be with us for a long time, a continuing job.

Mrs. HANSEN. The committee will stand adjourned until tomorrow morning.

TUESDAY, MARCH 2, 1971.

Mrs. HANSEN. The committee will come to order.

I want to present one of the new members of the committee to you, Congressman Galifianakis from North Carolina. We are delighted to have him aboard. Welcome, Nick.

FOREST FIRE PROTECTION

The committee had quite a long discussion yesterday on forest fire protection. I want to reiterate that the States are not happy with the funding level in this budget for the Clarke-McNary forest fire funds.

The funding request for forest fire protection is at the same level as 1971 and many believe that the Forest Service should accelerate this fire protection work. Why are you requesting the same level of funding in spite of the 556,000 acres of forest land which were destroyed by fire last year?

Mr. CLIFF. Madam Chairman, I guess the answer to that is that in preparing this budget it was not considered of top priority to increase this appropriation.

Mrs. HANSEN. Please insert in the record at this point the value of those 556,000 acres that was burned.

Mr. CLIFF. We will do that. Last year was not a normal year, it was a very unusual year.

(The information follows:)

Appraising the damage caused by wildfire is a problem we have been struggling with for years. We recognize total loss must include both tangible and intangible values.

We know when fire destroys vegetative cover on the land, not only is the cover resource lost, but this destruction has a direct effect on quantity and quality of water coming off the burned area, and an adverse effect on the wildlife populations. Without vegetation, precipitation causes accelerated runoff, soil loss, and floods which in turn damages roads and other improvements. Following a fire the loss of scenery and recreation must also be determined and included in the total damage.

A system has been developed for evaluating the value of both tangible and intangible resources. This system consists of average value assigned to quantitative measures of resources. Using this system we have determined a resource loss on the area burned on the National Forest System in 1970 to be approximately $716 million.

Mrs. HANSEN. But you have to be prepared budgetwise to meet unusually high fire losses.

Mr. CLIFF. Yes, we have them occasionally. This is one of the worst in history and to prepare a budget to meet the abnormal years is not easy.

FIRE LOSSES

Mrs. HANSEN. Please insert in the record the fire losses for the last 10 years and the value of the timber destroyed.

Mr. CLIFF. Yes, we will do that.

(The information follows:)

FIRE LOSSES ON AREAS PROTECTED BY THE NATIONAL FORESTS

Year	Acres Burned	Value of Timber Destroyed
1961	224,394	$9,855,900
1962	85,457	3,946,900
1963	127,571	3,397,900
1964	183,154	1,230,500
1965	75,765	1,424,700
1966	332,921	6,187,400
1967	204,106	3,475,200
1968	212,420	3,546,500
1969	95,707	3,065,600
1970	555,831	29,310,000
Total	2,097,326	65,440,600

NEW FIRE PROTECTION TECHNIQUES

Mrs. HANSEN. Also insert in the record how your improved fire protection techniques have reduced your fire damage.

Mr. CLIFF. We will be glad to do that.

(The information follows:)

NEW FIRE PROTECTION TECHNIQUES IN RELATION TO AREA BURNED

Because of the great many variables that have a bearing on fire starts and how forest fires burn, it is extremely difficult to accurately determine which phases of our total Fire Control Management has had what effect on reduction of area burned.

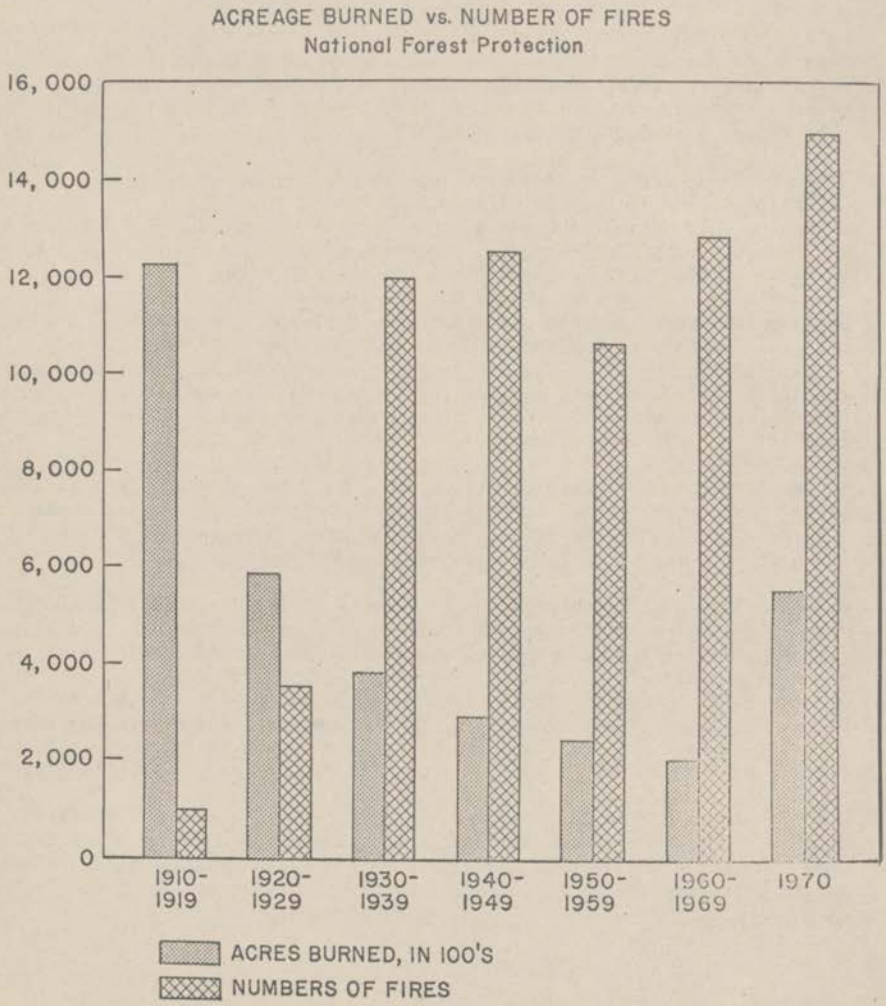
Prior to 1940, large fires caused intolerable losses. Inaccessible lightning-caused fires were difficult to reach. To improve initial attack on these fires, the smokejumper program was developed. This was followed by using airplanes for detection and dropping supplies to fire crews. In 1956 airplanes were first operationally used for dropping fire retardant chemicals. World War II Stearman aircraft capable of hauling 140-160 gallons of retardant were replaced in the 1960's with airplanes capable of hauling 2,000 to 3,000 gallons. In addition to aerial tankers, helicopters were used extensively for reconnaissance and transportation of men and equipment. There have been many other projects aimed at safety and efficiency - frozen meals, protective clothing, mechanical fireline trenchers, improved fire pumps to name a few.

In recent years, National training courses on fire behavior, fire generalship, fire prevention and law enforcement have provided teams of experts in fire control. At the present time, infrared photography for detecting fires at night is being tested and will soon be operational.

While advancements in suppression techniques are being made, the National Forests are being developed. This development has increased hazards through timber harvest and stand improvement. Public use has increased annually and with extensive forest access, man-caused fires are dispersed over broad areas. The increase in people problems and hazards have offset many techniques developed through the years. Inflation has risen 44 percent since 1960 and since appropriations have not kept pace with increased costs, new techniques implemented in fire suppression do not show the true benefits.

Although it is difficult to measure value of new suppression techniques, we know that resource loss and damage would have been much more without them. On the average, area burned has declined each decade, as illustrated on the following chart, in spite of greatly increased use and risk.

58-287 O—71—pt. 4——13


ACREAGE BURNED vs. NUMBER OF FIRES
National Forest Protection
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1910-1919
1920-1929
1930-1939
1940-1949
1950-1959
1960-1969
1970
ACRES BURNED, IN 100'S
NUMBERS OF FIRES

AEROSPACE FIRE CONTROL RESEARCH

Mrs. HANSEN. Congressman Pettis of California has written that the aerospace industry is very interested in fire protection research and firefighting techniques. I understand that the Boeing Company is also interested in the field of forest fire protection.

Have they contacted the Forest Service or the Department of Agriculture to discuss the possibility of private industry cooperating with you on fire control research?

Mr. CLIFF. Yes, ma'am. We had a discussion with the Boeing people last week. The aerospace people have talked to some of the staff, I think Dr. Arnold and members of his research staff earlier, about the possibility of cooperating on the fire control research using modern aircraft.

Mrs. HANSEN. What is the extent of their proposals?

Mr. CLIFF. In the discussion that I was in with Boeing they had several ideas for use of large aircraft for delivery of larger quantities of water, ice, and retardants from fixed, large bases which are necessary for the use of these large aircraft. They thought there might be certain economies of scale that could be capitalized on in using the large aircraft. They didn't have any concrete proposals. Their discussions were pretty exploratory.

Dr. Arnold might discuss what the Aerospace Corp. was talking about.

Mr. ARNOLD. The Aerospace Corp. has worked with our Forest Fire Laboratory in Riverside, Calif. In the past, we have had cooperative activities with Boeing from the Missoula, Montana Laboratory, and they have identified mutual opportunities with our scientists. They visited us here and met with our forest fire research personnel in Washington several times.

We have identified with them certain fire intelligence systems dealing with the new forward looking infrared technology which would assist in locating fires through heavy smoke for helicopters and aircraft as they would seek to put on retardants. We have identified with them opportunities for more rapidly coming to the operational use of seeding to reduce lightning intensity.

Fortunately our research efforts in the past have led up to the readiness for the developmental and final application phase of a number of new technologies. Infrared mapping is operational. We have infrared detection about ready to go. We had an 8,000 square mile test last year that showed it may provide detection equal or better with about half the cost of current methods. This needs more development work.

I can proceed to give some of the details, Madam Chairman, or we can wait until the time that research comes up. I can sketch for you in a little more detail the cooperative program where Aerospace Corp. has suggested a need for research in the order of $10 million.

FOREST SERVICE—BLM FIRE COOPERATION

Mrs. HANSEN. How much interagency cooperation is there between the Forest Service and the Bureau of Land Management is firefighting?

Mr. CLIFF. A great deal of cooperation, Madam Chairman. We work as though we were in the same organization.

Mrs. HANSEN. If the present administration has its way you will be in the same organization.

Mr. CLIFF. We share the use of the new Boise Interagency Fire Center. We have installations there, a smoke jumper unit and a retardant base.

We share the services of the Weather Bureau in fire weather forecasting, and we are together in the dispatching of men and the dispatching of equipment. We have similar cooperative efforts in other parts of the West.

Boise is BLM's main operational fire control base now and this is where most of our cooperation in dispatching occurs with the BLM. We do help each other out on fires. We have helped train their smoke jumper crews for Alaska. We are doing the research that they rely on and cooperative research with them. I would say there is an exceedingly good, close-working relationship with the Bureau of Land Management, with the National Park Service and other Department of the Interior agencies in fire control.

INCREASED MAN-CAUSED FIRES

Mrs. HANSEN. Last year through November 30 there were 14,600 fires and of these fires 6,670 were man caused. The man-caused fires have increased 40 percent over the 5-year average. The major increases were in the Far West and Southeastern States.

I want to know why the Southeastern States showed an increase? Is that because of the increased recreation use?

Mr. M. NELSON. I don't believe it was necessarily increased recreation use. It is probably more due to the type of weather we had in the Southeast this particular year. The Southeastern and the Southern States have always been our high man-caused fire area.

Mrs. HANSEN. Why?

Mr. M. NELSON. There are lots of reasons. It started way back—the philosophy of the local people was to burn over the South. We have had a problem over the years of education in trying to make people see the value of not burning the woods.

They give all kinds of reasons—to get rid of snakes, to get rid of chiggers, because grandpa did it, and they thought it was desirable.

We have hired psychologists to work on the program.

Just in the last few years we have worked with one of the universities in Mississippi on the man-caused fire situation in the South. Usually the man-caused fires are relatively small in the South, however. The initial attack is pretty good in our organization and the States' organizations, but there always has been a lot of man-caused fires. If we get a season a little more dry or windy than a normal season they will increase.

Mrs. HANSEN. The increases in man-caused fires in the Far West are rather disturbing.

Mr. M. NELSON. Yes, they are. And a lot of that would be increased use for recreation.

Mrs. HANSEN. Is this because of insufficient recreation areas?

Mr. M. NELSON. Yes, and as we indicated yesterday our recreation use is increasing at the rate of 6 percent and over every year. Last year it was a 6-percent increase. Previous years it has been up to an 8-percent increase. Our funds for providing new facilities for recreation has varied from 1 to 4 percent. This year it is going to be less than 1 percent for new facilities that will be provided for recreation use. These are the ones we discussed yesterday that are the safest places for recreation people to keep them from starting fires. Bad weather—hot, dry periods—also has a bearing on number of fire starts.

Incidentally, if I might add a little bit to our cooperation with the Bureau of Land Management and somewhat in perspective of what the fire job was last year, on the big western fires we had over 30,000 men used in combating those fires. That is 50 percent more than our total Forest Service permanent personnel. So it is a big job.

RECRUITING FIREFIGHTERS

Mrs. HANSEN. Do you have any trouble recruiting firefighters?

Mr. M. NELSON. Yes, we have had trouble.

The Boise Interagency Fire Center Mr. Cliff mentioned is operated in cooperation with the BLM. That center dispatched over 8,000 firefighters to these large fires. Two thousand of those came as organized crews from the Eastern States. Several of the State foresters supplied crews from the the Eastern States, and it gave them an advantage of getting broader experience as well as giving us trained people.

We had men that BLM sent down from Alaska and we have sent people up to Alaska, as well as infrared planes and smoke-jumpers and others. I mention that because this is the first big year—we just dedicated the new Interagency Fire Center and it really got a baptismal this year in a major job.

When you have 30,000 people on fires logistics alone, it is a tremendous problem.

FIREFIGHTING COST PER ACRE

Mrs. HANSEN. Please insert in the record the cost per acre for firefighting.

Mr. M. NELSON. We will be glad to try that.

(The information follows:)

COST PER ACRE OF AREA BURNED ON NATIONAL FORESTS

Fiscal Year	Cost Per Acre
1970	$161
1969	118
1968	144
1967	94
1966	39
1965	62
1964	114
1963	88
1962	148
1961	73

The per acre costs shown above are not a measure of the effectiveness of fire suppression but do indicate increased costs and increased effort to protect the environment and the resources therein. The number of fires that occur each year, their accessibility, the topography on which they are burning and the fuel type burned, all cause variations in annual cost.

The increased cost of salaries, rental equipment, transportation, supplies and facilities have caused firefighting costs to skyrocket. For example, a GS-5 or equivalent wage board employee would represent the average fire control employee. His salary has increased from $2.09 per hour in 1960, to $2.40 in 1965, and to $3.15 in 1970. In addition to regular rates, the employee is paid a differential for night work, hazard pay, and overtime. The rental rate of a D7 caterpillar has increased from $22 per hour in 1960 to $30 in 1970.

Multiple use cannot be practiced if fire is allowed to adversely affect management's carefully planned uses and activities of the National Forest. Therefore, increased effort to suppress fires threatening high resource values has increased suppression costs per acre.

GYPSY MOTH CONTROL

Mrs. HANSEN. You are requesting an increase of $140,000 in your Insect and Disease Control Activity to protect 100,000 acres of hardwood forest in the Northeastern and Central States. I have received many letters from people all over the United States on the gypsy moth problem. Is this going to be sufficient to enable you to control the gypsy moth?

The committee has received letters from almost all the Eastern States relative to the infestation of gypsy moths. Articles appeared just last night in the Washington Star on DDT and the control of gypsy moth. Apparently a Miss Judith Randal wrote an article that has stirred up some controversy.

Mr. CLIFF. The $140,000 is an increase that would be devoted to gypsy moth control and control of other defoliators in the Northeast. I don't know if that is going to be sufficient or not, Madam Chairman. It depends entirely on just how the epidemics develop, and we don't know precisely how they will develop. It depends to some extent on weather conditions, on the effectiveness of control of last season. Before we have control efforts we make surveys to determine precisely where control is needed, and it may or may not be sufficient.

Most of this work will be done on private forests, and this money will be matched on about a 2-to-1 basis. The $140,000 will represent mainly the Federal contribution to a much larger program.

Dr. Tom Nelson of our State and private forestry unit is here and he may have something to add to that.

Mr. T. NELSON. I would like to say, Madam Chairman, there are heavy outbreaks of this gypsy moth in New York, New Jersey, Connecticut, and eastern Pennsylvania. Final plans have not been drawn up at this time as to the size and location of our control projects. It will be a large job.

Mrs. HANSEN. You cannot use DDT?

Mr. T. NELSON. That is right.

USE OF SEVIN

Mrs. HANSEN. What are you going to use in place of it?

Mr. T. NELSON. We plan on using a chemical called "carbaryl"; its trade name is Sevin. It is not the hard pesticide that DDT is.

Mrs. HANSEN. Is the chemical effective?

Mr. T. NELSON. It is effective, yes. Not as effective as DDT from the information I have. We also intend to try Zectran on gypsy moths this coming year.

COMMENTS ON LETTERS AND ARTICLES CONCERNING GYPSY MOTH INFESTATIONS

Mrs. HANSEN. Do you have any comment on these letters or on Miss Randal's article?

Mr. CLIFF. I haven't read those.

Mrs. HANSEN. Will you please insert in the record a comment on this problem because there has been a lot of misinformation on the gypsy moth.

(Information requested follows:)

COMMENTS ON GYPSY MOTH ARTICLES IN WASHINGTON STAR

The statements in Judith Randal's recent article on gypsy moth in the Washington Star did contain some discrepancies. Essentially, Mr. Sherman's and Mr. Shepherd's "Letters to the Editor" that appeared in the March 1, 1971, Washington Star corrected these discrepancies. The area infested by the gypsy moth has increased considerably since the use of DDT was curtailed. Undoubtedly, this curtailment has contributed to the increase but other factors such as climatic conditions, greater use of mobile equipment which results in the spread of the moth, and a more favorable host tree timber type probably also have contributed.

EFFECT OF INFESTATIONS ON URBAN AREAS

Mrs. HANSEN. Since you must consider the national forests in relationship to the total environment, what happens to an urban area if all of the trees in that area are destroyed because of infestations of various kinds?

Mr. CLIFF. In the first place it would be much less attractive without trees and greenery. We do know that trees absorb certain amounts of pollutants. They absorb gas pollutants and cause deposition of particulate pollutants. Trees use carbon dioxide and give off oxygen which has a beneficial effect.

Trees also have a tempering effect on the local microclimate by reducing the heat and noise. All of these beneficial environmental effects would be lost if we lost the trees.

I think it would be a catastrophe if what you suggested could happen did actually happen.

USE OF PESTICIDES

Mrs. HANSEN. There is a constant controversy between what kind of pesticides you can use so that you will not damage the environment. Isn't that one of your problems?

Mr. CLIFF. That is one of the problems, but I think we might just as well recognize we can't use DDT even though it is one of the most effective chemicals we have ever had to kill the defoliators.

Mrs. HANSEN. The problem is to find adequate substitutes.

Mr. CLIFF. We are seeking for, and finding, some substitutes. The substitutes are not always as effective and usually they cost more, but this is one of the prices you pay for protecting the environment against the hard pesticides.

Mrs. HANSEN. This is one of the things your budget is going to have to reflect in the years ahead. Isn't this true?

Mr. CLIFF. I am sure that is or we will get less work done.

Mr. ARNOLD. I think I can help very briefly. DDT reduced the spread of gypsy moth but it did not control gypsy moth in the years it was used there. It is the best that we had. Now with the past research, the Agricultural Research Service has a sex lure, a new sex attractant of the gypsy moth ready for pilot testing in the detection and appraisal of the outbreak. There is a virus that our research laboratory at Hamden, Connecticut, is developing. There are some bacteria.

We have the new chemical Zectran which Dr. Nelson mentioned that will be pilot tested. So we are not without things coming that will be available in 3 to 5 years.

Meanwhile, it is a very serious situation that is spreading throughout the East.

Mr. FLYNT. Will you yield?

Mrs. HANSEN. Surely.

ERADICATION OF GYPSY MOTH

Mr. FLYNT. Let me ask you if you are doing anything or if you know of any efforts that are being made to eradicate the gypsy moth through methods which were successfully employed to eradicate the screw worm which had such a terrible effect on cattle and other livestock?

Mr. ARNOLD. There have been trials in the past to eradicate gypsy moth. The difficulty is that the moth flourishes on almost all the common hardwood trees of the Northeastern and Eastern part of the United States, a very broad-ranging pest. So it is very difficult. Also it is so widespread at this point we have detected it as far as Virginia.

As it moves south it can produce as many as two generations a year rather than the one it produces in the Northeast. The eradication attempts and the science back of it on similar insects indicates that eradication at this point is not possible, but we are looking into the male sterilization and those other techniques developed in the Agricultural Research Service.

Mr. FLYNT. You, of course, are familiar with the methods by which the screw worm was eradicated.

Mr. ARNOLD. Yes, sir.

Mr. FLYNT. It was one of the major accomplishments of entomological studies and science during the past century. I am glad to know that you are seeking to employ those same methods in an attempt to eradicate the gypsy moth.

Mrs. HANSEN. Mr. Obey.

FUNDS BUDGETED FOR NEW YORK, NEW JERSEY, CONNECTICUT AND PENNSYLVANIA

Mr. OBEY. You mentioned Connecticut, New York, New Jersey, and Pennsylvania, and yet if I understand this table on page 66, you are providing no increase for Connecticut, a small increase of $10,000 for Pennsylvania, and an increase of $10,000 for New Jersey.

In light of the fact that those are the four trouble States, is there any particular reason why the budgets for those States aren't increased more than they are?

Mr. T. NELSON. Most of the control activity during an actual fiscal year is carried out on a project basis and at best when we make up these budgets they are estimates. As the year progresses we will be utilizing some of these funds where it becomes necessary because of increased outbreaks, such as we have up in the Northeast this year.

I would like to add that there is some concern as to whether or not the State of Connecticut Department of Agriculture will do any treatment during this calendar year.

Mr. OBEY. Why is that?

Mr. T. NELSON. I am not exactly sure of the reason, sir, but I will get it for the record.

(The information follows:)

Connecticut is doing a small amount of gypsy moth control work. The control work being done is carried on by the individual towns. The State does not provide cooperative Federal assistance in pest suppression activities. It is our understanding that the State does conduct surveys to assess the gypsy moth situation but does not make recommendations for or against control.

Mr. OBEY. I wonder if you would be good enough to provide for the record a listing of all of the kinds of pesticides that you use and the amounts that you use, and also if you could provide a listing of each of the insects or disease problems and the various methods you use to treat each of those problems?

Mr. T. NELSON. We will be glad to supply that for the record. We are using a lot less insecticides than we have used in the past. For example, I am told that last year we only used 56 pounds of BHC in all Southern pine bark beetle work where we have used much greater quantities previously.

(Information requested follows:)

As a more complete answer, the Forest Service currently uses and recommends the use of the following chemicals for control of forest insects and diseases.

Bark beetles	- Lindane, Ethylene dibromide and some Cacodylic acid. The use of BHC for bark beetle control now has been discontinued.
Defoliators of hardwoods	- Carbaryl, Malathion, Dimethoate, and Diazinon.
Defoliators of conifers	- Malathion and Carbaryl.
Aphid and scale insects	- Dimethoate, Azinphosmethyl, and Lindane.
Shoot and tip moths	- Dimethoate and Endosulfan.
Soil inhabiting insects and termites	- Chlordane.
Texas leaf cutting ant	- Mirex.
Wood-boring insects	- Lindane and several fumigants such as methyl bromide.
Cone and seed insects	- Guthion and Dimethoate.
White pine weevil and pine root collar weevil	- Lindane.
Spruce budworm and jack pine budworm	- Zectran is now registered for these budworms; it will be used in the future to replace DDT.
Pales weevil	- The Forest Service has requested the retention of DDT for use to control the pales weevil, a most serious insect of pine regeneration, until an effective substitute is available.
Others	- Accothion and Gardona were tried against two defoliating insects in 1970.

Diseases - Some 2,4D and 2,4,5-T is used to kill the alternate host in the blister rust control program. Ammate and 2,4,5-T is used in the sanitation of oak wilt infection centers.

It was not necessary to use all recommended chemicals in control programs during FY 1970. Amounts of chemicals used in FY 1970 to control forest insects in Federal programs and cooperative programs with the States are tabulated below:

Chemical	Pounds of active ingredient
Accothion	51,539
Ammate	1,440
BHC	56
Cacodylic acid	1,575
Carbaryl	14,404
Dimethoate	4
Ethylene dibromide	235,438
Gardona	1,220
Guthion	6
Lindane	2,092
Malathion	1,110
2,4D	112
2,4,5-T	1,064

PILOT TESTING OF NONPERSISTENT CHEMICALS AND BIOLOGICAL AGENTS

Mr. OBEY. You mentioned on page 65 that the high-priority job is the pilot testing of promising nonpersisting chemicals and biological agents. Can you give us some more information on what developments you have along those lines? And also, for my information, because I frankly don't understand it, could you explain to me what your relationship is with the Agricultural Research Service of USDA, how closely you people work together.

Mr. T. NELSON. Yes, I can. If I might respond to your first question, first, we have made a great deal of effort in developing biological agents to control forest insects.

The use of parasites against the larch casebearer, for example, in northern Idaho and western Montana and eastern Washington has been successful.

Last year we released 500,000 parasites through the infested area and we also sent some of these parasites up to British Columbia for the Canadians to release.

Our people in Montana report that the parasites are established at all of the release sites and that the degree of defoliation on trees was notably reduced in some areas.

However, we have some small areas in these States where we may have to treat this particular insect chemically to prevent loss.

FOREST SERVICE—AGRICULTURAL RESEARCH SERVICE RELATIONSHIP ON GYPSY MOTH CONTROL

With regard to the relationship between the Forest Service and Agricultural Research Service, we have gotten together with these people and prepared a set of guidelines that outline each of our agency's responsibility. This has left the Forest Service with the responsibility for all gypsy moth control activities that provide for the protection of the forest resources, those that are not classed as regulatory.

Agricultural Research Service will be responsible for all of the regulatory efforts against the gypsy moth.

Mr. OBEY. Thank you.

Mrs. HANSEN. Mr. Galifianakis.

Mr. GALIFIANAKIS. Where is your principal research effort made?

Mr. CLIFF. I would like Dr. Arnold to respond to the research question. He can tell you that. I also ask him to expand on what Tom Nelson said about our relationship to the Agricultural Research Service in the field of insects and disease research.

SUBSTITUTES FOR HARD CHEMICALS

Mr. ARNOLD. I might take Congressman Obey's question first, what do we have as substitutes for hard chemicals. We have two new viruses specific to the Douglas fir tussock moth and European pine sawfly ready for field testing. We have the basic research done on a number of other viruses, one of them being for the gypsy moth.

We have sex attractants in the pilot testing stage for bark beetle control. Last summer we effectively reduced populations of bark

beetles over a large area by pherome-based suppression. Bark beetles are the most damaging of all forest insects. They range across the United States.

We have attractants and repellents now in the exploratory stages for Dutch elm disease control. We have a new biological control for termites employing attractants and repellents.

We have in the pilot stage and test stage the two new chemicals: Zectran you have heard about, and pyrethrin another chemical, completely safe, has been perfected and a Government patent issued. We have progressed a long way in genetic resistance to both insects and diseases.

Our geneticists have found and bred resistance in many important trees.

FOREST INSECT RESEARCH LABORATORIES

In connection with where we do our forest insect research, we have a number of major labs, each one dealing with certain problems, some of them dealing with basic terms. I will place that in the record and give the exact location.

We have certain labs which are the lead labs in developing the new technologies, and other locations apply them. It is in the application phase that research and control groups work together.

Our scientists are together with the Agricultural Research Service scientists daily and weekly. Many of our programs on the new viruses are planned and developed together.

(The information requested follows:)

Laboratories for Forest Pest Research

Location	
California, Berkeley	Air pollution effects, sex attractants, western pine beetles, diseases of western conifers.
Colorado, Ft. Collins	Mountain pine beetles, spruce budworm, dwarf mistletoes and other pests attacking Rocky Mountain trees.
Connecticut, Hamden	Insect virus and other biological controls, hardwood diebacks and declines, gypsy moth.
Georgia, Athens	Seed orchard insects, rusts and nursery diseases, soil-borne organisms.
Idaho, Moscow	Control of Douglas-fir beetles, coniferous defoliators and white pine blister rust.
Louisiana, Alexandria	Control of southern pine bark beetles.
Minnesota, St. Paul	Insects of tree seed, hardwoods and aspen; diseases of aspen, northern hardwoods and conifers.
Mississippi, Gulfport	Rusts, brown spot and other diseases of southern pine; control of termites and other wood destroying organisms.
Mississippi, Stoneville	Insects and diseases of southern bottomland hardwoods.
North Carolina, Research Triangle	Biological control of southern insects and control of annosus root rot. Air pollution of eastern forests.
Ohio, Delaware	Insects and diseases of central hardwoods and shade trees, Dutch elm disease.
Oregon, Corvallis	Virus and other biological control of insects and diseases affecting western conifers and application methods.

USE OF NEW PESTICIDES

Mr. GALIFIANAKIS. Whenever a scientist submits a report that says he is going to recommend this carbaryl or Sevin in lieu of hard pesticides like DDT, is there a procedure you use to conclude that you are going to go into the use of the new pesticides?

Mr. ARNOLD. First, there is a very lengthy and comprehensive procedure on the biological potential. Second, the material has to be screened and approved by the Federal Food and Drug Administration.

We have economic appraisals to develop the cost benefits and finally an evaluation of its potenial for a practical application. We pilot test it and field test it before we go into a major control program.

Mr. GALIFIANAKIS. Has the procedure been modified by all of the interest in the environment?

Mr. ARNOLD. It has. Dr. Nelson can speak to that.

Mr. T. NELSON. Every treatment project for forest insect and disease control is considered a major effort and, as such, an environmental impact statement is compiled for that particular project.

Mrs. HANSEN. Mr. McDade.

FUNDING FOR CONTROL OF GYPSY MOTH OUTBREAK

Mr. MCDADE. Is this $140,000 increase in the budget sufficient to control the gypsy moth outbreak? Have you got enough money?

Mr. T. NELSON. We don't know at this time whether or not this will be sufficient to handle the gypsy moth outbreak. Until we have plans completed we will be unable to answer that.

Mr. MCDADE. How long will that be?

Mr. T. NELSON. Two or three months, sir.

Mr. MCDADE. Do you have flexibility within the rest of the $10 million being appropriated here to handle the gypsy moth problem?

Mr. T. NELSON. We have some flexibility, sir. I don't know if it will be enough.

Mrs. HANSEN. You wouldn't hesitate to submit a supplemental request if it is necessary, would you?

Mr. MCDADE. You have just had an invitation, my friend.

Mr. CLIFF. We wouldn't hesitate to recommend a supplemental but whether or not we would be permitted to present it, I don't know.

Mrs. HANSEN. Considering the millions of acres under your jurisdiction and the importance of the forests to the United States I don't know why you should tiptoe around the Office of Management and Budget.

If they would take a good look at a copy of this committee's hearings and see the investment and how it needs protection, I think they might arrive at the conclusion that they are about 50 years behind the rest of the country in protecting the environment of our forests.

I suspect you are easily intimidated. No comment?

Mr. CLIFF. No comment, Madam Chairman.

There is some flexibility in this program. The disease and insect control is a changeable thing, and we cannot pin it down precisely until we make our field surveys each season and know exactly what the situation is.

All we can do is make some forecast as to what might happen based on our best estimates and the best evidence available.

Mr. McDade. You certainly would know before this bill goes to the Senate?

Mr. Cliff. I would hope so. I don't know. Some of these things start emerging fairly early in the spring and some are later in the season. We do have to adjust our program as they develop and there is some flexibility to shift from the control of one insect which might not develop as forecast to another one that may develop faster.

Mrs. Hansen. Mr. Wyatt, do you have questions?

Mr. Wyatt. Not at this point.

Forest Research

Mrs. Hansen. Please insert pages 69 through 99 in the record at this point.

(Pages 69 through 99 follow:)

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

Forest Research
(includes Projects (15) through (28) on following pages)

State	Headquarters or Project Location	FY 1971 estimate	FY 1972 estimate	Change
		(in thousands)		
Alabama	Auburn	$369	$369	
	Tuskegee	30	30	
		399	399	
Alaska	College	317	317	
	Juneau	565	565	
		882	882	
Arizona	Flagstaff	720	612	-108
	Tempe	550	550	
	Tucson	248	248	
		1,518	1,410	-108
Arkansas	Fayetteville	244	244	
California	Arcata	336	336	
	Berkeley	2,157	2,147	-10
	Fresno	215	215	
	Redding	155	155	
	Riverside	1,224	1,224	
		4,087	4,077	-10
Colorado	Fort Collins	1,366	1,366	
Connecticut	Hamden	780	780	
District of Columbia	Washington	421	421	
Florida	Lehigh Acres	126	126	
	Marianna	132	132	
	Olustee	630	630	
		888	888	
Georgia	Athens	1,311	1,311	
	Macon	765	765	
		2,076	2,076	
Hawaii	Honolulu	164	164	
Idaho	Boise	315	315	
	Moscow	828	828	
		1,143	1,143	
Illinois	Carbondale	680	680	
Iowa	Ames	90	90	
Kentucky	Berea	362	362	
Louisiana	Alexandria	1,523	1,513	-10
	New Orleans	840	840	
		2,363	2,353	-10
Maine	Orono	162	162	
Maryland	Beltsville	378	378	
Massachusetts	Amherst	289	289	

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

Forest Research -- continued
(includes Projects (15) through (28) on following pages)

State	Headquarters or Project Location	FY 1971 estimate	FY 1972 estimate	Change
		(in thousands)		
Michigan	East Lansing (including Ann Arbor)	$209	$209	
	Houghton	308	308	
	Marquette	229	229	
		746	746	
Minnesota	Duluth	275	275	
	Grand Rapids	310	310	
	St. Paul	1,428	1,428	
		2,013	2,013	
Mississippi	Gulfport	1,286	1,286	
	Oxford	290	290	
	State College	205	205	
	Stoneville	661	661	
		2,442	2,442	
Missouri	Columbia	209	209	
Montana	Bozeman	322	322	
	Missoula	1,641	1,641	
		1,963	1,963	
Nebraska	Lincoln	138	138	
New Hampshire	Durham	572	572	
New Mexico	Albuquerque	234	234	
New York	Syracuse	128	128	
North Carolina	Asheville	715	715	
	Franklin	233	233	
	Research Triangle (near Durham).	800	800	
		1,748	1,748	
North Dakota	Bottineau	231	231	
Ohio	Delaware (includes Columbus)	1,287	1,287	
Oregon	Bend	202	202	
	Corvallis	1,689	1,689	
	LaGrande	404	404	
	Portland	1,183	1,183	
		3,478	3,478	
Pennsylvania	Upper Darby	755	755	
	Warren	146	146	
		901	901	
Puerto Rico	Rio Piedras	323	323	
South Carolina	Charleston	288	288	
South Dakota	Rapid City	298	298	

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

Forest Research -- continued
(includes Projects (15) through (28) on following pages)

State	Headquarters or Project Location	FY 1971 estimate	FY 1972 estimate	Change
		(in thousands)		
Tennessee	Sewanee	$163	$163	
Texas	Nacogdoches	203	203	
Utah	Logan	564	564	
	Ogden	641	641	
	Provo	146	146	
		1,351	1,351	
Vermont	Burlington	520	520	
Virginia	Blacksburg	155	155	
Washington	Olympia	351	351	
	Seattle	632	632	
	Wenatchee	281	281	
		1,264	1,264	
West Virginia	Morgantown	344	344	
	Parson	333	333	
	Princeton	1,027	1,027	
		1,704	1,704	
Wisconsin	LaCrosse	88	88	
	Madison	6,271	6,262	-9
	Rhinelander	623	623	
		6,982	6,973	-9
Wyoming	Laramie	172	172	
Total		47,805	47,668	-137

Project (15)

TIMBER MANAGEMENT RESEARCH

1970	$10,307,000
1971	10,963,000
1972	10,943,000
Decrease	-20,000

A decrease of $20,000 in public relations activities.

Timber management research develops scientific knowledge of forest ecosystems with trees as a principal component, and develops methods for culture of trees and management of forests for production of timber and for modification and improvement of man's environment. This includes:

(1) Development of cultural methods for timber and timber-related crops.

(2) Techniques of timber measurement.

(3) Techniques of forest management planning.

(4) Techniques for environmental tree culture.

(5) Research in forest genetics.

The core of this research is determining the proper culture for over a hundred different commercial timber species based on a thorough knowledge of their ecology and growth requirements. This research determines how the nation's timber supplies can be met on Federal, State, and private lands through measures such as brush control, forest establishment, protection from animals, stand culture, soil and site improvement, and the perpetuation of tree species valuable for timber or environmental purposes.

Timber management research also provides forest managers with reliable information on growth and yield of forests and on the influence of cultural practices on yield and quality of the stand.

The program includes research on methods of producing timber-related forest crops such as gum naval stores, maple sap, Christmas trees, and other income-producing natural products from forests.

The forest genetics research includes scientific study of variation and inheritance in trees, and development of techniques for producing strains or hybrids having superior growth rate, wood quality, resistance to insects, diseases, and other damaging factors, or special value for use in environmental improvement.

Examples of Recent Accomplishments

Tree barriers reduce noise level. During the past 30 years the average community sound level has risen an estimated 1 decibel per year--an 8-fold increase in total loudness. Preliminary results of research in cooperation with the University of Nebraska indicate that tree barriers can make a 50 percent reduction in apparent loudness. Living screens of trees and shrubs have a great potential to reduce the noise level and improve the appearance of the human environment.

Shelterwood system effective for maple and birch. Shelterwood cuttings are effective in regenerating sugar maple and yellow birch on well-drained northern hardwood sites and somewhat poorly drained hemlock-yellow birch sites in the Lake States. The proportion of yellow birch reproduction can be increased over 4 times by scarification and understory control in hemlock-birch stands; these treatments are somewhat less effective on northern hardwood sites. These findings add shelterwood to the array of useful regeneration treatments for northern forests.

Forest culture affects permafrost and site productivity. Successional trends in forest stands often produce, or reflect, important physical and biological changes throughout the ecosystem. A study of forest succession along the Chena River in Alaska shows that deeper, more rapid soil freezing and thawing are associated with early-successional stands of willow and balsam poplar than with later successional stages. In contrast, late-successional spruce stands retard thawing and result in a continuous frozen soil layer (permafrost) which reduces site productivity. This information suggests that appropriate stand management may help to retard development of permafrost and maintain site quality.

Better growth and yield data for forest managers. The ability to estimate present and future stand volumes is an essential ingredient for scientific forest management. Equations have been developed from long-term growth data for loblolly pine in Georgia that explain 77 to 93 percent of the variation in board-foot and cubic-foot yields, respectively, of managed stands of different density levels. The tables with their predictor variables of age, stand density, and site index will help forest managers decide when to harvest stands.

Photos from space improve efficiency of resource inventories. Existing space exploration programs provide an unusual opportunity for the development of forest resource information systems based on remote sensing. Using standard aerial photographs coupled with ground measurements, a four-stage sampling procedure was used to estimate timber volume on the Consumnes Working Circle of the Eldorado National Forest with a sampling error of only 7.5 percent. In a further development, Apollo 9 imagery and 3 scales of aerial photographs were used in an expanded multistage sampling procedure to survey 12 million acres of land in the southeastern United States at a very low cost per acre. The best results were obtained in the Mississippi Valley area where an 80 percent reduction in the sampling error was attributed to the information obtained from the Apollo 9 photography.

Plant communities indicate productivity for lodgepole pine. In lodgepole pine areas in Central Oregon the understory plant community provided the best indication of productivity measured in terms of basal area, site index or volume growth. Productivity ratings based on plant community should be especially useful in areas where site quality cannot be directly determined from measurements on standing trees.

Compact soils require careful selection of tree species. Dense soils, occurring naturally or as a result of compaction, sometimes limit tree establishment and growth. A greenhouse study to determine which northwestern tree species are most tolerant of dense soil showed that the roots of lodgepole pine, Douglas-fir, red alder, and Pacific silver fir penetrated soils that were too dense for root growth of Sitka spruce, western hemlock, and western redcedar. Thus, the former species are better than the latter for reestablishing trees on logging roads, landings, and hardpan areas where compacted soil is a problem.

Introduced pines well adapted to Hawaii. Hawaii has no native conifers and must import more than 90 million board feet of softwoods per year. Experimental plantings on Maui have shown that after 9 years slash and loblolly pines have grown twice as fast as in the southern United States. Monterey pine is growing at a rate similar to that in plantings in New Zealand, Australia and South Africa, but Caribbean pine has poor form. Based on these early results a 30-year rotation is predicted but wood quality and potentially injurious agencies must be evaluated before these species can be recommended.

Intensive culture of sycamore found very promising. Sycamore responds well to intensive culture on good hardwood sites in the South. Current studies indicate that 2 to 5 times more yield per acre can be obtained from intensively managed plantations than from natural forests. Trees within a sycamore stand differ considerably in growth rate, stem form, and wood quality, so genetic improvement is very promising, particularly in combination with intensive culture.

Breeding produces hardy white spruce for the northern Lake States. White spruce has a high productive potential but successful plantation management in the northern Lake States is hindered by injury from late spring frosts. A study begun in 1958 has demonstrated that frost injury is associated with growth initiation of individual trees, and that breeding can produce strains that begin growth late in the spring. These strains also grow more rapidly, leading to substantial gains in overall growth.

15-year study defines seed collection zones for southern pines. A comprehensive study was started in 1951 by most of the forestry agencies of the South to determine how far from source seed the four major southern pines could be planted without adverse effects on plantation performance. All species showed important differences in survival, growth rate and other characteristics that were related to the geographic origin of the seed, and all were sensitive to being planted too far from the seed origin. Results of the study have been converted into maps showing seed collecting and planting zones within which each species can safely be moved. These maps will guide future programs in reforestation and genetics of southern pines.

Genetic gain from different tree improvement systems measured in longleaf pine. Selection for improved trees may be accomplished by selecting parents on the basis of their own performance, or by the performance of their offspring, or by a combination of both. Studies of longleaf pine indicate that selecting the best 25 percent of the parents on the basis of their own performance produced seedlings 12 percent taller than average. Selection of the best 25 percent of the parents based on performance of their offspring resulted in a 23 percent higher gain, or a total gain of 35 percent in one generation.

Project (16)

WATERSHED MANAGEMENT RESEARCH

1970	$4,425,000
1971	4,732,000
1972	4,624,000
Decrease	-108,000

A decrease of $108,000 is proposed for the Beaver Creek Experimental Area, Arizona. These funds were used for maintaining the continuity of watershed research underway for several years, and to provide protection against future floods.

Forested watershed lands deliver approximately two-thirds of the water used each day in the United States. Watershed management research is concerned with developing methods of managing these forest and forest-related watersheds to improve water yield, protect unstable landscapes, rehabilitate degraded lands, and protect and improve the quality of this forest-water resource.

Research will continue on methods of managing vegetation to increase total water yield and to redistribute streamflow to provide more water for summer uses. Management programs resulting from this research could possibly increase yields of usable water in the Nation by nearly 5 percent of present consumption, or approximately 12 billion gallons per day.

More intensive management of forest resources to provide needed goods and services for the public requires additional research to protect unstable landscapes and to guard vital soil and water resources. In addition, almost one-third of the wild-land watersheds presently provide less than satisfactory protection of soil and water quality because of past misuse. Soil erosion has seriously impaired productivity of these lands and continuing research is required to learn how to rebuild and manage these sites.

Research is also needed to determine the role forest lands might play in protecting and improving water quality. Opportunities exist for recycling nutrients and other waste products to improve forest productivity and to provide a safe and economical means of waste disposal.

Specific research objectives in fiscal year 1972 will be:

(1) Combat soil and water pollution by forestry-related activities in interior Alaska.

(2) Increase or redistribute streamflow from high alpine snowfields and timbered watersheds in the Rocky Mountains, California, and Pacific Northwest and from hardwood areas in New England and the southern Appalachians.

(3) Develop methods of recycling nutrients and wastes on forest lands in the North Central States to increase forest productivity and to prevent water pollution.

(4) Rebuild protection against erosion on severely depleted rangelands of Utah, Arizona, and New Mexico.

(5) Improve and maintain habitat for anadromous fish in streams of Alaska, Washington, Oregon, California, and the interior reaches of the Columbia River.

(6) Rehabilitate severely eroded watershed lands of the West and strip-mined areas of the Appalachian Mountains to curtail stream pollution and to restore a productive and pleasing environment.

(7) Improve management of the water resource for wildlife and recreation, timber growth, and water quality purposes in the wetlands of the northern Lake States and the Southeast Coastal areas, and in shallow ground-water zones of the Southern Coastal Plains.

Examples of Recent Accomplishments

Careful timber harvesting does not damage Alaska salmon streams. The effect of timber harvesting on the fresh water environment of salmon is a primary concern of land resource managers in southeast Alaska. Forest Service scientists found that suspended sediment concentrations during the logging of two watersheds did not significantly increase when compared to a third unlogged watershed, and summer stream temperatures increased only 1° to 4°F. Logging apparently did not adversely affect the salmon spawning habitat, based upon the returns of pink and chum salmon to the study streams during and after logging.

Two grasses found suitable for erosion control in New Mexico. Extensive acreages of abandoned cropland and rangeland in the Southwest are eroding and in need of special measures to restore protective plant cover. A test of eight grass species showed that Russian wildrye and buffalograss were the only species to develop into vigorous, dense stands for soil stabilization. These two species should be considered for erosion control when seeding areas within the sagebrush type of west-central New Mexico.

Tree bark may improve water quality. The disposal of millions of tons of tree bark produced annually by the wood products industry in the Pacific Northwest is a major problem. A recent study of the properties of bark and its potential uses suggested that the addition of bark to a watershed soil could prevent the buildup of harmful nitrates which tend to accumulate in some soils during warm, moist weather. Bark could also be used for soil conditioning, drainage improvement, and in maintaining a protective organic cover on the soil surface. Such uses of bark could not only improve soil and watershed conditions but also alleviate air and water pollution associated with present methods of bark disposal.

Seeded and native vegetation reduce soil erosion on burned area. Accelerated runoff and soil erosion often occur after intense forest fires. Studies on a 4,500-acre burn in South Dakota showed that a 60 percent ground-cover density was the minimum necessary for soil stabilization, and this density could not have been reached in a reasonable time period without artificial seeding. The study points out the importance of immediate artificial reseeding of burned areas for early control of runoff and erosion.

Forest clearing has little effect on spring floods in New England. Floods often occur in New England when spring snowpacks melt rapidly. To explore the possibilities of influencing snowmelt runoff and possible flood flows, a small forested watershed was cleared in 1965. Runoff was advanced only 4 to 8 days, peak flows increased early in the season but decreased later, and total volume of runoff from snowmelt was not significantly changed. The results indicate that clearing as much as 25 percent of a hardwood forested area would not greatly affect volume of downstream flows during the snowmelt season.

New instrument developed for measuring snowmelt. A need has existed for an instrument to measure outflow from a melting snowpack to help hydrologists forecast spring peaks on snow-fed streams. A simple, inexpensive, accurate, snowmelt gage has been developed in northern Idaho to provide continuous readings of water volume flowing from the base of a snowpack. The data obtained are useful in river flood forecasting and in snow hydrology studies.

Project (17)

RANGE MANAGEMENT RESEARCH

1970	$1,452,000
1971	1,497,000
1972	1,497,000

It is proposed to continue this program at the 1971 level.

One billion acres of rangeland represent about one-half of the Nation's total land area. This complex natural system produces a wide variety of goods and services for man -- water, clean air, habitat for livestock and wildlife, recreation, open space, and other products. In some instances, two or more products of the range ecosystem can be produced at high levels with complete harmony. More often the uses or products are competitive.

Range research seeks to:

(1) Quantify the magnitude of competition among products.

(2) Develop management alternatives that increase the production of forage for livestock and wildlife.

(3) Identify the effects of these alternatives on other products of the range.

These objectives are pursued through a program of basic and applied research, which is carried on under such diverse natural systems as the subtropics of Florida, the alpine tundra of Wyoming, and the Sonoran desert of Arizona.

Examples of Recent Accomplishments

Converting woodlands to grasslands pays in the Ozarks. Production of livestock forage on certain sites on the Ozark Highlands can be increased 40 to 100 times by a sequence of brush control, burning, fertilization, and seeding of native or introduced grasses -- depending upon site factors. These findings enable many Ozark residents who have marginal livestock operations to substantially increase their income.

Competition between burroweed and perennial grasses. Because of the different root systems and major growth periods, burroweed and perennial grasses are in only moderate competition for moisture on the arid ranges of Arizona. Burroweed has a deep tap-root system and grows most rapidly in early spring. The major perennial grasses have shallow, fibrous roots and produce most of their top-growth in July and August. Total forage production could be increased by replacing burroweed with a good deep-rooted forage species.

Taxonomy of sedges is clarified. Despite the fact that there are more species of sedges in the Rocky Mountain region than any other group of vascular plants, the ecology of sedges is poorly understood. This is due mainly to taxonomic complexity and lack of recent manuals dealing with the genus. Both problems were solved with an illustrated manual containing the latest nomenclature, notes on economic use, preferred habitats, and specific distribution.

Project (18)

WILDLIFE HABITAT RESEARCH

1970	$1,263,000
1971	1,401,000
1972	1,401,000

It is proposed to continue this program at the 1971 level.

Wildlife habitat research is directly concerned with the quality of most of the Nation's terrestrial environment in terms of wildlife and their enjoyment by man. The Nation's forest, range, and associated waters provide a home for millions of big-game animals and countless other wildlife including songbirds, small game, and waterfowl. These wildlife resources provide recreation, income and beauty for a broad spectrum of the Nation's population. Urban and rural residents alike generate mounting demands on both public and private land for increased wildlife resources. National Forests alone contain over 180 million acres of upland and marsh habitat. These forests are enhanced for wildlife species only if the delicate balances and subtle changes in the plant and animal communities are understood. Vanishing species pose special problems.

Knowledge to increase habitat quality is needed by local, State and Federal agencies, by landowner-manager groups varying from the small farm woodlot operation to extensive commercial and public properties. Wildlife resource values and social values of wildlife are rising sharply, and returns to private landowners through sale or lease of hunting privileges have become a substantial source of income. The wildlife habitat research program of the Forest Service involves active cooperation. Federal and State fish and game agencies and educational institutions help meet critical knowledge deficiencies. It seeks solutions to the most urgent problems in managing wildlife habitat of forests, rangelands, and associate water areas. It will develop critically needed interim practices while working toward long-range multiresource solutions.

Examples of Recent Accomplishments

Timber harvest cuts can be too small or too big. When forage production and use by deer were compared on blocks ranging in size from 1 to 50 acres in southern Appalachian forests, a 21-acre block appeared to be a desirable compromise. In smaller blocks, the good forage plants were quickly overused or eliminated because of overstory competition. In larger blocks, the vegetation quickly became dense and inaccessible to deer.

Snow depth influences mule deer distribution. Snow cover 18 inches deep essentially precludes use of range by mule deer. In two of three winters, over 90 percent of a winter range in Colorado was excluded from deer use because of snow. Forage was inadequate to prevent starvation regardless of the size of deer population experienced in 15 years of study.

How to improve deer habitat on Southwestern forests. Forest lands in Arizona and New Mexico can provide better habitat for deer if:

(1) The natural forest openings and borders are maintained.

(2) Immature stands of trees are thinned.

(3) Slash disposal is minimized.

(4) Forbs and browse are included with grasses when reseeding rangelands.

(5) Forage is allocated between deer and cattle.

Project (18)

Strips cut in forests have higher breeding bird populations. Narrow clearcut areas in southern Appalachian forests have more birds during the breeding and late summer periods than uncut forest stands, but fewer birds during winter. The increase results from the attraction of "non-forest" species and the continued use of cut areas by "forest" species. Forest species compose about 40 percent of the bird population during the breeding period, increasing to about 60 percent during late summer.

Project (19)

FOREST RECREATION RESEARCH

1970	$919,000
1971	1,019,000
1972	1,019,000

It is proposed to continue this program at the 1971 level.

Forest recreation research will continue to provide information for land managers and environmental policy makers to guide sound use and development of forest and related resources for outdoor recreation. Emphasis will be upon:

(1) Environmental quality.

(2) Characterizing recreation use.

(3) Determining present needs and use.

(4) Estimating future needs.

(5) Coordinating these needs with other requirements of forest resources.

(6) Finding the place of outdoor recreation as a benefit to society.

Research will continue to:

(1) Develop techniques for environmental analysis and planning in which physical, biological, esthetic and historical values are considered and coordinated.

(2) Characterize and project the ever changing trends, patterns, users, and uses of outdoor recreation.

(3) Better determine how and where forest recreation can be abundantly provided and be part of a balanced system of resource use.

(4) Determine how the forests of America can help contribute to today's and tomorrow's social needs.

Examples of Recent Accomplishments

Accurate-use figures lead to better management. Reliable procedures have been developed for estimating mass and dispersed types of outdoor recreation use on large areas. A sampling system was perfected on a forest district that annually receives more than 200,000 visitor days of recreation use. Reliable estimates were obtained for 45 recreational activities. By better measures of how many visitors are doing what, when, where, and for how long, planning and management of recreation and other forest uses can be more efficient and more effective.

Skiing and the ski industry in the Great Lakes Region is a "mixed bag." Unlike the West, many Great Lakes ski areas are located close to cities and skiing is available to a large portion of the population almost daily -- and at night. Despite their close-by opportunities, Lake States skiers ski only half as many days per year as do Western skiers, and investment possibilities appear generally poor. Skier attendance increased 20 percent per year from 1960 to 1967, but this rate has not held. Capacity has increased and there is a threat of overcapacity. The average daily expenditure per skier is $17, but the ski areas often received as little as half of the day-skier expenditures and only one-fourth of their weekend and vacation expenditures. Onsite and offsite expenditures by skiers throughout the five-State region totaled $65 million during the 1968-1969 season.

Project (19).

Snowmobiling--a compatible companion to skiing. Snowmobile ownership in the Great Lakes Region will probably exceed the half-million mark early in 1971. This rapidly growing sport appears to complement rather than compete with skiing. Many of the ski area operators report that snowmobiling near or adjoining their ski development has increased skier attendance, and has a beneficial effect on food, beverage, and ski shop merchandise sales. Because of the compatibility of skiing and snowmobiling, some ski area operators are considering the development of winter sports' centers offering both.

Most Michigan vacation homeowners insist on a water setting. Over 55 percent are located on an inland lake, 24 percent are on one of the Great Lakes, and 10 percent are on a river or stream. Sixty-five percent of the homes are less than 200 miles from the owners' primary residence. Only 15 percent are more than 300 miles away. Nearly 50 percent of the owners make less than $10,000. Only 10 percent are in the above-$20,000 group. The lower income groups tend to locate along streams and small lakes. Those with higher incomes were more often found on a Great Lake frontage. Thirty percent of the heads of households were in the professional and clerical occupation classes; both tend to locate their vacation homes along Great Lakes; and both occupational categories are expected to increase more than the others by 1980. Another indication that vacation homesites along Michigan's Great Lakes will increase in popularity relative to other sites is that the proportion of households in all income groups above $10,000 is expected to rise in the next few years.

Durability of potential recreation sites can be predicted by measurement of several easily measured variables, such as aspect, slope, clay and stones in surface soil layers, and end-of-season vegetation stocking. Trampled vegetation is vulnerable to heat. Vegetation survival was good on Northwest (coolest) aspects, and even better on clay soils with high rock content. The study showed considerable promise that equations to predict recreation site durability can be derived from aerial photo measurements alone.

Case study of five outdoor recreation enterprises in Ohio provides several profitable suggestions for active and would-be private-sector operators. Each operator reported he would have developed his enterprise much differently if he could do it again. One said he would begin with the most modern facilities available rather than try to get along with something merely adequate. Another wishes he had bought more land. The operator of a fishing enterprise said he would build a smaller lake to reduce clean-up costs. One operator said he would have developed more facilities for picnickers than for overnight guests--his profit per visitor would be greater. He also wishes he had given much more attention to facility location to better avoid traffic congestion. Two operators wished they had made more and earlier use of professional advertising agencies to increase attendance, and today all five operators are advertising in a variety of ways.

The operators are pleased with their several "right" decisions. All are very strict about the appearance of employees and facilities. They scrub picnic tables at the end of each day, and thoroughly clean toilets during and after each day. They have at least one neatly dressed person constantly policing the area for unsightly litter. They repaint facilities before opening for business each spring. None of the operators posted "do's" and "don't's." Each maintained only those regulations necessary for the visitors' enjoyment, convenience, and safety. The objective was to make each patron feel unrestricted while using the facilities provided.

Project (20)

FOREST FIRE AND ATMOSPHERIC SCIENCES RESEARCH

1970	$3,885,000
1971	3,988,000
1972	3,988,000

It is proposed to continue this program at the 1971 level.

The fire research program develops knowledge and technology to reduce forest fire costs and to protect the quality and productivity of American forests. This research program is the sole Federal forest fire research effort and is designed to aid all private, State and Federal agencies in protecting 1.2 billion acres of forest and watershed lands. It must focus on more than 125,000 wild fires that occur annually. The fire research program has aided in bringing about a substantial reduction in total forest fire losses. During the 15 years, 1951 through 1965, the average annual area burned was reduced from 10,733,044 acres during the first five years of the period to 4,217,062 in the last five years. Increasing risks and hazards in today's more intensive use of forest lands is making the forest fire control job more difficult. During the four years, 1966 through 1969, the average annual area burned increased to 5,038,513 acres and reached 6,689,081 acres in 1969. The devastating fires of 1970 in the Northwest and California add further evidence on the increasing severity of forest fire problems.

While forest fire losses are at unacceptable levels, there are opportunities to make substantial savings through full development of new technology for fire prevention and control. The fire research program has a high potential to reduce the timber supply impacts from fire loss of commercial timber now averaging 1,515,598 acres per year on protected forests and environmental quality degradation from annual burning of more than five million acres on all classes of lands. The current fire research program is focused on:

(1) Fire prevention.

(2) Fire hazard reduction.

(3) Fire control systems.

Examples of Recent Accomplishments

Developments in weather modification provide good prospects for a new fire control tool. The recent developments in cloud modification techniques for the reduction of lightning severity in Rocky Mountain thunderstorms have resulted in the initiation of operational trials of weather modification techniques in forest fire prevention and control. During the past two summers, trials have been conducted in Alaska and the Pacific Northwest, employing the seeding of cumulus clouds over burning forest fires to slow the spread of the fire through precipitation enhancement or to prevent additional lightning fire ignitions. The results of this work will be used in the development of improved weather modification procedures for use in fire control. These developments have vast potential and great promise for the reduction of forest fire losses.

Continued advances made in fire remote sensing. During 1970, first operational tests were made of a new dual detector thermal infrared scanning system developed by the Northern Forest Fire Laboratory, Missoula, Montana. Mounted in a high-flying aircraft, this system was used for fire detection and mapping in Alaska, Washington, Idaho and Montana. In a single night patrol flight, it rapidly detected 59 new fires following a dry lightning storm. This airborne system aided fire-fighting operations by mapping scores of Northwest fires when smoke prevented visual reconnaissance. Also, a new airborne fire spotter was developed for use on low-flying aircraft and helicopters. This thermal sensor was tested on smoke-jumper and reconnaissance aircraft to locate previously detected fires and on

helicopters to locate hot spots. These new fire remote sensing systems have a high potential for reducing fire control costs and making firefighting operations safer and more efficient.

Mathematical models of fires aid fire control planning. Effective control of a rapidly spreading wildfire requires that fire control personnel know something about the future behavior of the fire, involving such factors as the rate of spread in a particular direction, and the intensity or rate of heat release of the fire. When these factors can be estimated or predicted accurately, a proper strategy for control of the fire can be selected and applied. Recent research at the Northern Forest Fire Laboratory has developed practical computer models for specifying:

(1) Fire behavior from known input data describing the type of fuels available.

(2) The terrain over which the fire is burning.

(3) The past and prevailing weather conditions.

These models will permit firefighters to obtain correct estimates of future fire behavior under widely varying conditions resulting in more effective control procedures with a reduction of property damage and smaller risk of personnel injury or loss of life.

Fire weather handbook helps train firefighters. The new 220 page, color illustrated Agriculture Handbook No. 320 is unique--describing for the first time those long and short-term changes in behavior of the atmosphere and their causes which intimately determine the ways forest fires burn. To properly assess the fire-fighting job, any fire man must have a thorough understanding of these weather processes and probable changes during the time required for the control of fire. Sample copies of "Fire Weather" have been widely distributed, particularly in this country and Canada for which it was written. Its reception has been outstanding. The book will be a required text in forest schools that have a fire curriculum and will be used even more extensively in the many in-Service fire training schools by many agencies every year. The National Weather Service which cooperated in preparation of "Fire Weather" has placed copies in all of its forecast centers so that its fire-weather forecasts can be better adapted to local user agency needs.

Fuel breaks save lives and aid firefighting. Fuel breaks were conceived by fire research some time ago to serve two purposes:

(1) To help confine disaster fires to smaller size.

(2) To help prevent running brush fires from entering high value areas.

The idea started in southern California where conflagration type fires frequently occur under Santa Ana wind conditions common to that region, extending since then to other areas and situations. Research develops the principles for placement of fuel breaks on the land based on analysis of fuel, weather, and topographic conditions and develops methods for revegetating these cleared ways with species of lower volume or flammability. During the fall of 1970 a succession of Santa Ana wind situations resulted in many fires that burned more than 500,000 acres. Many instances occurred on these fires where research-designed fuel breaks more than paid their way.

Two instances are representative:

In November a hot chaparral fire burned rapidly downslope on a broad face of the San Gabriel mountains headed directly toward a series of residential communities along the base of the slope. Fortunately, a fuel break separated them from the heavy brush cover. Moments ahead of the fire, three specialists from the Riverside Forest Fire Laboratory arrived on the fuel break and immediately began to backfire the break. They had burned out two to three miles of line before being relieved because the speed of the fire had left the firefighting force on the other side of the mountain. The fire was stopped in its tracks.

During this same period, another hot burning chaparral fire threatened Cuyumaca State Park. This park contains the finest stand of timber in southern California and has been highly developed with recreational facilities but, here again, a fuel break had been constructed around vulnerable portions of the park, thus permitting backfiring action by a few men to stop the fire.

New firefighting chemicals are more efficient. Liquid chemical concentrates of diammonium phosphates are less costly and easier to use than other fire retardants in aerial attack of fires. Developed under cooperative programs by the Southern and Northern Forest Fire Laboratories and the chemical industry, these fire retardants can be readily mixed with water at airports and pumped into tanks in fire attack aircraft. More than 2 million gallons were dropped on the 1970 lightning fires in the State of Washington. Late in 1970, aerial tests were being expedited to determine drop patterns of the liquid concentrates and other chemicals so that improved guides will be available for selecting the best chemicals and delivery patterns for various types of fires.

Project (21)

FOREST INSECT RESEARCH

1970	$4,871,000
1971	4,998,000
1972	4,998,000

It is proposed to continue this program at the 1971 level.

Current research is strongly oriented to:

(1) The ecological role of destructive insects in the forest and forest-related environments.

(2) The development of nonpesticidal long-term means of maintaining critical pests at tolerable levels.

(3) The development of concepts and methods of integrating pest control into forest resource planning and operations.

Special emphasis is being given to:

(1) The insect- and host-produced attractants and stimulants that affect reproduction and survival.

(2) Natural and synthetic repellent compounds that can be used for protecting individual trees and forest stands.

(3) Insect diseases potentially useful for direct control. Research on termites and other insects destructive to wood in use and storage has been reorganized to expedite the investigation of new approaches to prevention and suppression of infestations.

Specific pest insects under study include:

(1) Dendroctonus bark beetles that attack and kill western and southern conifers.

(2) Spruce budworm in western forests.

(3) Larch casebearer (now infesting 90 percent of western larch in the Northern Rocky Mountains and Northwest).

(4) Gypsy moth (which is increasing in abundance and spreading in the Northeast).

(5) Forest tent caterpillar in the North Central States.

(6) Trunk borers affecting high quality oaks in the Central States and Mid-South area.

(7) Elm bark beetle (primary vector of Dutch elm disease).

(8) Subterranean termites and death-watch beetles in the South.

Solution of these pest problems will insure significantly greater timber productivity, increased service life of wood in use, and enhancement of forest environments for people-use.

Examples of Recent Accomplishments

Stabilized formulation of pyrethrins developed. A new means of extending the biological activity of pyrethrins from the present 1-2 hours or less to 48 hours has been developed at Berkeley, California. Pyrethrins are derived from chrysanthemums and are essentially nontoxic to man and other warmblooded animals. Used primarily for controlling mosquitoes, flies, and other pests of man, the pyrethrins in this new form can be applied to forest areas for controlling destructive insects with minimal adverse effects on nontarget organisms. Laboratory bioassays have shown the stabilized formulation to be many times more toxic than DDT to 17 forest insects. Limited field tests show it very promising for control of the western hemlock looper and spruce budworm. It is now covered by a Government patent.

Female elm bark beetles emit a sex lure. Tests by a team of Forest Service scientists at Delaware, Ohio, and chemists at the State University College of Forestry at Syracuse University have proved that virgin female elm bark beetles produce a chemical scent that is attractive to males and other females. Identification and synthesis of the compound is now in progress. This could provide an effective means of detecting and assessing beetle populations and, possibly, mass-trapping them in local areas to prevent spread and buildup of Dutch elm disease.

Pine sawfly virus ready for pilot-testing. Extensive laboratory and field studies of the nuclear polyhedrosis virus of the European pine sawfly, a serious pest of planted pines in the Northeast and North Central States, have provided basic information on the lethal dosage for field applications and methods of mass propagation and purification. Concurrent tests of acute oral and dermal toxicity, allergenicity, and skin and eye irritation using rats, rabbits, and guinea pigs have given this unique virus a clean bill of health. Scientists at the Forest Insect and Disease Laboratory, Hamden, Connecticut, have processed a sufficient quantity of the virus to treat 15,000 acres at a production cost amounting to less than 15 cents per acre.

Attractant-insecticide combination is lethal to termites. A new approach to termite control has been developed that targets on the very core of termite activity and survival, the nest or colony. The basic element is a powerful attractant compound that is the natural trail-laying substance of the subterranean termite and, interestingly, is produced in wood infected by the brown-rot fungus Lenzites trabea on which termites gorge. The chemistry of this attractant is known, and it can be synthesized. Small wood blocks infected with the fungus, or impregnated with the synthetic compound, plus Mirex, a slow-acting insecticide, are placed in and around structures in an infested area. Significant reductions in termite populations can be achieved. The method has a direct control effect, and it disrupts the balance of caste formation in the colony which further reduces chances for termite survival.

More information on the disease complex of the gypsy moth. Bacteria of the genera Streptococcus, Serratia, Aerobacter, and Proteus have been isolated from diseased gypsy moth larvae collected in the field. Laboratory assays have shown that these organisms are pathogenic and may play a significant role in the natural control of the gypsy moth.

Insects are primary cause of red pine cone loss. Overall insect-caused losses in the 2-year period of cone development in seed production areas in the Lake States account for an average 80 percent of the potential crop. The Zimmerman pine moth, red pine cone beetle, and jack-pine budworm cause major losses in the first year. Insects similarly are a primary cause of seed and cone destruction in the Southeast and other regions where production of seed is necessary for planting programs.

Foliage condition affects needle miner attack. Lodgepole pine foliage from different geographic areas varies significantly in susceptibility to attack by the lodgepole pine needle miner. High resistance is associated with the occurrence of certain volatile oils in the foliage and generally with trees growing on moist, poorly drained sites. This information provides a basis for classifying lodgepole pine stands as to the hazard of needle miner buildup and damage, and points to certain cultural practices that will increase the occurrence of resistant trees in a stand.

Project (22)

FOREST DISEASE RESEARCH

1970	$2,865,000
1971	2,954,000
1972	2,954,000

It is proposed to continue this program at the 1971 level.

The current program is directed toward ways of reducing the economic and ecological impact of diseases on the Nation's forests. Disease organisms and their host trees are studied in the search for biologically sound and economically feasible control methods. The program also supports research on air pollution injury to forest trees and on the deterioration of wood in use.

Included among the diseases currently under study are:

(1) Dwarfmistletoes that significantly reduce growth in the western conifers.

(2) Several root rots causing mortality and growth losses in forests across the Nation.

(3) Rust fungi and canker diseases that reduce growth, disfigure stems, reduce product values, and kill trees.

(4) Foliage diseases killing nursery seedlings and newly planted trees.

(5) A number of air pollutants that cause injury to trees and a reduction in their qualities for esthetics and environmental amelioration in both forest and urban settings.

Examples of Recent Accomplishments

Aspen cankers in the test tube. Tissue cultures of quaking aspen are now being used to study the physiology of infection by the Hypoxylon canker fungus. Tests have shown that the fungus will grow on the host tissues in culture and that fungal penetration occurs some distance beneath the surface. This will provide an effective method for seeking weakness in the life cycle of the fungus that might give rise to successful control.

Rust races hinder pine breeding programs. Pathogenic races of the eastern gall rust have been found in the southeastern United States. The existence of these physiologic races of the rust makes it necessary for tree breeders to consider the possibility of new and different strains of rust developing and having the ability to attack otherwise improved pine selections.

Fertilization of pollutant-affected trees. A study on the effects of air pollution on fertilized potted eastern white pine clones revealed that fertilization reduced the extent of necrosis of needle tips in several sensitive clones. In the field experiment, other symptoms, such as banding and mottling, were not alleviated by the application of fertilizers. There is enough promise that additional studies are planned.

Moon dust and tree diseases. As part of the quarantine program to prevent contamination of the earth's surfaces with possible microorganisms in or associated with moon materials, a Forest Service pathologist was primarily responsible for the development of completely germ-free cabinetry and for procedures for their use. The techniques developed at the Manned Spacecraft Center for this program are rapidly being made available to research scientists throughout the world.

Nematodes for improved tree health. A species of fungus-eating nematode was found in ponderosa pine forests of New Mexico. In addition to feeding on some beneficial mycorrhizae-forming fungi, the nematode also feeds on fungi that cause root diseases of forest trees. In repeated trials, the nematode failed to attack ponderosa pine seedlings grown in the greenhouse.

Natural inhibition of decay organisms. Many naturally occurring phenolics inhibit growth of a root-rotting fungus that causes extensive mortality of western conifers. The concentration of inhibitors is low in Douglas-fir and high in associated red alder. These differences are believed to account for resistance to the fungus by the alders. Once isolated and identified, it should be possible to increase the inhibitory phenolic concentration in Douglas-fir through plant breeding techniques.

Southern brown-spot moves north. The brown-spot disease, for years the limiting factor in early growth and survival of longleaf pine in the South, has now become a problem in Wisconsin. It has reached epidemic levels in several Scotch pine Christmas tree plantations where the disease defoliates infected trees, making them unsalable. It is now recognized that Scotch pine varieties vary considerably in susceptibility and that the most favored short-needled varieties seem to be those that are most susceptible.

On the nature of pollution sensitivity. Changes in the amounts of total soluble carbohydrates and ascorbic acid have been related to the length of needles in eastern white pine. It is suggested that a relatively low carbohydrate content may be indicative of slow leaf tissue maturation, which in turn may be related to a prolonged sensitivity to air pollution. Nutrition studies and the collection of data on leaf development may yield further information on susceptibility of plants to specific pollutants.

Project (23)

FOREST PRODUCTS UTILIZATION RESEARCH

1970	$8,202,000
1971	8,579,000
1972	8,570,000
Decrease	-9,000

A decrease of $9,000 in public relations activities.

Forest products utilization research is aimed at increasing timber supplies through more efficient use of wood and wood-based materials. Better wood utilization has the same effect as growing more trees, and offers opportunities to increase timber supplies in the short run. Much of the United States and world timber resource is now under-utilized, and the current program emphasizes better ways to use logging and manufacturing wastes, and ways of recycling discarded paper and wood products, both to broaden the supply base and to improve the environment. The overall utilization research program seeks to provide the knowledge and technology to:

(1) Expand the use of low-grade and small trees, little-used species, bark and other logging and mill wastes, and waste paper into pulp, board and panel products, and a variety of other products.

(2) Develop high-yield non-polluting pulping processes, and uses for pulp and papermaking wastes.

(3) Develop engineering concepts and design criteria for the more efficient use of wood in structural applications.

(4) Improve wood and timber quality characterization, and develop automated processing and grading systems for channeling each piece of wood into its highest use.

(5) Prolong the service life of wood by preventing deterioration and destruction by fire, decay, and insects through improved techniques for preserving, treating, drying, gluing and finishing wood.

(6) Characterize the properties of under-utilized tropical wood species in order to facilitate their expanded use, thereby relieving demand pressure on domestic species.

The conversion of wastes into paper, chemicals, and cattle feed, and the more efficient production and design of wood products, will:

(1) Conserve the forest resource.

(2) Increase the value return from forests to the National economy.

(3) Aid in protein production.

(4) Encourage the dispersal of populations into rural communities where forest-based industries predominate.

(5) Improve the quality of the environment.

Examples of Recent Accomplishments

New short-log processing system. A short-log processing system coupled with a computer program for process control has been devised to provide a more efficient

and profitable method of obtaining short length lumber products and pulp chips from very low-grade hardwood logs. A mill design was developed and economic analyses were made to show how these techniques can be used to convert low-grade oak and hickory trees into pallet products. These would be suitable for pallet-pool or pallet exchange programs as well as for conventional use.

Particleboard from crushed hardwood. The Forest Products Laboratory at Madison, Wisconsin produced a unique particleboard from shredded oak provided by the Tennessee Valley Authority, which has developed a process for crushing low-quality hardwood logs and branches into strands. The large volume use visualized for the particleboard is as wall sheathing, although its decorative possibilities are not to be overlooked. Only half as much phenolic resin is required as is generally used in conventional particleboard. The crushing technique coupled with the practical wood products now developed could provide an outlet for some of the now abundant low-grade eastern hardwood timber.

Straighter studs from new drying system. A new technique was developed for drying green southern pine studs in one-fourth the time, while reducing warp by one-half. The studs are mechanically restrained in rigid clamps during the entire high temperature drying and steam conditioning process. Research is continuing on this promising procedure. Industrial application would ideally utilize a continuous, multi-deck, roll-feed dryer to replace the conventional compartment kilns.

Laminated lumber from veneer. A new high-speed process is under development for converting low-grade hardwood logs in half an hour into glued laminated lumber suitable for large volume uses such as pallet decking boards. Two or more laminations of thick rotary peeled veneer are dried in a few minutes in a hot press. While still hot, veneer pieces are spread with glue and pressed into panels. Under commercial conditions, continuous panels would be made and cut into suitable sizes for specific uses.

Chemicals from waste liquors. Spent liquor from the acid sulfite pulping of hardwoods commonly contains 2 to 6 percent dissolved xylose sugar. Stream disposal of this liquor constitutes pollution of the water and a waste of potentially valuable raw material. Furfural was produced from the xylose in samples of waste sulfite pulping liquors and the economics calculated appear to be favorable for commercial application.

Tropical hardwoods investigated. Progress has been made toward facilitating expanded use of tropical hardwoods to augment domestic timber supplies. The vast wood collections from Yale University and Chicago Field Museum of Natural History were acquired. This quadruples the size of the Forest Service collection and makes it the most complete set of wood samples in existence. Commercially important wood properties of over 100 tropical species were reported at a recent international symposium.

Project (24)

FOREST ENGINEERING RESEARCH

1970	$925,000
1971	1,130,000
1972	1,130,000

It is proposed to continue this program at the 1971 level.

The overall engineering research program is aimed at solving difficult and critical timber harvesting and production problems through use of systems engineering techniques and interdisciplinary research programs. The research is keyed to:

(1) Making available increased supplies of wood raw material.

(2) Raising the productivity of woods labor while reducing unsafe practices.

(3) Protecting water, recreation, and soil values in timber harvesting operations.

Engineering research contributes to both meeting the timber demand and protecting the environment. Some foreseeable benefits from new knowledge and technology are:

(1) Capturing a billion board feet of annual allowable cut in the West not now harvestable because presently available harvesting and transport systems are unsuitable.

(2) Reducing costs by 10 percent for regenerating intensively managed timberlands in the South.

(3) Reducing mileage of timber haul roads in the West significantly through use of balloon and skyline logging systems -- an estimated $16.5 million annual saving in the Douglas-fir subregion alone.

(4) Salvaging up to 2.5 billion cubic feet of wood annually -- now left as uneconomic residue in the woods -- through use of bulk harvest and innovative transport systems.

Examples of Recent Accomplishments

Single span skylines. As an aid to assist manufacturers, forest managers and logging operators in planning, designing and pretensioning skylines, a series of five engineering papers was published. Noteworthy is the development for use of computers to handle the difficult mathematics required in the design of skylines which reduces the desk job at least five times, and thus, reduces design costs by more than half.

New skyline yarder developed. To improve logging technology and better protect other forest values, a new generation of skyline equipment was conceived. The new yarding system combines several new features and will make it possible to properly harvest vast acreages of timber on low yield areas of partial cuts and thinning with minimal damage to remaining stands. Also, it will greatly reduce logging residues and maintain esthetic values.

Removing bark from wood chips. Several million cords of wood presently left in the forest as logging residue can be recovered annually. This will extend timber supply 10 to 30 percent, but will require new techniques. Special methods are being developed to first chip this residue material in the forest and then

remove the bark from the wood chip. The pulp industry presently requires that 75 to 90 percent of the bark be removed. Several simple methods tried have achieved 50 to 60 percent removal. Extensive studies to improve efficiency of the methods are in progress.

Tree shakers for harvesting pine cones. Large areas of cutover land and understocked stands must be regenerated with superior trees to meet future timber needs. A fast system for collecting seed needed for this regeneration program was developed which employs mechanical tree shakers and pick-up collectors. A shaker can harvest more cones in 1 hour than an experienced climber can collect in a 7-day period. This is doubly important since it takes greater advantage of the 2-week period between cone maturity and natural seed cast.

Project (25)

FOREST SURVEY

1970	$2,730,000
1971	3,266,000
1972	3,266,000

It is proposed to continue this program at the 1971 level.

Commercial forest land in the United States, amounting to some 510 million acres, vary greatly in productivity, availability for industrial use, and opportunities for management intensification. Rapid changes result from timber growth, cutting, and losses to destructive agents. Use of forest lands for purposes other than growing timber also is increasing rapidly. Up-to-date inventories of forest land and timber resources consequently are essential to guide programs for production of timber and other forest products, while maintaining and improving the environmental quality of forest lands.

Information obtained includes the determination of current trends in the timber resource situation, the outlook for timber growth and supplies available for future harvests, prospective problems in timber and nontimber resource management, effects of alternative programs for meeting prospective timber demands, and opportunities for economic development based on timber resources.

Examples of Recent Accomplishments

Surveys conducted in 12 States. During the past year the equivalent of 45 million acres of commercial forest land was covered by new analyses of the timber situation. Surveys were conducted in Alaska, Arkansas, California, Florida, Georgia, Hawaii, Maine, Missouri, Oregon, (Western) South Dakota, Tennessee, and Wisconsin. Reports appraising the forest situation were issued for 5 States. Twelve additional reports on survey findings, including appraisals of the forest situation in portions of States, also were issued.

Fourth forest survey of South Carolina completed. Between 1958 and 1968 commercial forest land in South Carolina increased from 11.9 to 12.4 million acres, largely as a result of extensive tree planting efforts and reversion of idle agricultural land to forest. Volume of growing stock increased from 10.3 to 12.2 billion cubic feet, or 19 percent. Net growth of growing stock in 1968 exceeded removals by over 200 million cubic feet, or 48 percent.

70 percent of Ohio's commercial forest in hill country region. In 1967 the 28-county Ohio hill country region contained 4.4 million acres of commercial forest land, about 70 percent of the State's total. The commercial area was 33 percent above that in 1952. Volume of growing stock increased at about the same rate to 2.9 billion cubic feet and sawtimber to 9.8 billion board feet. Average net annual growth of growing stock exceeded 100 million cubic feet and sawtimber 350 million board feet. Timber removals were about 40 percent of the net annual growth.

Indiana's growing stock volume increased 25 percent in the last 17 years. Oaks, hickory, and hard maple make up 98 percent of the current volume of 3.5 billion cubic feet of growing stock. The commercial forest land area of 3.9 million acres in Indiana is slightly below the area reported in the prior survey. Timber removals in 1966 amounted to 64.9 million cubic feet, equivalent to about two-thirds of the net growth for that year.

Veneer log production in North shows divergent trends. Total veneer log production in the North in 1968 was 243.7 million board feet, up 1.6 percent from 1963. However, in the Central and Lake States regions production was down 8.8 and 9.3 percent respectively, while in the New England and Middle Atlantic regions production was up 1.8 and 21.3 percent respectively. Birch represented 28 percent of the total harvest.

Southern pulpwood production sets new record in 1968. Production of pulpwood in the South increased 10 percent in 1968 to a new high of 37 million cords. Gains were made in output of both roundwood and residues. Expansion of existing mills and construction of 7 new mills boosted daily capacity to 77,140 tons. One hundred pulp mills were operating in the South in 1968, with 4 more under construction.

Wood consumption in the Columbia-North Pacific Region projected to decline 11 percent by 2020. A decline in future timber harvests in the Pacific Northwest is expected to take place primarily in areas which have been major centers of forest industry. Most of the projected decline reflects reduction in log production from private lands. Because of reduced output and continued improvements in productivity total employment in the forest industries is expected to decline by 2020 to about two-thirds of the 1965 level. Total payrolls, on the other hand, are expected to increase.

Project (26)

FOREST PRODUCTS MARKETING RESEARCH

1970	$1,696,000
1971	1,943,000
1972	1,943,000

It is proposed to continue this program at the 1971 level.

Forest products marketing research provides information on ways of improving the use of the Nation's timber resources through more effective harvesting, processing, distribution, and consumer use of forest products. Studies of factors influencing use of wood and competing materials in construction, manufacturing, shipping, or other end uses indicate potential demands for timber products, and thus serve to guide forestry programs. Research on ways of reducing costs in timber harvesting and processing helps achieve more efficient use and wider markets for available timber resources. Evaluation of opportunities for expanding wood-based industries provides guidelines for local development of forest resources and improvement of the rural economy of the Nation.

Examples of Recent Accomplishments

Wood posts preferred in Central and Appalachian States. About 38.5 million fence posts were used annually between 1963 and 1966 on farms in Central and Appalachian States. Wood posts outnumbered metal by 2 to 1 in the Central Region and by more than 7 to 1 in the Appalachian Region. Total fence post use in the Central States seems to be declining due, in part, to increased use of treated wood posts which have a long service life.

Modern equipment increases sawmill efficiency. Output of lumber and net revenue at southern sawmills can be substantially increased by the addition of chipping headrigs that produce lumber and pulp chips simultaneously. Such equipment also makes possible utilization of much smaller timber than previously necessary for sawmill operation.

Wood construction practical for low-profile homes. Studies in Florida have proved the feasibility of using low-profile wood construction with a plenum floor system for single-family houses in warm humid areas of the South. This new system is efficient for both heating and cooling and can be used with a variety of construction techniques and house designs.

Wood foundation systems found feasible. A new factory fabricated wood foundation system for residential construction was found to be less expensive than conventional foundations and required much less construction time. Wood foundations also offer other advantages such as use of a single craft on a construction job, fewer delays because of inclement weather, and greater comfort in using living space below grade.

Guidelines issued for forestry cooperatives. New guidelines issued by the Department's Farmer Cooperative Service and the Forest Service provide information on the feasibility of, and methods for, organizing forestry cooperatives. Such enterprises can aid timber owners and operators in rural areas by providing more efficient harvesting, processing, and marketing of logs, pulpwood, and other forest products.

Wood use in manufacturing increasing. A nationwide survey of wood use by manufacturing industries showed that consumption of lumber, plywood, and other products increased 11 percent in the 5-year period 1960-65. Eighty-two percent of the total wood products used was lumber and 7 percent plywood. Particleboard accounted for nearly 10 percent of the total. Use of wood products for furniture and a wide range of other consumer and industrial products now accounts for more than 10 percent of all wood products consumed.

Project (27)

FOREST ECONOMICS RESEARCH

1970	$1,119,000
1971	1,335,000
1972	1,335,000

It is proposed to continue this program at the 1971 level.

Research in forest economics provides information on the costs and benefits of managing forest lands for timber and other uses, including water, recreation, range, and wildlife. This research includes:

(1) Development of guidelines for integrating and balancing multiple uses of forest land to meet rapidly expanding demands for timber, water, recreation, and other forest goods and services, with full consideration of the impacts of land management programs on environmental quality.

(2) Development of economic guides for efficient management of timber stands to achieve optimum investments in forest management activities and to provide guides for allocation of the hundreds of millions of dollars spent for forestry programs throughout the Nation.

(3) Evaluation of forestry program alternatives to aid in identifying effective means of stimulating the millions of owners of private lands to adopt more productive forestry practices.

Examples of Recent Accomplishments

Marking guides for hardwoods. New marking guides, based on expected rates of value increase, aid foresters in improving selective cutting of northern and central hardwoods. Financial maturity information has been developed for northern red oak, white oak, chestnut oak, yellow-poplar, beech, and paper birch from recently collected tree growth and tree quality data. The new methods project increases in tree value for 10 years and determine rates of value increase for different tree classes.

Paper birch thinning evaluation. Financial returns from precommercial thinning in paper birch were evaluated by a new technique based on the probability that treatment will achieve specified yields. The analysis identified the best thinning practice for individual stands depending on site and age.

Planning multiple-use alternatives. A computerized system for analyzing multiple-use alternatives, has been used to improve management planning and help determine allowable cuts on the Six Rivers and Klamath National Forests in California. A large private owner has also used the model to develop long-range management plans on a newly acquired forest covering 100,000 acres.

Rapid rise in forestry costs. Costs of different forestry practices in the South in the period 1952-67 have increased from 200 to 700 percent, much more than general inflation or increases in forest products prices. Costs included controlled burning, seed bed preparation by bulldozing or disking, planting open land by hand and by machine, planting cutover land by hand and by machine, cutting to release young growth, poisoning undesirable trees, girdling undesirable trees, cruising, and marking trees for harvest.

Management on private forest ownerships analyzed. Actual timber harvesting since 1960 differed sharply from intentions stated in 1960 by owners of nearly 200 forested properties in Michigan's Upper Peninsula. Relatively high rates of timber cutting and forest management activities were found on large forest tracts

with high merchantable volumes, whether or not owners had timber harvesting objectives in 1960. Owners intentions seem to vary cyclically. The cycle begins with growth accumulation that results in the value of merchantable timber becoming financially significant. After timber sales, owners again seem indifferent to timber growing and indicate other reasons for ownership.

Forestry contributions to South's economy measured. Input-output analysis of the southern forest economy shows that primary processing industries produced output worth $5.1 billion, while stumpage purchased cost $0.3 billion. Secondary processing industries converted a portion of this output to $3.4 billion of products. Collectively, forest related industries paid $2.2 billion in wages to southerners.

Project (28)

RESEARCH CONSTRUCTION

1970 ..... $931,000

In fiscal year 1970 and prior years, funds for construction of research laboratories were provided under this activity in the appropriation, Forest protection and utilization. Beginning in fiscal year 1971, these funds were appropriated under the new Construction and land acquisition appropriation.

RESEARCH FUNDING

Mrs. HANSEN. I am somewhat appalled that your budget request for research is at approximately the same level as it was last year, considering the increasing costs and increasing wages. Aren't you requesting the same level of funding for your research labs as last year?

Mr. CLIFF. There are no program increases in the research budget this year, Madam Chairman.

URBAN FORESTRY RESEARCH

Mrs. HANSEN. Last year funds were appropriated for urban forestry. What is the status of this program?

Mr. ARNOLD. Urban forestry research was headquartered at the University of Massachusetts at Amherst. The appropriation included $150,000 in timber management research, $75,000 in recreation research, and $100,000 in wildlife habitat research.

A small interdisciplinary team has been assembled and is working at the University of Massachusetts. This includes an economist, a landscape architect, looking at the interrelations of timber in the Eastern megalopolis and the forests, and a wildlife habitat specialist looking at the nondestructive use of game and the survival of game within heavily populated areas.

There have been several grants made to the University of Massachusetts and to Syracuse University. One of them is leading to the identification of the Dutch elm disease bark beetle attractant which is part of the urban forest protection scheme.

We have an analysis of the timber and landscape and wildlife habitat problems as they interrelate. With that appropriation this urban forestry has made an excellent start.

Mrs. HANSEN. The urban forestry program is so excellent that you didn't request any funds in this budget?

Mr. ARNOLD. There isn't anything additional in the budget.

CONTINUATION OF URBAN FORESTRY RESEARCH

Mrs. HANSEN. If you have made such a good start, why do you want to discontinue the program?

Mr. ARNOLD. This work will continue at the current level. We have in addition formed a consortium of 9 eastern universities in the Northeast corridor to examine and work with us on these problems.

Mrs. HANSEN. But there isn't any increase in the 1972 budget specifically designated for urban forestry?

Mr. ARNOLD. That is correct. We have no addition in the 1972 budget.

Mrs. HANSEN. Why not?

Mr. ARNOLD. The budget situation was such we were unable to make increases at this time.

Mrs. HANSEN. Don't you think your urban forestry work should be continued?

Mr. ARNOLD. Yes, ma'am.

Mr. CLIFF. Madam Chairman, I am sure you understand it will be continued at the same level as last year but there will be no increases for it.

Mrs. HANSEN. The committee included funds in the FY 1971 appropriation bill but I don't see any item in the 1972 budget requests for urban forestry.

Mr. ARNOLD. I misunderstood your question. That work continues at the same level. The funding here in the 1972 budget is the same and there are the same total dollars, $325,000, in timber management research, in wildlife habitat research and in recreation research.

BALD EAGLE PROGRAM

Mrs. HANSEN. Congressman Quie of Minnesota has written about the Bald Eagle Management Program conducted by the U.S. Forest Service in the Upper Midwest. He says, "I understand the proposed budget does not contain any item for research in the North Central Forest Experiment Station. Previously I believe about $180,000 has been appropriated, and I would appreciate your looking into the matter in the hope of providing funds to conduct this important research."

May we have your comments.

Mr. ARNOLD. We have had a small wildlife habitat research program at St. Paul, in fact one scientist. We have worked principally on the wildlife habitat program in the Boundary Waters Canoe Area and in developing the research problem analysis for the areas in the North Central States. It is a very critical problem area there.

Mrs. HANSEN. But the 1972 budget does not include funds for this program.

Mr. ARNOLD. That is correct.

WILDLIFE HABITAT RESEARCH IN LAKE STATES

Mrs. HANSEN. I have another letter from James H. Zimmerman, arboretum analyst and past president of the North Central Audubon Council. He says:

> I was distressed to hear that the $180,000 budget item for several years for research on forest ecology, wildlife habitats, and endangered birds and animals in the Lake States Forest Region may have been cut from the current budget. In my travels, teaching and talking with others, I have become acutely aware of the serious and widespread destruction of forest reproduction by overabundant deer as well as the precarious status of eagles and wolves.

He has asked us to consider restoring this item. Why isn't this item in your 1972 budget request?

Mr. ARNOLD. That item has never been in the budget, Mrs. Hansen.

Mrs. HANSEN. He refers to a $180,000 budget item.

Mr. M. NELSON. Fish and Wildlife Service does research on wolves on the Superior National Forest and what he refers to might be in the Fish and Wildlife budget.

Mr. ARNOLD. I think there has been identified in that area the need for a research program in wildlife habitat of about this amount, but it has never been in the budget. I might say we have done some research there which improves wildlife habitat. We have developed a new system of management for the maple-birch forest. This system allows regeneration by shelterwood cutting which is favorable to deer in contrast to the selection system that had been perfected many years ago.

We are not neglecting the wildlife habitat, although we see the need for considerable more effort related to the wildlife and the environment.

FOREST RECREATION RESEARCH

Mrs. HANSEN. Why, in spite of the increase in recreation use have you continued the forest recreation research at the same funding level?

Mr. ARNOLD. That is part of the overall program in research, and within the limits of our funding we feel we have achieved the best balance in research efforts that we can. So it has remained at the same level.

Mrs. HANSEN. Isn't there a need to have new approaches?

EXPANSION OF RECREATION RESEARCH PROGRAM

Mr. ARNOLD. Yes, certainly. In our program for the seventies we have seen the need by 1980 to have a recreational research program about three times the size it is at this point. We see the need particularly to work with youth.

We find that three-fourths of the hunters and fishermen who now use the forests grew up in small towns or rural areas. We don't know what the present generation is going to do. We have some guides but there is a critical need to relate to youth now and what they will seek as adults in recreation in future years.

Mrs. HANSEN. This is a point we discussed yesterday and it was discused last year in our hearings, if not with you with the Bureau of Sport Fisheries and Wildlife. You have a brand new kind of forest user, a person who has no familiarity with the forest whatsoever. He doesn't know how to make a fire and probably couldn't put it out if he had to. I know this from owning and talking to people who own private forest land.

It had been unnecessary throughout the years to close private forest land because one felt people could use this land without destroying it. All of a sudden private forests have become dumping grounds for garbage, old bathtubs, and used equipment. Rather than pay a garbage fee, the public prefers to dump their garbage on private lands.

In search of a Christmas tree they will cut not one tree but will cut one, then see a better one and cut that one. The downed tree is left to become a fire hazard in the summer. So it has been necessary to close some of the private forest land in this country. The Forest Service is going to inherit these people.

If you don't train them how to use the forest I can see catastrophic consequences in the years ahead with fire damage.

Mr. ARNOLD. Our research, as you know, headquartered at the University of Washington in Seattle, is aimed at finding better ways to identify the critical forest recreationer and to communicate with him, learn how can we reach him and how can we make certain he cannot do these things, but can enjoy the forests. That is where that kind of recreation research is centered in the United States at this time.

Mrs. HANSEN. I think people have to understand that the existence of future forests depends on the care that they are given today. This

has to be understood. It is a sad thing to see what is happening in so many forest areas.

I have visited some of your forest campgrounds, and it makes one ill to see the messes that are left and the destruction of your trees.

You still haven't given me a very good answer on how you are going to take care of your increased research demands with the same level of funding.

Mr. ARNOLD. We have been doing everything we can. We have realined and readjusted our research during the past 2 years as Chief Cliff mentioned yesterday, forming some stronger teams to do everything we can to adjust.

FOREST UTILIZATION RESEARCH AT MISSOULA, MONT.

Mrs. HANSEN. I have a letter here from the Inter-Mountain Lumber Co. in Missoula, Mont.

It says, "Please support efforts by the U.S. Forest Service to obtain funds for research project at the lab in Missoula, which would investigate the question of logging residue removal following timber harvesting on national forest lands. We understand an initial annual budget of $200,000 is desired and this would be appropriated as an increase to the forest utilization project for science for the lab at Missoula, Mont."

May we please have your comments.

REMOVAL OF LOGGING RESIDUE

Mr. ARNOLD. Yes, ma'am. The major part of the fire problem in the West and in the South is related to the forest fuels. In Oregon and Washington some 40 million tons of debris are left over after logging each year, and we have the same problems in each of the major timber producing parts of the United States.

We recently established a cooperative project in Oregon and Washington on forest residues and this letter identifies the same broad problem area in the inter-mountain country. The same problem is identified in the Southeast in terms of prescribed burning and air pollution.

Part of this problem has become more acute because the air pollution problem may limit the use of prescribed burning, and we have been trying to keep ahead of any legal restrictions on the use of fire to reduce fire hazards and as a management tool for many activities it has been used for, such as disease control.

So we can identify this area of fuel modification and the use of prescribed fire and the reduction of environmental pollution as a major problem area in forestry over the entire United States.

WILLAMETTE VALLEY PROGRAM

Mrs. HANSEN. Are you working with the people in the Willamette Valley in the State of Oregon on their burning problem?

Mr. ARNOLD. Yes, ma'am. We have had cooperative studies with them, identifying the atmospheric conditions which would reduce the pollution.

I believe that over $7 million each year is spent in prescribed burning there to reduce logging residues, and with them we have started a small research program in reducing residue. It will include prescribed burning. It includes utilization and marketing research, to see if we can't utilize a great deal more of the 40 million tons a year that is now going to waste and to develop other measures of eliminating or reducing that waste.

DISPOSAL OF TREES, TWIGS, AND LEAVES

Mrs. HANSEN. I think you are going to have to give communities some advice on what to do about the problem of disposing of trees, twigs, and leaves. Every time we have a gale in the Northwest the ground is littered with tree limbs. In some localities they have gone so far as to say that you can't burn anything. This is understandable in large urban areas but not in smaller towns.

So now certain city councilmen in many areas want to cut all trees down so they won't have a clean-up problem.

At the same time trees contribute to the reduction of noise. This poses a major problem, a major problem of judgment.

Do you know of an easy way?

Mr. ARNOLD. Yes, I think I do.

Mrs. HANSEN. In small towns that can't afford equipment?

Mr. ARNOLD. I wouldn't want to go so far as to say the size of the town but at least as small as 30,000 population.

Mrs. HANSEN. There are many towns of under 30,000 population. State legislatures write laws that cover everybody.

RECYCLING OF URBAN TRASH

Mr. ARNOLD. I believe we mentioned last year we were beginning research at the Forest Products Laboratory on recycling of urban trash which includes wood fiber and paper. Over 50 percent of urban waste is in those categories.

Mrs. HANSEN. Do you have any idea of the amount of newspapers that are cleaned up in the United States per year?

Mr. ARNOLD. I don't have that figure. I can submit it for the record.

Mrs. HANSEN. I think it would be interesting.

(The information follows:)

AMOUNT OF NEWSPRINT

In 1970, 9.7 million tons of newsprint were produced. Of this amount about 23 percent was reused.

Mr. ARNOLD. We have found we can recycle urban trash into pulp and paper and we are doing research on that.

Mrs. HANSEN. What is the cost on this?

Mr. ARNOLD. The cost of doing this?

Mrs. HANSEN. The cost of doing it and the cost of installation of the plants.

Mr. ARNOLD. There is a pilot plant in the city of Madison, Wis., actually doing this. Our Forest Products Laboratory is cooperating.

There are some preliminary estimates of cost and they appear to be no greater than the cost of current trash disposal methods and current pulp and paper manufacture.

Mrs. HANSEN. You have a particular problem of burning after any kind of a storm, and it is becoming more and more critical. I think Mr. Wyatt's own State newspaper, The Oregonian, had a series of controversies running about the disposal of the debris.

TIMING OF SLASH BURNING

Mr. M. NELSON. From a management standpoint we have tried to use the material our research people have worked out on the timing of slash burning to eliminate as much smoke in a valley, like the Willamette Valley, as is possible. I think, from the reports we get back, it is very successful. We have held down the smoke created by slash burning in the Willamette Valley. The burning of the residue from the crops is a little different story, however.

USE OF FIRE AS VALUABLE TOOL IN FORESTRY

Mr. CLIFF. Madam Chairman, if I might make a contribution here, we are very much concerned about what might happen to our forestry operations if these movements to curb all burning of residues goes to an extreme.

We use fire as a tool in silviculture in the South. We do prescribe burning in that region to reduce fuels, prepare seedbeds, control brownspot disease, and to control undesirable vegetation. We use fire to burn slash after logging to reduce fire hazards in the West. All of these things create smoke and put pollutants into the atmosphere.

They are useful and essential methods in forest protection and forest production. If we can't use fire, then we run the risk of having wild fires which will produce more smoke and more pollution and cause greater destruction of the environment than if you use fire under controlled conditions.

We are faced with this conflict and it is growing. This spring we are having a high level conference in the South, getting scientists and foresters in from all interested groups and institutions to discuss this problem, to discuss the research that may be needed to cope with it, and the methods that will need to be applied if we are to retain the use of fire as a valuable tool in forestry. This could be an extremely important conference.

Mrs. HANSEN. You also have the same problem in the Northeast.

Mr. CLIFF. Very much so.

Mrs. HANSEN. The lumber companies are compelled to clean up the forest lands after logging. This is true not only with your national forests but it is also true on the private forests. When a contract is let for tree removal they demand a cleanup. If you don't clean up, particularly in the private lands, anything can start a blaze, as you are well aware. A piece of glass can do it.

Mr. CLIFF. This is true. Of course, to get proper regeneration of some of our timber species we need to remove this debris. The waste material that covers the ground has to be removed to get regeneration

as well as to reduce the fire hazards. It is a case of where you are damned if you do and damned if you don't.

If you leave a mess and don't clean it up it creates an environmental impact on the scenic value as well as a threat of even greater environmental impact from smoke pollution.

Mrs. HANSEN. That is why I am disturbed that your research budget does not show an increase because, I think, you are going to have increasing pressure from the public, as well as increasing pressure from the timber producers to come up with answers to these problems.

I can foresee real difficulty.

Mr. WYATT. Will you yield, Madam Chairman?

Mrs. HANSEN. Surely.

COMPARISON OF FOREST FIRE AND FORESTRY POLLUTANTS WITH OTHER SOURCES

Mr. WYATT. I think it would be appropriate at this point to, if we can, identify and grade the pollution caused by fires used as a management tool in proper perspective.

We all know we wouldn't be even seriously concerned about the air pollution problem if it weren't for the internal combustion engine which is responsible for more than 50 percent of our air pollution.

Do you, or anybody in your staff, have any idea percentagewise, what the fires contribute to the total air pollution?

Mr. CLIFF. I have seen some estimates on the amount of pollutants put into the air by forest fires and forestry operations as compared with internal combustion engines and other pollution sources.

I don't have them in mind and I don't know how accurate they are, but they do give some comparisons and we will be glad to put them in the record.

(Note: See statement below.)

POLLUTION BY FOREST INDUSTRY

Mr. WYATT. When it comes to the amount of pollution that is put in the air by automobiles, by aircraft, by field burning in agriculture and by the various other methods by industry and other sources of air pollution, the amount the forest industry by itself processes as we have known them in the past really is pretty small by comparison, isn't it?

Mr. CLIFF. That is my recollection. I would ask Dr. Arnold to speak on that.

Mr. ARNOLD. There have been no detailed studies. There are very rough estimates at best but I believe that your conclusion is correct.

Mr. WYATT. So the entire industry upon which the housing program is dependent is really being penalized or even threatened for a condition to which they make a very small contribution. I think that is the conclusion I would have to draw. I would appreciate those figures in the record.

(Information requested follows:)

SOURCES OF EMISSIONS IN THE UNITED STATES

It is estimated that in 1968, motor vehicles emitted 83.1 million tons of pollutants into the air; aircraft, 2.7 million tons; and the burning of agricultural crop residues another 7.2 million tons.

Total United States emissions have been estimated at 214 million tons. Of this 214 million tons, forest products industries contributed the following:
Wood manufacturing residues, 1.4 million tons.
Pulp and paper, 4 million tons.

TIMBER CUTTING PRACTICES ON BITTERROOT NF

Mrs. HANSEN. I have a letter from the Department of Planning and Economic Development of the State of Montana, in which they refer particularly to the timber cutting practices in the Bitterroot. It says:

The proposed study can't guarantee that the results of research will completely solve the problem but at this point we have no way of measuring what the effects of additional efforts in opposing logging cleanup might mean both in ameliorating the hostile public reaction and influencing the cost of lumber and wood products.

Mr. ARNOLD. There is nothing in the budget. That is not a budgeted item.

Mrs. HANSEN. You are not going to develop the answers to these many problems by 1980 or any other time without more funds.

Mr. ARNOLD. We have planned our research with 1980 in mind as a target date for the completion.

FOREST RESEARCH PROGRAMS IN STATE OF WASHINGTON

Mrs. HANSEN. Congressman Foley has written a letter about research programs in the State of Washington. He asks three questions.

One, would you supply for the record the status of your forest research programs in the State of Washington.

Two, what are the most urgent needs of the Forest Service in the State of Washington to solve these mission-oriented research problems? What are your 1972 capabilities, for example, at your Wenatchee research facility?

Mr. ARNOLD. We would be happy to provide that for the record.

Mrs. HANSEN. Three, do you have special construction needs related to these forest research programs?

Mr. ARNOLD. I can discuss those now, or we can present them for the record.

Mrs. HANSEN. Please insert the information in the record.

(Information requested follows:)

Forest Service Research in Washington

Location	Funds in F. Y. 1971	Funds Projected in F. Y. 1975 (in thousands)	Most Urgent Needs
RESEARCH PROGRAMS			
Wenatchee			
Watershed--Rehabilitation Methods	$ 281	$ 480	$125
Olympia			
Timber--Douglas-fir Culture and Animal Damage	351	600	---
Wildlife--Improved Habitats	---	150	100
Seattle			
Fire--Forest Residues Reduction	140	600	250
--Fire Control Technology	40	100	---
Engineering--Skyline and balloon logging	235	480	100
Recreation--Better Recreational Opportunities	115	300	60
Utilization--Improved Construction Methods	138	240	---
TOTAL, Research Programs	1,300	2,950	635
SPECIAL RESEARCH CONSTRUCTION NEEDS			
Wenatchee			
Shop/garage/lathhouse	---	$ 210	---
Olympia			
Shop/garage/parking	---	100	---
Seattle			
Forestry Sciences Laboratory	---	1,470 1/	$1,470 1/
TOTAL, Construction Needs	---	1,780	1,470 1/

1/ $130,000 required for planning, $1,340,000 required for construction.

FOREST SCIENCE LABORATORY AT AUBURN, ALA.

Mrs. HANSEN. I have a letter from the very distinguished Congressman from Alabama, Mr. Andrews, a member of the Appropriations Committee, regarding the need for a forest science laboratory at Auburn, Alabama. They have provided space at Auburn University but the space is crowded. I also have a statement from the Forest Science Laboratory at Auburn. They are asking for $1,140,000 for planning and construction funds. Is there anything in this budget for such an activity?

Mr. ARNOLD. There is no item in the budget for construction of that laboratory.

Mrs. HANSEN. Or for anything else.

Mr. ARNOLD. We have had an engineering research program underway with Auburn University in Alabama for about 10 years. The laboratory is in our plans. We have a silvicultural project there to work with the engineers in the important research for the mechanization of the growing and harvesting of intensively managed timber.

Mrs. HANSEN. Mr. Obey.

AIR POLLUTION AT MADISON LABORATORY

Mr. OBEY. I just wanted to inquire about the status of the Madison Laboratory. As I recall last year there was an air pollution question brought up about that laboratory. I was wondering what, if anything, was in the budget to correct that problem.

Mr. ARNOLD. That item was placed in the budget last year. They received the funding and the air pollution problem is taken care of. We indicated that that had been one part of the reconstruction of our 39-year-old main building to bring it up to modern standards. But the air pollution problem of last year was taken care of. There has been no other construction at that laboratory except for minor remodeling to accommodate the movement of a disease research program into the laboratory for strengthening research in Madison.

CONSTRUCTION AT MADISON

Mr. OBEY. I don't recall now what the construction problem was at that laboratory. As I remember, there was a large open area on one of the floors. What does that involve?

Mr. ARNOLD. The principal construction there was to develop a major facility for testing components of buildings or entire buildings. We have lots of minor testing facilities. This is for a major structural laboratory which would test whole houses, whole wall units. That was discussed last year. It is not in the budget now.

Mrs. HANSEN. My friends, there is barely anything in this budget.

Mr. OBEY. I am aware of that.

Mrs. HANSEN. $150,000 was included in last year's appropriation for this activity.

Mr. ARNOLD. Yes, ma'am.

Mr. OBEY. I may have some other comments on that later.

Mrs. HANSEN. Mr. Wyatt?

Mr. WYATT. As I understand, yesterday the testimony from Mr. Nelson was that there is no forest research construction allowed by the OMB. Is that correct?

Mr. CLIFF. That is correct.

CORVALLIS FOREST SCIENCE LABORATORY

Mr. WYATT. Do you have the figures on the cost of the next stage of construction the forest science laboratory at Oregon State University?

Mr. CLIFF. Yes, we do. Dr. Arnold can give that to you.

Mr. ARNOLD. As you know, the budget last year provided $500,000, and that particular specialized laboratory and research facility will be completed in January 1972. The complete plan at Corvallis for the full research laboratory requires additional funding of $3,150,000. That is the east and west wings of the building. The east wing, which would be the next stage is $1,365,000. That is planned. We have the planning and the engineering work completed.

Mr. WYATT. Could that be built by itself as a separate unit in the coming fiscal year without completing the balance of it?

Mr. ARNOLD. Yes. The laboratory facilities at Corvallis were planned in a series of increments, and this is one of the increments of the remaining part of that facility.

Mr. WYATT. Madam Chairman, I have some questions but in the interest of time I think I will just submit them to the Service and ask that they be put in the record at this point and ask the Forest Service to respond to the questions for the record. I think this will save time.

Mrs. HANSEN. Very well.

RELATIONSHIP BETWEEN ENVIRONMENTAL QUALITY AND TIMBER PRODUCTION AND UTILIZATION

Mr. WYATT. There is a great deal of discussion about research in environmental quality; and yet if we are to meet national timber goals, we need new research to increase timber production or to make better use of timber already on hand. Isn't there a relationship between environmental quality and timber production and utilization? I would think, for example, that if we could find ways to use more of the logging debris, we might increase the amount of timber available and at the same time leave a more attractive forest.

PULPING PROCESSES AND UTILIZATION RESEARCH

Are there other examples of the dual role of timber production and environment? What about pulping processes and utilization research?

(The information follows:)

RELATIONSHIP BETWEEN TIMBER PRODUCTION AND ENVIRONMENTAL QUALITY

There is a close relationship between improved environments and increased timber supply. More than 50 percent of Forest Service research has dual payoffs in terms of both increasing available timber and enhancing forest environments. Six examples of such research are:

1. Aerial logging methods reduce the need for roads, reach heretofore inaccessible timber, minimize soil disturbance and stream sedimentation, and leave forest esthetically acceptable.

2. Improved thinning and harvesting methods provide more timber and, concurrently optimize water yields, make forests safer for people, and serve as tools to manipulate landscape and scenic values.

3. Protection of forests from fire, insects, and diseases reduce major causes of loss thereby increasing timber supply while avoiding unsightly dead, dying, and decaying trees.

4. Bark-chip separation methods increase timber supply by using whole trees, thus reducing highly flammable and unattractive forest residues.

5. Recycling of manufacturing residues, wastepaper, and municipal trash provides an additional source of wood, avoids solid waste disposal, and reduces air pollution associated with burning of residues.

6. New pulping processes increase timber supply through greater yields, and reduce air and water pollution by wasting less fiber and pulping liquor.

CONSTRUCTION OF STRUCTURAL TESTING LABORATORY

Mr. WYATT. In view of the unfulfilled national need for better and more economical housing for the people of the United States, what is the status of construction of the structural testing laboratory at the Forest Products Laboratory?

(The information follows:)

STATUS OF STRUCTURAL LABORATORY AT MADISON, WIS.

In 1967 Congress appropriated $180,000 to plan and design modernization and addition to the now 39-year-old main building at the Forest Products Laboratory in Madison, Wis. Plans were completed 2 years later in 1969. Construction funds have not been available since plans were completed. The entire job, including the structural laboratory, modernization, and renovation, would cost $4,830,000 in fiscal year 1972. The structural laboratory alone would cost $1,680,000 to construct in fiscal year 1972.

USE AND DISPOSAL OF BARK

Mr. WYATT. The Oregon State University Extension Service is conducting a symposium March 8 and 9 on "Converting Bark into Opportunities"—the economic use of bark which has generally been a waste disposal problem. The February 1971 report to the Forest Products Sub-Council of the National Industrial Pollution Control Council cited some of the problems concerned with the use of bark.

What is the Forest Products Laboratory doing to help find uses for wood bark or to find nonpolluting methods of disposal?

(The information follows:)

BARK UTILIZATION RESEARCH

The Forest Products Laboratory has carried on a modest research program relating to bark and its utilization over an extended period. It has included some research on the structure of bark, and extensive research on its chemical composition. Limited studies have been made on bark utilization and its potential for products such as fiber and particle boards.

The Forest Products Laboratory has also explored possibilities of bark in cattle feed, and is currently studying use of greater proportions of bark in pulp, and methods of segregating bark from wood fiber in the pulping process. In 1969 the Laboratory updated its comprehensive report on "Bark and its Possible Uses."

LETTERS FROM C. W. RICHEN AND J. H. STONE

Mr. WYATT. Also I have two letters, one from Mr. Clarence W. Richen, the vice president of the Northwest timber operations of Crown Zellerbach, who has been very, very active in the research groups

in the Northwest. I would ask the chairman to have the letter inserted at this point, along with a letter that I have received from a constituent, Mr. J. Herbert Stone, who is a retired regional forester from Portland, Both of these gentlemen are really quite upset at the fact that there has been no increase in the budget for forest research at this moment in history when we can anticipate with clarity very substantial demands upon the wood fiber.

(The letters follow:)

CrownZellerbach

~~Public Service Building, Portland, Oregon 97204~~
1500 S. W. First Ave., Portland, Oregon 97201

Vice President

February 23, 1971

Honorable Wendell Wyatt
Congress of the United States
House Office Building
Washington, D. C. 20515

Dear Wendell:

As we start into this second year of the 1970's, it is increasingly clear that pressures on this nation's forest lands will be far greater in the months and years ahead than ever before. Demands for timber products, for water supply, wildlife and recreational uses of the forest are all in accelerating and competing upward trends.

At the same time, we face the new problems of learning to operate under the requirements of the Environmental Quality Act signed into law last year, while still striving to provide an increasing supply of wood products at reasonable cost and employment at realistic wage rates.

These problems are the very serious concern of private and public forest land managers and of citizens and their community leaders alike here in the Pacific Northwest. The fact is that the pattern of knowledge required to manage forest lands with optimum efficiency does not exist today.

For these reasons I am deeply concerned that the budget recently presented to the Congress does not provide for the strengthening of even the top priority programs of United States Forest Service research.

As you know, one of the most important Forest Service research centers is located at Corvallis, Oregon, in cooperation with Oregon State University.

Construction of Stage I of Phase II of the Corvallis Forestry Sciences Laboratory is scheduled for completion late this spring. Favorable bids for the Stage II laboratory wing have been obtained and construction will start soon. Thanks to the provisions made by the Congress, these two additions will relieve overcrowded conditions and provide opportunities to move ahead with essential forest research, if the needed operating funds are now provided.

The research at the Corvallis Laboratory is aimed at increasing the timber

supply and improving the forest-related environment. The Corvallis forest genetics project has developed a new system of Progressive Tree Improvement that now is being applied on 2 million acres of industrial and publicly owned forests. This, with further strengthened genetics research, provides exceptional opportunities to increase productivity of Douglas-fir, the nation's most important timber species. The project on mixed-conifer forests of western Oregon and Washington is producing information for managing the forests on the upper slopes of the Cascade Range as well as for the highly productive hemlock forests of the coastal areas. The ecology of these forests is poorly understood and must be clarified to maintain or to improve natural forest composition.

Another project is working to develop better forest regeneration practices by improving seeding and planting methods. As timber management intensifies, prompt and complete regeneration is vital to sustained yield forestry.

Forest environment research at Corvallis is developing knowledge essential to maintaining soil stability and stream flow and to understanding the behavior and impact of forest chemicals in forest practices. Better ways of safeguarding and improving water quality must be incorporated into our forest management. Adverse effects of roadbuilding, logging, brush control, fertilization, and forest spraying can be avoided by developing and applying new knowledge.

Management of forests for timber production must continue and it must be intensified, but water, soil, and esthetics must be better protected in the future, too. Research on these problems has provided important leads for improving management practices and preserving multiple forest values. But strengthened financing is required to accelerate the output of new knowledge essential to the control of these complex relationships.

Research to protect timber and other forest values from destructive insects and diseases is a major effort at the Corvallis Laboratory. Each year, insects kill over 3 billion board feet of sawtimber in Oregon and Washington--about 20 percent as much as is harvested. Good leads have been developed for controlling these pests by nonchemical means, such as improved forest practices and application of biological control agents. Prevention of even a small part of the present losses would result in a large payoff for the research investment.

Forest diseases likewise exert heavy pressure on timber supply and environmental quality. Research at the laboratory is now concentrated on root diseases and dwarf mistletoe, which reduce production of Northwest forests by almost 2 billion board feet annually. Research to date strongly indicates that biological control of root rots and silvicultural controls for mistletoe are possible. Promptly strengthened research is needed to extend and to adapt these findings to practices over millions of acres of northwestern forests.

If the forests of Oregon and Washington and this nation are to come close to meeting the accelerating multiple demands now pressing upon them, we shall have to understand their complexities far more completely than we do today. The Forest Service Research Program for the 70's is designed to develop that essential knowledge.

According to this carefully prepared and coordinated research program, the desirable first year increase in funding for the Corvallis forestry research is $650,000.

Would it be possible for you to explore what can be done to supplement the Forest Service budget for next fiscal year so that the critically important research program at Corvallis can now be moved ahead at a more satisfactory rate?

I greatly appreciate your understanding and your vigorous support of forestry research as a key factor in the future well-being of America.

Cordially,

Clarence

Vice President,
Northwest Timber Operations

cwrichen-mo'd

Mr. J. Herbert Stone
4465 S.W. 75th Avenue
Portland, Oregon 97225
February 19, 1971

The Honorable Wendell Wyatt
House of Representatives
414 Common House Office Building
Washington, D.C. 20515

Dear Congressman Wyatt:

I have been surprised and disturbed to learn that the Bureau of Budget and Management in this administration has not included in the budget any increases for Forest Research, particularly for the research being conducted by the Pacific Northwest Forest and Range Experiment Station. In fact, I believe that the overall appropriations have been reduced by $200,000 and at a time when there is so much emphasis on ecology and environment.

To do the best job of managing forest lands so that they can provide the products and services to the extent needed by our state and our nation, we are in great need of expanded research in many fields. We must continually learn more about soils and water and their interaction with plant life. We need more knowledge of recreational management. We need additional studies of thinning operations that can provide a natural mechanism for maintaining forest growth and forest health. Insects and disease are a continuing threat to the forest and take a great toll in the form of reduced roads and lost resources. We need to know more about pesticides, insecticides, and herbicides. The attached research note No. 116 produced by the Pacific Northwest Forest and Range Experiment Station is an example of the kind of continuing research which is necessary. You may have a copy of this; but in the event you did not, I felt you would find it of interest as an example of continuing research that we sorely need.

The Forest Service has good estimates of the funds required for a forward-looking research program, and I am sure would furnish these figures on request.

Another condition imposed by the Office of Budget and Management which presents the most inefficient operation of both research and administration in the Forest Service is the limitation on the employment of personnel. This is known as a personnel ceiling. It strikes me as something that is imposed by this Office of Budget and Management so they can play the numbers game and brag about the number of people who have been cut off the Federal payroll. This arbitrary limitation on the employment of personnel has really handicapped the manager who wants to do a good job and who must employ qualified personnel in the various disciplines to do this job. In both research and administration, this forces the manager to contract work with the result that it is more costly and is often not done with as good a quality as it should be. I am convinced that an arbitrary ceiling on the number of people that can be employed by the manager seeking to do a good, economical job is a vicious and unnecessary limitation which is costing the United States many dollars and limiting the efforts in forest administration to maintain and improve the environment and safeguard the ecological relationship that exists in the forest community.

I urge your thoughtful consideration of these views and such action as you think appropriate to provide a sound and effective program of research in forest land management in the country and in the Pacific Northwest. The men in the Northwest Station are anxious and ready to do a good job and to advance the knowledge of good forest land management, but they need the funds to expand these efforts consistent with the present-day interest in good environmental management. They need to be relieved from the silly limitations that prevent effective use of resources now available. If you think it would be helpful, I would be happy to have this letter included in the record of the Appropriation Hearings.

Best wishes.

Sincerely,

J. Herbert Stone

kms

STATUS OF TIMBER INDUSTRY

Mrs. HANSEN. I think, Mr. Wyatt, the time is coming when there is going to be a sharp controversy between the public and the timber operators on the amount of timber that can reasonably be cut and the answers must be found. The Forest Service should be working on these problems so that you don't get into the position of all of a sudden closing down some timber economy. The Northwest, if I may say so, has had about all the closings and shutdowns that we can stand. Housing has been down. The timber industry has been at its lowest point. When it picks up again, I can envision a great many people raising questions on slash burning and pollution.

The Department of Interior's directive limiting the amount of logs in a river and the lack of booming grounds will place an increased number of log trucks on the highways at a time when pollution from truck exhausts isn't very popular.

The Office of Management and Budget has ignored the need to be prepared with answers in all these critical fields.

DESTRUCTION BY INSECTS AND DISEASES

Mr. WYATT. Madam Chairman, for example, along the line of what you are saying, Mr. Richen points out in his letter the Corvallis Laboratory's need for operational money for research in the area of forest insects. He points out that insects in Oregon and Washington alone kill over 3 billion board feet annually, and that in the area of forest diseases, that diseases kill almost 2 billion board feet annually. This is 5 billion board feet of timber lost to the people of the United States annually for want of adequate research. I think this points up, Dr. Arnold, the importance of the work that is just starting at Corvallis, and we hope is going to go forward at a much accelerated pace.

Mr. ARNOLD. That is one of our two centers working on insect viruses which appear to be one of the more promising biological controls.

ANIMAL DAMAGE LOSSES

Mrs. HANSEN. Just 2 years ago, the loss from animal damage alone was about $15 million per year for just the two States of Oregon and Washington? Isn't that correct?

Mr. ARNOLD. Yes, I believe that is correct.

Mrs. HANSEN. Are you willing to let $15 million a year go down the drain? If you went out and scattered $15 million around, you would be in St. Elizabeths Hospital tomorrow. Literally, this is what you are being compelled to do by budgetary restrictions. It's a loss of resources.

FIRE RESEARCH

Mr. ARNOLD. Madam Chairman, you did ask me to place a little better focus on the fire program and fire research.

Mrs. HANSEN. Please do.

Mr. ARNOLD. I will do it very briefly. First, a number of questions have come out. What did fire research do in this great disaster period that we have had in the West? I will just mention for the record some of them.

(The information follows:)

1. The air-chemical attack is a fire research production now widely used in firefighting. Fire research personnel were at the scene of major fires in 1970 assisting in operational use of new chemicals.

2. Fuel breaks in southern California were credited with many stops of fires and aids to fire control.

3. Knowledge of fire behavior and fire weather. The "Fire Weather Handbook" published this year is the Bible for the fire-weather forecasters and fire behavior officers. The fact that there was no loss of firefighters attributed to unpredicted violent fire behavior attests to the knowledge of fire behavior and its use in training for firefighters.

4. Santa Ana wind studies made more accurate fire behavior predictions possible in southern California.

5. In Alaska, Washington, Idaho, and Montana we mapped fires with new airborne infrared systems developed by Project Fire Scan.

6. We performed an operational experiment under actual fire conditions to expedite full development and testing of an airborne infrared fire detection system.

7. We pressed into service new research-developed airborne fire spotters for use on smokejumper aircraft and helicopters. The results are very encouraging.

8. We had special Project Skyfire missions for prevention of lightning and reduction of fire danger during the Wenatchee National Forest fire emergency. While new lightning fires did not occur in the areas where clouds were seeded, we did not have instrumentation at the scene to verify the results. However, this emergency operation provided valuable experience for design of a future pilot project to fully develop and test an operational system for lightning fire prevention and reduction of fire danger.

9. In Alaska we assisted the Bureau of Land Management in cloud seeding operations to reduce fire danger in the vicinity of going forest fires.

FIRE RESEARCH CENTERS

Mr. ARNOLD. I might just present our fire research program briefly. Here is the fire research program in the United States (indicating on chart). These are the centers. As this committee knows, we have three major centers—Macon, Ga.; Missoula, Mont.; and Riverside, Calif. We have major laboratories there with nationwide responsibilities. I will insert the locations of the research centers in the record and their programs if I may?

(The information follows:)

Forest fire research locations in the United States

Location:	*Fiscal year 1971 funds (in thousands)*
Pacific Northwest	$ 265
Pacific Southwest	1,193
Northern Rocky Mountains	1,320
Central and Southern Rocky Mountains	315
North Central and Northeast	220
South and Southeast	675
Total	3,988

Forest fire research programs

Program	*Fiscal year 1971 funds (in thousands)*
Prevention:	
Lightning	$ 360
Man-caused	188
Total	548
Fuel Hazard:	
Treatment	520
Fuelbreak	275
Total	795
Fire intelligence systems:	
Firescan	325
Fire behavior	1,270
Fire danger rating	180
Total	1,775
Fire control systems:	
Chemicals	100
Air and ground attack	385
Fire management	385
Total	870
Grand Total	3,988

This is the broad balance over the United States.

FUNDING FOR FIRE RESEARCH

In terms of the program content itself, you can talk about prevention, fuel hazard, fire intelligence systems, fire control systems. In this year's and in last year's budget, these are the current sums of money being spent on these areas.

FIRE RESEARCH PROGRAM

We have several very interesting points. We are ready for pilot testing for reduction of lightning fires. The man-caused fire prevention is a beginning program. The fuel treatment, we have already discussed. This is the nationwide fuel treatment research. We have programs going in the South, in the Northern Rocky Mountains and in the West Coast.

Here we get into our firescan. We have perfected the detection system I mentioned earlier. The fire behavior is really the background of the entire fire problem. This is where we study the weather, the fuel, the combustion conditions that are related to how they are employed in all of the fire prevention and control activities. The fire danger rating is the national index which tells the degree of severity day by day, hour by hour, and annually.

Here are our fire control systems activities. I just review the program to show that there is a very comprehensive—though moderate compared to the problem—fire control development research program in the United States.

AEROSPACE TECHNOLOGY

We have one other chart that has come up from the discussions within the aerospace technology. It shows the particular parts of the fire research program where we are ready with the research information for developmental activities. If the research hadn't been done you couldn't jump in and make some applications. Feasibility studies are needed in fire intelligence systems and retardant delivery systems. The Boeing Co. has a new suggestion for delivering ice on forest fires—making ice in the Boeing 707 airplane with 100 thousand gallons of water. This has, at first review, some promise.

Design of experiments for testing and developing of the forward looking infrared system, a system to put in helicopters and aircraft, to be able to move in on fires when the smoke is such that you can't see them. We have done enough with infrared in our mapping and otherwise to know that this is a possibility.

Controlled delivery systems means the delivery of the retardant systems. Fire sensing is an area related to behavior in which we need some new technology. We have some on the drawing boards ourselves. These are areas where we can work together.

Then we come to prototype development. Again looking at feasibility first, we know it will take about 6 months for feasibility studies. These are not short term programs as we go into design, experiments and prototypes. I am glad to explain very briefly that there appears to be opportunities in some aspects of an expanded fire research program to combine the aerospace technology with on-going fire research to capitalize on what we know about the fuel, weather, and topographic to combine the aerospace technology with ongoing fire research to conditions, the combustion principles and new technologies that we now know could make some progress.

USE OF HELICOPTERS ON FIRES

Mr. M. NELSON. If I could add just a little bit. Dr. Arnold didn't mention what they have done in research for the development of the use of helicopters on fires. The TV picture "Wildfire" illustrates the use of the bucket under the helicopter. In previous times I have been before this committee with photos to illustrate that development.

The helicopter is becoming more and more a very important fire tool. In the State of Washington fires, we had 60 helicopters, for example, on the fires.

Mrs. HANSEN. Were these all contract helicopters?

Mr. M. NELSON. Yes, they are all contract helicopters. Last year this committee allowed us to make arrangements for helicopters in advance, using the firefighting funds before the fires actually started.

Mrs. HANSEN. Wasn't this helpful?

Mr. M. NELSON. That was very useful. Without having increases in our regular forest fire protection line item this year we would propose to go ahead with the same arrangement as we did last year.

Mr. ARNOLD. I might add one point. For a number of years, we had a program combining fire control and research which was called Heli-

attack. This was designed to apply helicopters to the fire control program.

Mr. CLIFF. Madam Chairman, I wonder if it would be permissible to insert those charts or tabulations in the record in the proper place?

Mrs. HANSEN. Absolutely.

Mr. CLIFF. It would help explain Dr. Arnold's presentation.

Mrs. HANSEN. I am sure that you are aware of the fact that the Aerospace industry is interested in other activities than those in which they have embarked. In fact it has been a suggestion of the environmentalists that their technicians might be used in forest fire protection. I think it was well to have the review we had this morning.

Mr. Galifianakis.

STATISTICS ON BURNING

Mr. GALIFIANAKIS. Mr. Cliff indicated that you are going to have a conference in the spring to evaluate the use of fire as a tool for fighting fire.

Mr. Wyatt had asked the question, "What percentage of this type of use of the fire for fire control contributes to the pollution of the air?"

I was wondering if it were feasible to expand that statistic? I was interested in what had been said earlier, that in the South there was a "pyromania," as to the use of fire to kill chiggers and snakes and diseases. That was very interesting.

It's also interesting to learn about the habits of the area which you represent.

We do have some folks that spit out fire and brimstone down there, some preachers do. The reason I propounded the question is that there is a great deal of emphasis on the environment. Wherever we can acquire information that helps us as individuals to develop new habits, I think it's important. I commend those people who are involved in the research for going into detail.

Is it feasible to add to that statistic the burning that takes place not only by the foresters but by individuals who, for example, burn leaves in the fall? In my neck of the woods it's a very popular thing in the fall to gather leaves and burn them right in the yard. It makes for neighborliness, and a pretty girl can always get her picture in the magazines or papers because its the all-American way of doing things. Is that statistic available?

Mr. ARNOLD. That statistic would not be available, since it has not been a subject of research nor of recordkeeping.

I might point out in relation to prescribed burning in the South, that every major fire or serious fire in recent years in the southern States has occurred in areas where there has been no prescribed burning for 5 years. So it is a very important part of the management of southern forests.

We can certainly give additional statistics on the use of fire and what we have on the comparison of the pollution between the two. There was a research program in the planning stages to study this question and to look for some solutions.

(Information follows:)

PARTICULATE MATTER RESULTING FROM PRESCRIBED BURNING AND WILDFIRE

Some 37 million tons of particulates are produced in an average year by wildfires; 17 million tons of particulates are produced annually by prescribed burning including both broadcast and slash burning.

Mr. GALIFIANAKIS. That would be very important. Are you going to hold it at the Research Triangle? Is that where the conference is going to be?

Mr. ARNOLD. This is going to be in Charleston, S.C. It is there, where this meeting will be held.

STATE AND PRIVATE FORESTRY COOPERATION

Mrs. HANSEN. Please insert pages 100 to 110 in the record at this point.

(The pages follow:)

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

State and Private Forestry Cooperation
(includes Projects (29) through (32) on following pages)

	1971 estimate	1972 estimate	Change
Alabama	$688,900	$688,900	
Alaska	292,500	292,500	
Arizona	67,400	67,400	
Arkansas	636,200	636,200	
California	1,379,400	1,379,400	
Colorado	274,500	274,500	
Connecticut	178,200	178,200	
Delaware	72,700	72,700	
District of Columbia	899,700	885,700	-14,000
Florida	930,400	930,400	
Georgia	976,000	976,000	
Hawaii	126,100	126,100	
Idaho	450,800	450,800	
Illinois	217,500	217,500	
Indiana	190,100	190,100	
Iowa	144,700	144,700	
Kansas	244,200	244,200	
Kentucky	561,900	561,900	
Louisiana	750,700	750,700	
Maine	604,400	604,400	
Maryland	330,600	330,600	
Massachusetts	289,700	289,700	
Michigan	848,500	848,500	
Minnesota	498,500	498,500	
Mississippi	830,900	830,900	
Missouri	635,100	635,100	
Montana	308,500	308,500	
Nebraska	192,400	192,400	
Nevada	280,800	280,800	
New Hampshire	208,200	208,200	
New Jersey	314,800	314,800	
New Mexico	181,800	181,800	
New York	684,800	684,800	
North Carolina	903,400	903,400	
North Dakota	83,900	83,900	
Ohio	340,800	340,800	
Oklahoma	306,200	306,200	
Oregon	799,100	799,100	
Pennsylvania	711,300	711,300	
Puerto Rico	90,700	90,700	
Rhode Island	116,200	116,200	
South Carolina	702,800	702,800	
South Dakota	190,800	190,800	
Tennessee	674,500	674,500	
Texas	543,600	543,600	
Utah	213,500	213,500	
Vermont	193,600	193,600	
Virginia	814,700	814,700	
Washington	774,400	774,400	
West Virginia	332,300	332,300	
Wisconsin	819,700	819,700	
Wyoming	126,600	126,600	
Virgin Islands	52,000	52,000	
Total	24,081,000	24,067,000	-14,000

COOPERATION IN FOREST FIRE CONTROL

1970	$16,440,000
1971	16,505,000
1972	16,494,000
Decrease	-11,000

A decrease of $11,000 in public relations activities.

The Cooperative Forest Fire Control program provides for Federal cooperation in the form of technical and financial assistance to help State and private interests improve the level of fire control on their forest and watershed lands. All 50 States participate and provide protection to nearly 512 million acres of forest and watershed land. In providing this protection the State forestry organizations employ thousands of people mainly from rural America. The income from this source is very important to these employees, since many of them are from low income families and opportunities for other jobs are often limited.

Wildfire has once again caused millions of dollars in damage. Wildfire is unpredictable in its potential for destruction of life and property. It can spread rapidly and is no respector of property boundaries. Weather patterns determine which part of the country will be struck next. Small fires not quickly detected and suppressed can destroy timber resources, rangelands and recreation areas, rural homesteads and other farm structures. Large wildfires add to the pollution of our air. Ashes and debris kill the aquatic life in streams and lakes. Critical watersheds will be destroyed, stream channels filled with mud and debris, bridges and roads washed out in the aftermath of wildfire. (See Figure 29-1.) For years the esthetics of the rural forested environment is destroyed.

Protection from fire is fundamental to the development and use of all forest resources. Additional investments in these areas would not be a prudent venture without considering the adequacy of protection. Fires left unchallenged increase the difficulty and cost of control and the amount of damages. As demands for the multiple forest resources increase, the pressures to protect and maintain them against the destructive forces of wildfire also increase. Crowd weary and pollution conscious people are building homes and communities in areas considered remote only a few years ago. With increasing population, city living is advancing into the hinterland at a pace faster than fire organizations can provide adequate protection. This urban-rural interface contributes to the huge losses of valuable property, as well as injury and death of people. This is where the greatest effort must be made to control the increased potential for disasterous wildfires.

More intensive fire prevention and control result in smaller burned area and losses though at a higher cost. (See Figure 29-2.) If private timberland is to produce the increased timber products needed for the economic growth of the Nation, wildfire must be controlled. Productive, unburned forests mean increased income for dependent landowners and operators, better living conditions for rural residents and stronger local communities.

Large fires (over 300 acres) are a very difficult problem. They represent only a small fraction of the number of fires yet burn large acreages (see Figure 29-2). Studies which will lead to the reduction of the number of large fires are currently being carried on cooperatively by fire organizations. Fast initial attack forces are being trained and dispersed at strategic locations to hit the fires while still small. Studies of climatic factors which lead to disaster fires are being undertaken to better plan prevention efforts. Management of fuels through prescribed fire and other modification measures is receiving increased attention and shows promise in reducing the number of large damaging fires.

The incendiary fire problem especially in the South and debris fires in the North are being given special attention through increased law enforcement and mass fire prevention education efforts. The increased incidence of railroad fires has

resulted in strengthened law enforecement, more research into better locomotive fuels and equipment and better right-of-way maintenance. Fire organizations are coordinating their efforts to reduce wild fires caused by railroad operations.

Funds are distributed to States by use of a complex formula. The formula was devised so it could be applied uniformly to all States. It recognizes the two factors most directly related to fire control:

(1) Extent of the protection job.

(2) State and local performance as represented by expenditures.

At the present time, each of these factors is given equal weight. The half based upon need is termed the "regular allotment" and is determined by a periodic fire protection analysis. The most recent analysis was made in 1965. The half based upon expenditures uses the average of the most current three-year State and private expenditures and is termed the "extra allotment." These two parts added together become the Federal allotment to each State. The total allotment is thus reduced under a sliding scale to bring total payments to funds available.

The table following this section shows proposed financing in fiscal year 1972 compared with fiscal years 1970 and 1971.

Examples of Recent Accomplishments

Prevention. California has expanded its pilot fire prevention education program know as "Operation Headstart." It is an early elementary school level program which was initiated in five counties. Research is being conducted in giving prevention instructions by closed circuit or educational television. Florida has produced two new fire prevention training films and the Northeastern State foresters another. Georgia's metropolitan foresters assisted with weekly five-minute colored television conversation programs. Kentucky has a special project in cooperation with the beautification section of the Conservation Department to eliminate the many unsightly fire-causing dumps. The special contactor program in Louisiana is continuing and promises some success in reducing incendiary fires. South Dakota also used a contactor program in high debris fire occurrence areas.

Aircraft use. Additional emphasis is being given to replacement of lookouts by aircraft for use in detection of fires. Indiana, Maine, Oregon, Washington, Pennsylvania, Hawaii, Michigan, California and Connecticut are some of the States either currently using aircraft or planning to do so. The use of helicopters both to water bomb and carry "hot-shot" crews is increasing. Many States have purchased helibuckets for use of water bombing with helicopters. State owned or contract helicopters can be adapted for use. Military aircraft are also used when possible.

Training. Kansas has given their eight-hour firemanship training course to 1300 firemen and advanced simulator training to 700 firemen. Nebraska has conducted fire training for 112 rural fire departments. California has trained two new helitak crews and added them to their first attack forces. New Jersey conducts training in protective burning which is done cooperatively on private lands.

COOPERATIVE FOREST FIRE CONTROL

	State and Private Funds Expended FY 1970	Federal Allotments FY 1970	Federal Allotments FY 1971 (estimate)	Federal Allotments FY 1972 (estimate) 1/
Alabama	$1,921,434	$491,693	$472,036	$472,036
Alaska	2,157,108	168,331	159,799	159,799
Arizona	56,119	54,740	53,070	53,070
Arkansas	1,493,947	489,173	467,460	467,460
California	28,249,420	1,153,860	1,118,648	1,118,648
Colorado	702,247	132,152	140,629	140,629
Connecticut	303,825	125,868	122,030	122,030
Delaware	16,181	14,370	27,730	27,730
Florida	6,362,131	649,258	625,568	625,568
Georgia	6,219,258	682,862	662,026	662,026
Hawaii	161,272	62,493	56,712	56,712
Idaho	862,941*	260,375	313,718	313,718
Illinois	391,572	110,700	108,952	108,952
Indiana	213,580	88,680	85,972	85,972
Iowa	70,477	64,474	62,021	62,021
Kansas	551,647	178,689	188,559	188,559
Kentucky	1,327,729	336,751	344,012	344,012
Louisiana	2,814,718	544,186	544,372	544,372
Maine	1,524,909*	455,224	441,332	441,332
Maryland	956,891	193,619	216,895	216,895
Massachusetts	497,388*	225,129	218,259	218,259
Michigan	2,625,374	575,703	556,196	556,196
Minnesota	612,570	368,172	356,938	356,938
Mississippi	2,320,469	545,309	528,667	528,667
Missouri	1,620,016	414,283	422,211	422,211
Montana	555,998	191,076	178,258	178,258
Nebraska	512,074	136,706	146,980	146,980
Nevada	510,241	146,310	169,930	169,930
New Hampshire	265,944	121,524	117,817	117,817
New Jersey	816,347	209,691	230,285	230,285
New Mexico	120,740	82,415	77,962	77,962
New York	1,815,455	438,656	442,061	442,061
North Carolina	3,536,113	576,121	564,763	564,763
North Dakota	13,964	14,000	23,393	23,393
Ohio	735,554	172,823	184,791	184,791
Oklahoma	451,032	205,768	205,918	205,918
Oregon	3,434,769	590,955	578,958	578,958
Pennsylvania	2,052,730	421,848	408,974	408,974
Rhode Island	183,003	59,803	67,090	67,090
South Carolina	2,675,645	482,662	498,143	498,143
South Dakota	166,273*	60,648	70,842	70,842
Tennessee	2,981,861	511,313	511,472	511,472
Texas	1,428,453	395,168	383,112	383,112
Utah	356,000	107,229	122,373	122,373
Vermont	76,833	70,853	68,694	68,694
Virginia	1,871,690	475,453	474,669	474,669
Washington	4,454,317	606,705	585,285	585,285
West Virginia	664,150	216,701	210,086	210,086
Wisconsin	2,649,179	502,146	506,829	506,829
Wyoming	186,969	78,104	94,003	94,003
Administration, inspection, prevention and special services	- -	1,179,228	1,288,500	1,277,500
Totals	96,548,557	16,440,000	16,505,000	16,494,000

*Fiscal year 1969 expenditures--the latest available.

1/ While the amount available to a State may, if the allotment is small, exceed previously computed expenditures by that State, the actual payment to a State never exceeds State and private funds expended by or under the control of State.

COMPARISON OF EXPENDITURES FOR PROTECTION TO FIRE LOSS INDEX

	CENTS/ACRE ACTUAL 1967	FIRE LOSS INDEX* ACTUAL 1967
KENTUCKY	10.2	.28
OHIO	11.7	.06
PENNSYLVANIA	11.7	.03
VIRGINA	14.0	.09
WEST VIRGINIA	5.7	.39

* Fire Loss Index is the percentage of area burned to total area protected

FIRES AND ACRES BURNED STATE AND PRIVATE PROTECTED LANDS C. Y. 1963-1969 AVERAGES

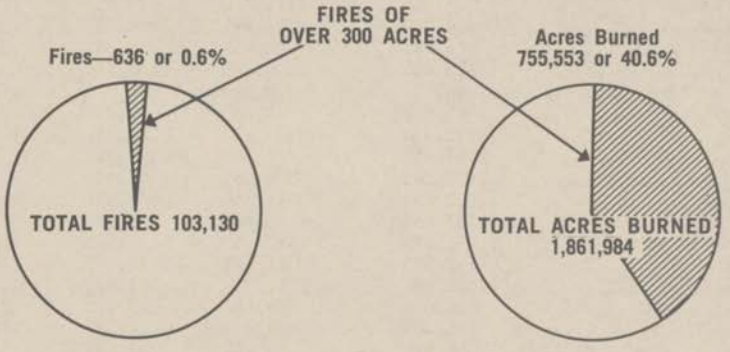


Figure 29-2

COOPERATION IN FOREST TREE PLANTING

1970	$313,000
1971	319,000
1972	319,000

It is proposed to continue this program at the 1971 level.

This program provides financial and technical assistance to cooperating States in the production, acquisition, and distribution of tree seed and planting stock for forest and wildbarrier plantings on non-Federal lands. Seed and trees thus furnished at modest cost form the backbone of current public forestation efforts which contribute to increased timber production and the enhancement of environmental values, including public recreation, wildlife habitat, and pollution abatement.

Program funds are used to assist the States in meeting the cost of seed extraction, seedling production, nursery maintenance, and other operations.

Beginning July 1, 1970, a new procedure was initiated for the allotment of funds under this program. The new system provides for a project approach with funds to be allocated on the basis of projects which will be designed to stimulate more efficient nursery operations. Projects proposed to date range from new irrigation systems to the production of "tubed" or specially packaged seedlings.

The number of trees shipped to landowners during each of the past four fiscal years, in comparison with all forest and shelterbelt trees produced by public and private nurseries, is as follows:

Year	Federal-State Coop. Program	Other State Distribution	Total Output All Nurseries*
1966	521,440,000	50,530,000	819,640,000
1967	572,087,000	30,307,000	922,247,000
1968	544,420,000	29,646,000	888,985,000
1969	523,986,000	30,037,000	813,814,000

*Does not include production from commercial nurseries.

Examples of Recent Accomplishments

Production of improved genetic quality seedlings. Improved genetic quality forest tree seed is becoming available for seedling production at a rapidly increasing rate. Georgia, for example, produced over 24 million improved genetic quality seedlings during the 1969-70 season. Custom-growing of seed orchard seedling stock at the other Southern nurseries amounted to over 45 million seedlings.

Development of seedling harvester. The Forest Service Equipment Development Center recently completed the fabrication of an eight-row operational seedling harvester unit (see Figure 30). It has been nursery tested in the Pacific Northwest and will be demonstrated at a number of Southern, Northern, and North Central State forest tree nurseries this spring. The machine is capable of harvesting over 800,000 seedlings per day. Designed to work in sandy loams, this production figure could well exceed one million trees per day on the sandier soils. As much as 75 percent savings in tree lifting costs are expected with the use of this machinery. A national implement manufacturer is interested and ready to begin commercial production of the units.

REGULAR ALLOTMENTS TO STATES

	FY 1971	FY 1972
Colorado	$7,000	$7,000
Idaho	12,000	12,000
Kansas	12,000	12,000
Montana	12,000	12,000
Nebraska	8,000	8,000
Nevada	12,000	12,000
New Mexico	12,000	12,000
North Dakota	12,000	12,000
Oklahoma	9,000	9,000
Rhode Island	- -	2,000
South Dakota	12,000	12,000
Utah	12,000	12,000
Wyoming	- -	4,000

SPECIAL PROJECT ALLOTMENTS TO STATES

	FY 1971	FY 1972
Alabama (Auburn Project--weed control)	$23,041	$26,000
California (extractory modifications)	12,000	- -
Maryland (irrigation system)	5,750	5,750
Michigan (seed)	3,000	- -
North Carolina (mulching)	6,000	- -
Ohio (tubeling)	4,000	4,000
Oregon (soil amendments)	5,000	- -
Pennsylvania (hydro-seeder)	7,500	1,500
Rhode Island (seedling production)	2,000	- -
Texas (shelterbelt)	5,000	5,000
Wyoming (seedling production)	4,000	- -

COOPERATION IN FOREST MANAGEMENT AND PROCESSING

1970	$4,130,000
1971	4,973,000
1972	4,970,000
Decrease	-3,000

A decrease of $3,000 in public relations activities.

The majority of the productive forest land in the United States, or 300 million acres, is in the hands of private, nonindustrial owners. Most of these owners lack the technical forestry skills required to manage their lands to provide their optimum share of the Nation's needs for forest products and services.

The program provides technical assistance to private landowners to increase the flow of timber and nontimber products and to improve environmental values. Today it must provide relatively greater emphasis on enhancement of the environment and nontimber benefits. Continued emphasis will be given to improving the supply situation of softwood lumber and plywood. Technical assistance is also given to loggers, sawmill, and other plant operators to improve logging, processing, and business methods. The work is carried out in cooperation with the State forestry agencies in 49 States, Puerto Rico, and the Virgin Islands. In fiscal year 1972, State service foresters will continue to work with local development groups for social and economic improvement.

Allotment of Federal funds to the States, Puerto Rico, and the Virgin Islands is made on the basis of a formula:

(1) The formula applies to the total amount of Federal appropriation available for allotment; guarantees to each State an amount it can match up to $30,000; guarantees that no State will receive less than 96.5 percent of its allotment for the preceding year within the limits of available Federal funds and the State's ability to match them.

(2) Subject to the above guarantees and limitations, each State allotment is determined by a factor which is composed of:

(a) The State's fraction of the total number of woodland ownerships from 10 to 5,000 acres.

(b) The State's fraction of the total area of woodland in these ownerships.

(c) The weighted State's share of the total expenditures all States made in the preceding year in excess of Federal expenditures for that same year.

The following table shows proposed financing in fiscal year 1972 compared with fiscal years 1970 and 1971:

Cooperation in Forest Management and Processing

State	FY 1970	FY 1971 Estimate	FY 1972 Estimate
Alabama	$65,200	$120,600	$120,600
Alaska	16,000	30,200	30,200
Arkansas	65,600	101,400	101,400
California	58,800	86,200	86,200
Colorado	41,800	56,500	56,500
Connecticut	35,100	35,300	35,300
Delaware	4,700	31,200	31,200
Florida	164,300	208,100	208,100
Georgia	152,300	228,600	228,600
Hawaii	17,000	30,800	30,800
Idaho	32,100	43,000	43,000
Illinois	67,200	65,900	65,900
Indiana	62,900	62,600	62,600
Iowa	45,200	44,600	44,600
Kansas	41,400	35,700	35,700
Kentucky	157,400	153,700	153,700
Louisiana	65,400	98,400	98,400
Maine	88,900	115,500	115,500
Maryland	74,300	78,100	78,100
Massachusetts	40,300	44,300	44,300
Michigan	125,800	138,800	138,800
Minnesota	88,400	97,600	97,600
Mississippi	87,900	127,000	127,000
Missouri	147,900	146,600	146,600
Montana	32,900	57,900	57,900
Nebraska	36,000	37,500	37,500
Nevada	29,500	30,800	30,800
New Hampshire	48,200	57,900	57,900
New Jersey	44,000	44,700	44,700
New Mexico	32,400	44,000	44,000
New York	154,200	161,900	161,900
North Carolina	205,000	250,800	250,800
North Dakota	30,600	30,500	30,500
Ohio	112,900	107,000	107,000
Oklahoma	34,000	41,300	41,300
Oregon	39,600	70,000	70,000
Pennsylvania	143,000	145,000	145,000
Puerto Rico	31,100	31,000	31,000
Rhode Island	15,000	30,600	30,600
South Carolina	106,000	133,700	133,700
South Dakota	37,000	33,800	33,800
Tennessee	84,900	93,900	93,900
Texas	55,700	85,800	85,800
Utah	30,300	31,700	31,700
Vermont	87,000	87,800	87,800
Virginia	170,300	195,600	195,600
Virgin Islands	12,238	30,000	30,000
Washington	48,700	76,500	76,500
West Virginia	79,500	82,200	82,200
Wisconsin	193,600	200,600	200,600
Wyoming	27,000	35,500	35,500
Total to States	3,666,538	4,411,700	4,411,700
Forest Service administration	463,462	561,300	558,300
Total appropriation	4,130,000	4,973,000	4,970,000

Major work accomplishments are shown in the following table:

Major Benefits	Unit	Fiscal Year 1970	Fiscal Year 1971 (planned)
Woodland owners given woodland management assistance	Number	115,197	138,000
Area of woodland involved	Acres	6,945,456	8,360,000
Volume of timber products sold or harvested	MBF	1,230,529	1,480,000
Forest products operators given assistance	Number	13,620	16,400
Area of timber stand improvement	Acres	135,712	163,000
Area planted or seeded	Acres	150,442	180,000

Rural development. A joint effort by members of the LaCrosse County Rural Development Committee in Wisconsin, of which the local forester is a member, and local residents who "cared," have transformed heretofore unproductive land into a valuable asset. Under the guidance of the Wisconsin Department of Natural Resources, local residents applied the proper treatment measures and forest management principles on tax-delinquent land obtained by the county 25 years ago and planted trees. The area now known as the Hoeth Memorial Forest today provides income, employment, educational opportunities, recreation, wildlife and, most importantly, pride to the residents of this Wisconsin rural community.

GENERAL FORESTRY ASSISTANCE

1970	$2,027,000
1971	2,284,000
1972	2,284,000

It is proposed to continue this program at the 1971 level.

General forestry assistance funds are used to accomplish highly specialized forestry assistance not available through Forest Service cooperative programs. The program provides for professional assistance in such fields as:

(1) Forest products utilization.

(2) Rural community development.

(3) Comprehensive planning.

(4) Special studies.

(5) Silviculture.

(6) Continuous forest inventory.

(7) Forest hydrology.

(8) Advisory management services.

(9) Industrial development.

(10) Dissemination of forest research findings.

Assistance is provided to forest landowners, loggers, forest products processors, and others either directly or through State foresters, highly-skilled experts; or the interchange of employees of the Forest Service and State foresters or forestry schools.

Program funds are also used for innovative projects and studies in the solution of complex problems or testing of new approaches. These special projects are generally accomplished through cooperative agreements with State foresters. Examples of on-going projects include:

(1) Priority of forestry services. An innovative approach to providing technical services to forest landowners on a priority basis (Indiana, West Virginia, and Pennsylvania).

(2) Lake Tahoe Basin planning and development. Employment of forestry planning specialists by the State foresters of California and Nevada to work with the Lake Tahoe Regional Planning Compact and other agencies, organizations, and individuals to help guide and shape future development and prevent destruction of the environment.

(3) Roundwood marketing. To develop needed information on volumes available and markets for small-size classes of timber from natural stands and plantations in Pennsylvania, Ohio, and Michigan.

(4) Rural planning and development. Provides for a forestry planning specialist in Florida, Louisiana, Virginia, Montana, and New Jersey to maximize use of forest resources in all aspects of State and local planning and development.

(5) Forestry work crews. Employment of technicians in Louisiana and Virginia to recruit and train forestry work crews and help schedule their work in tree planting and timber stand improvement.

Additional projects are planned to meet specific needs and opportunities for multi-purpose management to improve the Nation's forest lands.

The Forest Service and cooperating State foresters work closely with rural communities, local industry, and other agencies and organizations to abet social and economic progress. Funds are used to meet the assigned responsibilities of the Forest Service and to assist cooperating State foresters in rural development.

Examples of Recent Accomplishments

Skyline and balloon logging. In 1970, the Forest Service employed a skyline and balloon logging specialist to work with loggers and foresters in timber sales work in the mountainous Western Regions. Conventional high lead and tractor logging in this terrain can cause substantial and costly damage to the logging site. A minimum of soil disturbance results from skyline and balloon logging; fewer access roads with their erosion potential are needed; and less waste in the form of broken trees and logs are left to provide fuel for wildfires. The site is also left in better shape for planting a future timber crop. (See Figure 32.)

Post peeling plant. A new industry in Holmes County, Mississippi, is a post-peeling plant. It is buying and peeling 2,000 pine posts daily. Ten men are employed in the woods and plant. Before this plant was built the owner received assistance from the project forester and utilization specialist of the Mississippi Forest Commission and an industry procurement specialist. These men supplied information on resources, wood procurement, plant layout, machinery location, and bark and shaving markets. This is the third post-peeling plant the State's utilization specialist has helped start. This new market for small pine will make forestry more profitable to the landowner as well as provide much needed additional income to the county.

Furniture factory. Dublin, Georgia, needed industry. The Georgia Forestry Commission, through its forest products utilization specialist, suggested a furniture plant and supplied supporting timber resource and other data to the president of the local Chamber of Commerce. As a result of the combined efforts of the State specialists, many other agencies, and development groups, and a $1,625,000 loan, a modern air-conditioned furniture factory is now in operation. It employs 196 workers in the plant and another 36 in the woods.

Assistance to sawmill at Ely, Minnesota. Through the combined assistance of State and Federal forest products utilization personnel, a Minnesota timber concern in financial difficulty located good markets for its entire output of aspen and pine lumber. Efforts by these specialists, combined with the investment of new profits by the company, has resulted in the transformation of this company from one in danger of foreclosure to one whose future is promising. The results of such assistance have been substantial to the 30 people employed at this mill and to the producers of the 1.5 million board feet of logs used by the mill annually.

STATE COOPERATION IN FOREST FIRE CONTROL

Mrs. HANSEN. Yesterday we discussed the adequacy of the Clarke-McNary forest fire protection funds. The committee increased the funds for the activity by $2 million last year. The Office of Management and Budget saw fit to use the increased amount as the base for this year's request. Do they continually expect this committee to increase the funds again so that the current needs can be met?

Mr. CLIFF. I don't think they expect it to be increased this year. It stands at $16,494,000.

Mrs. HANSEN. The States are having great difficulty with their forest protection programs. I think you are going to see an increasing demand for more funds by the States, particularly in the Midwest. Many of the Governors who met yesterday with the President in the Midwest are among the many people who are asking for more Clarke-McNary funds.

PAYMENTS TO STATES

Please insert in the record, the total amount of funds that the U.S. Forest Service allots to the States.

Mr. CLIFF. We will be glad to supply that for the record.

(The information follows:)

In addition to the Clarke-McNary funds budgeted for payment to the States in fiscal year 1972, the Forest Service has budgeted the following amounts for payment to the States:

Cooperation in forest management and processing	$4,412,000
Insect and disease control	955,000
Assistance to States for tree planting	758,000
Total	6,125,000

Mrs. HANSEN. Mr. Wyatt.

Mr. WYATT. You and other administration officials have talked about the State and private sector. In contrast to the national forest, we note the budget for Cooperative Forestry programs shows no change. Does the Forest Service think this work involving the majority of our Nation's forest land is important?

Mr. T. NELSON. Clearly the cooperative programs for forestry on private land are important. This was recognized by the President's Task Force on Softwood Timber Supplies. Thereafter, Secretary Hardin was directed to develop a program for private forestry. In the long run, the productivity of the Nation's private forest lands will determine whether or not the Nation's housing and other wood products needs are met.

Mr. WYATT. Did the Forest Service propose increases to the administration?

Mr. T. NELSON. The Forest Service did propose increases.

Mr. WYATT. Specifically, what was your request for the Clarke-McNary Cooperative Fire program? Did the Department of Agriculture support your request?

Mr. T. NELSON. We requested Clarke-McNary Cooperative Fire Control financing to the full authorization—$20 million. The Department did not support that request.

Mr. WYATT. This committee recognizes that funds for cooperative forest management has reached the authorized limit. What is the administration's position regarding this program?

Mr. T. NELSON. The position of the administration with respect to cooperative forest management activities is the same as that for any other Federal funds for specific purpose. The President's revenue-sharing proposal would leave to States and local governments the decision as to the purposes for which funds are directed within broad categories.

Mr. WYATT. What is the Forest Service's position regarding this program?

Mr. T. NELSON. The Forest Service, of course, supports the administration's position.

Mr. WYATT. We recall hearing of proposals to provide forestry assistance to urban communities. What is the status of this effort?

Mr. T. NELSON. Forestry assistance to urban areas and to communities has been under consideration within the administration. The need has been recognized. The alternatives available will be reviewed within the context of the revenue-sharing proposal.

SMALL WOODLAND OWNERSHIPS

Mrs. HANSEN. I have received a letter from a consulting forester in the State of Washington about small woodland ownerships. He says, "The two primary reasons why the landowner does nothing to improve the production on these lands are apathy and lack of funds." Aren't you working through the University of Washington, on improved management techniques for the small private woodlands?

Mr. ARNOLD. Yes, we are. Some of the research is also being conducted at the Olympia Laboratory.

Mrs. HANSEN. What have been the results so far?

Mr. ARNOLD. Those results are very preliminary. We are working in the field of fertilization and also better utilization and better logging methods which would allow logging to be done on the smaller ownership. It's an important type program.

CONSTRUCTION AND LAND ACQUISITION

Mrs. HANSEN. Please insert pages 111 through 129 in the record at this point.

(The pages follow:)

FOREST SERVICE

Construction and Land Acquisition

Appropriation Act, 1971	$15,665,700
Budget estimate, 1972	24,912,000
Increase in appropriation	+9,246,300
Adjustments to 1971 appropriation:	
Appropriation Act, 1971	15,665,700
Proposed supplemental for pay costs	154,000
Adjusted appropriation	15,819,700
Budget estimate, 1972	24,912,000
Increase in 1972 program level	+9,092,300

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	1971	1972 estimate	Increase or decrease
Alleviation of existing pollution problems at recreation, research, and administrative facilities	$7,088,000	$20,000,000	+$12,912,000
Development of camping, picnicking, and other recreation facilities	3,214,700	1,058,000	-2,156,700
Construction of buildings, utilities, communications systems, and other facilities	2,478,000	2,000,000	-478,000
Non-recurring research construction projects	1,185,000	- -	-1,185,000
Water resource development construction and land acquisition	1,854,000	1,854,000	- -
Total	15,819,700	24,912,000	+9,092,300

PROJECT STATEMENT

Project	1971 estimate	1972 estimate	Increase or decrease
(1) Forest land management construction:			
(a) Development of recreation-public use areas	$3,214,700	$1,058,000	-$2,156,700
(b) Water resource development construction	554,000	554,000	- -
(c) Construction for fire, administration, and other purposes	2,478,000	2,000,000	-478,000
(2) Research construction	1,185,000	- -	-1,185,000
(3) Pollution abatement	7,088,000	20,000,000	+12,912,000
(4) Land Acquisition, Weeks Act	1,300,000	1,300,000	- -
Total available or estimate	15,819,700	24,912,000	+9,092,300
Proposed supplemental appropriations for pay costs	-154,000		
Total appropriation	15,665,700		

NOTE: Prior to fiscal year 1971, the above activities were funded in the appropriation, Forest protection and utilization. Fiscal year 1970 obligations for these activities are shown under the appropriation, Forest protection and utilization, as follows:

	1970 Obligations
Recreation-public use development	$6,914,782
Water resource development construction	3,205,162
Construction for fire, administration, and other purposes	3,130,212
Research construction	930,238
Pollution abatement	2,264,100
Land acquisition, Weeks Act	1,299,221
Total	17,743,715

CONSTRUCTION AND LAND ACQUISITION

1971	$15,819,700
1972	24,912,000
Increase	+9,092,300

An increase of $9,092,300 is proposed.

The program provides for the construction and improvement of buildings, utilities, other physical facilities, and land acquisition throughout the National Forests and National Grasslands.

(1a) Development of recreation-public use areas ($1,058,000, a decrease of $2,156,700)

The proposed program level will provide for essential quality improvement measures, new construction at 9 sites, and development of minor visitor information facilities.

Projected recreation use in 1972 will reach 186.7 million visitor days, an increase of 15 percent over 1969. The following table illustrates the present situation:

Comparison of Capacity and Use Increases at Campgrounds and Picnic Grounds

	Fiscal Year				
	1967	1968	1969	1970	1971
Campgrounds					
Capacity (thousands of people-at-one-time)	381.9	397.0	401.3	411.0	418.0
Increase in capacity over previous year (percent)	2.7	4.0	1.1	2.4	1.7
Measured and projected increase in use (percent)	7.0	8.0	8.0	6.0	6.0
Picnic Grounds					
Capacity (thousands of people-at-one-time)	108.6	111.8	113.2	113.6	116.3
Increase in capacity over previous year (percent)	3.0	2.9	1.2	0.4	2.4
Measured and projected increase in use (percent)	7.0	8.0	8.0	6.0	6.0

The program includes:

Quality improvement, which consists of replacing or upgrading worn out, vandalized, or inadequate facilities, including water and sanitation systems, tables, stoves, traffic control structures, bathhouses, and refuse handling facilities. Increases in capacity do not normally result from this kind of work. Benefits are derived from extending the service life of facilities, maintaining and improving the opportunity for a recreation experience, and preventing unnecessary site deterioration and degradation of the surrounding environment through pollution.

New construction will begin at 9 sites, resulting in an increased capacity of 2,110 people-at-one-time. The increased capacity will relieve some overcrowding and use at existing sites and provide facilities for increased use and persons now forced into undeveloped areas. It will alleviate sanitation and cleanup problems and soil and vegetation deterioration in some general forest areas.

Emphasis will be placed on completion of projects started in previous fiscal years. A list of proposed projects is included in Exhibit I.

Minor Visitor Information Service facilities will be developed to meet visitor needs for orientation and environmental education dealing with natural resource management of the National Forests. It includes interpretive trails for the handicapped and others, informational signs, auto tours, amphitheater, scenic overlooks with interpretive signs, and information stations. Emphasis will continue to be placed on the development of low cost, high quality facilities and services.

Examples of Recent Accomplishments

In National Forest developed sites, there was an increase in persons-at-one-time capacity of 10,138 in fiscal year 1970. Capacity of sites developed under recreation use permits also increased during fiscal year 1970 by 3,029 persons-at-one-time. A larger increase is expected in 1971.

Some of the more popular construction completions include the three interpretive trails for the blind in California, Florida, and New Mexico. Here visitors can learn about the National Forest environment and activities in sites specially designed for their enjoyment.

Admissions and user fees charged for use of National Forest developed sites and recreation special-use permit fees are summarized below:

	FY 1969	FY 1970	Change
Recreation special-use permit	$2,468,430	$2,982,617	+$514,187
Admissions and user fees	1,237,563	1,158,157	-79,406
Total	3,705,993	4,140,774	+434,781

(1b) Water resource development construction ($554,000)

Funding at the same level as fiscal year 1971 will provide sanitation and other facilities at new reservoirs necessary to prevent environmental degradation and to protect public health and welfare. A list of proposed fiscal year 1972 projects follows:

Water Resource Development Construction

State	Forest	Project	Estimated Cost
Montana	Kootenai	Libby	$102,000
Utah	Uinta	Currant Creek Boat Ramp	85,000
California	Shasta-Trinity	Centimudi Boat Ramp	44,000
Texas	Sabine	Indian Mounds	110,000
Kentucky	Daniel Boone	Cave Run	102,000
Illinois	Shawnee	Kinkaid Lake	111,000
Total			554,000

The Forest Service is responsible for designing and developing public use facilities on National Forest System lands at, and adjacent to, project reservoirs built by other agencies. Impact survey findings and recommendations provide for the protection of water quality and fulfillment of other project purposes by pointing the way to carefully designed public use

development tailored to individual project needs. Facilities include sanitation improvements, camping and picnic sites, swimming beaches, boat ramps, and other public use and information facilities. To serve their intended purpose, these facilities should be installed in time to meet the initial impact of visitor use when a reservoir fills. Installation during the construction period is generally less expensive than after completion of the project.

Examples of Recent Accomplishments

Fiscal year 1970 accomplishment included construction and planning of facilities at 6 projects as follows: Libby Reservoir, Montana; Turquoise Reservoir, Colorado; Flaming Gorge Reservoir, Utah; Cannelton Look and Dam and Monroe River Reservoir, Indiana; Allegheny Reservoir, Pennsylvania.

(1c) Construction for fire, administration, and other purposes ($2,000,000, a decrease of $478,000)

Many forest activities take place in remote areas. Small communities in these areas do not have adequate facilities to support the various program activities. Buildings and other facilities must be provided to:

(1) Furnish office space for Forest Service personnel.
(2) House Forest Service personnel and their families.
(3) Furnish shop and storage space for maintaining and storing field equipment and supplies.
(4) Furnish adequate communications systems.
(5) Furnish utilities to serve the various structures.
(6) Furnish ground support for aerial operations.
(7) Furnish early fire detection.

Construction funds are planned for use as follows:

Dwellings and barracks--Six single family units of standard design to be constructed at a cost of $195,800

These will be located on the following National Forests:

Location	Amount
North Tongass National Forest, Alaska	$37,800
Pike National Forest, Colorado	35,300
Challis National Forest, Idaho (2 units)	71,400
Chattahoochee National Forest, Georgia	30,600
Mississippi National Forest, Mississippi (subsidized by Mainstream Program)	20,700

Sixteen experimental housing units of 11 special designs produced by the Forest Products Laboratory and the Southeastern Experiment Station are to be constructed at a cost of $286,400

These units are to be constructed for evaluation purposes and for occupancy by Forest Service personnel on an experimental basis. The primary objectives are to:

(1) Evaluate the potential of these housing designs for Forest Service use.
(2) Explore the applicability of these designs for use by low-to-moderate income families under conditions similar to those encountered by the Forest Service.
(3) Demonstrate efficient wood utilization concepts.

The units will be located on sites which were selected to insure public exposure.

Housing is a chief factor in securing quality personnel for remote locations. These experimental houses cannot be used to replace our standard housing designs until such time as they have been fully evaluated.

The 16 units are to be built at an average cost of $17,900. The designs range from a 2-bedroom dwelling of 576 square feet to a potential 4-bedroom unit of 1,468 square feet. The introduction of new design concepts and variations in site conditions have generated high unit costs for these experimental houses. Recognizing the high cost of conducting an evaluation such as this, the cost estimates are limited to direct project costs.

This undertaking has been coordinated with the Department of Housing and Urban Development and the Farmers Home Administration. Both organizations have offered to provide technical assistance and have assured the Forest Service that this project is in full accord with their programs.

One experimental structure will be constructed on each of the following National Forests:

State	National Forest
Alabama	Tuskegee
Alaska	North Tongass (a duplex)
Arizona	Prescott
California	Angeles
	Sequoia
Colorado	Rio Grande
Idaho	Targhee
Louisiana	Kisatchie
Montana	Custer
	Beaverhead
New Mexico	Santa Fe
Ohio	Wayne-Hoosier
Oregon	Willamette
Utah	Fishlake
Vermont	Green Mountain

Fire lookouts - One is to be constructed on the Umpqua National Forest in Oregon at a cost of $24,600

Offices - One is to be constructed on the George Washington National Forest in Virginia at a cost of $49,000

Special projects - One to be constructed at a cost of $52,000
The project is described as follows:

Denver Fire Center, Denver, Colorado. The Center will serve as a Regional Fire Control Center and will provide protection for forest lands in Colorado, Wyoming, South Dakota, Nebraska, Utah, Arizona, and New Mexico. The Center is to be primarily an air base with

facilities to accommodate planes, materials, and seasonal employees. The total project is estimated to cost $952,000. Thirty thousand dollars was appropriated for water and sewerage systems in fiscal year 1971. The $52,000 proposed at this time will be used to develop fire retardant mixing facilities.

Service and storage buildings - Two to be constructed at a cost of $51,600

These will be located as follows:

	Amount
Carson National Forest, New Mexico	$40,300
Allegheny National Forest, Pennsylvania ...	11,300

Communications systems (radio and telephone) - Systems will be improved through the installation of new equipment and facilities at a cost of $910,000

Specific project locations are as follows:

Arizona, Coronado National Forest	$48,000
California, Klamath National Forest	119,400
California, Los Padres National Forest	54,100
Idaho, Salmon National Forest	82,200
Montana, Flathead National Forest	204,200
Oregon, Fremont National Forest	44,300
Oregon, Willamette National Forest	82,000
Wyoming, Shoshone National Forest	87,100
20 miscellaneous projects	188,700

Site acquisition - Two administrative sites will be purchased at a cost of $15,400

These will be located within or near:

Ozark National Forest, Arkansas	$4,100
Nicolet National Forest, Wisconsin	11,300

Water and sanitation systems - Seven systems are to be constructed at a cost of $252,900

These will be located on the following National Forests:

State	National Forest	No.	Amount
California	Klamath	1	$12,100
California	Shasta-Trinity	3	129,600
Oregon	Ochoco	1	40,600
Pennsylvania ...	Allegheny	1	37,700
Washington	Olympic	1	32,900

Quality improvement of existing structures - Upgrading of structures and miscellaneous site improvement work will be accomplished at various locations throughout the National Forest System at a cost of $162,300

Examples of Recent Accomplishments

The following units were constructed during fiscal year 1970:

No.	Units
8	Dwellings and barracks
1	Fire lookout
5	Service and storage buildings
2	Offices
15	Water and sanitation systems

Approximately $1,577,000 was used for communication systems, quality improvement of existing structures, and ground support for aerial activities.

(2) Research construction (None proposed. $1,185,000 appropriated in 1971.)

The 1971 appropriation provided for the following non-recurring items, all of which are under construction or being planned:

Location	Facility	Amount
Oregon, Corvallis	Construction, 2nd stage addition to Forestry Sciences Laboratory	$500,000
Wisconsin, Rhinelander	Construction, 1st stage addition to Institute of Forest Genetics	490,000
West Virginia, Princeton	Planning, addition to the Forest Products Marketing Laboratory	55,000
Georgia, Macon	Planning, addition to the Southern Forest Fire Laboratory	140,000

The preparation of architectural plans and specifications is completed for laboratories at the following 15 locations:

Planning Appropriation Year	Amount	Location	Facility	Estimated Cost of Construction
1970	$71,000	Minnesota, Duluth	Forest Marketing & Utilization Laboratory	$850,000
1968	45,000	Idaho, Moscow	Forestry Sciences Laboratory	1,320,000
1968	50,000	Mississippi, Gulfport	Forest Insect & Disease Laboratory	800,000
1968	57,000	North Carolina, Franklin	Coweeta Hydrology Laboratory	790,000
1968	95,000	North Carolina, Research Triangle	Forestry Sciences Laboratory	1,455,000
1968	31,000	Wisconsin, Rhinelander	Institute of Forest Genetics, 2nd stage addition	305,000
1967	75,000	New Hampshire, Durham	Forestry Sciences Laboratory	1,300,000
1967	170,000	Oregon, Corvallis	Forestry Sciences Laboratory, 3rd stage addition	3,150,000
1967	37,000	Utah, Provo	Shrub Improvement Laboratory	745,000
1967	40,000	Vermont, Burlington	Sugar Maple Laboratory	1,050,000
1967	180,000	Wisconsin, Madison	Forest Products Laboratory, remodeling	4,830,000
1967	40,000	Kentucky, Berea	Forestry Sciences Laboratory	1,200,000
1967	28,000	Nebraska, Lincoln	Shelterbelt Laboratory	680,000

Planning Appropriation Year	Amount	Location	Facility	Estimated Cost of Construction
1965	$50,000	New Mexico, Albuquerque	Forestry Sciences Laboratory	$935,000
1965	60,000	Pennsylvania, Radnor	Forest Service Building	4,850,000

(3) Pollution abatement ($20,000,000, an increase of $12,912,000)

The increase will be used to comply with Executive Order 11507 which directs that abatement of water and air pollution at existing Federal facilities be completed or underway by December 31, 1972. It will allow initiating a program to combat air pollution through proper treatment of solid waste.

These pollution abatement programs are vitally needed to protect and maintain the resources and environment of the National Forests. They will:

(a) Help prevent a general degradation of the National Forests.
(b) Ensure a continued flow of high quality water for domestic and irrigation use.
(c) Provide analysis for guidance for remedial measures necessary to ensure that activities on or near the National Forests will comply with the Clean Air Act, as amended (42 USC 1857).

Water Pollution Abatement ($18,650,000)

The increase of $11,562,000 will allow funding 597 projects.

This work is urgently needed to protect public health and to maintain the quality of the environment.

Following is a summary of proposed projects costing $75,000 or more scheduled for undertaking in 1972. Proposed projects costing less than $75,000 are shown as Other.

Region	Project	Construction Cost
Northern	Missoula Aerial Fire Depot	$160,000
	Powell Ranger Station	80,000
	Holland Lake Campground	90,000
	Outlet	81,000
	Slate Creek Ranger Station	90,000
	Other	443,000
	Total, Northern Region	944,000
Rocky Mountain	Dillon	322,000
	Maroon Lake	140,000
	Rollinsville Central Disposal	113,000
	North Fork Shoshone Central Disposal	132,000
	Upper Poudre Central Disposal	100,000
	Burgess Central Disposal	90,000
	Snowy Range Central Disposal	90,000
	Pactola	130,000
	Other	422,000
	Total, Rocky Mountain Region	1,539,000

Region	Project	Construction Cost
Southwestern	Big Lake Recreation Area	$1,400,000
	Sabino Canyon Visitor Center	162,000
	Lake Roberts Picnic Ground	115,000
	Canjilon Administrative Site	86,000
	Lynx Lake Boat Landing	200,000
	Questa Administrative Site	120,000
	Tres Piedras Administrative Site	112,000
	Ghost Ranch	100,000
	Other	1,111,000
	Total, Southwestern Region	3,406,000
Intermountain	Mirror Lake Central Disposal	120,000
	Flat Rock	189,000
	Other	645,000
	Total, Intermountain Region	954,000
California	Pope-Baldwin	914,000
	William Kent Station	214,000
	Kaspian Picnic Ground	117,000
	June Lake Loop	625,000
	Bass Lake	156,000
	Harrison Gulch Ranger Station	166,000
	Barton Flats Area Sewer	526,000
	Cottonwood Creek Group	85,000
	Other	994,000
	Total, California Region	3,797,000
Pacific Northwest	Diamond Lake	675,000
	Multnomah Falls	100,000
	Rigdon Ranger Station	100,000
	Redmond Air Center	137,000
	Steamboat Ranger Station	155,000
	Unity Ranger Station	80,000
	Glide Ranger Station	120,000
	Other	880,000
	Total, Pacific Northwest Region	2,247,000
Southern	Powells Fort	110,000
	Olustee Beach	292,000
	Juniper Springs	415,000
	Caney Lakes	759,000
	Lake Winfield Scott	113,000
	Sliding Rock	185,000
	Ratcliff Lake	99,000
	Valentine Lake	100,000
	Cliffside	219,000
	Choctaw Lake Recreation Area	355,000

Region	Project	Construction Cost
Southern (continued)	Other	799,000
	Total, Southern Region	3,446,000
Eastern	Clearwater Beach Central Dump	140,000
	Lake Sherwood Recreation Area	330,000
	Twin Lake Recreation Area	120,000
	North Star Campground	75,000
	Lake Michigan Campground	120,000
	Brevoort Lake Campground	235,000
	Boot Lake Campground	110,000
	Black River Recreation Area and Center	200,000
	Other	810,000
	Total, Eastern Region	2,140,000
Alaska	R. Quartz Creek Campground	75,000
	Other	102,000
	Total, Alaska Region	177,000
	Total	18,650,000

Air Pollution Abatement ($1,350,000)

The increase of $1,350,000 will be used to begin a program to abate air pollution through proper disposal of solid waste. It will permit Forest Service coordination of solid waste disposal problems with local and county officials, Forest Service special use permittees, private citizens, State and other Federal agencies. This will eliminate duplication of effort in developing sanitary fill disposal sites, equipment, manpower, and collection routes. It will also reduce the number of disposal sites, allowing better land management. About 50 percent of the needed planning and design necessary to comply with the Clean Air Act and Executive Order 11507 on solid waste disposal will also be accomplished. The initial program is primarily directed toward coordination, general planning and design.

The proposed program in fiscal year 1972 has been developed based on general needs of each region as follows:

Region	Amount
Northern	$165,000
Rocky Mountain	150,000
Southwestern	130,000
Intermountain	185,000
California	165,000
Pacific Northwest	170,000
Southern	210,000
Eastern	145,000
Alaska	30,000
Total	1,350,000

Examples of Recent Accomplishments

In fiscal year 1971, pollution abatement funds of $7,088,000 will be used to accomplish pollution control at existing facilities to the quality standards adopted pursuant to the Federal Water Pollution and Clean Air Acts, or as prescribed pursuant to E.O. 11507.

Approximately 15 percent of total will be spent on the continuing problem of exporting waste from the Tahoe Basin in California. Approximately 8 percent of total will be spent on construction of pollution abatement facilities at Diamond Lake in Oregon.

An estimated 25 percent of total will be spent on project planning and design such as: Big Lake in Arizona, Oak Creek Canyon in Arizona, Flat Rock in Idaho, Bass Lake in California, Clearwater in Florida, Twin Lake in Pennsylvania, Loleta in Pennsylvania, and Hapgood in Vermont.

The remaining 52 percent will be spent for construction of continuing projects, new projects, or completion of regional development plans such as: South Lake Tahoe in California, Diamond Lake in Oregon, Clearwater in Florida, Caney Lake in Louisiana, Maroon Lake in Colorado, Gardens Bluff in Tennessee, and Ratcliff Lake in Texas.

(4) Land acquisition, Weeks Act ($1,300,000)

The acquisition of key inholdings within the National Forests and the National Forest purchase units becomes increasingly urgent as the demands upon wildlands and farm lands for highway construction, industrialization, and summer home development increase. The development program for the National Forests recognizes the need to acquire additional private inholdings in need of land rehabilitation. Included are lands depleted by repeated fires, poor logging practices, clearing and cultivation of steep and erodible mountain lands, disturbed mineral exploitation areas, and submarginal or marginal farms that should be removed from farming operations and managed for timber production and/or grazing. These are lands located primarily in economically depressed areas. Sound management of acquired areas will contribute to:

(1) Stabilization of the local economy.
(2) Environmental enhancement.
(3) Prevention of stream pollution in rural America.
(4) Improved timber production.

Lands primarily valuable for recreation are not included in this program, since acquisition of such lands is financed under the Land and Water Conservation Fund Act program.

The $1.3 million included in the fiscal year 1972 estimate will be used to acquire an estimated 9,000 acres in the Redbird Purchase Unit in eastern Kentucky at a cost of $509,000. The remaining $791,000 will be used to continue the acquisition programs in purchase units in the eastern United States, plus a minor program in Nebraska. Emphasis is given in this part of the program to the National Forests in Arkansas, Illinois, Indiana, Michigan, and Ohio.

See the tabulation at the end of this section for more detailed information on the actual and planned accomplishments in fiscal years 1970-1972 (Exhibit II).

Examples of Recent Accomplishments

In 1970 a total of 157 tracts were contracted for purchase under authority of the Weeks Act using regular appropriated Weeks Act funds. These cases involved the acquisition of 17,702 acres at a total cost of $1,299,221. These transactions involve lands suited to timber production and watershed protection in areas where National Forest ownership needs to be consolidated or extended to facilitate these programs. Many of the smaller parcels, 20-40-80 acres in size, are purchases made at a price equal to, or nearly equal to, the cost that would otherwise have been incurred to survey, post, and mark the National Forest boundary surrounding the property.

EXHIBIT I--Recreation-Public Use--FY 1972
Capital Investments--Distribution by National Forests

Region	Forest and Project	Quality improvement of existing sites: Sewage systems (No.)	Quality improvement of existing sites: Estimated cost	New sites, expansion, and planning: Camp and picnic sites (Capacity)	New sites, expansion, and planning: Sewage systems (No.)	New sites, expansion, and planning: Other developments (No. of sites)	New sites, expansion, and planning: Estimated cost	Total capital investment
NORTHERN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Minor VIS Facilities:							
	Clearwater					1	$2,100	2,100
	Custer					1	10,200	10,200
	Lolo					1	1,100	1,100
	Subtotal, Northern Region		44,000			3	13,400	57,400
ROCKY MOUNTAIN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Minor VIS Facilities:							
	Bighorn					1	$2,100	2,100
	Gunnison					2	3,200	3,200
	Medicine Bow					1	1,600	1,600
	Nebraska (Central Plains Forestry Office)					1	1,800	1,800
	Rio Grande					1	3,000	3,000
	Routt					2	1,700	1,700
	Subtotal, Rocky Mountain Region		44,000			8	13,400	57,400
INTERMOUNTAIN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Toiyabe (Bootleg C.G.)			320	1		$109,000	109,000
	Minor VIS Facilities:							
	Humboldt					1	4,200	4,200
	Teton					1	9,200	9,200
	Subtotal, Intermountain Region		44,000	320	1	2	122,400	166,400

EXHIBIT I--Recreation-Public Use--FY 1972
Capital Investments--Distribution by National Forests

Region	Forest and Project	Quality improvement: of existing sites: Sewage systems (No.)	Quality improvement: of existing sites: Estimated cost	New sites, expansion, and planning: Camp and picnic sites (Capacity)	New sites, expansion, and planning: Sewage systems (No.)	New sites, expansion, and planning: Other developments (No. of sites)	New sites, expansion, and planning: Estimated cost	Total capital investment
CALIFORNIA	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Inyo (Oh Ridge)			465			$204,600	204,600
	Minor VIS Facilities:							
	Angeles					1	1,000	1,000
	Lassen					1	5,600	5,600
	Tahoe					3	6,800	6,800
	Subtotal, California Region		44,000	465		5	218,000	262,000
PACIFIC NORTHWEST	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Minor VIS Facilities:							
	Mt. Hood					1	$13,400	13,400
	Subtotal, Pacific Northwest Region		44,000			1	13,400	57,400
EASTERN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Shawnee (Dutchman)			125			$6,200	6,200
	Wayne (Buckhorn)					1	2,100	2,100
	Monongahela (Seneca Rocks)			650			25,600	25,600
	Monongahela (Spruce Knob Lake)					1	10,300	10,300
	Ottawa (Sylvania)				1	1	3,500	3,500
	Minor VIS Facilities:							
	Chequamegon					1	5,100	5,100
	Clark					2	5,300	5,300
	Green Mountain					1	3,100	3,100
	Subtotal, Eastern Region		44,000	775	1	7	61,200	105,200

EXHIBIT I--Recreation-Public Use--FY 1972
Capital Investments--Distribution by National Forests

Region	Forest and Project	Quality improvement of existing sites: Sewage systems (No.)	Quality improvement of existing sites: Estimated cost	New sites, expansion, and planning: Camp and picnic sites (Capacity)	New sites, expansion, and planning: Sewage systems (No.)	New sites, expansion, and planning: Other developments (No. of sites)	New sites, expansion, and planning: Estimated cost	Total capital investment
SOUTHERN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Ozark-St. Francis (Blanchard Caverns)			360	1	1	$107,300	107,300
	Minor VIS Facilities:							
	Chattahoochee					1	13,400	13,400
	Subtotal, Southern Region		44,000	360	1	2	120,700	164,700
SOUTHWESTERN	Other Projects:							
	Miscellaneous*		$44,000					$44,000
	Apache (Winn C.G.)			190			$86,900	86,900
	Minor VIS Facilities:							
	Cibola					2	13,400	13,400
	Subtotal, Southwestern Region		44,000	190		2	100,300	144,300
INSTITUTE OF TROPICAL FORESTRY	Minor VIS Facilities:							
	Caribbean					1	$13,400	$13,400
ALASKA	Other Projects:							
	Miscellaneous*		$16,400					$16,400
	Minor VIS Facilities:							
	North Tongass					1	$13,400	13,400
	Subtotal, Alaska Region		16,400			1	13,400	29,800
	TOTALS, ALL REGIONS		368,400	2,110	3	32	689,600	1,058,000

EXHIBIT I--Recreation-Public Use--FY 1972
Capital Investments--Distribution by National Forests

Note: P.G. - Picnic Ground
C.G. - Campground
VIS - Visitor Information Center

* To provide supplies for Project Mainstream (manpower assistance programs relating to construction of National Forest recreation facilities) and to provide updated site design to coordinate long range quality improvement programs with planned water pollution abatement projects.

EXHIBIT II -- WEEKS ACT PURCHASES 1970-1972

	FY 1970 Actual			FY 1971 Estimates			FY 1972 Estimated		
	Options accepted	Acres	Obligation	Options to be accepted	Acres	Obligation	Options to be accepted	Acres	Obligation
Alabama - Talladega	1	80	$9,000	1	80	$9,000			
Tuskegee				1	156	13,000			
Wm. B. Bankhead	1	10	300						
Arkansas - Ouachita	3	369	23,418	2	120	9,000	2	290	$17,000
Ozark	6	1,538	82,541	8	1,363	57,000	10	1,092	59,000
Georgia - National Forests in Georgia	1	20	2,000						
Illinois - Shawnee	9	659	62,641	12	1,000	82,000	12	800	68,000
Indiana - Hoosier	20	1,884	131,968	15	1,300	80,000	9	750	63,750
Kentucky - Redbird Purchase Unit	25	2,899	91,387	8	8,500	560,000	35	9,000	509,000
Jefferson				2	1,170	33,000			
Daniel Boone	5	3,852	217,175						
Louisiana - Kisatchie	2	25	4,392	1	40	5,000			
Michigan - Hiawatha	1	42	840				4	800	12,800
Huron-Manistee	22	345	15,450	5	380	25,000	11	340	24,000
Ottawa	1	20	400	3	250	5,000	4	320	7,600
Minnesota - Chippewa	2	206	3,475	3	200	5,000	2	800	8,500
Superior							1	175	8,500
Missouri - Clark	2	170	7,100	5	425	15,000			
Mark Twain	9	750	31,500	8	1,000	45,000	3	350	16,000

EXHIBIT II -- WEEKS ACT PURCHASES 1970-1972

	FY 1970 Actual			FY 1971 Estimated			FY 1972 Estimated		
	Options accepted	Acres	Obligation	Options to be accepted	Acres	Obligation	Options to be accepted	Acres	Obligation
Nebraska - Nebraska				2	240	$17,000	2	300	$18,000
New Hampshire - White Mountain							1	96	8,100
Ohio - Wayne	19	2,303	$119,288	16	2,500	90,000	9	750	63,750
Oklahoma - Ouachita	1	20	700						
South Carolina - Sumter	2	38	5,621	1	140	20,000			
Tennessee - Cherokee	4	370	26,400	1	116	8,000	4	426	36,500
Pennsylvania - Allegheny							3	100	12,700
Vermont - Green Mountain	2	79	11,560	2	150	15,000	2	162	14,700
Virginia - George Washington	1	96	9,625	1	200	22,000	1	235	76,500
Jefferson	9	915	44,722	5	372	21,000			
West Virginia - Monongahela	3	282	20,494	1	900	40,000	4	120	40,700
Jefferson	1	131	2,874						
Wisconsin - Chequamegon	4	560	16,780	2	200	10,000	2	320	8,500
Nicolet	1	39	700	3	300	10,000	2	200	12,800
Subtotal	157	17,702	942,351	108	21,102	1,196,000	123	17,426	1,086,400
Surveys and related acquisition costs			356,870			104,000			213,600
Total obligations			1,299,221			1,300,000			1,300,000

CONSTRUCTION

Change in Appropriation Title

Change in appropriation title is proposed as follows. New language is underscored.

Construction and Land acquisition

> For construction and acquisition of buildings and other facilities required in the conservation, management, investigation, protection and utilization of national forest resources and the acquisition of .....

The proposed change in appropriation title is designed to more accurately describe the work to be done under this appropriation. Acquisition of lands under the Act of March 1, 1911 (Weeks Act) is for the purpose of facilitating the administration, management, and consolidation of the National Forests and not merely for the purchase of sites to be used for construction of buildings and other facilities.

DEVELOPMENT OF RECREATION-PUBLIC USE AREAS

Mrs. HANSEN. You are requesting a decrease of $2,156,700 for recreation-public use. Your justifications indicate that visitations will increase 15 percent over 1969 in 1972. Please explain the apparent lack of preparation for your increased visitor use.

Mr. CLIFF. I will ask Mr. Nelson.

Mr. M. NELSON. You made it more difficult for me to explain that decrease. This is a decrease. It cuts what we had the year before by two-thirds. It will allow us to do some new construction on nine sites in the United States. This will provide new capacity of 2,110 people at one time. It is a difficult situation that we are in.

Mrs. HANSEN. What percent do you consider your recreation facilities adequate?

Mr. M. NELSON. That is a little difficult to answer, Mrs. Hansen, in relation to the total needs. However, our general recreation plans have identified a need for modernization of present sites which will cost about $80 million. To add new facilities to take care of ever-increasing annual use at sites other than reservoirs should be at an annual level of about $11 million.

We have just completed a special inventory of our situation at reservoirs where recreation facilities are normally financed from the water related development construction item.

I submit two tables showing the results of that study.

(The tables follow:)

RECREATION DEVELOPMENT NEEDS FOR RESERVOIRS UNDER CONSTRUCTION OR BEING CONSIDERED FOR CONSTRUCTION

State	Project	National Forests	Dollars in Thousands
Alabama	Talladego Cr., Tallaseehatchie, Choccolocco	Alabama	$ 1,399
Arizona	Trout Cr., Red Rock, Willow Valley	Apache, Coronado	1,044
Arkansas	Poteau River, Pine Mtn.	Ouachita, Ozark-St.Francis	2,574
California	Pyramid, Eliz. Lk., Fish, Cal. Agued, Silver Wood Lk.	Angeles, San Bernardino	2,044
Colorado	Long Draw, Peterson Lk., Barnes Mdw., Laramie, Sleeping Ute.,Rabbit Ears, Yamcolo, Twin Lakes,Waldorf, Turquois, Animas-La Plata, Overland, Fruitland Mesa	Roosevelt, Routt, San Isabel, San Juan, Pike, Gunnison, Arapaho	4,225
Idaho	Dworshak, Harvard-Laird, Lost Valley, Montpelier, Trail Cr.	Clearwater, St. Joe	
		Payette, Caribou, Targhee	816
Illinois	Kincaid, Bay Cr., Cedar Lake	Shawnee	4,849
Indiana	Tip Saw, Salina, Md. Fork, Deer Cr., Middle Fork, Cannelton, Anderson River	Hoosier	11,521
Kentucky	Cave Run, Red River, Laurel	Daniel Boone	13,650
Louisiana	Bayou Boeuf	Kisatchie	1,620
Mississippi	Choctaw, Turkey Fork	Mississippi	1,510
Missouri	Meramac Park, Roby Lake, S-22	Clark	431
Montana	Libby Dam	Kootenai	3,493
New Mexico	Galisteo, McKnight	Santa Fe, Gila	652
No. Carolina	Upper French	North Carolina	1,490
Ohio	Willow Island	Wayne	192
Oregon	Pewland Prairie, East Pine Cr., Papoose, Balm Cr., Hardman, Upper Olive, Lower Grande Ronde, Bonneville	Mt. Hood, Umatilla, Wallow-Whitman	6,966
		South Carolina	443
So, Carolina	Cooper River	Cherokee	1,475
Tennessee	Watauge, Ocoee, S. Holston	Texas	8,659
Texas	Lake Conroe	Ashley, Manti-La Sal, Uinta, Wasatch	3,818
Utah	Upalco, Stillwater, Whiterocks, Duck Fork, Silver Lk., Currant Cr., Strawberry, Hayes, China Mdw., Meeks Cabin, Vernon, Buckeye	Geo. Washington, Jefferson	934
Virginia	Cathright, Keotee	Olympic	710
Washington	Wynoochee	Bridger	230
Wyoming	Cottonwood	TOTAL	$ 74,745

RECREATION DEVELOPMENT NEEDS AT RESERVOIRS ALREADY IN PLACE & FILLED

State	Project	National Forests	Dollars in Thousands
Alabama	Lewis Smith	Alabama	$ 1,970
Arizona	Fool Hollow, Bear Canyon, Black Canyon, Wood Canyon, Showlow, Woodland, Willow Spr., Dipping Vat, Largo, Cataract, Dogtown	Sitgreaves, Kaibab Coronado, Apache	3,290
Arkansas	Lake Ouachita, Hamilton, Alum	Ouachita	2,414
California	Courtwright, McCloud, Pit #7, Wishon, Vermillion, Mammoth Pool, Hetch-Hetchy, Shasta Lk., Toolumne, Stampede, Sugar Pine, BOCA, Lewiston, Lk. Benet, Jenks Lk., Antelope, Frenchman, Lk. Davis, Sly Cr., Beardsley, Fulmor, Upper Am. River, Loon, Little Grass Valley	Sierra, Stanislaus Shasta-Trinity, Tahoe, San Bernardino, Plumas, Eldorado	16,741
Colorado	Clear Cr., Florida, Frying Pan-Ark., Silver Jack, Rampart Range	San Isabel, San Juan, White River, Grand Mesa-Uncomp. Pike	2,644
Georgia	Lake Blue Ridge, Chatugue	Chattahoochee	1,313
Idaho	Albeni Falls, Low Hell's Canyon	Kaniksu, Payette	863
Indiana	Monroe	Hoosier	2,685
Kentucky	Cumberland	Daniel Boone	731
Mississippi	Chewalla, David Lk., Puskus Lk., Brushy Cr.,	Mississippi	2,463
New Hampshire	Cold River, Baker River	White Mountain	93
New Mexico	Roberts Lk., Snow Cr., PL-566 #7	Santa Fe, Gila	900
No. Carolina	Fontana, Hiwassee, Santeetlah	North Carolina	1,457
Oregon	Clear Cr., Crow Cr., Timothy, Antelope, Carman-Smith, Round Butte, Cane Prairie, Wickiup, Crescent, Blue Ridge, Harstack, Detroit, Cougar, Lookout Point, Hills Creek, Wasco	Mt. Hood, Ochoco Willamette, Deschutes	3,427
Pennsylvania	Allegheny, Tionesta	Allegheny	19,152
So. Carolina	Intercoastal Canal	South Carolina	383
So. Dakota	Pactola, Deerfield	Black Hills	1,701
Texas	Sam Rayburn, Toledo Bend	Texas	15,292
Utah	Flaming Gorge, Johnson, Emery, Whitney	Ashley, Fishlake, Wasatch	2,993
Virginia	So. River, So. Branch, Briery Branch, Upper No. River, Bark Comp.	George Washington Jefferson	162
Washington	Upper Baker, Wells, Okawagan, Sultan, Rimrock	Mt. Baker, Okanogan, Snoqualmie	3,198
W. Virginia	Buffalo Fork	Monongahela	80
Wisconsin	Chequamegon, Hudson Bay	Chequamegon	2,694
Wyoming	Hog Park, Rob Roy, Lake Owen	Medicine Bow	62
		TOTAL	$ 88,700

As I indicated, the construction fund for recreation and public use will provide for only 2,000 people at one time, whereas we anticipate our increased use this next year will be about 10 million new visitor-days of use. Over 3 million of them will be campers or picnickers.

As you pointed out the table on page 113 in the budget submission shows that our percentage of increase in providing new facilities over the last 5 years runs from 1.1 percent in 1969 to 4 percent in 1968, whereas our increased use ran from 6 to 8 percent each year.

Mrs. HANSEN. How can you afford not to do this work?

Mr. M. NELSON. This gets back to what you told me not to say, but really, that it had to be looked at in relation to the overall budget. It's a deferred item that will have to be taken care of at some further date. We hope that that wouldn't be too long. In this particular year, we are asking for a large increase in the pollution abatement part of the construction line item. This, then, has made us take a reduction in the actual construction for recreation-public use and keep the water related development construction at the same low level it was the previous year.

Mrs. HANSEN. In spite of the 15-percent increase?

Mr. M. NELSON. Yes, Madam Chairman.

LIMITS ON USE OF CAMPGROUNDS

Mrs. HANSEN. When your facilities become overcrowded, through lack of recreation facilities you are actually damaging your forests. Won't you get to a point where you will have to limit the use?

Mr. CLIFF. Yes. I think we may have to do that. As a matter of fact, we do limit the length of time that people can stay on the campgrounds now. In many of our campgrounds we have a time limit. We haven't reached the point where we have tried to register people in advance except for some organization use of facilities.

What happens is they come to the forest and if the campgrounds are full during the peak use periods, they camp in undeveloped areas. This, of course, is not a desirable trend. It results in greater hazard from fire and from pollution.

Mrs. HANSEN. You are pennywise and pound-foolish, when you cut funds for activities that help protect the national forest.

Mr. Shultz, the director of the Office of Management and Budget stated the other day before the full committee that this is an expansionary budget. I find this a very regressive budget. If it is expansionary it certainly isn't reflected in the Forest Service budget.

RECREATION FACILITIES AT RESERVOIRS

Mr. M. NELSON. Madam Chairman, I mentioned a minute ago that we did have a study made of our needs for recreation facilities at the reservoirs constructed by other agencies in the national forests. I have submitted two tables for the record. They show that we have 107 reservoir projects that are presently existing. Those reservoirs have been filled. They have 642,115 surface acres of water. We have a need for $86,708,000 to build the recreation facilities that are needed to fully utilize those reservoirs for recreation.

In addition to that, we have 83 reservoirs that are under construction at the present time, but not yet filled, which will have a surface acreage of 203,000 acres and the cost of providing the facilities to fully take care of the recreation on those reservoirs is $74,745,000 based upon the field survey and reports we have from the field.

Mrs. HANSEN. What are you requesting in this budget for this program?

Mr. M. NELSON. In that particular item for construction of recreation facilities at water-related locations we have only $554,000 this year.

Mrs. HANSEN. Do you think that is adequate?

Mr. M. NELSON. It would take 330 years to do the job.

Mrs. HANSEN. At the current rate?

Mr. M. NELSON. Yes, at that rate of funding in fiscal years 1971 and 1972 on those 190 reservoirs on the national forests. Of course, these bodies of water are prime attractants for recreationists. That doesn't take care of the question that you asked of all of our recreation needs. This is only to take care of those reservoirs that have been constructed on the national forests by the Army Engineers, the Bureau of Reclamation, the Federal Power Commission licensees, and that type of reservoir.

Mr. MCDADE. Madam Chairman, will you yield?

Mrs. HANSEN. Yes.

USER FEE REVENUES

Mr. MCDADE. On page 114 of the justifications, you show a total figure of about $4.1 million for special use permits and admissions and user fees as an income item. That doesn't represent all of your fees, does it, for visitations to the national forests?

Mr. M. NELSON. No. Our receipts for recreation use permits for 1972 are anticipated to be $4 million. In fiscal year 1970 it was just under $3 million. In addition to that, we have the admission and user fees. In fiscal year 1970 it was just over $1 million and in 1972, we estimate it will be $1.75 million.

Mr. MCDADE. How much money do you pay to the BOR for general admissions to the national forests?

Mr. M. NELSON. We pay the Bureau of Outdoor Recreation the amount collected from the sale of the Golden Eagle Passports. These receipts go into Land and Water Conservation Fund and become available for use by BOR after appropriate clearance by the Congress. In 1969 we collected over $1.7 million by sale of these passports. In the first half of fiscal year 1971, we have collected $1.4 million.

Mr. MCDADE. That is your total receipts from visitation in the national forests?

Mr. M. NELSON. Yes, at areas that are developed by the national forests. We expect to collect $1.750,000 in admission and user fees. Our collections for passports, usable at national forest areas as well as in national parks, will be in the neighborhood of $2.5 million.

VISITOR DAYS

Mr. MCDADE. In your opening statement you indicated that you expect to have 183 million visitor days. Can you translate that into people for me?

Mr. M. NELSON. A visitor day is one person.

Mr. MCDADE. Twelve hours?

Mr. M. NELSON. Twelve hours, yes.

Mr. MCDADE. You are saying it's at least 183 million people?

Mr. M. NELSON. Roughly, when we used to count them by "visits", that was a person made a visit whether it was several days or only 2 hours. The total visits came out roughly the same as our total "visitor day" system of counting.

Mr. MCDADE. I am not clear then on why there is only about $4 million in revenue.

FEE CHARGE AREAS

Mr. M. NELSON. We collect only at areas that have been constructed where we are providing something for the camper or the picnicker who is using that area.

We collected or charged a fee for use, at 2,841 developed areas out of a total of 8,500 areas we have throughout the United States. We don't collect at some areas where the cost of collection would be greater than the amount that we would collect. We have some areas that aren't improved very much. They may not have any usable drinking water and they still have old pit toilets or something like that. We have a lot of areas that are quite small and not developed very highly.

Although only one-third of our improved recreation sites are charge areas, this one-third represents 56 percent of our capacity for taking care of people at one time.

INCREASE IN COLLECTION SYSTEM

Mr. MCDADE. How many are you asking as an increase to beef up this collection system? You have an increase in the budget of how much that you are requesting?

Mr. M. NELSON. For our whole recreation-public use line item, we are asking for a net increase of $2.2 million.

Mrs. HANSEN. That isn't the cost of collection?

Mr. M. NELSON. No, not just cost of collection. One item covers administration, operation, cleanup and sanitation. The administration part includes collection of fees. This budget is asking for a $3,056,000 increase which includes the collection of the fees. Some of this proposed increase will be offset by a decrease in other items in the recreation-public use budget line item.

Mr. MCDADE. I thought I read in the justifications that one of the reasons for that was to increase your collections under the fee system.

Mr. M. NELSON. Some of it will probably be so used.

Mr. MCDADE. How much?

Mr. M. NELSON. I don't know at this time.

Mr. CLIFF. We can give you that for the record. That is one of the elements of intensified management.

(The information follows:)

The number of designated fee collection areas in fiscal year 1972 will be about the same as those designated for fiscal year 1971. Therefore none of the fiscal year 1972 budget increase will be used to increase the number of fee collection areas. We will, however, use a small amount of the increase to more adequately supervise the areas where fees are collected. For example, we will pay more attention to stronger enforcement of the fee regulations. This usually has the effect of more people voluntarily paying their fees and thus bringing in additional revenue.

Mr. McDade. When I read your statement about the 184 million visitations and an increase predicted again this year, I looked at the income account and I wasn't able to justify in my own mind the $4 million in income from recreation in the national forests as against the 183 million visitations.

NONPAYING USERS OF NATIONAL FORESTS

Mrs. Hansen. Mr. Cliff, isn't it true that every hunter who goes into your national forest does not pay a fee?

Mr. Cliff. That is true.

Mrs. Hansen. Also every fisherman who goes into your national forest doesn't pay an entrance fee.

Mr. Cliff. I would like to comment on this because I think it is confusing. The 183 million projected visitor days for this current fiscal year represents a very diversified recreation use. It includes fishermen and hunters, about 15 million visitor days of fishing and 14 million visitor days of hunting. Typically, many of the fishermen and hunters do not use improved recreation areas, for which charges are made. They are allowed to go into the national forests without charge.

The wilderness users are permitted to use the wilderness without charge. This is provided for specifically in the Land and Water Conservation Act.

The winter sports users who use improved areas that are run by concessionaires pay their charges to the concessionaire, not to the Federal Government. People who use other resort facilities or have summer homes pay no charge as an entrance fee or as user fee, other than for their special use permit.

The people who pay for the use of the national forests then are the picnickers and the campers who use improved sites where the improvements are substantial enough to justify a collection, that is only about one-third of our total improved areas.

Mr. M. Nelson. Thirty-one percent of all recreation uses were picnickers and campers last year.

Mr. Cliff. On the other sites, as Mr. Nelson explained, that are not very well developed or are remote or where cost of collection would exceed the collections, we do not collect fees.

Mr. McDade. So for purposes of fee collection you have a visitation use of about 60,000 people per year.

Mr. Cliff. I think it's less than that, sir.

Mr. M. Nelson. There were 53 million campers and picnickers last year.

SEASON PASSES AND DAY PERMITS

Mr. Cliff. Not all of those used sites or were at places where charges were collected. We have been selling season permits. A $7 Golden Eagle Passport will allow a family of any given size to utilize these resources all season for $7. The people who typically buy the season pass are those who use the National Forests and other Federal recreation areas repeatedly. It's a real bargain for those people.

We also make day charges. If people do not choose to pay for the season pass, they can pay for a day permit. At our more highly developed areas—19 percent of those where a charge is made—we require a higher use charge or the passport plus a use charge.

DAY USER FEES

Mrs. HANSEN. What is your average day charge?

Mr. CLIFF. That is different for different areas.

Mrs. HANSEN. Give us a couple of examples.

Mr. CLIFF. It's $7 a night per family for camping in some 80 percent of our charge campgrounds. The number of visitor days includes the men, women, and children. The charge is for the family. This all explains why the collections this year will be about $1.5 million in admission and user fees. Some of our users buy their Golden Eagle Passports from other agencies. We do not get credit for the collection. We don't know precisely how many people who buy them from the Park Service use the National Forests. We know that quite a few do. So there is no exact bookkeeping here.

This coming year the cost of a season pass is increased to $10. There will be some revision in the day charges. I think this gives you a little clearer idea why 183 million visitor days doesn't result in great big income from user charges.

Mr. M. NELSON. We collect admission and user fees which show as Forest Service receipts. Our receipts do not include the fees that are collected from the Golden Eagle Passports. There was a little over $900,000 collected last year in addition to the ones shown as Forest Service receipts.

Mr. MCDADE. And is not carried as an income account?

Mr. M. NELSON. That is right. The figure we should be talking about would be $5 million dollars.

Mr. MCDADE. Thank you, Madam Chairman.

USER FEES FOR TRAILERS

Mrs. HANSEN. Do you have any differential in fees for people who have a trailer going into a National Forest as compared with people who are traveling by car?

Mr. M. NELSON. No, it's the same fee. A car with a trailer pays the same as a car.

Mr. CLIFF. We have different fees for different degrees of development.

FEE CHARGES AT SPIRIT LAKE

Mrs. HANSEN. What do you charge at Spirit Lake?

Mr. CLIFF. That would be in the $2 category.

Mrs. HANSEN. I have discussed for several years the need for larger facilities. This is one of the most popular places in the Northwest.

Mr. CLIFF. Spirit Lake is a beautiful place. It's one that people flock to and stay there as long as they are allowed. We have many other such situations.

Mrs. HANSEN. This is also creating some real problems.

FIRST PRIORITY GIVEN TO POLLUTION ABATEMENT

Mr. CLIFF. I think you realize, as well as we, that the recreation use has been increasing very rapidly. It has been increasing faster than we have been able to increase facilities. We have a problem. We

are getting an increase of about $9 million in total for construction item in this budget which includes recreation, fire and general construction, plus pollution abatement and land acquisition. It was decided that first priority would be given to a $12.9 million increase for alleviation of pollution. It was decided that, under the circumstances of the budget, first priority would be given to pollution abatement at existing areas where there are pollution problems, that we should get on top of this before we construct many additional recreation areas or do other construction work. This is why the new construction is subordinated to pollution abatement.

MAINTENANCE AND CLEANUP COSTS

Mr. McDade. Chief, don't I recall a figure that the chairman developed of about $12 million of cleanup costs?

Mr. Cliff. I think that is correct. We discussed that earlier.

Mr. McDade. This is primarily in these very camping areas that we are talking about.

Mr. Cliff. As camping and picnicking has increased, we have had to use more of the funds available for cleanup and management, supervision, and operation. This has resulted in reducing the amount that has been available for construction.

Now we are faced with this immense pollution abatement problem that has grown up on us. Ten years ago we thought we were pretty well on top of this. We were constructing our areas to meet the Public Health standards, but the use of them has grown. The things that were suitable then are not satisfactory now. They have to be modernized. Most of our sewage disposal systems have to be updated, the water systems in many of these areas need improvement, not only at the recreational areas but also at some of our field headquarters and research stations.

There is a Government-wide effort to get the Government on top of its own pollution abatement problems. This is why the priorities have been set as they are.

FEASIBILITY OF INCREASED CHARGE FEES

Mr. McDade. I have no objection to that. My only question is that we do see a picture painted of ever-increasing recreational use of the forests, increasing demands on your budget, whether it be for cleanup or pollution or whatever, all good reasons to spend money, but we don't seem to see any corresponding increases in the amounts of money being generated into your coffers by recreational uses, particularly the camping type of activity that causes you these general problems.

Mr. Cliff. That is true. There will be some increase in income, but the amount that we are collecting is not going to even meet the operational costs.

Mrs. Hansen. Would it be possible to have a fee system that would meet the operation costs?

Mr. Cliff. It would mean increasing the fees by many times. I don't know if that is feasible. We have considered increasing the fees. But you see, even if you doubled them, you still would not be coming anywhere near what it is costing to manage these areas.

We have so many areas on which we don't collect fees. We have all that dispersed recreation—the horseback rider, the hiker, people who go into the woods for fishing and hunting and don't use facilities—we don't collect fees from them but we do have to pick up litter and garbage. There is a cost attached to managing that kind of use.

Mr McDade. How much of a problem is this type of visitor?

Mr. Cliff. We have to spend a considerable amount of money cleaning up in the so-called dispersed recreation areas. In fact, they create considerable debris and create sanitation problems. We have to have teams to clean up the back country and we have to clean up debris in wilderness areas. In the notes we have itemized the cost of management and operation of the dispersed recreation and wilderness areas.

CLEANUP COSTS

Mr. M. Nelson. It's shown on page 26 of the justifications. For dispersed recreation it is $2,823,000 and for the wilderness areas it is $2,818,000. That always includes a little more than cleanup.

Mrs. Hansen. Aren't your national forests near urban areas reflecting a continual increase in use?

Mr. Cliff. Yes, they are.

Mrs. Hansen. Is there any difference in the cost of litter cleanup in a forest like Gifford Pinchot and a forest near an urban area?

Mr. Cliff. I don't know if there is any difference in the cost-per-person. There would be a difference in cost because of the more intensive use in the forests near urban areas.

Mrs. Hansen. That is what I mean. Isn't your cost of litter cleanup more in the urban areas than it is in the so-called wild forests?

Mr. Cliff. Because it's related to more people.

Mrs. Hansen. That is right, and also it relates to a different kind of user.

Mr. Cliff. Yes, ma'am.

CONSTRUCTION OF EXPERIMENTAL HOUSING UNITS

Mrs. Hansen. You are requesting $195,800 and $286,400 to construct six single family units and 16 experimental housing units respectively. Give us the details on this.

Mr. Cliff. Mr. Schultz will answer that.

Mr. Schultz. The $286,400 is for 16 experimental housing units, using 11 different types of low cost designs that were produced by the Forest Products Laboratory and the Southeastern Experimental Station. The main purposes are to evaluate these designs for Forest Service use to start with; to explore the applicability of these designs for use by low-to-moderate income families; and then finally to demonstrate efficient wood utilization concepts. Their cost averages $17,900 each. They will range from a two-bedroom unit of 576 square feet to a four-bedroom unit of about 1,400 square feet. These are small buildings. They have less floor space than our normal rental dwellings. We selected locations pretty well throughout the United States for these 16 so that we can get a good test of the applicability under various weather situations and building conditions.

Mrs. HANSEN. Are these to be model dwellings that can be displayed?

Mr. SCHULTZ. This is correct. In fact, one of the site selection criteria for those listed is to place them in locations where they would have the maximum public exposure for demonstration purposes.

Mrs. HANSEN. I see you are also going to demonstrate the efficient wood utilization concept.

Mr. SCHULTZ. That is correct, as developed by the Forest Products Laboratory.

RESEARCH ON FIREPROOFING HOUSING MATERIALS

Mrs. HANSEN. How are you progressing on the fireproofing of shingles?

Mr. ARNOLD. That research has continued, and the fireproofing material has been well established.

Mrs. HANSEN. Please insert in the record how much the sales of the shingles have increased since treatment as compared with the sales before treatment.

Mr. ARNOLD. Yes, ma'am.

(The information follows:)

FIREPROOFING SHINGLES AND SHAKES

There was no effective nonleaching fire retardant for wood shingles and shakes prior to 1967. Although current overall sales of shingles and shakes are approximately the same as 1967, by 1970 about 6 percent of all wood shingles and shakes, or about 28.5 million square feet, were commercially treated. Treatment is now being extended to lumber and other wood construction material.

CONSTRUCTION OF DWELLINGS

Mrs. HANSEN. Do you have anything particular to add on the $195,800 requested for six single-family units?

Mr. SCHULTZ. I should point out the amounts shown there for the individual residences appear to have exceeded the limitation of the $29,000 on occasion. But the $29,000 limitation excludes such things as general supervision, indirect costs, preliminary surveys, feasibility studies, cost of the development of the water and sanitation systems where public utilities are not available, cost of extending some of the utilities beyond the lot line, and removable items like refrigerators, ranges, and storm windows. If we remove the cost of those items from each one of the amounts shown on page 115, the budget request for the six houses is under the $29,000 limitation.

DENVER FIRE CENTER

Mrs. HANSEN. Justify your request of $52,000 for the Denver Fire Center at Denver, Colo.

Mr. SCHULTZ. The $52,000 would be to develop the fire retardant mixing facility which includes a covered drainage ditch, holding tank, fencing, an access pad, access driveway, and vehicle parking. This is part of the development of the total Denver Fire Center complex.

Mrs. HANSEN. Please insert in the record your fire losses in the Denver region.

(Information requested follows:)

The Jeffco (Air Attack) Base for the Denver area would primarily furnish initial air attack on front range fires on five national forests (Medicine Bow, Roosevelt, Arapaho, Pike, and San Isabel). Fire statistics for these forests during the 8-year period 1960–67 are:

Total fires	1,494
Total acres burned	27,627
Annual average number of fires	178
Annual average of acres burned	3,453

The Pike, Arapaho, and Roosevelt have large acreages of high-value national forest land with highly inflammable fuels and have highly developed private lands that are intermingled with national forest land, where rapid attack is essential. The Little Scraggy Fire on the Pike in 1968 burned 200 acres at a cost of $60,000 and a resource loss of $40,000. Some 500 acres burned on the Arapaho in sight of Denver in 1968. Suppression costs were $160,000 and there was a high resource loss. Rapid initial attack from Jeffco probably could have suppressed either of these fires while small.

CONSTRUCTION OF SERVICE AND STORAGE BUILDINGS

Mrs. HANSEN. Justify your request of $40,300 for storage buildings in the Carson National Forest in New Mexico and $11,300 in the Allegheny National Forest in Pennsylvania.

Mr. SCHULTZ. These are service and storage buildings in connection with work centers. This is for the storage of equipment, tools and supplies, and working space for field crews.

COMMUNICATIONS SYSTEMS

Mrs. HANSEN. You are requesting $910,000 for communications systems. Is this related to your total management of these areas as well as your fires?

Mr. SCHULTZ. That is correct.

Mrs. HANSEN. What new equipment will you purchase?

Mr. SCHULTZ. Some of this will be the replacing of complete systems in the national forests. National forest systems will be converted to the high bands. I mentioned this last year as one of the items we have had to go ahead on. For example, we will replace the complete radio system on the Shoshone National Forest. On the Coronado National Forest we will replace 24 pieces of obsolete radio equipment. We have two more locations where we will convert to the high bands. I have the details of the total plans if you wish to have them in the record.

Mrs. HANSEN. Do you consider these in an emergency category?

Mr. SCHULTZ. These are all in line with keeping up to date and getting up into the high band frequencies.

SITE ACQUISITION—JASPER, ARK.

Mrs. HANSEN. You are going to acquire some site locations in the Ozark National Forest in Arkansas and Nicolet National Forest in Wisconsin. Please give us the details on this.

Mr. SCHULTZ. The Ozark National Forest acquisition is on the Buffalo Ranger District at Jasper, Ark. It's for a residential site at a cost of $4,100. Jasper is the headquarters of the Buffalo Ranger District. It has a population of about 300 people. It's located about 17 miles north of the district work center. It's just 7 miles outside of the forest boundary. The nearest reliable source of housing for our personnel is at Harrison, Ark., which is some 20 miles distant. We feel that Jasper is the only established community near the district which can offer minimum services to our people. Surveys were conducted to determine whether any Federal lands were available and they were not.

Mrs. HANSEN. $4,100 is a high price to pay for real estate in a small town. Is there a house or anything on the property?

Mr. SCHULTZ. No, there is nothing on the lot.

Mrs. HANSEN. What size is the lot?

Mr. SCHULTZ. It's about an acre and a half.

Mrs. HANSEN. What is the size of the town?

Mr. SCHULTZ. 300 population.

Mrs. HANSEN. Isn't that a rather high-priced lot?

Mr. SCHULTZ. These are farming lands around Jasper.

SITE ACQUISITION—LAKEWOOD, WIS.

Mrs. HANSEN. You are requesting $11,300 for site acquisition in the Nicolet National Forest in Wisconsin. What are you buying there?

Mr. SCHULTZ. That is for a district office site at Lakewood, Wis. This is the headquarters for the Lakewood Ranger District.

Mrs. HANSEN. How much land are you buying?

Mr. SCHULTZ. I won't have the acreage for that site.

Mrs. HANSEN. This does not include forest land?

Mr. SCHULTZ. No. We made the selection of this on the basis of service to the public and ready access to the district.

Mrs. HANSEN. In what town will this be located?

Mr. SCHULTZ. Lakewood. It has a population of less than 800 people.

Mrs. HANSEN. Please insert in the record the details on these acquisitions.

Mr. SCHULTZ. I will get the acreage for those lots.

(The information follows:)

ACQUISITION OF ADMINISTRATIVE SITES

OZARK NATIONAL FOREST, BUFFALO RANGER DISTRICT, JASPER, ARK., RESIDENCE SITE, $4,100

Jasper, Ark. is the headquarters or the Buffalo Ranger District. It has a population of about 300 and is located 17 miles north of the district work center and 7 miles outside of the forest boundary. The nearest reliable source for rental housing is Harrison, Ark., which is 20 miles north of Jasper. Jasper is the only established community near the district which can offer minimum services to our people. This site is a residential site in the community which will not exceed 1.5 acres.

NICOLET NATIONAL FOREST, LAKEWOOD RANGER DISTRICT, LAKEWOOD, WIS., DISTRICT OFFICE SITE, $11,300

The site will contain approximately 5 acres. Lakewood is the headquarters for the Lakewood Ranger District. It has a population of less than 800 people and is centrally located within the district boundary. The proposed site will provide

administrative and work center facilities for aproximately 15 permanent full-time employees. An office containing approximately 2,600 sq. ft. is scheduled to be constructed on this site in fiscal year 1972 by the Blackwell Civilian Conservation Center as a part of their carpentry training program. The location has been selected on the basis of service to the public and ready access to all parts of the district. A survey of all national forest lands bordering State Highway 32 and in the vicinity of Lakewood has failed to produce a suitable site. Existing facilities will be converted into a residential complex. In addition to the office, future plans call for the construction of two storage buildings and an oil house on the site.

QUALITY IMPROVEMENT OF EXISTING STRUCTURES

Mrs. HANSEN. You have requested $162,300 for quality improvement of existing structures. Is this repair work?

Mr. SCHULTZ. That is major repairs and includes modernization and remodeling which would be in excess of our regular maintenance and operations.

CONSTRUCTION OF SEWER SYSTEMS

Mrs. HANSEN. You are requesting $252,900 for construction of water and sanitation systems in five forests. Is that correct?

Mr. SCHULTZ. Yes; that is correct.

Mrs. HANSEN. Are they new systems or replacement systems?

Mr. SCHULTZ. Two are new systems and five are replacement of systems to bring them up to standard.

Mr. M. NELSON. They do not come under pollution abatement because they are not polluting at the present time. But the job still has to be done.

CORVALLIS LABORATORY

Mrs. HANSEN. The committee appropriated $500,000 for the construction of the Corvallis Laboratory in fiscal year 1971. Is this the final stage?

Mr. ARNOLD. Madam Chairman, that is the end of the second stage. There are two other stages. The east wing and the west wing are to be completed.

Mrs. HANSEN. What will be the construction costs for the east and west wings?

(Information on p. 248.)

RHINELANDER, WIS., LABORATORY

Mrs. HANSEN. What has been spent or is being spent on the Rhinelander, Wis., laboratory? Is this the first stage?

Mr. ARNOLD. Yes; that is scheduled for contract in May of 1971. It's done through the General Services Administration.

Mrs. HANSEN. Is there anything in the 1972 budget for this program?

Mr. ARNOLD. No, Mrs. Hansen.

Mrs. HANSEN. What would be the cost of the second stage?

Mr. ARNOLD. The second stage at Rhinelander is $380,000, which provides for the greenhouses, headhouses, and a small area of land for outplanting tests of the genetically improved materials and for the intensive culture of northern species.

Mrs. HANSEN. Can the Institute of Forest Genetics operate on only stage one?

Mr. ARNOLD. The institute cannot operate long on only stage one.

Mrs. HANSEN. If you are going to use it and not have just a building standing there, you have to proceed to stage two.

Mr. ARNOLD. We will use the building, but the scientists there and the nature of the research program of intensive culture and genetics requires the outplantings test site and specialized greenhouse facilities.

Mr. OBEY. How soon?

Mr. ARNOLD. That would be as soon as the budget situation would permit.

Mr. OBEY. Right. But my question is how soon do you think that ideally it ought to come along?

Mr. ARNOLD. Ideally, they would follow immediately. As soon as one is constructed, the scientists will be using the laboratory facilities and the outplanting test site can be used at any time in the intensive culture of northern forests.

Mrs. HANSEN. So logically it should be in the 1972 budget?

Mr. ARNOLD. I would say ideally.

Mrs. HANSEN. I didn't ask you ideally. I said logically.

Mr. ARNOLD. From the standpoint of the scientists it can be used as soon as the budget permits.

PRINCETON, W. VA., LABORATORY

Mrs. HANSEN. What is the estimated cost of planning an addition to the labroatory at Princeton, W. Va.?

Mr. ARNOLD. The planning money was provided last year and the cost of construction would be $595,000.

Mrs. HANSEN. Are you requesting the construction funds in this budget?

Mr. ARNOLD. There are no funds in the budget we are considering today.

MACON, GA., LABORATORY

Mrs. HANSEN. If the planning is done at the Macon, Ga., laboratory, what is the estimated cost of the first stage of construction?

Mr. ARNOLD. The estimated cost of the addition to the Fire Research Laboratory is $1,680,000.

POLLUTION ABATEMENT

Mrs. HANSEN. You are requesting $18,650,000 for water pollution abatement, which will allow initiating the program to combat air pollution through proper treatment of solid waste. How many locations does this include?

Mr. M. NELSON. Madam Chairman, as I indicated before, we want to make a change in the submission as to the projects. I have a statement here I can either read into the record or I can place it in the record with the two tables that will show the projects we are going to construct. Another table will show the projects that are having to be deferred.

Mrs. HANSEN. Please do.

(The information follows:)

WATER POLLUTION ABATEMENT
STATEMENT REGARDING REVISED PROJECT LISTING

Since the explanatory notes were prepared and the projects listed for water pollution abatement, we find we must make some adjustments in order to be on a schedule that will comply with Executive Order 11507.

The Forest Service has a big job to do in bringing the sanitation facilities of 1,613 projects at our administrative sites and recreation sites up to the standards set by the Environmental Protection Agency. When the work in FY 1972 is completed, we will still have work to do at about 1,400 sites. The cost of this work will be about $65 million.

At the time we prepared our explanatory notes, we anticipated that we could handle the proposed construction program this year and still accomplish the planning and design work necessary to meet Executive Order 11507. Subsequent to preparing the explanatory notes a team of engineers and planners from our Washington Office has visited each of our regions to discuss the total program in detail. The information coming from these discussions indicates that we must reshape our proposed FY 1972 program to put more emphasis on planning and design. This will permit orderly accomplishment of the various phases of the total job to meet the directed timetable.

To do this, we propose to postpone construction work on 21 of the projects shown in the explanatory notes and use these funds for accelerating our planning and design work. In deciding what projects should be postponed we considered such things as status of negotiations with Public Utlity Districts or permittee groups and the priority of the project in the total Servicewide program.

In addition to this postponement action, we have made a few changes in the estimated cost of projects scheduled for construction in FY 1972. This is because design work has progressed to the point that more precise cost estimates are now available than were available at the time the notes were prepared.

We now submit two tables to replace the table on pages 119 and 120 of the explanatory notes:

Table number 1 lists each project to be funded for construction in FY 1972 by name, region, State, forest and cost. Also listed by regions is the number of projects to be funded for planning, design and engineering with the cost of such work for each region.

Table number 2 lists projects originally proposed for construction in FY 1972 but which will now be postponed.

TABLE 1

WATER POLLUTION ABATEMENT CONSTRUCTION PROJECTS
PROPOSED FOR FUNDING FY 1972

REGION	STATE	PROJECT	NATIONAL FOREST	ESTIMATED COST
Northern	Montana	Missoula Aerial Fire Depot		$160,000
	Idaho	Powell Ranger Station	Clearwater	80,000
	Idaho	Outlet	Kaniksu	81,000
	Idaho	Slate Creek Ranger Station	Nezperce	90,000
		126 Planning and Design Projects		831,000
		Total		1,242,000
Rocky Mountain	Colorado	Dillon	Arapaho	380,000
	Colorado	Maroon Lake	White River	230,000
	Colorado	Rollinsville Central Disposal	Roosevelt	160,000
	Colorado	Upper Poudre Central Disposal	Roosevelt	160,000
	Wyoming	N. Fork Shoshone Central Disposal	Shoshone	175,000
	Wyoming	Burgess Central Disposal	Bighorn	160,000
	Wyoming	Snowy Range Central Disposal	Medicine Bow	90,000
		39 Planning and Design Projects		330,000
		Total		1,685,000
South-western	Arizona	Big Lake Recreation Area	Apache	1,400,000
	Arizona	Sabino Canyon Visitor Center	Coronado	162,000
	New Mexico	Lake Roberts Picnic Ground	Gila	115,000
	New Mexico	Canjilon Administrative Site	Carson	86,000
		115 Planning and Design Projects		1,220,000
		Total		2,983,000
Inter-mountain	Utah	Mirron Lake Central Disposal	Wasatch	120,000
		120 Planning and Design Projects		1,353,000
		Total		1,473,000
California	California	Pope-Baldwin	Eldorado	480,000
	California	Bass Lake	Sierra	156,000
	California	Harrison Gulch Ranger Station	Shasta-Trinity	236,000
	California	Barton Flats Area Sewer	San Bernardino	526,000
		207 Planning and Design Projects		1,953,000
		Total		3,351,000
Pacific Northwest	Oregon	Diamond Lake	Umpqua	675,000
	Oregon	Multnomah Falls	Mt. Hood	100,000
	Oregon	Rigdon Ranger Station	Willamette	100,000
	Oregon	Redmond Air Center	Deschutes	137,000
	Oregon	Steamboat Ranger Station	Umpqua	155,000
	Oregon	Unity Ranger Station	Wallowa	80,000
		109 Planning and Design Projects		1,997,000
		Total		3,244,000
Southern	Virginia	Powells Fort	George Washington	110,000
	Florida	Olustee Beach	Osceola	292,000
	Florida	Juniper Springs	Ocala	415,000
	Louisiana	Caney Lakes	Kisatchie	759,000
		49 Planning and Design Projects		929,000
		Total		2,505,000
Eastern	Missouri	Clearwater Beach Central Disposal	Mark Twain	140,000
	West Virginia	Lake Sherwood Recreation Area	Monongahela	330,000
	Pennsylvania	Twin Lake Recreation Area	Allegheny	120,000
	Minnesota	North Star Campground	Chippewa	75,000
	Michigan	Lake Michigan Campground	Hiawatha	120,000
	Michigan	Brevoort Lake Campground	Hiawatha	235,000
		84 Planning and Design Projects		899,000
		Total		1,919,000

TABLE 1

WATER POLLUTION ABATEMENT CONSTRUCTION PROJECTS
PROPOSED FOR FUNDING FY 1972-continued

REGION	STATE	PROJECT	NATIONAL FOREST	ESTIMATED COST
Alaska	Alaska	Craig Ranger Station	South Tongass	$50,000
	Alaska	Thorne River Recreation Area	South Tongass	8,000
	Alaska	Hollis Campground	South Tongass	10,000
	Alaska	Shoal Cove	South Tongass	5,000
	Alaska	Angoon	North Tongass	10,000
	Alaska	Kake Work Center	North Tongass	4,000
	Alaska	Quartz Trailer Disposal	Chugach	8,000
	Alaska	Portage	Chugach	35,000
	Alaska	Quartz Creek	Chugach	75,000
		10 Planning and Design Projects		43,000
		Total		248,000

TOTAL PROGRAM - 45 CONSTRUCTION PROJECTS AND 859 PLANNING AND DESIGN PROJECTS 18,650,000

TABLE 2

WATER POLLUTION ABATEMENT CONSTRUCTION PROJECTS
DEFERRED FROM ORIGINAL FY 1972 PROGRAM

REGION	STATE	PROJECT	NATIONAL FOREST	ESTIMATED COST
Northern	Montana	Holland Lake Campground	Flathead	$90,000
Rocky Mountain	South Dakota	Pactola	Black Hills	130,000
South-western	New Mexico	Ghost Ranch	Carson	100,000
	New Mexico	Questa Administration Site	Carson	120,000
	New Mexico	Tres Piedras Adm. Site	Carson	112,000
	Arizona	Lynx Lake Boat Landing	Prescott	200,000
Inter-mountain	Idaho	Flat Rock	Targhee	189,000
California	California	Cottonwood Creek	Stanislaus	85,000
	California	William Kent Station	Tahoe	214,000
	California	Kaspian Picnic Ground	Tahoe	117,000
	California	June Lake Loop	Inyo	625,000
Pacific Northwest	Oregon	Glide Ranger Station	Umpqua	120,000
Southern	Mississippi	Choctaw Lake	Holly Springs	355,000
	Louisiana	Valentine Lake	Kisatchie	100,000
	Texas	Ratcliff Lake	Davey Crockett	99,000
	North Carolina	Cliffside	Nantahala	219,000
	North Carolina	Sliding Rock	Pisgah	185,000
	Georgia	Lake Winfield Scott	Chattahoochee	113,000
Eastern	Wisconsin	Boot Lake Campground	Nicolet	110,000
	Michigan	Black River Recreation Area and Center	Ottawa	200,000
TOTALS	20 CONSTRUCTION PROJECTS DEFERRED FROM THE ORIGINAL LISTINGS IN THE FISCAL YEAR 1972 BUDGET EXPLANATORY NOTES			3,483,000

AIR POLLUTION ABATEMENT

Mr. M. NELSON. That will clear up the record that we have had to change in order to do the planning.

As for the air pollution portion that you mentioned, the increase of $1.35 million is being divided among the regions to work on air pollution, which is caused primarily by solid waste disposal. We are working with the local and county officials and others to get satisfactory waste disposal areas that will be used by the county and all—usually a landfill type. We feel that with these funds we will be able to do the planning and design, at least to get a disposal area that will meet the Clean Air Act and Executive Order 11507, on about 50 percent of the areas that we feel have an air pollution problem.

Mrs. HANSEN. Do the local governments participate in sharing the costs of these projects?

Mr. M. NELSON. It varies from place to place, of course. Where they are able to, we have a cooperative agreement where they participate in the construction of the area. But more often what we try to do is to get them to take care of the operation of the disposal area. That will depend on how much use is being made by other than the forest. We will have some that are all our own, of course, but where there is a combined use with a small town or other private owners in a county, we are doing our best to work out a satisfactory cooperative arrangement.

Mrs. HANSEN. Would your guess be that funds for the other 50 percent of the areas will be reflected in next year's budget?

Mr. M. NELSON. Yes, in order to meet the Executive order.

Mrs. HANSEN. Would that clean up your pollution abatement problems?

Mr. DROEGE. Madam Chairman, it's not a very precise estimate, but our estimate is that it will cost about $7.1 million to eventually get the job done.

Mr. M. NELSON. That is the air pollution item.

WATER POLLUTION ABATEMENT PROJECTS

Mrs. HANSEN. You indicated in your justifications that your increase for water pollution abatement will be funding 597 projects. Is that correct?

Mr. M. NELSON. That has been changed with a table that I said I would put into the record. There will be fewer projects that will be funded for construction. The table shows those projects by name, by State, by region, by national forest, by cost. There also is shown an amount for each region that we are planning to spend for architectural and engineering work in the planning and designing of the additional projects.

Mrs. HANSEN. Does anyone have a question at this point?

Mr. OBEY. I do. I wanted to make certain that my notes from yesterday were right. You said you will have fewer than 597 pollution abatement projects started this year out of a total of how many left, to comply with that order?

Mr. M. NELSON. 1,613 is the total number of pollution abatement projects. We have completed 40 of the projects. In 1971 we will finish an additional 167 projects. In the balance of the program, there are 1,361 to work on yet.

TOTAL COST OF WATER POLLUTION ABATEMENT

Mr. OBEY. You said that your new estimate of the total cost to complete would be how much—$80 million?

Mr. M. NELSON. It is $80,643,000.

Mr. OBEY. You are spending $20 million this year?

Mr. M. NELSON. It's $18,650,000 this year.

Mr. OBEY. That leaves how much to comply with that order?

Mr. M. NELSON. With the accomplishments to date, plus the planned and proposed program for 1971 and 1972, a balance of $48,965,000—in terms of 1969 dollars—would be needed for fiscal years 1973 and 1974 for water pollution abatement.

Mr. OBEY. Do you expect that the budget will include that amount of money in those years?

Mr. M. NELSON. Yes; we do. This is to meet the Executive order of the President to clean up this, and it has been given high priority with the Office of Management and Budget and by the Department of Agriculture. We assume that they will go forward with recommendations for the funds to complete the job.

Mrs. HANSEN. Mr. Galifianakis?

Mr. GALIFIANAKIS. Nothing.

LAND ACQUISITION IN REDBIRD PURCHASE UNIT

Mrs. HANSEN. You are requesting $1.39 million for land acquisition under the Weeks Act. Each year you are putting large sums in the acquisition of lands in the Redbird Purchase unit in eastern Kentucky. Will you summarize your total acquisitions to date in that area and give us the priority for these purchases?

Mr. M. NELSON. We would be glad to do that and place it in the record.

(The information follows:)

NATIONAL FOREST ACQUISITION WITHIN THE REDBIRD UNIT

There is a gross area 591,000 acres within the Redbird Unit. A total of 93,974 acres has been purchased through February 1971, at a cost of $3,559,941. Estimated remaining lands desirable to be purchased are 350,000 acres with an estimated cost of $21,000,000. Only Weeks Law funds can be used for purchase. Plan for fiscal year 1972 is to purchase 9,000 acres at an estimated cost of $509,000, or 39 percent of the budget request for fiscal year 1972. Although first consideration will be given to the most critical watershed lands, no priority assessment is possible. Lands will be acquired as they become available to the extent of available funds.

APPROPRIATION TITLE CHANGE

Mrs. HANSEN. Please justify the change you are recommending in the construction appropriation title.

Mr. SCHULTZ. Madam Chairman, as you know, in fiscal year 1971 construction projects of $25 thousand or more were moved into a construction appropriation from the Forest protection and utilization appropriation. This title change that we are proposing is to more accurately define the work which will be done under this appropriation. The acquisition of land under the Weeks Act is a part of the appropriation language.

COOPERATIVE RANGE IMPROVEMENTS

Mrs. HANSEN. Please insert page 130 of the justifications in the record.

(The information follows:)

COOPERATIVE RANGE IMPROVEMENTS

Appropriation, 1971	$700,000
Budget estimate, 1972	700,000

Part of the grazing fees from the National Forests, when appropriated, are used for revegetation of depleted rangelands, construction and maintenance of range improvements, rodent control, and eradication of poisonous plants and noxious weeds. These funds are advanced to and merged with the appropriation, Forest protection and utilization, subappropriation, Forest land management.

Section 12 of the Act of April 25, 1950, (Granger-Thye Act) provides that of the money received from grazing fees by the Treasury from each National Forest during each fiscal year there shall be available at the end thereof when appropriated by Congress an amount equivalent to 2 cents per animal month for sheep and goats and 10 cents per animal month for other kinds of livestock under permit on such National Forest during the calendar year in which the fiscal year begins.

Since figures for animal months permitted are not available until after more than one-half of the fiscal year for which funds are appropriated has elapsed, the 1972 appropriation request of $700,000 necessarily represents the best current approximation of the amount which will become available in the calendar year 1971 under the animal-months-permitted formula.

For calendar year 1969, the latest available figures, animal months permitted were 6,659,748 for cattle and horses, and 5,111,425 for sheep and goats. This calculates to $768,203 available under the formula.

Mrs. HANSEN. Please insert pages 131 through 134 of the justifications in the record.

(The information follows:)

FOREST ROADS AND TRAILS

Appropriation Act, 1971	$115,000,000
Budget estimate, 1972	135,300,000
Increase	+20,300,000

PROJECT STATEMENT

The following tabulation reflects obligations for the total program for the construction and maintenance of roads and trails on the National Forests by combining the funds available under the appropriation Forest roads and trails with the permanent appropriation of 10 percent of National Forest receipts.

Project	1970	1971 estimate	1972 estimate	Increase or decrease
1. Construction of roads and trails	$121,582,317	$142,328,000	$143,440,000	+$1,112,000
2. Maintenance of roads and trails	33,517,199	27,450,000	26,560,000	-890,000
Total obligations	155,099,516	169,778,000	170,000,000	+222,000
Transfer from Roads and trails for States	-31,206,198	-28,761,091	-32,760,000	-3,998,909
Program under Forest roads and trails contract authorization	123,893,318	141,016,909	137,240,000	-3,776,909
Change in unfunded obligations	-23,323,318	-26,016,909	-1,940,000	+24,076,909
Total appropriation or estimate	100,570,000	115,000,000	135,300,000	+20,300,000

The increase of $20,300,000 in the appropriation is required in 1972 to meet cash requirements for the liquidation of obligations incurred for the construction and maintenance of forest roads and trails pursuant to the authorization contained in the Federal-Aid Highway Act. The appropriation of $135.3 million for 1972 will be used to:

(1) Pay obligations of the prior years which will be due for payment.

(2) Pay the portion of the 1972 obligations of $137.2 million contract authorization which will require cash payment in that year.

Following is a summary of the road and trail construction and maintenance to be undertaken in 1972 as compared with fiscal year 1971:

	FY 1971		FY 1972		Change	
	Miles	Amount (in thousands)	Miles	Amount (in thousands)	Miles	Amount (in thousands)
Recurrent road maintenance	122,400	$21,864	124,000	$22,560	+1,600	+$696
Recurrent trail maintenance	100,900	4,686	100,500	4,686	-400	
Road construction	1,529	108,374	1,500	109,900	-29	+1,526
Trail construction	950	4,000	370	2,000	-580	-2,000
Surveys, plans, and supervision (timber purchaser roads)	6,200	23,000	6,200	23,000		
Supplementing timber purchaser construction	1,200	7,654	1,200	7,654		
Road purchase		200		200		
Total program level		169,778		170,000		+222

The $222,000 program increase is needed to continue in 1972 the road construction program in support of National Forest management plans. This program will help make it possible to maintain the timber supply over time, and make some additional timber available through such efforts as salvage harvest and thinning. Demands on the budget require many short-term decisions to delay planned road construction projects required to adequately support the timber harvesting program. Road construction activities were postponed and realigned with the expectations of a future increased construction program to recapture delay in projects. This time lag in construction of roads and additional time necessary to carry out silviculture practices and to get timber cut and hauled to the mill makes it imperative to maintain the forest road and trail program at highest level possible with funds available. Presently inaccessible areas must be made available in the years ahead for more intensive management. Through timber sale contract allowances, timber purchasers will continue to build many roads tributary to major access, needed to harvest individual sale areas. These roads are also a part of the total development system. Planning, surveying, design, supervision of construction, and, in some cases, supplemental financing, of roads constructed from timber sale credits are funded from appropriated funds.

At the proposed fiscal year 1972 program level, construction of roads to support activities other than timber will be a minimum amount that is required in support of facilities underway or existing and needing roads to become fully functional and operational.

The objectives of the road and trail program are to provide, maintain, and operate with optimum efficiency all of the transportation improvements needed to accomplish the land and resource management, protection, and utilization goals of the Forest Service at the lowest cost of transportation consistent with protecting the watershed, preventing erosion and permanent damage to the natural environment, scenic resource, and fish and wildlife habitat.

All management objectives of the National Forests involve the transportation system either directly or indirectly. Management objectives become so enmeshed with a required transportation system that it is impossible to associate a single road project with only one resource unless it is for very short periods. Even then, other resources are affected and are the factors which determine adequacy.

Construction of roads takes time. Projects contracted for in any given year will usually not be completed until one or two years later. Translated to resource management needs, this means that scheduling the same or a reduced program level for roads in any given year will affect the ability to adequately continue or expand many other National Forest programs two years and more in the future.

An adequate system of forest development roads and trails is essential to insure the continued contributions and values of the National Forest System. The presence or lack of access by road or trail has a direct or controlling influence on the proper management and beneficial use of National Forest lands and resources. This factor largely determines the value of timber that can be marketed, the size, duration, and distribution of timber sales, and the level of salvage cuttings. It strongly influences the effectiveness of measures for protecting these lands from fire, insects, disease, and other destructive forces. It influences the level of use made of recreation, wildlife, and other resources of the National Forest.

Improvement of rural life is one of the major objectives of the Department and the Forest Service. The goal is to increase the economic and cultural opportunities of rural people to insure a pattern of living comparable to that of the rest of the nation. Good roads expand opportunities for rural development. Extending the Forest road system is essential to rural communities which depend upon National Forest resources for a livelihood. Rural businesses and industries depend on access provided to National Forests to move the forest goods and raw materials needed.

The National Forests are endowed with bountiful recreation opportunities and sites. They serve the urban dweller seeking relaxation and open space. Roads make this possible. An adequate National Forest transportation system is essential for both the economic and social well being of urban and rural America.

The following tabulation shows the current status of the forest roads and trails system and projected needs:

Item	Existing Mileage	Mileage Needing Reconstruction	Additional Mileage Needed
Roads	196,565	145,398	151,716
Trails	99,759	49,496	23,020

Summary of Work Progress and Accomplishment

	By the Government			By Timber Purchaser		
	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972
Roads (miles)	1,324	1,529	1,500	7,380	6,200	6,400
Trails (miles)	950	950	370	- -	- -	- -

Authorizations for Appropriations a/

Fiscal Year	Construction	Maintenance	Total	Funded	Unfunded
1970	$136,482,800	$33,517,200	$170,000,000	$170,000,000	
1971	142,550,000	27,450,000	170,000,000	5,244,000	$164,756,000
1972	143,440,000	26,560,000	170,000,000		170,000,000
	422,472,800	87,527,200	510,000,000	175,244,000	334,756,000

a/ The annual appropriation language and the Department presentation combine the appropriation for Forest roads and trails made pursuant to 23 USC 205 and the appropriation of 10 percent of forest receipts for construction and maintenance of roads and trails pursuant to 16 USC 501. This merger of funds is made in order to simplify the programing, allotment, and accounting of funds at the field level. Since the accounts for these two funds are merged, it is not practicable to distribute obligations and expenditures between the two appropriations on a precise basis. The amounts shown for the Forest roads and trails appropriation are a proration based on the percentage that contract authorization used under the appropriated funds is of total available funds. Expenditure amounts for maintenance are based on all such obligations requiring cash payment during the fiscal year.

Status of Unfunded Authorizations

Unfunded contract authorizations beginning of 1971	$415,056,000
Federal-Aid Highway Act of 1970 (1972 authorization available in 1971)	170,000,000
Appropriation, 1971	-115,000,000
Total unfunded beginning of 1972	470,056,000
Federal-Aid Highway Act of 1970 (1973 authorization available in 1972)	170,000,000
1972 Budget estimate (cash requirements)	-135,300,000
Balance to remain unfunded as of June 30, 1972	504,756,000

Analysis of Cash Requirements

1.	Unliquidated obligations, June 30, 1970		68,924,240
2.	Estimated cash requirements to finance 1971 program		55,850,843
3.	Total cash requirements by June 30, 1971		124,775,083
4.	Less cash on hand 1970: Balance from 1970	$9,775,083	
	Appropriation, 1971	115,000,000	124,775,083

Analysis of Cash Requirements--continued

5.	Obligations in 1971 and prior years for which cash was not provided in items 1 and 2	$46,600,000
6.	Estimated cash required to finance 1972 program	a/ 83,700,000
7.	Reserve	5,000,000
8.	Total cash required in 1972	135,300,000

a/ An estimated 61 percent of the $137,240,000 new obligations will require cash payments during the fiscal year.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS
Forest Roads and Trails

	FY 1971	FY 1972
Alabama	$609,200	$609,200
Alaska	4,579,800	4,579,800
Arizona	4,428,400	4,428,400
Arkansas	1,672,000	1,672,000
California	32,500,000	32,500,000
Colorado	7,295,400	7,295,400
District of Columbia	3,809,200	4,031,200
Florida	783,300	783,300
Georgia	1,390,100	1,390,100
Idaho	17,800,000	17,800,000
Illinois	274,000	274,000
Indiana	171,300	171,300
Kansas	2,400	2,400
Kentucky	752,600	752,600
Louisiana	687,200	687,200
Maine	182,000	182,000
Michigan	2,883,100	2,883,100
Minnesota	2,275,400	2,275,400
Mississippi	754,900	754,900
Missouri	789,500	789,500
Montana	10,521,600	10,521,600
Nebraska	177,100	177,100
Nevada	859,600	859,600
New Hampshire	565,800	565,800
New Mexico	5,725,600	5,725,600
New York	15,200	15,200
North Carolina	934,800	934,800
North Dakota	136,500	136,500
Ohio	351,100	351,100
Oklahoma	157,900	157,900
Oregon	33,377,300	33,377,300
Pennsylvania	1,136,900	1,136,900
Puerto Rico	25,000	25,000
South Carolina	516,100	516,100
South Dakota	1,519,500	1,519,500
Tennessee	652,200	652,200
Texas	505,900	505,900
Utah	3,706,400	3,706,400
Vermont	527,600	527,600
Virginia	3,046,600	3,046,600
Washington	16,019,600	16,019,600
West Virginia	1,237,600	1,237,600
Wisconsin	1,175,700	1,175,700
Wyoming	3,246,600	3,246,600
Total	169,778,000	170,000,000

Note: Above planned obligation levels would be subject to adjustments required by emergency conditions and situations.

IMPACT OF $3 MILLION REPROGRAMING

Mrs. HANSEN. Justify your requested increase of $20,300,000 for forest roads and trails. Isn't this the appropriation account that you reprogramed $3,800,000 for reseeding the burned over acreage in California and Washington.

Mr. CLIFF. Yes, this is the appropriation.

Mrs. HANSEN. Are you replacing those funds?

Mr. CLIFF. No, ma'am.

Mrs. HANSEN. The forest roads and trails account is going to be short $3,800,000?

Mr. CLIFF. This fiscal year, yes, but the amount actually reprogramed was $3 million. The $20.3 million increase is for fiscal year 1972 to meet cash requirements and liquidation of obligations. I think Mr. Nelson is prepared to comment on this.

Mr. M. NELSON. That is the purpose of the increased cash, to carry on the program as indicated, to liquidate the obligations of the previous year and pay for that portion of the obligations that are made during the current year and have to be paid in fiscal year 1972.

In the road program, if we let a contract for construction, about 20 percent of the amount of the contract, on the average, is needed in the fiscal year the contract is signed. About 65 percent of it, on the average, is spent in the second year, and the remainder, 15 percent, is paid, in the third year. So when we look at a program, like the road program, we really have to consider what it's doing over a 3-year period.

The $3 million that was reprogramed is going to place us in an extremely tight situation this current fiscal year.

You can control somewhat the amount of money, that is the cash needs, for any particular year by the timing of the contract letting. Because of the reprograming of the $3 million, it will mean that some contracts that would otherwise have been let earlier this fiscal year will not be let until very near the end of the fiscal year. We hope to be able to come out, cashwise, solvent at the end of this fiscal year.

We have some difficulty, too, this particular year because our receipts were less in 1970 than anticipated. The receipts in one year have a bearing on cash available in the subsequent year. Ten percent of receipts go to the road fund which is merged with the appropriated funds for the overall road program. You remember in past years we have advised the committee that receipts have been on the rise. We have said we are going to have more money. The committee has looked at that in relation to our funding needs and revised it to what it might be in the current year. In other words, we are, this year in a reverse situation from what we have often been in past years.

Also, the pay act required a greater outlay of cash. We did not include an item to cover pay act costs for road and trail funds in the fiscal year 1971 supplemental now being considered. The added cash need was $3.3 million.

Mrs. HANSEN. What does the 3.8 million represent in the way of road mileage?

Mr. DROEGE. We are not real sure at this time of our budgeting for road construction. What we have to do, as Mr. Nelson said, we can delay some contracts to try to make the cash needs come out properly.

Mrs. HANSEN. Delay in the contracts just means you are not going to build these roads until much later.

Mr. DROEGE. That is true.

Mrs. HANSEN. Aren't you just eliminating certain areas of land from timber production?

Mr. M. NELSON. It will delay the sales that would eventually be made.

Mrs. HANSEN. What roads will be affected by the reprograming?

Mr. M. NELSON. We don't have a list of roads that will be affected by the $3 million at this time. We are in a position where we might make an estimate of that for the record here?

Mr. DROEGE. We certainly can try.

Mr. M. NELSON. It will have to affect the areas where we are spending most of our road money and a high percentage of that is in the Northwest.

(Information requested follows:)

STATEMENT ON FY 1971 REPROGRAMING
OF ROAD AND TRAIL FUNDS

The $3 million reprogramed for rehabilitation work represented cash dollars which would have been used for paying bills resulting from work performed as originally programed. To offset this reduction we have rescheduled certain construction contract awards to a later date within fiscal year 1971. Therefore, no projects have been deleted from the program (no mile reduction). The projects will be awarded on a revised schedule which will allow payment from fiscal year 1972 appropriations. This was considered in our 1972 requests.

The $3 million cash reduction was from the regions as follows:

Region		Region	
Northern	$395,000	California	$592,000
Rocky Mountain	197,000	Pacific Northwest	949,000
Southwestern	197,000	Southern	197,000
Intermountain	276,000	Eastern	197,000

It now appears that this cash loss is going to have a serious effect on the fiscal year 1971 program. Our maintenance program in several areas must be deferred, some reductions in force must be made, and normal spring hiring of seasonal survey crews must be delayed until June 30.

Mrs. HANSEN. You have enough troubles now.

FLOOD DAMAGES

Mr. M. NELSON. And the troubles you are referring to don't include the floods we were talking about a while ago, either.

Mrs. HANSEN. That is right.

There will be a lot of flood damage from the recent winter storms.

Mr. M. NELSON. We believe there will be.

Mrs. HANSEN. Do you also anticipate a lot of building damage?

Mr. M. NELSON. We haven't heard of too much in the Northwest. The snow is still there in part of your country, as you know, and it is a little early to tell.

RESERVE OF $5 MILLION

Mrs. HANSEN. Justify your request for a reserve of $5 million in your roads and trails account.

Mr. M. NELSON. In the past our forest roads and trails budget included an appropriation request for actual cash to be expended. Because of the present ceiling on outlays, we hope to expend $5 million less than proposed to be appropriated for fiscal year 1972. If this develops, the $5 million carryover into the next year will be considered when fiscal year 1973 funds are requested.

Is that right, Mr. Droege?

Mr. DROEGE. Correct.

Mr. M. NELSON. That is guessing that our cash outlays will be $5 million less than the amount proposed to be appropriated.

If we come to the place where we actually have to have the cash——

Mrs. HANSEN. This is your $5 million?

Mr. M. NELSON. That would be the $5 million. Mr. Droege, you have been working with the Department on that. Would you explain that a little bit further?

Mr. DROEGE. We are putting $5 million in reserve this year which is an unusual thing. We have so much under contract in our road program that we are not real sure what the cash needs are going to be.

We are asking for an appropriation of $135.3 million, of which $5 million would be placed in reserve until needed. If it is needed in fiscal year 1972, it will eliminate a request for a supplemental appropriation.

Mrs. HANSEN. Is this to liquidate your contracts?

Mr. DROEGE. Yes, ma'am.

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. Insert in the record your unobligated and unexpended balances as of June 30, 1970, and January 31, 1971.

(The information follows:)

FOREST ROADS AND TRAILS UNOBLIGATED AND UNEXPENDED BALANCES

	June 30, 1970	Jan. 31, 1971
Unobligated balance	$368,484	$80,900,388
Unexpended balance	9,775,083	54,063,487

DECREASE IN 10 PERCENT FUNDS IN 1971

Mrs. HANSEN. Last year you estimated the transfer from roads and trails for States of $34,292,200 for 1971. In this year's budget estimate you have reduced that estimate to $28,761,091. What is the reason for this reduction?

Mr. M. NELSON. That is because actual receipts in fiscal year 1970 were less than those anticipated. The amount transferred is approximately 10 percent of the 1970 receipts.

Mrs. HANSEN. Are your receipts down because of the lumber market?

Mr. M. NELSON. Yes, basically that is right.

10 PERCENT FUND IN 1972

Mrs. HANSEN. You are estimating a transfer of $32,760,000 for 1972. How solid is this estimate?

Mr. M. NELSON. We feel it is pretty solid, especially in relation to the trend the lumber market is taking now and the current need for housing.

I noticed in today's Wall Street Journal construction other than housing is off quite a little and, of course, that has some bearing on our lumber. That may have a tendency to keep the lumber prices from skyrocketing too much, as we were talking about yesterday, because of that phase of the construction industry being down.

INCREASE IN FOREST ROADS AND TRAILS OUTLAYS

Mrs. HANSEN. You have an actual outlay of $99.7 million in 1970. You estimate an outlay of $124.7 million in 1971, an outlay of $130.3 million in 1972. What are the factors that would cause this comparatively large increase in outlays in 2 years in your roadbuilding program?

Mr. M. NELSON. That is what I attempted to explain, that what is done in any 1 year has a bearing on outlays for at least 3 years. The second year of the contract normally is the year requiring 65 percent of the outlay for the contract. So when we have an increase one year it really has an effect over the next 3 years.

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS AND TO COMPLETE LAND EXCHANGES

Mrs. HANSEN. Insert pages 135 through 137 of the justifications in the record.

(Pages 135 through 137 follow:)

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS

Appropriation Act, 1971 ..... $80,000
Budget estimate, 1972 80,000

PROJECT STATEMENT

Project and Authority	1970	1971	1972 estimate	Increase or decrease
1. Cache National Forest, Utah, Act of 5/11/38, as amended	$15,735	$20,000	$20,000	- -
2. Uinta-Wasatch National Forests, Utah, Act of 8/26/35, as amended	20,000	20,000	20,000	- -
3. Toiyabe National Forest, Nevada, Act of 6/25/38, as amended	7,900	8,000	8,000	- -
4. Angeles National Forest, California, Act of 6/11/40	- -	32,000	32,000	- -
5. Cleveland National Forest, California, Act of 6/11/40	30,952	- -	- -	- -
Unobligated balance reverted to National Forests Fund	5,413	- -	- -	- -
Total available or estimate	80,000	80,000	80,000	- -

The Congress has enacted several special laws which authorize appropriation from the receipts of specified National Forests for the purchase of lands to minimize erosion and flood damage. Amounts appropriated and laws under which authorized are shown above.

These are critical watershed lands needing soil stabilization and vegetative cover restoration to prevent serious erosion and damaging floods within these National Forests. Land treatment measures must be applied and subsequently maintained on all lands in these areas to make corrective action fully effective. To assure full program effectiveness, the intermingled private lands must be acquired by the Federal Government. The results will be reflected in improved watershed conditions, social benefits, and development of economic strength in local communities.

During fiscal year 1970, 600 acres of land were contracted for purchase under the special purchase authorities applying to the Cache National Forest in Utah.

Cache National Forest. In fiscal year 1970, funds were available from two sources for the purchase of lands within the Cache National Forest in Utah.

1. The Receipts Act of May 11, 1938, as amended -- $20,000. This is an annual appropriation.

2. The Act of July 24, 1956 -- $200,000 was appropriated under this authority in fiscal years 1957 through 1960. These funds remain available until expended. Through fiscal year 1970, $189,163 has been obligated from this appropriation.

These funds are used to acquire key tracts of land in the steep, rough, and highly important watershed areas lying north of the Ogden River along the Wasatch front and on Wellesville Mountain of the Cache National Forest. These are rugged mountain lands above the river valley which have been damaged and their watershed functions impaired through forest fires or overgrazing. This contributes to excessive rainfall runoff causing severe erosion. The damaged watershed lands are potential sources of floods and mudrock flows. Many tracts of land are located in the north fork of Ogden River and on the drainage of Pineview Reservoir, a Federal reclamation project. Others are within the watersheds of the city of Ogden and the other small towns along the Wasatch front. Public ownership of these lands and subsequent restoration and protection of their vegetative cover is a highly important part of a vigorous cooperative program with the local community and agencies.

The appropriation of $20,000 under the Act of May 11, 1938, is from receipts of the Cache National Forest. In the absence of this appropriation, the State of Utah would receive 25 percent of these receipts for roads and school purposes in the local counties involved. Therefore, the local counties, in effect, are contributing one-fourth of the amount of this appropriation. These appropriations are extremely important to the continuation of a vital and worthwhile program extending almost thirty years and shared in by both the local agencies and the Federal Government through the National Forests.

The 1956 Act requires that expenditures of Federal funds be matched by contributions by local agencies or people. This requirement has been met through donations of money and lands valued at $189,163. The remainder of the contributions in the amount of $10,837 are expected in fiscal year 1971.

Through fiscal year 1970, 28,857 acres have been approved for purchase pursuant to the Receipts Act of 1938, and 15,957 acres under the Special Act of 1956. The 1971 objective is to acquire 840 additional acres of these critical watershed lands. A similar acreage is expected to be acquired in 1972.

Uinta-Wasatch. In fiscal years 1963 through 1970, an appropriation of $160,000 was made under the Uinta-Wasatch Receipts Act of August 26, 1935, for acquiring critical watershed lands in the American Fork Canyon watershed. A total of 2,841 acres has been approved for purchase through fiscal year 1970 and an estimated 400 acres will be acquired each year during 1971 and 1972.

Toiyabe National Forest. $8,000 was appropriated under this Act in each of fiscal years 1970 and 1971. In 1970, 60 acres of land were contracted for purchase. The 1971 and 1972 objective is to acquire 40 acres each year.

Cleveland National Forest. $32,000 was appropriated in fiscal year 1970 to acquire important watershed lands--200 acres of land were contracted for purchase.

Angeles National Forest. $32,000 was appropriated in fiscal year 1971 to purchase important watershed lands. Acquisition is needed to minimize erosion and flood damage. The 1971 and 1972 objective is to acquire 80 acres each year.

ACQUISITION OF LANDS TO COMPLETE LAND EXCHANGES

Budget estimate, 1972 ..... $26,035

PROJECT STATEMENT

Project	1971	1972 estimated	Increase or decrease
Purchase of land, State of California	- -	$26,035	+$26,035

Act of December 4, 1967 (16 USC 484a) stipulates that deposits made by public school districts or public school authorities to provide for cash equalization of certain land exchanges can be appropriated to acquire similar lands suitable for National Forest system purposes in the same State as the National Forest lands conveyed in the exchanges.

In fiscal year 1970, deposits of $26,035 were made by the North Fork Union School District, Madera County, California. It is proposed that these funds be made available for acquisition of lands in California in fiscal year 1972.

Proposed New Language Under Existing Legislation

Following new language is proposed:

> For acquisition of land in accordance with the Act of December 4, 1967 (16 USC 484a), to remain available until expended, $26,035 to be derived from deposits by public school authorities under said Act.

This new language is necessary to make provision for financing the purchase of certain lands in California.

Present legislation stipulates that deposits made by public school districts or public school authorities to provide for cash equalization of certain land exchanges are, when appropriated, used to acquire similar lands suitable for National Forest System purposes in the same State as the National Forest lands conveyed in the exchange. In fiscal year 1970, deposits of $26,035 were made by the North Fork Union School District, Madera County, California.

Mrs. Hansen. Please insert pages 138 and 139 of the justifications in the record at this point.

(Pages 138 and 139 follow:)

ASSISTANCE TO STATES FOR TREE PLANTING

Appropriation Act, 1971	$1,000,000
Budget estimate, 1972	1,013,000
Increase in appropriation	+13,000

Adjustment to 1971 appropriation:	
Appropriation Act, 1971	1,000,000
Proposed supplemental for pay costs	13,000
Adjusted appropriation	1,013,000
Budget estimate, 1972	1,013,000

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Assistance to States for tree planting	$1,014,710	$1,071,236	$1,013,000	-$58,236
Unobligated balance brought forward	-72,946	-58,236	- -	58,236
Unobligated balance carried forward	58,236	- -	- -	- -
Total available or estimate	1,000,000	1,013,000	1,013,000	- -
Proposed supplemental appropriation for pay costs	- -	-13,000		
Total appropriation	1,000,000	1,000,000		

No increase in appropriation is proposed for the program in 1972.

The program authorized under Section 401 of the Agricultural Act of 1956 (16 USC 568e) provides for assistance to States in their forestation and tree improvement programs. Needed rehabilitation on State and county forest lands has resulted from this program.

New and expanded tree improvement programs which are partially or totally funded under this program are underway in 32 States. Assistance will emphasize seed orchard establishment aimed at the production of improved genetic quality tree seed. In excess of 3,200 acres of State-owned and operated forest tree seed orchards have been established to date under this assistance program.

Reforestation work will be carried out to restore low-yielding or nonproductive forest lands to fuller production of commercial wood. In addition, attending benefits include:

(1) Erosion control.
(2) Wildlife habitat improvement.
(3) Expanded recreational land use potentials.
(4) Environmental enhancement.

Nationally, the amount expended for tree improvement work under this program is on a State-to-Federal matching dollar basis of 3:1.

Examples of Recent Accomplishments

Spruce-fir seed orchard program. In the Northeastern area 16 private, forest-oriented companies, three State forestry agencies (Maine, Vermont, and New Hampshire), and the Forest Service have combined their efforts under this cooperative program to establish a Spruce-fir seed orchard program. Progress to date has produced 150 superior tree selections; 85 seed lots already sown in two State forest nurseries, and several thousand 3-0 seedlings ready for use in establishing cooperative seedling seed orchards in 1971.

Black walnut and black cherry tree improvement program. Six Mid-West States (Missouri, Indiana, Illinois, Iowa, Kansas, and Kentucky) have joined in a cooperative black walnut tree improvement program. Shared tree selections, and coordinated seedling production, will facilitate providing improved genetic quality tree planting stock to State and private forest landowners and will hasten the production of this valuable commercial species throughout many Midwestern areas.

A similar project with black cherry is underway in West Virginia, Pennsylvania, New York, Vermont, and Connecticut.

The cottonwood increase project, designed to produce 600,000 cuttings of 14 improved clonal lines of cottonwood, has been successfully established at Stoneville, Mississippi. This material will be distributed to State nurseries for further increase and ultimate release to State and private tree planters. The material is recommended for use on an area up to 150 miles east and west of the Mississippi River in southern areas, and to a lesser range as it approaches the northern recommended planting limit below Cairo, Illinois.

These improved clones, on good soil, are expected to yield 50 cords of pulpwood and more than 24,000 board feet of lumber per acre in 20 years. The new strain will also be useful in urban areas because these fast-growing rust-resistant trees will quickly produce shade and screening.

Proposed Financing

State	FY 1970	FY 1971 (estimate)	FY 1972 (estimate)
Alabama	$11,000	$19,000	$19,000
Arkansas	10,000	10,000	10,000
Colorado	3,200	5,000	5,000
Connecticut	4,000	4,000	4,000
Florida	33,500	29,500	29,500
Georgia	19,000	19,000	19,000
Hawaii	30,000	35,000	35,000
Idaho	11,000	10,000	10,000
Illinois	8,000	8,000	8,000
Indiana	6,950	12,400	12,400
Iowa	5,000	7,000	7,000
Kansas	10,400	10,000	10,000
Kentucky	12,000	12,000	12,000
Louisiana	11,500	16,500	16,500
Maine	15,000	15,000	15,000
Maryland	5,000	5,000	5,000
Michigan	30,000	30,000	30,000
Minnesota	90,000	75,000	75,000
Mississippi	7,000	11,500	11,500
Missouri	26,500	26,000	26,000
Montana	16,500	14,500	14,500
New Hampshire	7,500	10,000	10,000
New Jersey	12,000	12,000	12,000
New York	25,000	30,000	30,000
North Carolina	12,000	12,000	12,000
Ohio	14,000	14,000	14,000
Oklahoma	10,000	10,000	10,000
Oregon	95,500	80,000	80,000
Pennsylvania	25,000	24,000	24,000
South Carolina	24,500	22,000	22,000
Tennessee	11,100	11,100	11,100
Texas	14,900	14,900	14,900
Vermont	5,500	5,500	5,500
Virginia	13,000	23,000	23,000
Washington	95,300	81,000	80,000
West Virginia	4,800	9,600	9,600
Wisconsin	20,000	20,000	20,000
Wyoming	10,400	10,000	10,000
Special Projects:			
Black walnut program	27,700		
Cottonwood increase program		38,000	5,000
Total to States	793,950	801,500	767,500
Contingency	29,250	15,914	47,500
Forest Service administration	176,800	195,586	198,000
Total	1,000,000	1,013,000	1,013,000

YOUTH CONSERVATION CORPS

Mrs. HANSEN. Please insert page 140 of the justifications in the record at this point.

(Page 140 follows:)

YOUTH CONSERVATION CORPS

NOTE: For budgetary purposes, the entire appropriation of $2,500,000 in 1971 is shown under the Forest Service. However, one half of the appropriation ($1,250,000) will be transferred to the Department of the Interior.

Appropriation, 1971	$2,500,000
Budget estimate, 1972	- -
Decrease	-2,500,000

PROJECT STATEMENT

	1971	1972 estimate	Increase or decrease
Youth Conservation Corps	$1,100,000	$1,400,000	+$300,000
Unobligated balance brought forward	- -	-1,400,000	-1,400,000
Unobligated balance carried forward	1,400,000	- -	-1,400,000
Total available or estimate	2,500,000	- -	-2,500,000

Public Law 91-378, approved August 13, 1970 authorized a pilot program designated as the Youth Conservation Corps. The Departments of the Interior and Agriculture share the program equally.

The funds appropriated in fiscal year 1971 will be obligated during the summer months of calendar year 1971. No request for funds for the summer months of calendar year 1972 is proposed at this time.

This program will be designed to provide:

(1) Gainful employment of America's youths, ages 15 through 18, during the summer months in a healthful outdoor atmosphere.

(2) An opportunity for understanding and appreciation of the Nation's natural environment and heritage.

(3) Further development and maintenance of the natural resources of the United States by the youth, upon whom will fall the ultimate responsibility for maintaining and managing these resources for the American people.

The work program is designed to teach proper work habits, encourage greater appreciation of the conservation of natural resources, and to increase individual pride and dignity. Work projects will be tailored to the specific needs and abilities of the youth. There are a great variety of conservation work projects available on public lands which include recreation facilities, maintenance, and construction, wildlife habitat improvement, timber stand improvement, trail construction, and visitor information services.

Approximately 1,200 youths will be served, with around 900 in residence and 300 in non-residence. The residential program will include urban and rural youth who reside away from public lands. The size of camps vary with enrollment between 30 and 100 youths. The non-residential program includes those youth who reside adjacent to public lands.

Youth will be recruited through youth-serving organizations, such as State or local public school systems. Guidelines have been established so that the youth recruited are representative of a variety of economic, racial, and social backgrounds.

ALLOWANCES TO YOUTH CONSERVATION CORPS ENROLLEES

Mrs. HANSEN. We had a pretty good review on this yesterday. However, I think the committee should know the kind of work that will be performed by your young people and what your pay or allowance is to the enrollees.

Mr. SCHULTZ. On the 7-day residential it will be $5.50 per day in addition to subsistence and lodging. Five-day residential will be $8.50 per day in addition to subsistence and lodging. Five-day nonresidential will be $10.50 per day.

WORK-EDUCATION PROJECTS

(Information requested follows:)

YOUTH CONSERVATION CORPS WORK-EDUCATION PROJECTS

The youths will participate in a variety of conservation work-education projects including:

--Reforestation (includes beautification in recreation areas).

--Timber stand improvement (pruning, thinning of small size timber).

--Plantation survival counts

--Visitor information services

--Recreation maintenance and improvement (picnic and campground cleanup, picnic and campsite construction).

--Trail construction

--Roadside beautification

--Forest nursery work (weeding, planting, maintenance)

--Range revegetation

--Wildlife habitat improvement (planting and development of food plots, wildlife surveys).

--Gully stabilization

--Stream and lake shore stabilization

--Clerical

In addition, youth will assist professionals and technicians in various duties such as surveying, timber cruising, log scaling, research projects, etc.

Mrs. HANSEN. What will the subsistence and lodging cost be per person?

Mr. SCHULTZ. Between $2 and $3 per day.

SUPERVISORY COST

Mrs. HANSEN. What is the supervisory cost?

Mr. SCHULTZ. In the overall program?

Mrs. HANSEN. For each one of the camps.

Mr. SCHULTZ. I would have to furnish this.

Mrs. HANSEN. Please do.

(The information follows:)

YOUTH CONSERVATION CORPS

Estimated Supervisory Costs, including Staff and Indirect Costs Above Project Level

Forest	Capacity	Costs
Flathead	30	$13,400
Lolo	20	11,400
Lolo	25	13,100
Black Hills	30	13,400
Cibola	50	19,600
Santa Fe	30	13,400
Wasatch	50	20,600
Boise	40	18,400
Sierra	60	22,600
Cleveland	40	18,400
Snoqualmie	50	20,600
Gifford Pinchot	30	13,400
Ochoco	40	18,400
Ochoco	30	13,400
Texas	32	13,520
Ocala	50	20,600
Ouachita	25	13,100
Monongahela	50	20,600
Wayne-Hoosier	40	18,400
Wayne-Hoosier	11	5,388
Ottawa	30	13,400
Chequamegon	50	20,600
Chippewa	50	20,600
Nicolet	35	18,100
Mark Twain	35	18,100
Hiawatha	36	18,160
Pike	25	5,900
Coconino	25	5,900
Shasta-Trinity	50	20,600
Daniel Boone	25	5,900
Kisatchie	25	5,900
White Mountain	25	5,900
Totals	1,144	480,768

COORDINATION WITH DEPARTMENT OF THE INTERIOR

Mrs. HANSEN. As I understand from yesterday's conversation the program will begin in mid-June.

How are you going to coordinate this program with the Department of the Interior?

Mr. SCHULTZ. We already have an agreement between the Department of Agriculture and Department of the Interior as to what each agency will do so that we are operating on the same basis. Further, beyond that agreement, we have developed a working paper that spells out the details of what each agency will do.

Mrs. HANSEN. Will you place a copy of that in the record for us, please?

Mr. SCHULTZ. Yes, ma'am.

Mrs. HANSEN. You might also insert a copy of your agreement with the Department of the Interior in the record and the locations of your centers.

(Information requested follows:)

SUPPLEMENT TO THE INTERIOR-AGRICULTURE
MEMORANDUM OF UNDERSTANDING
CONCERNING YOUTH CONSERVATION CORPS

I. INTRODUCTION

This program direction is supplemental to the basic Memorandum of Understanding which consists of the basic objectives and program directions where the two Departments agree to have consistent policy.

The Departments agree not to deviate from these objectives and program directions without written amendments agreed to by both Departments.

II. OBJECTIVES

To accomplish the purpose of the Law, we will seek the best way(s) to provide the youth enrolled in the Corps opportunities to simultaneously:

1. Learn about the natural environment including the natural resources.

2. Learn about the meaningful use, management, and protection of the natural resources.

3. Be gainfully employed in outdoor activities directly relating to the use, management, and protection of the natural resources.

4. Accomplish needed conservation work which improves, maintains, and/or enhances one or more of the natural resources.

5. Acquire increased self-dignity.

6. Acquire increased self-discipline.

7. Better work with and relate with peers and supervisors.

8. Build lasting cultural and communication bridges between youth from various social, ethnic, racial, and economic backgrounds.

We will seek the best way(s) to accomplish these objectives by directing or coordinating the program so that available resources, including human, natural, and physical, are maximized and restraints are minimized. The first year, the Coordinating Committee has or will:

--Develop and implement sound coordination and program direction mechanisms. The Memorandum of Understanding is the prime mechanism.

--Establish basic program direction and evaluation.

--Based upon the results of the first year's operation, the second year's program will be designed so that positive results are intensified and negative results eliminated.

The Coordinating Committee will assure that all phases of the 1971 program are focused upon the eight objectives and that the program will be kept as simple, clear, and concise as possible.

III. PROGRAM

The 1971 Youth Conservation Corps will be a properly balanced and integrated program of conservation work-education and enrollee living. This first yea , a variety of approaches will be tried such as size and location of projects, mixtures of youth according to sex, racial, ethnic, and economic backgrounds, the work-education and enrollee living programs and project duration.

A. Definitions

1. Residential and Non-Residential Programs - Each Department will administer residential and non-residential programs.

   a. A residential program is one where the youths reside a minimum of 5 days at a Camp on or adjacent to the public lands where they conduct their work-education program.

   b. A non-residential program is one where the youths reside at home and daily commute to the public land to conduct their work-education program.

2. Program Duration - Enrollment will be for a minimum of 28 calendar days and a maximum of 90 calendar days. Within each Department, the duration of projects will approximate 8 weeks.

3. Youth Quotas - A goal will be to enroll 2,200 youths in the 1971 Corps program--1,100 by each Department.

4. Responsibilities - The Agriculture-Interior Coordination Committee is responsible to develop the basic administrative policy, coordination, and evaluation procedures as described in the Memorandum of Understanding. Each Department is responsible for the administration of its own program within the policies established by the Coordination Committee. Each Department may supplement those policies so that maximum advantage is taken of its available resources and capabilities.

B. Work-Education Program

1. Objectives - The work-education objectives are the same as the eight Corps objectives.

2. Basic Direction - Each Department will assure that there is developed at each project an integrated program of conservation work-education. Each Department will utilize whatever resources, human, natural, and physical, that are available to develop and operate this program. Basically, the youth will learn while doing and do while learning.

3. Minimum Requirements

   a. Youth will be engaged in a combination work-education program 40 hours per week and will not exceed 8 hours per day.

   b. Each project will have both work (production) and education goals. Methods should be developed to assure the proper blending and integration of one with the other. At summer's end, the youth should have a general knowledge of ecology, the land management philosophies of various Federal land management agencies, and an increased awareness of the need to wisely manage, maintain, and protect the natural resources in which he or she has been involved. The youth should know the work accomplished was meaningful and how it fits into the overall natural resource management program. Ideally, each youth will have developed some of his or her own opinions regarding the environment.

   c. Both male and female youth will, as much as is feasible, work and learn in the outdoors.

   d. Work will be tailored to the youths' capabilities with consideration given to such factors as sex and age.

   e. There should be variation of projects. For example, a youth should be exposed to interesting as well as routine tasks.

   f. Informal work-education relationships between the youth and Department personnel should be encouraged. For example, it would be ideal if a youth could periodically accompany Department field personnel on field trips. Such experiences should prove educational to the enrollee.

   g. Where feasible and meaningful, youth should be involved in the planning of their work-education projects.

   h. Generally, formal classroom type education should be minimized. An exception to this might be where youth are involved with a school system and are earning school credit.

i. Youths should also have the experience of doing a hard day's work.

C. Staff-Enrollee Living Program

1. Objectives - The staff-enrollee living program is directed toward accomplishing the eight Corps objectives. It is essential that each Department develop and operate at each Camp a program which assures a safe, congenial, and wholesome residential environment.

2. Basic Direction - Enrollee living covers the entire residential environment of the Corps as it relates to staff and youth as individuals, their relationships with one another, and the surrounding communities. Where possible, it should have a close relationship to the work-education program.

a. Resident Management - Each Department will assure that there is developed at each Camp published rules and procedures. Where possible, staff and enrollees will jointly participate in the development of rules and procedures. As a minimum the rules and procedures will include:

(1) Daily schedule

(2) Alcholic beverages - Forbidden at all YCC sites.

(3) Drugs and narcotics - Forbidden at all YCC sites, except as authorized by Camp or Project Director on advice of physician.

(4) Vehicles - Authorized only under certain conditions where safety and welfare of staff and youth is assured.

(5) Firearms - Forbidden except by authorized personnel and Department approved gun safety training programs.

(6) Discipline - Must be consistent and in keeping with overall Camp program.

(7) Disciplinary, medical, or administrative discharge - Prior to a youth being discharged from the Corps, parents or guardian must be contacted. In cases of disciplinary discharge, the Camp Director must assure he or she has been fair, unbiased, and not prejudicial.

(8) Health and sanitation - Camp will be maintained in accordance with Department, State, and County health and sanitation codes. Youth will be involved in doing many phases of Camp maintenance.

(9) Accountability - Policy will be established by each Department to assure proper youth accountability.

b. Leisure Time

(1) To the extent possible, the natural environment will be used for the structured recreation program.

(2) The structured recreation program will be used to teach the enrollees how to live and recreate in the natural environment.

(3) Time should be provided each day for the youth to be free of structured activity.

(4) Local service, church, and youth groups will be encouraged to participate in leisure time programs, especially on weekends.

c. Physical Fitness

(1) The enrollee's physical condition will be a level that is commensurate with the type of work and recreation activities in which they are participating.

(2) A program should be developed to bring the physical condition of an enrollee up to a level where he or she can participate in all Camp activities.

D. Accident Control, Health, and Welfare Program

1. Objectives - The accident control, health, and welfare program is directed toward protecting the enrollee's physical and mental health while participating in all Corps approved activities.

2. Basic Direction - Each Camp will have a complete safety plan. This plan will comply with the overall accident control, health, and welfare policies of the Department. Policies and recommended practices now in effect with each Department should prove adequate for the development of each plan.

3. Minimum Requirements

a. The Departments will follow the Fair Labor Standards Act using Child Labor Bulletins 101 and 102 and State Child Labor Standards Bulletin 158 as the guides.

b. Rescue and emergency medical aid plans will be set up for each Camp to cover all injuries or illnesses.

c. Specific safety plans covering all areas of Corps activity will be required.

d. No enrollee will be ordered or allowed to perform work of a hazardous nature.

E. Enrollee Pay Plan

1. Objectives - The enrollee pay plan is tailored to the various program options to be used by the Departments. Each youth will be paid based on the program in which he (she) is enrolled.

2. Policy

a. Pay

(1) Seven Day Residential - $5.50 per day in addition to subsistence and lodging.

(2) Five Day Residential - $8.50 per day in addition to subsistence and lodging.

(3) Five Day Non-Residential - $10.50 per day subsistence and lodging will be at enrollee's expense.

(4) When recruiting youth, the pay will be quoted as a salary for the season rather than a daily rate.

b. Subsistence and Lodging - Enrollees in the residential programs will be required to occupy Government quarters and be furnished subsistence by the Government as a condition of employment.

c. Absence - An enrollee may be authorized absence for personal reasons without loss of pay for no more than 2 days for each 4-week period in the program. Unauthorized absences will be without pay. Only full days (0001 to 2400) will be counted toward the days of authorized absences.

d. Transportation - As a minimum, each Department may arrange for one round trip, at hire and termination, between the youth's place of residence and the residential Camp. Transportation between an enrollee's residence and a non-residential staging area will be at enrollee's expense.

e. Benefits - Enrollees are not entitled to earn or be granted annual or sick leave, or entitled to coverage under the Federal Employees' Group Life Insurance Act (5 USC Chapter 87), Civil Service Retirement Act (5 USC Chapter 83), or the Federal Employees' Health Benefits Act (5 USC Chapter 89). Withholding tax, local, State, or Federal will be deducted from salary payments otherwise due these enrollees unless the proper waiver forms (W-4E) are filled out. If

enrollee has a work related illness or occupational illness and cannot participate in the program, the Departments' responsibilities for paying the youth will cease either at the termination of the program period or at the time Bureau of Employees' Compensation benefits become effective.

F. Youth Recruitment

1. Objectives - Youth recruitment will be tailored to meet the intent of this pilot program which is to determine the most sound ways of achieving the Corps purpose and objectives. As previously stated in this agreement, we will attempt a variety of program approaches including various mixtures of youth according to sex and racial, ethnic and economic backgrounds. Accordingly, each Department will assure that:

   a. The overall program includes both sexes and a proper mix of youth representing various social, economic, and racial categories which comprise the population within the area of recruitment. A specific project need not include youth of both sexes.

   b. Youth are recruited as near each project as is feasible. However, urban youth should be included in the program.

2. Policy

   a. Recruitment - Youth should be recruited, screened, and selected in cooperation with local youth-serving organizations such as a public school system(s). Youth may be recruited, screened, and selected for this program in cooperation with any public or private non-profit organization authorized by each Department. If these methods are not feasible, youth may be recruited direct by each Department without using a cooperating organization. Each Department will determine the most sound method of recruitment at each project site.

   b. Selection Criteria - Within the above framework, selection for enrollment will be from those youths who:

      (1) Have attained age 15, but will not have attained age 19, at any time during the program (proof of age is required).

      (2) Are permanent residents of the United States, its territories or possessions.

      (3) Have an interest in conservation or in learning about development and maintenance of natural resources. The youth need not be planning on a career in conservation.

(4) Do not have a history of serious criminal or anti-social behavior that would jeopardize the youth's own safety or that of others.

(5) Are not known drug users.

(6) Are recommended by school principal, guidance counselor, or other responsible adult other than parent.

(7) Are physically qualified to participate in the programs of the Corps. Opportunities for handicapped youth may be possible at some Centers depending on location, programs, staffing, medical, and other facilities.

(8) Have recent satisfactory medical certification to indicate physical suitability for participation in group work-education assignments, group non-work activities, and a group residential situation. All enrollees must have had the immunizations listed in Part I of the Medical History form.

(9) Have or can obtain parental (legal guardian) consent in the program.

(10) Have a work permit as needed under the laws of the State in which enrollee programs will be carried out. (Individuals will not be accepted for enrollment without this permit).

(11) Have a social security number prior to entrance into the program.

(12) Can provide themselves with the proper type and amount of work clothing, including boots or shoes, etc., to meet local climate and working condition (Departments will assure that disadvantaged youths are provided such clothing through proper local sources).

(13) Sons and daughters of any employee of the Department of Agriculture or Interior will not be enrolled in this pilot 1971 Youth Conservation Corps program. Also, sons and daughters of cooperative and contract personnel provided through cooperative agreement, contract, etc., will not be enrolled in the program.

c. Forms and Records

(1) Application - (To be developed).

(2) Medical History - (To be developed).

G. Budget and Finance

1. Funding - The Department of Agriculture, Forest Service will receive the initial funds and transfer one-half to the Department of the Interior on a SF-1151. A letter will be attached to the SF-1151 enumerating the reports needed from Interior in order for the Forest Service to meet the reporting requirements of the Office of Management and Budget and the Department of Treasury.

2. Accounting - A financial report will be prepared by each Department for consolidation by Agriculture by September 30, 1971, and will cover the entire 1971 YCC program. The report will be summarized by individual Camp. The report will be divided into the following elements:

   a. Staff Pay - Include pay, benefits and travel, net of any deductions made for meals and quarters furnished, and salary portion of cooperative agreements.

   b. Food - Includes cost of food and related freight charges; food portion of cooperative agreements.

   c. Enrollee Pay - Includes pay, benefits, and transportation (round trip outlined in pay plan) of enrollees.

   d. All other - Includes medical (first aid type) expense, transportation (to and from work projects), utilities, opening and closing costs, safety equipment, maintenance, recreation, and miscellaneous supplies.

   e. Program Direction - Includes support services, expenses, and program administration expenses at location other than the projects.

H. Information and Community Relations

1. Objectives

   a. Departments will assure that local communities are properly informed regarding the YCC program.

   b. Where meaningful and feasible, local communities will be involved in the YCC program.

2. Policy

   a. Inform local people about the YCC program by the use of local news media, show-me trips, and meetings with local organizations.

   b. Involve local organizations such as churches, youth-serving organizations, and service clubs.

c. All National news releases will be issued jointly by the two Departments.

I. Evaluation

To be developed

J. Additional Reports and Studies

To be developed

In accordance with the USDA-USDI Memorandum of Understanding, we, the Co-Chairmen of the YCC Coordinating Committee, approve the program direction as described in this supplement.

Richard R. Hite
Deputy Assistant Secretary for Administration
Department of the Interior

Date MAR 2 1971

E. W. Schultz
Deputy Chief, U. S. Forest Service
Department of Agriculture

Date Feb 24, 1971

MEMORANDUM OF UNDERSTANDING

AUTHORITY AND PURPOSE

This Memorandum of Understanding is made between the Department of the Interior and the Department of Agriculture-Forest Service, for the purpose of carrying out the provisions of Public Law 91-378, which was approved by the President on August 13, 1970. This Act establishes, in the Departments of the Interior and Agriculture, a 3-year pilot program designated as the Youth Conservation Corps.

The purpose of this Act is to provide (1) gainful employment of America's youth, ages 15 through 18, during the summer months in a healthful outdoor atmosphere, (2) an opportunity for understanding and appreciation of the Nation's natural environment and heritage, and (3) further development and maintenance of the natural resources of the United States by the youth, upon whom will fall the ultimate responsibility for maintaining and managing these resources for the American people.

RESPONSIBILITIES OF THE SECRETARIES

Under the provision of Section 3(a) of the Act, the Secretary of the Interior and the Secretary of Agriculture shall:

(1) determine the areas under their administrative jurisdictions which are appropriate for carrying out programs using employees of the Corps;

(2) determine the rates of pay, hours, and other conditions of employment in the Corps; provided, that members of the Corps shall not be deemed to be Federal employees, other than for the purposes of Chapter 171 of Title 28, United States Code, and Chapter 81 of Title 5, United States Code;

(3) provide for such transportation, lodging, subsistence, and other services and equipment as they may deem necessary or appropriate for the needs of members of the Corps in their duties. The Secretary of the Interior and the Secretary of Agriculture may contract with any public agency or organization or any private nonprofit agency or organization which has been in existence for at least five years for the operation of any Youth Conservation Corps project. Whenever economically feasible, existing but unoccupied Federal facilities,

including military facilities, shall be utilized for the purposes of the Corps where appropriate, and with the approval of the Federal Agency involved. To minimize transportation costs, Corps members shall be employed on conservation projects as near to their places of residence as is feasible;

(4) promulgate regulations to insure the safety, health, and welfare of the Corps members;

(5) prepare a report, indicating the most feasible and efficient method for initiating a cost-sharing youth conservation program with State natural resource, conservation, or outdoor recreation agencies, which report shall be submitted to the President not later than one year following enactment of this Act for transmittal to the Congress for review and appropriate action.

Under the provisions of Section 4 of the Act, the Secretary of the Interior and the Secretary of Agriculture shall prepare a joint report detailing the contribution of the program toward achieving the purposes of the Act and providing recommendations. Each report shall be submitted to the President not later than 180 days following completion of that year's pilot program. The President shall transmit the report to the Congress for review and appropriate action.

LOCATION OF DEPARTMENTAL RESPONSIBILITY

Within the Department of the Interior, the overall responsibility and authority for the program is vested in the Assistant Secretary for Administration, and will be exercised by him through the Job Corps Coordination Officer. Within the Department of Agriculture, the overall responsibility and authority for the program is vested in the Chief of the Forest Service, and will be exercised by him through the Deputy Chief, Administration.

ESTABLISHMENT OF THE INTERIOR-AGRICULTURE YOUTH CONSERVATION CORPS COORDINATION COMMITTEE

We believe it is the intent of the Congress and in the best interest of the program that the provisions of the Act be carried out in a manner that will provide the closest coordination and cooperation between the Departments of the Interior and Agriculture.

Accordingly, it is hereby agreed that there will be established an Interior-Agriculture Youth Conservation Corps Coordinating Committee consisting of representatives from each Department, who will serve as members of this Committee in addition to their other official duties. This Committee will assure that the basic program policy is consistent. They will jointly:

(1) coordinate program planning activities;

(2) develop overall program design;

(3) select program components;

(4) determine areas under the jurisdictions of each Department which are appropriate for carrying out the program.

(5) assure that the Corps is open to youth of both sexes and youth of all social, economic, and racial classifications, with no person being employed as a member of the Corps for a term in excess of ninety days during any single year.

(6) determine the rates of pay, hours, and other conditions of employment;

(7) determine the most feasible means of providing logistical and administrative support.

(8) develop and promulgate regulations to insure the safety, health, and welfare of Corps members and such other regulations;

(9) prepare reports required by the Act and conduct special studies as may be required.

The Co-Chairmen of the Coordination Committee will be the Deputy Assistant Secretary of the Interior for Administration and the Deputy Chief for Administration, U. S. Forest Service. Alternate Chairmen of the Committee will be the Job Corps Coordination Officer of the Department of the Interior, and the Director, Division of Manpower and Youth Conservation Programs, U. S. Forest Service. Other members may be appointed to the Committee for such purposes as deemed necessary and advisable by the Co-Chairmen.

DEPARTMENTAL TASK FORCES

To support the efforts of the Coordination Committee, each Department will establish a Task Force consisting of appropriate representatives of the administrative and program activities involved in the program. The Task Forces will carry out the responsibilities assigned by the Task Force Chairmen who will be members of the Coordination Committee

Richard R. Hite
Assistant Secretary for Administration
Department of the Interior

DATE February 17, 1971

Edward P. Cliff
Chief, U. S. Forest Service
Department of Agriculture

DATE February 10, 1971

YOUTH CONSERVATION CORPS PROJECTS

Project	National Forest	State
Residential		
Condon	Flathead	Montana
Lolo Work-Education Center	Lolo	Montana
Ninemile	Lolo	Montana
Spearfish	Black Hills	South Dakota
Continental Divide	Cibola	New Mexico
San Antonio	Santa Fe	New Mexico
Alta Ski Area	Wasatch	Utah
Idaho City Jumper Base	Boise	Idaho
Chiquita	Sierra	California
Ole	Cleveland	California
Camp Rimrock	Snoqualmie	Washington
Spirit Lake	Gifford Pinchot	Washington
Ochoco	Ochoco	Oregon
Rager	Ochoco	Oregon
Yellow Pine	Angelina	Texas
Camp Doe	Ocala	Florida
Clear Fork	Ouachita	Arkansas
Monongahela	Monongahela	West Virginia
Alpha Tau	Wayne-Hoosier	Indiana
Hardin Ridge	Wayne-Hoosier	Indiana
Golden Lake	Ottawa	Michigan
Clam Lake	Chequamegon	Wisconsin
Lydick Lake	Chippewa	Minnesota
Trump Lake Lodge	Nicolet	Wisconsin
Braddock	Mark Twain	Missouri
Iroquois	Hiawatha	Michigan
Non-Residential		
Pike	Pike	Colorado
Coconino	Coconino	Arizona
Shasta-Trinity	Shasta-Trinity	California
Daniel Boone	Daniel Boone	Kentucky
Kisatchie	Kisatchie	Louisiana
White Mountain	White Mountain	New Hampshire

Mrs. HANSEN. Please insert in the record the precise dates and the size of each operating unit.

(The information requested follows:)

PERIOD OF YOUTH CONSERVATION CORPS PROJECT OPERATION

The first projects will begin operating June 15, 1971, and close September 15, 1971. This period corresponds closely to the school summer vacation period.

SUPERVISORY PERSONNEL AND CAMP ASSIGNMENTS

Mrs. HANSEN. Also indicate for the record which are going to be the camps for the girls and for the boys.

Mr. SCHULTZ. We can do that.

Mrs. HANSEN. There are a lot of questions being asked by members on this program.

(The information follows:)

YOUTH CONSERVATION CORPS

Project	National Forest	Capacity Male	Capacity Female	Work Supervisors
Residential				
Condon	Flathead	30		7
Lolo Work-Education Center	Lolo		20	6
Ninemile	Lolo	25		7
Spearfish	Black Hills		30	7
Continental Divide	Cibola	50		10
San Antonio	Santa Fe		30	7
Alta Ski Area	Wasatch	25	25	10
Idaho City Jumper Base	Boise	40		9
Chiquita	Sierra	60		11
Ole	Cleveland		40	9
Camp Rimrock	Snoqualmie	25	25	10
Spirit Lake	Gifford Pinchot	30		7
Ochoco	Ochoco	40		9
Rager	Ochoco		30	7
Yellow Pine	Angelina	32		7
Camp Doe	Ocala		50	10
Clear Fork	Ouachita	25		7
Monongahela	Monongahela	25	25	10
Alpha Tau	Wayne-Hoosier	40		9
Hardin Ridge	Wayne-Hoosier		11	3
Golden Lake	Ottawa	30		7
Clam Lake	Chequamegon	25	25	10
Lydick Lake	Chippewa	25	25	10
Trump Lake Lodge	Nicolet	35		9
Braddock	Mark Twain		35	9
Iroquois	Hiawatha	36		9
Subtotal		598	371	216
			Mixed	
Non-Residential				
Pike	Pike		25	3
Coconino	Coconino		25	3
Shasta-Trinity	Shasta-Trinity		50	5
Daniel Boone	Daniel Boone		25	3
Kisatchie	Kisatchie		25	3
White Mountain	White Mountain		25	3
Subtotal			175	20

EVALUATION OF YCC PROGRAM

Mrs. HANSEN. Are you going to have any other agency than your own evaluate the program?

Mr. SCHULTZ. We will have some input from HEW that we have requested and they have volunteered to help us. We are using some of our research talent in this effort. The Forest Service will do the research on this location by location for all of the camps in cooperation with the Department of the Interior camps so we will have a uniform approach to the evaluation.

COOPERATION OF STATE SCHOOL SYSTEMS IN RECRUITMENT

Mrs. HANSEN. Are the local school areas participating in the recruitment of enrollees?

Mr. SCHULTZ. Yes. For the recruiting, we are looking to the States. This has already progressed to some extent to the State school systems for helping us in the recruitment and selection of the students.

Mrs. HANSEN. What criteria are you placing on the recruitment?

Mr. SCHULTZ. We have developed criteria jointly with the Department of the Interior.

Mrs. HANSEN. Please insert the criteria in the record.

Mr. SCHULTZ. Yes, this is shown in part III, section F—Youth Recruitment, in the "Supplement to the Interior—Agriculture Memorandum of Understanding Concerning Youth Conservation Corps" which you previously requested for the record.

Mrs. HANSEN. This is a subject of interest to many members.

Mr. Galifianakis.

NUMBER OF YCC ENROLLEES

Mr. GALIFIANAKIS. How many people were involved last year?

Mrs. HANSEN. The program is just beginning this year.

Mr. SCHULTZ. It is about 1,100 for Forest Service and 1,100 for Department of the Interior.

Mrs. HANSEN. 2,200 nationwide?

Mr. SCHULTZ. That is correct.

GEOGRAPHIC BREAKDOWN

Mrs. HANSEN. Geographically how widespread are the centers?

Mr. SCHULTZ. As I mentioned yesterday we will have project locations in 22 States. That is just for the Forest Service. Again, we have collaborated with the Department of the Interior to get a good even spread and I can't offhand tell you how many States are now involved in the Department of the Interior and Department of Agriculture together.

Mrs. HANSEN. The States involved encompass all of the regions of the Nation?

Mr. SCHULTZ. This is correct.

OTHER GENERAL FUNDS

Mrs. HANSEN. Please insert pages 141 through 144 of the justifications in the record at this point.

(Pages 141 through 144 follows:)

ACQUISITION OF LANDS FOR UINTA NATIONAL FOREST

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate
Acquisition of lands for Uinta National Forest	$94	$96,800	- -
Unobligated balance brought forward	-$96,894	-96,800	- -
Unobligated balance carried forward	96,800	- -	- -
Total available or estimate	- -	- -	- -

Public Law 89-226 authorized the purchase of approximately 10,000 acres of non-Federally owned land within a described part of the Uinta National Forest in Utah for the purpose of promoting the control of floods and the reduction of soil erosion through restoration of adequate vegetative cover. $300,000 were appropriated in fiscal year 1967.

As of June 30, 1970, 8,847 acres have been acquired at a cost of $203,200. Lands have become difficult to acquire. It is anticipated that the remaining lands will be acquired by the end of fiscal year 1971.

ACQUISITION OF LANDS FOR WASATCH NATIONAL FOREST

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate
Acquisition of lands for Wasatch National Forest	$11,876	$53,529	- -
Unobligated balance brought forward	-65,405	-53,529	- -
Unobligated balance carried forward	53,529	- -	- -
Total available or estimate	- -	- -	- -

The Act of September 14, 1962 (PL 87-661) provided authorization for the appropriation of $400,000 for purchase of privately owned lands within the Wasatch National Forest in Utah to aid in control of floods and to reduce soil erosion. The full amount of this authorization has been appropriated with the funds remaining available until expended.

As of June 30, 1970, approximately 12,741 acres had been approved for purchase under this authority. It is expected that the remaining lands will be acquired by the end of fiscal year 1971.

ACQUISITION OF LANDS FOR SUPERIOR NATIONAL FOREST

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate
Acquisition of lands for Superior National Forest	$1,775	$30,999	- -
Unobligated balance brought forward	-32,774	-30,999	- -
Unobligated balance carried forward	30,999	- -	- -
Total available or estimate	- -	- -	- -

The Act of June 22, 1948 (PL 80-733) as amended, provided authorization for the appropriation of $4.5 million for the purchase of lands and improvements thereon in the Boundary Waters Canoe Area, Superior National Forest, Minnesota. The full amount of this authorization has been appropriated with the funds remaining available until expended.

This purchase program is in its final stages. The remaining balance of $30,999 is held in reserve principally for possible excess awards for purchase cases currently in condemnation proceedings.

ACQUISITION OF LANDS FOR CACHE NATIONAL FOREST

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate
Acquisition of lands for Cache National Forest	$100	$10,837	- -
Unobligated balance brought forward	-10,937	-10,837	- -
Unobligated balance carried forward	10,837	- -	- -
Total available or estimate	- -	- -	- -

The 1956 Appropriation Act provided $200,000 for the acquisition of lands in the Cache National Forest pursuant to the Act of July 24, 1956 (70 Stat. 632). Obligations under this fund are in addition to the appropriation from National Forest receipts authorized by the Act of May 11, 1938, and provided in the appropriation, Acquisition of Lands for National Forests, Special Acts. Under the 1956 Act, funds appropriated must be matched by contribution of funds or land by local agencies or persons. Explanation of this program and the accomplishments thereunder are included under the appropriation, Acquisition of lands for national forests, special acts.

Mrs. Hansen. Please insert in the record pages 145 through 148 of the justifications (pages 145 through 148 follow:)

ADMINISTRATIVE PROVISIONS, FOREST SERVICE

Changes in Language

Changes in language are proposed as follows. New language is underscored and deleted matter is enclosed in brackets.

Appropriations to the Forest Service for the current fiscal year shall be available for: (a) purchase of not to exceed one hundred and [ninety] 1 seventy-one passenger motor vehicles of which one hundred and [seventy] 2 fifty shall be for replacement only, and hire of such vehicles; operation and maintenance of aircraft and the purchase of not to exceed four for replacement only; . . .

Changes 1 and 2 would provide authority to purchase 171 passenger motor vehicles of which 150 will be replacements.

PASSENGER CARRYING VEHICLES

Replacements

During fiscal year 1972, it is proposed that the Forest Service replace 150 passenger carrying vehicles. Of these, 145 will meet replacement standards and five will require replacement because of accidents or excessive maintenance costs.

Dependability of passenger carrying vehicles is an important factor in keeping work programs on schedule and in meeting emergencies. Vehicle breakdowns while on field travel cause disruptions and delays in field work as well as loss of effective work time of employees. The continued use of over-aged equipment is undesirable from a safety standpoint since most of it is operated over rough, narrow, winding roads in mountainous country under adverse conditions. This use generally results in excessive operating and repair expenses when vehicles reach or exceed replacement standards.

In order to maintain passenger carrying vehicles in a safe and satisfactory operating condition, it is the policy of the Forest Service to schedule periodic preventive maintenance inspections, services, and tune-ups to reduce the necessity for costly repairs and major overhauls, and to minimize lost time resulting from field breakdowns.

It is desirable to maintain a reasonable balance in the age class of the passenger vehicle inventory. The age class distribution is based upon conforming with replacement standards which recognize that some units will be retired under the age standards and others under the use standard. Prescribed replacement standards, although applicable, are not always appropriate for all Forest Service vehicles because of the wide range of operating conditions and the comparatively short field season in many of the National Forests at higher elevations. Decision on replacement of passenger vehicles which reach replacement age is based on an appraisal of each unit. This involves a review of the history record combined with a mechanical inspection of the vehicle's condition and repair liability. When such appraisal indicates that the vehicle is satisfactory for further service without unreasonable repair expenditures, it is retained and assigned to lighter work, even though such action tends to upset the age standards for the fleet inventory.

The vehicles selected for replacement are those which cannot be operated another season without excessive repair expense. They are unsatisfactory for further use both as to safety and mechanical condition. The replacement authorization requested is within the normal annual replacement standards prescribed by the General Services Administration.

Essentially all passenger carrying vehicles are pooled for use by all activities with replacement of pooled units financed from a Working Capital Fund. All appropriations reimburse this fund in ratio to use of vehicles on activities financed by the respective appropriations.

None of the replacements requested will be assigned to areas served or scheduled to be served by Inter-Agency Pools.

Additions

It is proposed that the Forest Service purchase 21 additional passenger carrying vehicles for the following purpose:

Twenty-one to be used as replacements or in lieu of additional one-half ton pickups and carryalls which are more expensive.

Sedans or station wagons cost less to operate and maintain than a truck. During fiscal year 1971, the Forest Service is replacing 20 light trucks, such as carryalls, pickups, panels, and sedan delivery trucks, with sedans and station wagons. The total estimated cost savings is $7,500 per year. The substitution of 21 passenger cars for light trucks in fiscal year 1972 would result in an additional saving of about $7,875 each year.

The Forest Service analyzes current work plans and program in determining its overall passenger carrying vehicle requirements. This analysis includes a careful study of the number of vehicles needed at each field station, using as a guiding principle the ownership of only the minimum number of dependable units required to serve programs for which funds are budgeted. Also, it is Forest Service policy to utilize Inter-Agency Motor Pools or commercial car rental services to the fullest practicable extent. Passenger car use is restricted and is integrated with various activities so as to attain good utilization of all vehicles.

Additions are financed from program funds in direct relationship to the anticipated use of the equipment. Distribution of costs to appropriations is based on analysis of use of the equipment fleet for the past three years and the estimated use for the budget year.

Number of vehicles

The Forest Service had a net active fleet of 894 passenger carrying vehicles at the start of fiscal year 1971. It will add 20 units during the year, making a total of 914 units available at the start of fiscal year 1972, excluding possible transfers to other agencies. It is proposed that the total number of passenger carrying vehicles be increased to 935 by the end of fiscal year 1972.

As of June 30, 1970, the age and mileage classes of the passenger carrying vehicles on hand, exclusive of 13 buses, were:

Age Data

Year	No. of Vehicles
1965 and older	167
1966	95
1967	125
1968	249
1969	203
1970	134
Total	973*

Mileage Data

Miles	No. of Vehicles
60,000 and over	161
50,000 to 59,999	85
40,000 to 49,999	83
30,000 to 39,999	138
20,000 to 29,999	208
10,000 to 19,999	150
0 to 9,999	148
Total	973*

* Includes 119 vehicles on hand awaiting disposal, and excludes 27 vehicles on order, but not received at this time.

Use of Vehicles

Passenger carrying vehicles are used by:

(1) Forest officers in the protection, utilization, management, and development of the National Forests and land utilization projects and in the program for control of forest pests.

(2) Research technicians on experimental forests, and ranges, on field research projects and forest surveys.

(3) Foresters engaged in carrying out the laws providing for State and private forestry cooperation.

(4) Regional office field-going administrative personnel in performing, directing, and inspecting field work.

The Forest Service is essentially a field organization and its passenger carrying vehicles are located mainly at regional, National Forest, and ranger district headquarters, and experimental forests and ranges. There are over 225 million acres within the exterior boundaries of the National Forests.

About 512 million acres of State and private forest land are included within the areas which benefit from Federal participation in the cooperative forest program. Much of this area is without common carrier service, and most forest areas and research centers are remote from commercial travel routes, requiring extensive use of motor vehicles as a means of transportation. The major portion of transportation needs, particularly at regional and forest supervisor levels and at other larger headquarters, involves multiple passenger use and can be more expeditiously and economically met by use of sedans and station wagons than by other types of vehicles.

AIRCRAFT

Replacement of Aircraft

The 1972 estimates propose replacement of four aircraft by purchase and four by transfer from other agencies as available. The Forest Service currently has 57 aircraft:

12 Single-engine reconnaissance and transport airplanes
13 Light twin-engine reconnaissance and transport airplanes
17 Medium and heavy cargo and transport airplanes (9 medium, 8 heavy)
13 T34-B lead planes (2-place scout)
1 Helicopter
1 Multi-engine airplane converted to an air tanker

The multipurpose reconnaissance and transport airplanes are used primarily to transport smokejumpers, firefighters, administrative personnel, equipment and supplies to remote and inaccessible areas where commercial services are inadequate or not available for protection and suppression of forest fires. Other use is to locate and survey timber stand and vegetation conditions such as insect infestations, blowdown, diseased areas, undesirable species, and to appraise resources and damage and evaluate effectiveness of control.

One light twin-engine airplane is modified, equipped, and used primarily for fire mapping with infrared equipment in low visibility of smoke and at night.

The multi-engine airplane obtained from the military was converted to air tanker configuration for test and evaluation project to determine if suitable for dropping retardants.

The T34-B lead airplanes are primarily single-purpose military model aircraft used by air tanker bosses to direct and control the dropping of retardants on forest fires by contract air tankers.

The helicopter is used for experimental development of techniques and equipment for direct tactical suppression of forest fires and in training Forest Service personnel in tactical use of helicopters.

The replacements requested will be primarily light and medium twin-engine airplanes. They will be utility airplanes that may be used for several purposes but primarily for providing essential service in dropping smokejumpers and paracargo and lead planes directing contract air tankers. The airplanes will be new, standard manufacture airplanes to upgrade with greater efficiency and utility some of the old military surplus aircraft currently providing essential services. These replacements will provide more effective operations with greater safety margin. The Forest Service aircraft are operated to a large extent over rough, mountainous terrain in turbulent air conditions, and from unimproved landing fields.

Medium and heavy cargo and transport airplanes are needed to meet requirements as a result of rapidly diminishing number available from supplemental air carriers and other commercial sources. The transport type may be obtained and other aircraft currently in use be replaced as newer or more suitable models and types become available from military services as excess property. Procurement would be on transfer without reimbursement and would not increase the total beyond 57 aircraft. When aircraft are partially or completely destroyed in a crash accident, they may be replaced out of any available funds.

PASSENGER MOTOR VEHICLES

Mrs. HANSEN. Justify your need for 171 passenger motor vehicles.

Mr. SCHULTZ. Madam Chairman, we will replace 150 of the passenger carrying vehicles. One hundred forty-five of these are necessary to meet our replacement standards and five will require replacement because of accidents or where we have experienced excessive maintenance costs. Twenty-one of the vehicles requested will be used as replacements or in lieu of additional half-ton pickups and carryalls which are more expensive.

We have done this quite a little bit to reduce cost.

Mrs. HANSEN. The passenger vehicles are used instead of pickups?

Mr. SCHULTZ. They are, depending on the location, because in many cases we find that the areas that are traveled are better roaded and we don't have the high maintenance costs.

Mrs. HANSEN. Please insert in the record the difference in your maintenance costs between the pickups and the passenger vehicles?

Mr. SCHULTZ. Yes, we will do that.

(The information follows:)

Maintenance costs on a passenger car average about $90 a year less than such costs on a pickup.

LOCATION OF MOTOR VEHICLES

Mrs. HANSEN. Please insert in the record where the 171 vehicles will be located.

(The information follows:)

MOTOR VEHICLE STATISTICS--FISCAL YEAR 1972

Forest, Station or Unit	City and State	Addition
Region 1:		
Kootenai	Libby, Montana	3
Deerlodge	Butte, Montana	1
Custer	Billings Montana	1
Regional office	Missoula, Montana	1
Region 6:		
Okanogan	Okanogan, Washington	1
Willamette	Eugene, Oregon	2
Siskiyou	Brookings, Oregon	1
Okanogan	Winthrop, Washington	1
Gifford Pinchot	Carson, Washington	1
Snoqualmie	North Bend, Washington	1
Umpqua	Roseburg, Oregon	1
Olympic	Olympia, Washington	1
Willamette	Detroit, Oregon	1
Willamette	McKenzie Bridge, Oregon	1
Region 9:		
Northeastern Station	Upper Darby, Pennsylvania	4
Total, Additions		21

		Replacement
Region 1:		
Custer	Billings, Montana	1
Regional office	Missoula, Montana	7
Coeur D'Alene	Coeur D'Alene, Idaho	1
Gallatin	Bozeman, Montana	1
Bitterroot	Hamilton, Montana	1
Flathead	Kalispell, Montana	1
Region 2:		
Black Hills	Custer, S. Dakota	5
Grand Mesa-Uncompahgre	Delta, Colorado	1
Medicine Bow	Laramie, Wyoming	2
Pike	Colorado Springs, Colorado	2
Roosevelt	Ft. Collins, Colorado	1
Shoshone	Cody, Wyoming	3
White River	Glenwood Springs, Colorado	2
Region 3:		
Carson	Taos, N. Mexico	1
Gila	Silver City, N. Mexico	2
Lincoln	Alamogordo, N. Mexico	1
Coconino	Flagstaff, Arizona	1
Kaibab	Williams, Arizona	1
Prescott	Prescott, Arizona	2
Region 4:		
Dixie	Cedar City, Utah	1
Humboldt	Elko, Nevada	1
Targhee	St. Anthony, Idaho	1
Teton	Jackson, Wyoming	2
Challis	Challis, Idaho	1
Boise	Boise, Idaho	2
Caribou	Pocatello, Idaho	1
Ashley	Dutch John, Utah	1
Sawtooth	Twin Falls, Idaho	1
Region 5:		
Angeles	Pasadena, California	2
Cleveland	San Diego, California	1
Eldorado	Placerville, California	1

MOTOR VEHICLE STATISTICS--FISCAL YEAR 1972--continued

Forest, Station or Unit	City and State	Replacement
Region 5--continued		
Inyo	Bishop, California	2
Klamath	Yreka, California	1
Lassen	Susanville, California	3
Los Padres	Goleta, California	3
Mendocino	Willows, California	3
Modoc	Alturas, California	1
Plumas	Quincy, California	2
San Bernardino	San Bernardino, California	1
Shasta-Trinity	Redding, California	5
Sierra	Fresno, California	1
Stanislaus	Sonora, California	2
Tahoe	Nevada City, California	1
Pacific Southwest Station	Arcata, California	1
Pacific Southwest Station	Berkeley, California	1
Eng. Materials Investigation Branch	Arcadia, California	1
Equipment Depot	San Dimas, California	1
Region 6:		
Wenatchee	Wenatchee, Washington	1
Deschutes	Bend, Oregon	1
Mt. Baker	Bellingham, Washington	1
Ochoco	Prineville, Oregon	2
Fremont	Lakeview, Oregon	2
Fire Center	Redmond, Oregon	1
Pacific Northwest Station	Portland, Oregon	2
Roque River	Medford, Oregon	1
Region 8:		
Alabama	Montgomery, Alabama	3
Georgia	Gainesville, Georgia	2
Cherokee	Cleveland, Tennessee	1
Kisatchie	Alexandria, Louisiana	3
George Washington	Harrisonburg, Virginia	1
Ouachita	Hot Springs, Arkansas	2
North Carolina	Asheville, N. Carolina	1
Texas	Lufkin, Texas	2
Jefferson	Roanoke, Virginia	4
Daniel Boone	Winchester, Kentucky	2
Florida	Tallahassee, Florida	2
Southern Station	Stoneville, Mississippi	2
Southern Station	State College, Mississippi	1
Southern Station	Sewanee, Tennessee	1
Southeastern Station	Athens, Georgia	1
Southeastern Station	Macon, Georgia	1
Southeastern Station	Asheville, N. Carolina	1
Southeastern Station	Durham, N. Carolina	1
Region 9:		
Northeastern Station	Upper Darby, Pennsylvania	4
Huron-Manistee	Cadillac, Michigan	4
Clark	Rolla, Missouri	1
Nicolet	Rhinelander, Wisconsin	2
Shawnee	Harrisburg, Illinois	2
Wayne-Hoosier	Bedford, Indiana	1
North Central Station	St. Paul, Minnesota	4
Mark Twain	Springfield, Missouri	1
Monongahela	Elkins, W. Virginia	1
White Mountain	Laconia, New Hampshire	2
Allegheny	Warren, Pennsylvania	1
Reservice for early replacement needs (accident, high maintenance, etc.)		2

MOTOR VEHICLE STATISTICS--FISCAL YEAR 1972--continued

Forest, Station or Unit	City and State	Replacement
Region 10:		
Regional office	Juneau, Alaska	2
Washington Office:		
Pinchot Institute	Milford, Pennsylvania	1
Total, Replacements		150

AIRCRAFT

Mrs. HANSEN. What is the justification for the replacement of four aircraft by purchase and four by transfer from other agencies? From what agencies will the aircraft be transferred?

Mr. DROEGE. The planes would most probably be transferred from the military. That is where we got most of our past transfers. We occasionally get one from some other agency who had a surplus plane that would fill our needs. The transfers or purchases will not increase the Forest Service fleet of aircraft. It is to upgrade our capability in medium and heavy cargo and passenger carrying planes. We found during the last fire season that these are getting in short supply and we need to increase our capability.

Also, we need to increase our capability with some new planes for use, in large measure, with air tankers as lead planes. We are trying to move as much as we can in the direction of twin-engine aircraft because they are so much safer in the type of flying we are doing.

Mrs. HANSEN. Please insert in the record where your new aircraft will be stationed?

(The information follows:)

The replacement aircraft will be stationed at: Boise, Idaho, Portland, Oreg., Ogden, Utah, Missoula, Mont.

PERMANENT APPROPRIATIONS

Mrs. HANSEN. Please insert in the record pages 149 through 157 of the justifications.

(Pages 149 to 157 follow:)

ROADS AND TRAILS FOR STATES, NATIONAL FORESTS FUND
(Permanent appropriation)

Appropriation, 1971	$28,761,091
Budget estimate, 1972	32,760,000
Increase (due to an estimated increase in National Forest receipts in fiscal year 1971)	+3,998,909

The permanent appropriation of 10 percent of National Forest receipts pursuant to the Act of March 4, 1913 (16 USC 501) is transferred to and merged with the annual appropriation for Forest Roads and Trails. The explanation of the use of these funds is included in the justification for that appropriation item.

EXPENSES, BRUSH DISPOSAL
(Permanent appropriation)

Appropriation, 1971	$12,800,000
Budget estimate, 1972	14,000,000
Increase	+1,200,000

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Brush disposal	$11,375,732	$16,130,000	$17,380,000	+$1,250,000
Unobligated balance brought forward	-16,435,771	-17,836,597	-14,506,597	+3,330,000
Unobligated balance carried forward	17,836,597	14,506,597	11,126,597	-3,380,000
Total available or estimate	12,776,558	12,800,000	14,000,000	+1,200,000

Timber cutting normally increases the fire hazard because of dry fuel increase in the form of logging slash. This slash may also:

(1) Contribute to the buildup of insect populations.

(2) Increase certain disease infestations.

(3) Cause damage to stream channels.

National Forest timber sale contracts require treatment of debris from cutting operations or deposit of funds to pay for the work. When economical and expedient the work is performed by the timber purchaser. If it is not feasible for the purchaser to do the work, it is done by the Government, using deposits made by the timber purchaser to cover costs of the work as authorized under Section 6 of the Act of April 24, 1950 (16 USC 490).

The effect of timber cutting and the manner of treating slash vary widely among regions. In the two eastern regions, volume cut per acre is relatively low, utilization is high, and generally, humid atmospheric conditions result in rapid decomposition of debris so little slash disposal work is necessary. An exception occurs in some sales where a heavier cut per acre is made, such as the jack pine stands of Minnesota. In such areas, slash is broken up and mixed with mineral soil by disking with heavy equipment. This reduces the hazard and provides a good seedbed to aid regeneration. Treatment of slash to prevent insect epidemics is sometimes necessary in these areas.

In contrast, the cost of slash abatement on most sale areas of the West is high. High volumes per acre generally produce heavy slash. Long dry periods with much lightning and man-caused fire risk result in extremely hazardous fire potential. The warm, humid condition necessary for rapid slash deterioration seldom occurs so more intense slash disposal is required. Treatment varies greatly with different methods of cutting, but generally requires some burning to reduce volumes of slash fuels. Clear-cut areas may be broadcast burned, or debris may be cable-yarded or machine-bunched into piles which can be burned through varied weather conditions. In selectively cut areas, debris may be piled for burning over the whole area or in strips which serve as firebreaks. Fuel arrangements are planned which allow burning at times when smoke dispersal is favorable and will not influence air quality in population areas.

While slash disposal follows general prescriptions within regions, individual needs of each sale offering are planned and appraised prior to advertisement and appropriate specific requirements are incorporated into each timber sale contract. In each instance, the method used is the one which will provide adequate resource and environmental protection of the area at the least expense. In some instances adequate protection from fire is attained by providing additional protection until the slash hazard reverts to near normal. Logging debris which may move into water courses under these conditions must be removed. Greater intensity of fire protection for several years and occasional stream clearance may be less costly than complete slash disposal immediately after cutting. In such cases, brush disposal funds are used to provide the needed manpower and facilities.

FOREST FIRE PREVENTION

(Permanent appropriation)

Appropriation, 1971	$133,000
Budget estimate, 1972	135,000
Increase	+2,000

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Forest fire prevention	$70,248	$127,000	$172,000	+$45,000
Unobligated balance brought forward	-75,791	-114,110	-120,110	-6,000
Unobligated balance carried forward	114,110	120,110	83,110	-37,000
Total available or estimate	108,568	133,000	135,000	+2,000

The Smokey Bear licensing program is an important part of the Cooperative Forest Fire Prevention Campaign, and accomplishes its purpose through dissemination to the public of Smokey Bear's forest fire prevention message on commercial products licensed by the Chief of the Forest Service, and by support of the Smokey Bear Junior Forest Rangers, exhibits, and the Smokey Bear awards program through contribution of fees and royalties by licensees. Among the educational items presently available under this authority are books, games, bookcovers, television shows, Viewmaster reels, litterbags, children's clothing, musical recordings, and exhibits, to name a few. These items carry the forest fire prevention message to millions of Americans each year.

It is proposed to:

(1) License Smokey Bear stationery, note pads, and other paper products.

(2) Secure regional "jobbers" who will supply buyers with a full line of products.

(3) Double appointments to the Junior Forest Rangers (currently 250,000 per year) and set up JFR subheadquarters in most State forester headquarters.

(4) Design and install new interpretive displays at Smokey's home at the Washington National Zoo to increase the educational impact for over 4 million visitors per year.

Examples of Recent Accomplishments

(1) Public service time and space donated to forest fire prevention in 1969 reached a new high of $25.5 million, an increase of $8 million over the preceding year.

(2) The first National Smokey Bear Workshop was held, with 60 State, Federal, Canadian, and advertising professionals participating.

(3) A mass media survey analyzed reports from 281 television broadcasters, 1,485 radio broadcasters and 328 newspaper editors. Reactions from these communicators will help to improve the message impact of Smokey Bear materials.

RESTORATION OF FOREST LANDS AND IMPROVEMENTS

(Permanent appropriation)

Appropriation, 1971	$35,000
Budget estimate, 1972	50,000
Increase	+15,000

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Restoration of forest lands and improvements	$27,324	$35,000	$50,000	+$15,000
Unobligated balance brought forward	-9,514	-10,651	-10,651	- -
Unobligated balance carried forward	10,651	10,651	10,651	- -
Total available or estimate	28,461	35,000	50,000	+15,000

Recoveries from cash bonds or forfeitures under surety bonds by permittees or timber purchasers, who fail to complete performance of improvement, protection, or rehabilitation work required under the permit or timber sale contract, are used to cover the cost to the United States of completing such work on lands under Forest Service administration. Funds received as settlement of a claim are used for improvement, protection, or rehabilitation made necessary by the action which led to the cash settlement (Act of June 20, 1958, 16 USC 579c).

PAYMENT TO MINNESOTA (COOK, LAKE, AND ST. LOUIS COUNTIES) FROM THE NATIONAL FORESTS FUND

(Permanent appropriation)

Appropriation, 1971	$258,006
Budget estimate, 1972	265,000
Increase	+6,994

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Payment to Minnesota from the National Forests Fund (total available or estimate)	$257,955	$258,006	$265,000	+$6,994

The Act of June 22, 1948, as amended (16 USC 577c-577h) provides that the Secretary of the Treasury, upon certification of the Secretary of Agriculture, shall pay to the State of Minnesota at the close of each fiscal year from any National Forest receipts not otherwise appropriated an amount equivalent to three-fourths of one percent of the fair appraised value of certain National Forest lands in the counties of Cook, Lake, and St. Louis situated within the Superior National Forest. The Act further provides that payment to the State shall be distributed to each of these counties in conformity with the fair appraised value of such National Forest lands in each county.

PAYMENTS TO COUNTIES, NATIONAL GRASSLANDS

(Permanent appropriation)

Appropriation, 1971	$512,500
Budget estimate, 1972	512,500

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Payment to counties (total available or estimate)	$505,888	$512,500	$512,500	- -

At the end of each calendar year, 25 percent of the revenues from use of submarginal lands are paid to counties under the provisions of Title III of the Bankhead-Jones Farm Tenant Act, approved July 22, 1937 (7 USC 1012). Payments are made on the provision that they are used for school or road purposes, or both.

PAYMENTS TO SCHOOL FUNDS, ARIZONA AND NEW MEXICO

(Permanent appropriation)

Appropriation, 1971	$84,338
Budget estimate, 1972	100,000
Increase (due to an estimated increase in National Forest receipts in fiscal year 1971)	+15,662

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Payments to school funds (total available or estimate)	$124,709	$84,338	$100,000	+$15,662

Under provisions of the Act of June 20, 1910 (36 Stat. 562, 573) certain areas within National Forests were granted to the States for school purposes. The percentage that these lands are of the total National Forest area within the State is used in determining payments to the States. The receipts from all National Forest land within the State are used as the basis for applying the percentage. For example, if total receipts for the State are $100,000 and if 10 percent of lands are in the "granted for school purposes" category, the payment to the State would be $10,000. The amounts so paid are deducted from the net receipts before computing the 25 percent payments to States.

As soon after the close of the fiscal year as the receipts from National Forests and the area of school lands in the States of Arizona and New Mexico are determined, the payments are made to the States. Payments in fiscal year 1971 to Arizona were $83,644 and to New Mexico $694.

PAYMENTS TO STATES, NATIONAL FORESTS FUND
(Permanent appropriation)

Appropriation, 1971	$71,896,615
Budget estimate, 1972	81,891,250
Increase (due to an estimated increase in National Forest receipts in fiscal year 1971)	+9,994,635

PROJECT STATEMENT

Project	1970	1971 estimate	1972 estimate	Increase or decrease
Payments to States (total available or estimate)	$78,012,921	$71,896,615	$81,891,250	+$9,994,635

The Act of May 23, 1908, as amended (16 USC 500) requires, with a few exceptions, that 25 percent of all money received from the National Forests during any fiscal year be paid to the States in which the forests are located, for the benefit of public schools and public roads of the county or counties in which such National Forests are situated. The amount of this appropriation varies each year in direct proportion to National Forest receipts during the previous fiscal year.

The amounts set aside from receipts collected from the sale of National Forest timber, grazing, special use permits, power, mineral leases, and admission and user fees, before the 25 percent is applied are listed below:

1. Payment to the State of Minnesota covering certain National Forest lands in the Counties of Cook, Lake, and St. Louis situated within the Superior National Forest is made under the terms of the Act of June 22, 1948, as amended (16 USC 577c-577h). Receipts collected from the areas covered by this Act are excluded when the 25 percent payment to the State of Minnesota is computed.

2. For lands in certain counties in Utah, Nevada, and California, the States receive 25 percent of receipts only after funds, if made available by Congress, have been set aside for the acquisition of National Forest lands within the specified National Forests under the terms of special acts authorizing appropriations from forest receipts for this purpose.

3. Payments to the States of Arizona and New Mexico under the provisions of the Act of June 20, 1910 (36 Stat. 562, 573), of shares of the gross receipts from the National Forests in those States which are proportionate to the areas of land granted to the States for school purposes within the National Forests.

Working Capital Fund

Mrs. Hansen. Please insert pages 158 through 161 of the justifications in the record.

(Pages 158 through 161 follow:)

WORKING CAPITAL FUND

The Working Capital Fund was established by the Act of August 3, 1956 (16 USC 579b), as amended by the Act of October 23, 1962, (16 USC 579b). It is a self-sustaining revolving fund which provides services to National Forests, Experiment Stations, and when necessary, to other Federal agencies, and as provided by law to State and private agencies and persons who cooperate with the Forest Service in fire control and other authorized programs.

The following services were provided by the Working Capital Fund in fiscal year 1970:

1. Equipment service.--This service owns, operates, maintains, and replaces approximately 13,500 pieces of common use motor driven and similar equipment. This equipment is rented to a total of 146 administrative units, i.e., National Forests, Experiment Stations and other units, and in some cases to other agencies, at rates which recover the cost of operation, repair and maintenance, management, and depreciation. The rates also include an increment which provides additional cash which when added to depreciation earnings and the residual value of equipment provides sufficient funds to replace the equipment. This service operates 93 repair shops.

2. Aircraft service.--This service operates and maintains 57 Forest Service owned aircraft used in fire surveillance and suppression and in other Forest Service programs. The aircraft are based at 16 locations and are rented to National Forests, Experiment Stations, and in some cases to other agencies, at rates which recover the cost of operation, maintenance, repair, and improvements in the airworthiness of the aircraft. Replacement costs and the costs of additional aircraft are financed prorata by benefiting Forest Service appropriations. This service operates three aircraft maintenance shops.

3. Supply service.--This service operates the following common services:

   Central Supply.--This service has two locations for procurement, warehousing, and supply of common use items, such as work project tools, provisions, and supplies. Grass seed is procured, stored and issued from two other locations. Issuances and sales are made to National Forests, Experiment Stations, and others at prices which recover cost.

   Photo reproduction.--Six photo reproduction laboratories store, reproduce, and supply aerial photographs, aerial maps, and other photographs of National Forest lands. The photographic reproductions are sold to National Forests, Experiment Stations, and others at cost.

   Sign shop.--These include 7 small shops which manufacture and supply special signs for the National Forests for use in regulating traffic and as information to the public and other users of the National Forests. The signs are sold to National Forests and Experiment Stations at cost.

   Subsistence.--There are 27 facilities which prepare and serve meals at cost to Forest Service work crews working in remote areas where adequate public restaurant facilities are not available.

   Cribbing.--This facility is located on the Angeles National Forest, California, to manufacture special concrete structural material used in embankments for erosion control purposes along access roads in the National Forests. This material is sold to National Forests at prices which recover costs.

4. Nurseries.--This service operates 13 forest tree nurseries and cold storage facilities for storage of tree and seed stock and one seed extractory. Tree seed is procured, cleaned, bagged, and stored in refrigerated facilities. Tree and seed stock is sold to National Forests, States, and other Federal agencies at cost.

Volume of Business for the Various Major Activities
of the Working Capital Fund
(In thousands of dollars)

	1970 Actual	1971 Estimate	1972 Estimate
Equipment service	$20,863	$22,593	$23,545
Aircraft service	974	1,057	1,098
Supply service	2,987	3,285	3,304
Nursery service	2,752	2,877	2,939
Totals	27,576	29,812	30,886

The Working Capital Fund requires no cash appropriation. Initially, its assets were purchased by regular Forest Service appropriations and were donated to the fund. Where expansion of facilities is required that expansion is financed by Forest Service regular appropriations and the resulting assets are donated to the fund.

The objective over the long run is to operate the fund on a break-even basis, i.e., with income and costs approximately equal. However, certain earnings in excess of current costs are required to enable the fund to replace its large equipment fleet with modern, up-to-date equipment in a rising economy. These earnings are needed to meet future increased costs of equipment. They are not excess to the needs of the fund since some have been invested in equipment and the remainder is needed to cover future increased costs of equipment.

The following is a condensed "Statement of Financial Condition" at the close of fiscal years 1969 and 1970, and as estimated at the close of fiscal years 1971 and 1972, after considering the impact of transactions for those two years:

Condensed Schedule
Statement of Financial Condition as of June 30
(In thousands of dollars)

	1969 Actual	1970 Actual	1971 Estimate	1972 Estimate
Assets				
Balance of cash and other current assets after deducting liabilities to be paid	$6,661	$6,388	$7,508	$8,738
Deferred charges	12	22	13	14
Inventories	6,293	6,430	6,430	6,430
Fixed assets, net	29,499	31,155	33,162	35,467
Net assets	42,465	43,995	47,113	50,649
Government Equity				
Donated capital	33,724	35,209	36,386	37,859
Retained earnings	8,741	8,786	10,727	12,790
Total Government Equity	42,465	43,995	47,113	50,649

An analysis of retained earnings for each of the four years follows:

Analysis of Retained Earnings
(In thousands of dollars)

	Through 6/30/69	Through 6/30/70	Through 6/30/71	Through 6/30/72
Earnings invested in equipment	$7,984	$8,376	$9,777	$11,790
Earnings reserved for future equipment acquisitions	757	410	950	1,000
Total earnings	8,741	8,786	10,727	12,790

The following "Statement of Proceeds Realized and Used" shows the same estimated increase of working capital--$273,000 for 1970, $1,120,000 for 1971, and $1,230,000 for 1972--as is shown on the condensed statement of financial condition. This increase is required to finance the increased cost of fleet equipment purchases.

This statement shows the requirements of each Working Capital Fund activity and demonstrates how closely the proceeds realized by each activity are used by that activity for operating expenses and purchase of equipment and, in the case of the Equipment Service, to provide working capital for future increased cost of equipment purchases over the original cost of the equipment to be replaced.

Statement of Proceeds Realized and Used
(In thousands of dollars)

	1970 Actual	1971 Estimate	1972 Estimate
1. Equipment Service			
Proceeds realized from:			
Operations	$20,863	$22,593	$23,545
Sale of equipment	1,391	1,397	1,343
Total proceeds realized	22,254	23,990	24,888
Proceeds used for:			
Purchase of equipment	6,794	7,207	7,336
Expenses	15,984	15,973	16,600
Total proceeds used	22,778	23,180	23,936
Excess of proceeds realized	- -	810	952
used	-524	- -	- -
2. Aircraft Service			
Proceeds realized from operations	974	1,057	1,098
Proceeds used for:			
Purchase of equipment	2	27	- -
Expenses	876	1,006	997
Total proceeds used	878	1,033	997
Excess of proceeds realized	96	24	101
3. Supply Service			
Proceeds realized from operations	2,987	3,285	3,304
Proceeds used for:			
Purchase of equipment	48	12	80
Expenses	3,116	3,132	3,154
Total proceeds used	3,164	3,144	3,234
Excess of proceeds realized	- -	141	70
used	-177	- -	- -

	1970 Actual	1971 Estimate	1972 Estimate
4. Nurseries			
Proceeds realized from operations	2,752	2,877	2,939
Proceeds used for:			
Purchase of equipment	26	1	6
Expenses	2,394	2,731	2,826
Total proceeds used	2,420	2,732	2,832
Excess of proceeds realized	332	145	107
Total excess of proceeds, all Service:			
Realized	- -	1,120	1,230
Used	-273	- -	- -
Cash: Reduction	-2,032	- -	- -
Increase	- -	1,159	1,102
Other Working Capital: Reduction	- -	-39	- -
Increase	1,759	- -	128

CHARGES FOR SERVICES AND SUPPLIES

Mrs. HANSEN. What is the basis for computing charges for service and supplies obtained through the working capital fund?

Mr. SCHULTZ. Madam Chairman, our basis for the computation of the equipment rate is based on analysis of costs for the operation of our equipment. This is done by engineering studies and experience over a period of years. The rates are reexamined annually for this service and used as a basis for charges.

The same thing is true on the operation of the other services—the aircraft, supply service, and nursery service. These are examined each year, considered for additional costs, increases that may occur as well as unusual circumstances that require readjustment in the rates. These are standard rates and are established on a regional basis to reflect local conditions.

TRUST FUNDS

Mrs. HANSEN. Please insert pages 162 through 164 of the justifications in the record.

(Pages 162 through 164 follow:)

COOPERATIVE WORK, FOREST SERVICE (TRUST FUND)

Contributions are received from cooperators, including counties, States, timber sale operators, individuals, and associations, and are expended by the Forest Service in accordance with the terms of the applicable cooperative agreements. The work consists of protection and improvement of the National Forests, work performed for National Forest users, and forest investigations and protection, reforestation, and administration of private forest lands.

The major programs conducted under this account are described below in terms of the projects reflected in the statement at the end of this section.

1. Construction and Maintenance of Roads and Trails, and

2. Construction and Maintenance of Other Improvements.

   Under the Acts of June 30, 1914 (16 USC 498) and March 3, 1925, April 24, 1950 (16 USC 572) and October 13, 1964 (16 USC 537) deposits for cooperative work are accepted from State and local government agencies, associations, Federal timber purchasers, users of roads, and others for the construction and maintenance of roads, trails, and other improvements and for performing work which is the National Forest users' responsibility, this method of performance of the work being of mutual benefit or of benefit to the public at large. Cooperative deposits received for wildlife habitat improvement for States from their hunting and fishing fees are included in this activity.

3. Protection of National Forest and Adjacent Non-Federal Lands. The Act of June 30, 1914 (16 USC 498) authorizes the acceptance of contributions for the protection of the National Forests and the Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572), authorizes the acceptance of deposits for the protection of non-Federal lands in or near the National Forests. The major portion of the obligations is for the protection of private lands from fire. This arrangement helps both parties since there are millions of acres of non-Federal forest land intermingled with Federal ownership on the National Forests. The lands in non-Federal ownership are usually in small tracts. It would be uneconomical for the owner to set up a fire control organization for the protection of his land. The advantage to the Government is that in many cases it would be necessary to suppress the fires on the non-Federal land without reimbursement in order to protect the adjoining Federal land.

4. Sale Area Betterment (including reforestation). Section 3 of the Act of June 9, 1930 (16 USC 576b) provides for deposits of funds by timber sale purchasers to cover the cost of reforestation and special cultural measures to improve the future stand of timber on the areas cutover by the purchaser. Accomplishments under this program are reported under the Forest land management subappropriation along with accomplishments for reforestation and stand improvement for that subappropriation.

5. Scaling. Under provisions of the Act of April 24, 1950 (16 USC 572) and of Section 210 of the Act of September 21, 1944 (16 USC 572a) acceptance of deposits from timber purchasers for cooperative scaling service is authorized. Such arrangements are established only when requested by the operator and when the operator pays the extra cost of such services, either in advance or through reimbursement under appropriate payment guarantees.

6. Research Investigations. The Acts of June 30, 1914 (16 USC 498) and May 22, 1928 (16 USC 581i-1) authorize the acceptance of deposits for forestry research. Deposits are received from State and other public agencies, and from industrial, association, and other private agencies to finance research projects of mutual interest and benefit to both parties. The deposits may

be made either in a single sum or on a continuing basis, and may either partially or wholly cover the cost of the research. The cooperative research projects may involve any aspect of forestry and vary widely as to scope and duration. A very common example of such cooperation is for a State to make a deposit to the Cooperative work fund in order to intensify or to speed up completion of a comprehensive survey of the forest resources of the State. Other examples are State contributions toward forest fire research. The results of such cooperative investigations are made available to the general public as well as to the depositor.

7. Administration of Non-Federal Lands. The Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572) authorizes the acceptance of deposits for the administration of non-Federal lands. These deposits are made by non-Federal owners having land intermingled with or adjacent to National Forests who wish these lands managed in accordance with good forest management practices. Their holdings are usually too small to warrant the employment of professional foresters to administer such tracts. The advantages to the Government include the avoidance of possible high fire hazard areas resulting from improper cutting practices, the elimination of the necessity of precisely marking the boundaries of the private land, and additional private forest land handled under proper forest practices.

8. Reforestation (private lands). The Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572) authorizes the acceptance of deposits for reforestation of non-Federal lands situated within or near a National Forest. This work is limited to areas of non-Federal land within a planting project on the National Forests or to areas in which certain civic and other public-spirited organizations have taken an interest.

9. Statement on Utilization of Funds. Following is a statement of funds received and obligated and balances available by major activities:

COOPERATIVE WORK, FOREST SERVICE--Trust Fund

Project	Balance Available June 30, 1969	Actual Fiscal Year 1970			Estimate Fiscal Year 1971			Estimate Fiscal Year 1972		
		Funds Received	Obligations	Balance	Funds Received	Obligations	Balance	Funds Received	Obligations	Balance
1. Construction and maintenance of roads and trails	$5,045,155	$6,114,125	$6,030,033	$5,129,247	$7,000,000	$7,699,000	$4,430,247	$7,000,000	$7,719,000	$3,711,247
2. Construction and maintenance of other improvements	500,435	701,080	697,315	504,200	800,000	950,000	354,200	800,000	950,000	204,200
3. Protection on National Forests and adjacent private lands:										
(a) Fire	616,639	1,138,044	1,306,486	448,997	1,200,000	1,325,000	323,997	1,200,000	1,325,000	198,997
(b) Other	2,114,012	1,587,369	1,659,870	2,041,511	1,799,000	2,100,000	1,740,511	2,049,000	2,275,000	1,514,511
4. Sale area betterment on National Forest lands (including reforestation)	48,089,287	26,754,572	25,079,858	50,564,001	32,000,000	32,620,000	49,944,001	32,000,000	34,620,000	47,324,001
5. Scaling of timber	263,043	954,386	977,804	239,625	1,100,000	1,100,000	239,625	1,100,000	1,100,000	239,625
6. Research investigations	370,010	762,425	861,912	270,523	800,000	975,000	95,523	800,000	800,000	95,523
7. Administration of private lands	20,464	29,046	28,284	21,226	30,000	30,000	21,226	30,000	30,000	21,226
8. Reforestation (private lands)	102,887	14,451	22,411	94,927	20,000	70,000	44,927	20,000	50,000	14,927
9. Development, administration, and operation of the Robert S. Kerr Memorial Arboretum and the Cradle of Forestry	860	- -	845	15	1,000	1,000	15	1,000	1,000	15
Subtotal	57,922,792	38,056,299	36,664,818	59,314,272	44,750,000	46,870,000	57,194,272	45,000,000	48,870,000	53,324,272
Advanced to FOREST PROTECTION AND UTILIZATION for fighting forest fires			1,000,000	-1,000,000		-1,000,000				
Total	57,922,792	38,056,299	37,664,818	58,314,272	44,750,000	45,870,000	57,194,272	45,000,000	48,870,000	53,324,272

NOTE: Balances carried forward are due primarily to necessity of deferring work for which funds are deposited until the most practicable time for accomplishment. For instance, funds for sale area betterment are received in advance of timber cutting, but work cannot be started until cutting operations are completed. The time lag sometimes extends for several years, depending on the amount of preparatory work required in the sale area and weather conditions.

Above obligations for 1970 include: (1) Transfers to National Forests Fund of earned sale area betterment deposits in excess of obligations for sale area betterment work $337,124

(2) Refunds to cooperators 234,630

571,754

NONREIMBURSABLE DETAILS OF EMPLOYEES

Mrs. HANSEN. What is the general policy of the Forest Service on the nonreimbursable detail of employees?

Mr. SCHULTZ. The nonreimbursable detail of employees?

Mrs. HANSEN. Yes.

Mr. SCHULTZ. Madam Chairman, we use the policy established by the Federal Personnel Manual when contracts of personnel services are indicated.

Mrs. HANSEN. I am talking about when you loan personnel to other agencies on detail. For example, last year the committee found a duplication of the funding for detailed employees to the White House.

Mr. SCHULTZ. Madam Chairman, our policy on this is where there is a direct relationship for benefits to the Forest Service we pay those details.

Mrs. HANSEN. If you hired a consultant on forest management, would this be considered a reimbursable detail?

Mr. SCHULTZ. Yes, or even on programs of a total departmental character which the Forest Service is a part of; there we do have temporary details, too.

LISTING OF NONREIMBURSABLE DETAILS

Mrs. HANSEN. Please insert in the record a listing of all nonreimbursable details of employees both in and out of your agency for fiscal year 1970, indicating the other bureau involved, and the period of detail in each instance.

Mr. SCHULTZ. We have that information and will supply it for the record.

(The information follows:)

NONREIMBURSABLE DETAILS, FISCAL YEAR 1970

Employee detailed to—	Detail— Began	Ended
Office of Secretary of Agriculture	Oct. 27, 1967	Mar. 21, 1970
Do	Jan. 31, 1965	(1)
Do	Sept. 21, 1964	(1)
Do	Mar. 26, 1967	(1)
Do	Aug. 25, 1968	(1)
The White House	Jan. 12, 1969	Aug. 29, 1970
Office of Secretary of Agriculture	June 1, 1969	Sept. 5, 1970
Do	Nov. 30, 1969	Jan. 10, 1971
Do	June 1, 1969	Apr. 19, 1970
The White House	June 11, 1969	Feb. 13, 1971
Office of Secretary of Agriculture	July 27, 1969	Oct. 10, 1969
The White House	Aug. 12, 1969	Sept. 6, 1970
Office of Secretary of Agriculture	Sept. 7, 1969	(1)
The White House	Sept. 16, 1969	Oct. 20, 1969
Do	do	Do.
Do	Nov. 2, 1969	Feb. 17, 1970
Do	do	July 28, 1970
Do	Aug. 18, 1969	July 12, 1970
Office of Secretary of Agriculture	Oct. 19, 1969	Jan. 10, 1971
The White House	Jan. 5, 1970	Feb. 6, 1971
Office of Secretary of Agriculture	Apr. 20, 1970	Feb. 6, 1971
Do	May 30, 1970	Jan. 10, 1971
Do	Oct. 21, 1967	Aug. 15, 1969
The White House	Feb. 17, 1970	Apr. 16, 1970

1 Continuing.

COMPTROLLER GENERAL'S EXCEPTION TO FOREST SERVICE PROCEDURES FOR ALLOCATING ROAD AND TRAIL CONSTRUCTION FUNDS

Mrs. HANSEN. In his report of November 20, 1970, Report No. B–125053, the Comptroller General took exception to your procedures for allocating funds for the construction of roads and trails.

I will insert a summary of the report in the record at this point.

(The information follows:)

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

FUNDS APPROPRIATED FOR ROADS AND TRAILS COULD BE USED MORE EFFECTIVELY BY THE FOREST SERVICE
Department of Agriculture B-125053

DIGEST

WHY THE REVIEW WAS MADE

The General Accounting Office (GAO) reviewed the Forest Service's procedures for allocating funds for the construction of roads and trails because of indications that priority was not being given to those projects offering the greatest benefits or fulfilling the greatest needs.

The Forest Service is responsible for about 187 million acres of land--a total area larger than the State of Texas--in 154 national forests and 19 national grasslands. For fiscal year 1969, the Congress appropriated about $112 million for the construction and maintenance of roads and trails for the management of forest resources--recreation, range, timber, watershed, and fish and wildlife.

At June 30, 1969, the Forest Service had

--completed construction of about 199,000 miles of roads and about 100,000 miles of trails and

--planned for the construction of 179,000 miles of roads and 23,000 miles of trails and for the reconstruction of 148,000 miles of roads and 50,000 miles of trails at an estimated cost of $10.4 billion. (See pp. 5 and 6.)

FINDINGS AND CONCLUSIONS

Forest Service procedures for allocating funds for the construction of roads and trails do not provide for adequate comparisons of the needs of the various national forests that would ensure that funding priorities are given to the most-needed projects. (See p. 7.)

The desirability of allocating roads and trails funds on the basis of the greatest need is recognized in the Federal-Aid Highway Act of 1958. The act provides that the funds be allocated according to the relative needs of the various national forests, taking into consideration the existing roads and trails, value of timber or other resources served, relative fire danger, and comparative difficulties of roads and trails construction. (See p. 8.)

Tear Sheet

NOV. 20, 1970

The Forest Service headquarters office allocates roads and trails construction funds--exclusive of amounts needed for administration, maintenance, and special construction projects--to each of its nine regional offices in proportion to the projected volume of timber to be cut and the estimated number of recreation visits. (See pp. 8 and 9.)

Decisions made by regional and individual forest officials to fund specific projects are limited by the funding levels established by the headquarters office and are based on their knowledge of the conditions existing in their local areas of operation. These decisions are not based on an overall perspective of servicewide conditions nor are they based on a servicewide priority system that would provide for considering the overall goals of the Forest Service for the management, protection, and utilization of all forest lands and resources. (See pp. 9 and 10.)

GAO's review of the funding of construction projects proposed for fiscal year 1969 in six forests in one Forest Service region showed that funds were being used on projects that fulfilled limited needs while projects of greater need were deferred.

For example:

--In fiscal year 1969 Forest Service officials in the State of Washington committed funds to construct 1.4 miles of road--which was not immediately needed--to use up funds that originally were assigned to another project that was deleted from the forest development plans.

--Although aware of the need for 9 years, Forest Service officials in Oregon have been unable to obtain funding for an access road to a large drainage area that has (1) about 236 million board feet of timber that could be cut, (2) about 3,000 acres of land with timber in need of thinning and pruning, (3) old growth timber that is dying out, (4) overly thick reproduction on burned-over areas, (5) white pine timber that has been almost completely killed off by mountain pine beetles, (6) high potential for recreational use, such as hunting, fishing, and sightseeing, and (7) potential for additional grazing.

These and other examples are discussed in detail on pages 11 to 21 of this report.

GAO is not questioning the need for any roads and trails construction projects. GAO believes, however, that an effective system for comparing the needs of all forests and for assigning priorities on the basis of their relative needs is essential to the effective use of available funds because

--some projects fulfill significantly greater needs than others,

--according to testimony by the Chief of the Forest Service during fiscal year 1970 appropriation hearings, funds appropriated each year for Forest Service activities, including construction of roads and trails, are sufficient to finance only about 60 percent of annual needs, and

--the presence of roads and trails directly affects the ability of the Forest Service to manage forest resources.

RECOMMENDATIONS OR SUGGESTIONS

The Chief, Forest Service, should

--establish servicewide priorities on the basis of overall Forest Service objectives for the management, use, and protection of national forest resources,

--require regional foresters and forest supervisors to identify their roads and trails construction needs in accordance with the established priorities, and

--provide for a headquarters review to ensure that the needs identified and the projects funded are consistent with the established priorities.

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Forest Service advised GAO that it agreed in principle with GAO's recommendation. (See app. I.) The Forest Service stated that a better system for programming and funding roads and trails projects is needed to

--support the development and management of forest resources,

--assist in internal planning, and

--provide the basis for the Congress to determine appropriate funding levels.

The Forest Service has informed GAO that it expects that a study being made by three California universities under cooperative agreements with the Forest Service will provide information needed to develop a more analytical and comprehensive planning system for selection of priorities. Forest Service officials have told GAO that

--an objective of the study is to furnish data for determining the quantity and quality of resources to be served by forest roads and trails and

--the results obtained from the study should provide a basis for improving the programming and funding of roads and trails construction projects, generally along the lines recommended by GAO.

interim reports completed by the universities as of June 1970 contained certain resource data which may affect the allocation of fiscal year 1972 funds for roads and trails.

MATTERS FOR CONSIDERATION BY THE CONGRESS

GAO is issuing this report to inform the Congress of the need for improvements in the Forest Service's procedures for allocating the funds appropriated for roads and trails construction.

Mrs. HANSEN. Please insert in the record following this summary any comments you might care to make in connection with the report.

Mr. M. NELSON. We will be glad to do that.

(The information follows:)

Associate Chief Greeley's letter to Mr. Lowe, Associate Director of Civil Division, U.S. General Accounting Office, which was included as appendix 1 in the GAO report, agreed that a real need existed in achieving a better system of planning, programing, and budgeting for the transportation system projects required to support full development and management of national forest resources. This concern for the procedures used in determining the allocation and expenditure of funds appropriated for the construction of roads and trails led to establishing a transportation system planning project, in 1968, to develop a better planning system. This transportation system planning project is the first step in developing better programing techniques.

The Forest Service and Department of Agriculture's position on the GAO report is best stated in the following letter, with attachment, sent to the Honorable Chet Holifield by Assistant Secretary Cowden on December 22, 1970

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

DEC 22 1970

Honorable Chet Holifield, Chairman
Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

This is in reply to your letter of November 20, 1970, asking for this Department's views and comments on the Comptroller General's Report No. B-125053, November 20, 1970, "Funds Appropriated For Roads And Trails Could Be Used More Effectively By The Forest Service." It concerns the procedures which have been used by the Forest Service in determining the allocation and expenditure of funds appropriated for the construction of roads and trails.

We agree with the Report. The Forest Service recognized two years ago that there was a real need to achieve a better system of planning, programming, and budgeting for the Transportation System projects required to support full development and management of National Forest resources. This awareness led to establishing a Transportation System Planning Project, in 1968, to develop a better planning system.

The May 27, 1970, letter from Associate Chief Greeley, Forest Service, to the General Accounting Office included as Appendix I to the Report (page 29), covers the background of the allocation problems and contains references to the Transportation System Planning Project. This Project is long-term and is considered both as a training program and a study program. Of first interest is the study program, which is composed essentially of two tasks: (1) developing new transportation analysis procedures, and (2) preparing them for operational use.

The Forest Service reports that good progress is being made toward developing new transportation analysis procedures. The attached paper, "Transportation Planning -- A New Approach," is written in nontechnical terms to promote an understanding within the Forest Service of changes to be made in the transportation planning process and to incorporate new analysis procedures.

The first technical reports to be issued formally by the Project will introduce the concepts and an overall process for transportation planning. The Forest Service is planning tentatively for publication of these reports by July 1971.

Periodically thereafter, analysis tools will be issued for carrying out the new planning process. These specific tools must be developed, validated, and tested before they can be formally adopted as working parts of the planning process. Validation and testing (trial implementation) must be performed at the National Forest level.

Trial implementation is already underway on several National Forests for a few of the analysis tools, such as inventorying transportation facilities and testing the traffic analysis system. Trial implementation will intensify gradually over the next two years. In 1973, comprehensive training programs will be possible.

It must be emphasized that this Project is only one element of an intensive program planning and evaluation effort required to set priorities in National Forest resource management. Resource planning and Transportation System planning, when performed simultaneously as they should be, can produce several alternative mixes of resource outputs and costs, thus allowing selection of more effective and efficient solutions.

The Report contains three recommendations or suggestions to the Forest Service:

> "--establish servicewide priorities on the basis of overall Forest Service objectives for the management, use, and protection of national forest resources,
>
> "--require regional foresters and forest supervisors to identify their roads and trails construction needs in accordance with the established priorities, and
>
> "--provide for a headquarters review to ensure that the needs identified and the projects funded are consistent with the established priorities."

These recommendations will be considered in the Forest Service's more current long-range program formulations, such as in the program for the 1970's. Emphasis on improving the analytical and priority setting processes at the National Forest, Regional,

and Chief's Office levels will continue. Preliminary efforts along these lines have already been made in the Pacific Northwest, California, Southwestern, and Southern Regions for the 1972 budget cycle. After review by the Chief's Office, Forest Service, the results will be considered for Servicewide adaptation and implementation.

In response to instructions from the Office of Management and Budget, the fiscal year 1973 budget requests will include basic inventory data for management opportunities on existing transportation facilities. Also, where added facilities will be required, an analysis showing how much of the various resources will thereby be made available and benefitted will be furnished.

We have referred above to Associate Chief Greeley's May 27, 1970 letter to the General Accounting Office, commenting on its draft Report. The details in this letter still are applicable to this final Report.

Sincerely,

T. K. COWDEN
Assistant Secretary

Enclosure

THE TRADITIONAL APPROACH

Transportation engineering in the Forest Service has traditionally been characterized as a service function--the objective stated in FSM 7702 is "to provide, maintain, and operate with optimum safety and efficiency all of the transportation facilities required to accomplish the land and resource protection, management, and utilization goals for the Forest Service - at the lowest cost consistent with . . ."(environmental preservation constraints).

With such a viewpoint, the relationship between resource planning and transportation planning can, at the risk of over-simplification, be illustrated as in Figure 1. The land use decisions precede land access decisions.

At first blush, this seems like a reasonable way to go about planning. First decide how the land will be used; then decide how to provide the access needed for such use. So we use this approach and plan accordingly.

When things don't work out as well as we meant them to, we try to learn why. Very often we find fault with the planning job we did. We lament that to do better next time will take more time, more money, more tools, or more skills--at the expense of urgent tasks that have immediate and obvious payoff.

The fact that it's been so easy to find fault with the planning job has clouded our view in searching for the main problem. But we are now convinced that the real culprit is not planning execution; it is the planning theory--the approach to planning we've been using all along. In fact, with the traditional approach, increased effort in execution probably does have little value. This would explain why many engineers intuitively have been reluctant to commit themselves to a major planning effort on a sustained basis.

SHORTCOMINGS OF THE TRADITIONAL WAY

The traditional approach entices us to become facility oriented. We focus on specific engineering projects. We plan and build roads from point to point; from sale to mill. In providing a specified quantity of access, this approach leads to one of two results. We can provide the best quality of service for a given amount of money, leading us occasionally to be accused of having

FOREST PLANNING

— Traditional Approach

– Periodic Process

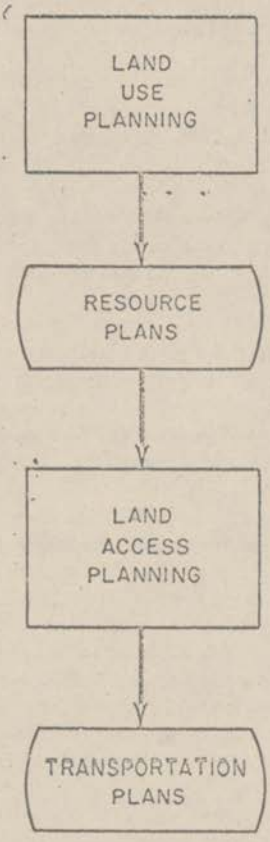


Figure 1

a monument comples. Or, we can minimize the cost of a given quality of service. In other words, we can provide our service in one of two ways: effectively or efficiently.

The basic flaw in this approach is that it is oriented toward development, not output; toward structures, not people. We respond to facility needs, not human needs. When the Forest Service was younger, this defect caused little trouble. Its early concerns were mainly to protect and improve the resources. Use demands were not too intense or diverse.

That is not the case today. The job is much tougher. User needs are mushrooming; they are more complex, competing, and conflicting. It is becoming essential to reckon with these needs in all planning situations. And that's the rub. With the traditional approach, this is not possible.

Roads and trails--their type, location, standards, condition, and their very existence--have a profound impact on the various resource uses in their vicinity. Yet these effects cannot be considered in resource planning if use decisions are made prior to access decisions. Thus, resource planning decisions can be based only on very crude estimates of future use and cost of use.

Sometimes it is not wise to meet all types of user demands in all areas. One good way to regulate resource uses would be to strategically plan the development and operation of the access system. But most of the opportunity for using this technique in resource planning is lost. This is another example of the cost of using the traditional planning approach.

A NEW APPROACH

We've tried to devise an approach to planning that will be free of the shortcomings described above. And we're hopeful that we've had success. In getting a firm handle on this question of how to plan, we found it useful to start with the more basic question of why. Why spend money on planning? We've also been struggling with a third question: How much to spend on planning? But the answer to it is still hidden in the cobwebs of our minds and beyond the scope of this article.

The approach to planning we favor is illustrated in Figure 2. It will serve eqully well for both resource planning and transport planning, jointly or separately. The focal point of this approach is the decision maker: the Forest Supervisor or his delegate. In describing this approach let's begin with his role and our key question: Why does the decision maker spend money on planning?

Decision Making - The Boss's Job . . . OR . . . Know Who's Boss

1. EVALUATE. In selecting a plan, a decision maker is deciding upon a course of action. He always has more than one course open to him. He chooses among these possibilities by comparing some of the consequences that would result from each course. Therefore, he likes to have a good idea of what certain consequences of each alternative will be.

In National Forest management, any course of action yields many kinds of consequences--more than the decision maker could ever hope to consider in reaching a decision. So his first task is to select a manageable group of consequences that he may want to consider in reaching his decision. Then, for each alternative he needs estimates of the magnitude of these consequences. With such information he can usually isolate a relatively small number of consequences that will be pivotal to the decision. This step is crucial to his ability to exercise good judgment in his next step of mentally assessing and weighing the relative values (costs) of the remaining consequences in order to finally select a course of action.

Where does he get his estimates of the magnitude of the consequences that would result from each course of action? Well, he can always make these estimates himself. For some decisions, he does just that. But often he personally does not have the time or the specialized knowledge to make some of these estimates with the degree of accuracy he would like. So, he asks a helper (planner) to make some of these estimates for him. He decides to spend money on planning. Why? To reduce his uncertainty about the consequences of each alternative course of action.

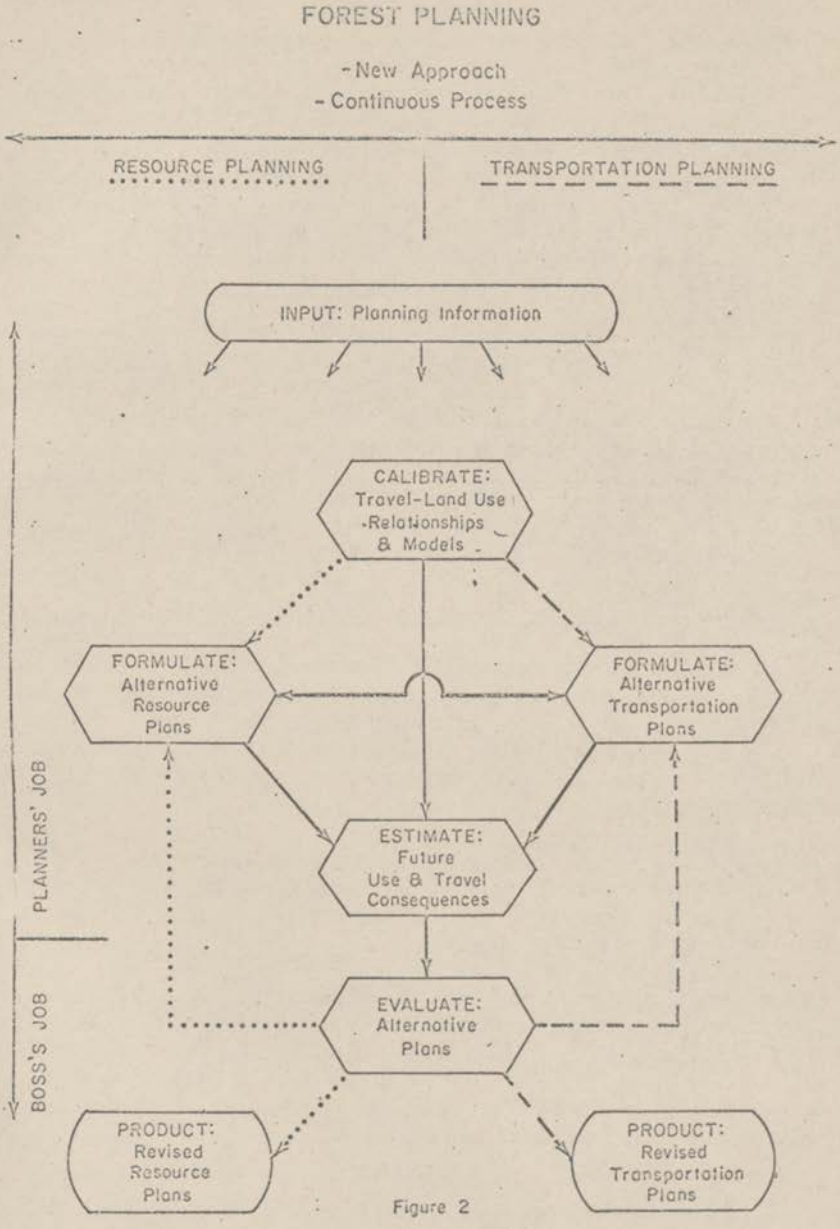


Figure 2

58-287 O—71—pt. 4——26

2. ESTIMATE. The role of the estimator (planner or planning team) is to provide the decision maker with predictions of the magnitudes of specified consequences. The consequences specified for analytic study will obviously change from one planning situation to another. But they will typically include future outputs and costs associated with each alternative. Regardless of the planning purpose (use, access, or both), the planner cannot provide estimates of future use and cost of use unless he assumes an explicit course of action for both use and access.

For example, the relative costs and levels of future use associated with a particular resource plan are strongly influenced by the kind (costs and quality) of access to be provided to both the pertinent location and to other "competing" sources of supply within and outside the Forest. Thus, while the planning purpose may be functional, the analysis must be general. This requirement provides a strong argument for centralizing analysis rather than trying to duplicate the activity and the skills required in each functional group.

3. FORMULATE. Alternative courses of action are charted in pursuit of objectives. It is helpful if the plan formulators are guided by the same set of objectives and constraints that the decision maker will be using in evaluation. These objectives and constraints are not created by a different process. They simply represent the results of earlier planning decisions, often made at a higher level. Specialized functional groups might continue to formulate plans even though the analyses were centralized.

4. CALIBRATE. To estimate future travel and resource use in analyzing alternatives, it is essential to understand the relationship between travel and resource uses. This knowledge is also helpful in formulating meaningful alternatives.

The inter-relationships among travel and the various resource uses are very complex. Some resources are transportable; others are not. Some are moved from the Forest for utilization elsewhere. Others must be used in place by people moving to and from the Forest. Some resources can be used for many competing purposes; some compete with others for the same purpose.

Models have been developed to describe some of these relationships. More and better models are continually sought. However, they must be calibrated to fit local conditions in order to be useful in analyzing alternatives. As conditions change, models must be revised (updated and recalibrated) to keep their accuracy within acceptable limits. If a centralized analysis team were set up to handle the estimation task, they would also be the logical group to handle this calibration task.

5. INFORM. The whole question of the amount and quality of input data needed is simply a question of the accuracy desired in estimating consequences. How much effort should be placed on calibration? Formulation? Estimation? How much money should be spent on planning as a whole? These questions must still be dealt with (intuitively in most cases). We can suggest a couple rules-of-thumb to go by. For example, the amount spent on planning should be commensurate with both the risk and the cost of making the wrong choice. Also, there is no point in concentrating efforts in only one area, such as data acquisitions, while relatively ignoring the others. A degree of balance should be maintained among all planning activities.

The feasibility of using the approach to planning we have described is not dependent upon having extensive data to work with. On the other hand, many kinds of information will be helpful in each planning activity shown. Useful inputs include objectives, constraints, inventories of resources and facilities, surveys of use and operations, regional socioeconomic data, data on plans, inventories, and surveys of other forests and agencies.

CONCLUSION

We'd like to conclude with the thought that planning need not be a frustrating job. The key is to approach the task by first recognizing the needs of the boss. What information does he need in order to choose among alternative courses of action? Does he have it? When he doesn't, the planner's job is automatically defined: provide the boss with whatever information he needs. Viewed in this manner, the job is both important and rational. It simply involves working through the logical steps we have described in converting input information into a form better suited for decision making. Easier said than done? Granted! But, that's why it can be such a great job. Being both important and challenging, it can also be very rewarding.

COMPTROLLER GENERAL'S REPORT ON RESTRICTIONS IN THE USE OF MOTORIZED EQUIPMENT IN WILDERNESS AND SIMILAR AREAS

Mrs. HANSEN. Another report by the Comptroller General, B–125053 dated October 29, 1970, related to major economies that could be achieved if you were to use mechanized equipment in wilderness areas for construction of trails, collection of litter, and transportation of equipment.

May we have your comments?

(The report follows:)

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

PROBLEMS RELATED TO RESTRICTING THE USE OF MOTORIZED EQUIPMENT IN WILDERNESS AND SIMILAR AREAS
Department of Agriculture
Department of the Interior
B-125053

DIGEST

WHY THE REVIEW WAS MADE

The Wilderness Act of 1964 designated about 9 million acres of Federal lands as the National Wilderness Preservation System. The lands are administered by the Forest Service, Department of Agriculture.

The act also directed the Secretaries of Agriculture and the Interior to study several million acres of additional Forest Service and National Park Service lands for possible future designation as part of the wilderness system. These lands are similar to the wilderness areas and are administered under the same general concepts as lands already in the wilderness system. (See pp. 5 to 11.)

The act, in general, defines a wilderness as an area of land

--where the earth and its community of life are untrammeled by man and where man himself is a visitor who does not remain;

--retaining its primeval character and influence, without permanent improvements or human habitation;

--affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; and

--having outstanding opportunities for solitude or a primitive and unconfined type of recreation.

In wilderness areas and other areas under study, the Forest Service and the National Park Service construct and maintain trails, bridges, campsites, and sanitary structures and perform such other administrative activities as garbage and litter cleanup, fire protection, and surveillance of users. (See pp. 7 to 11.)

The General Accounting Office (GAO) initiated its review because of indications that limitations placed on the use of motorized equipment for administrative activities resulted in additional costs and other administrative problems in wilderness and similar areas.

Tear Sheet

OCT. 29, 1970

FINDINGS AND CONCLUSIONS

The Wilderness Act provides that motorized equipment not be used in wilderness areas "except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act ***." (See p. 12.)

Forest Service policy states that the use of motorized equipment for administrative purposes will be limited or controlled and that:

> "To the extent feasible, the management goal will be to exclude the sight, sound, and other tangible evidence of motorized equipment and mechanical transport, as well as their speed and efficiency."

The Forest Service believes that its policy is consistent with the intent of the Wilderness Act.

The Forest Service has determined that a significant amount of trail construction, bridge construction, garbage disposal, and other work is necessary to carry out its responsibilities for the preservation and protection of wilderness and similar areas. In carrying out these activities, the Forest Service generally uses hand tools (including some portable power tools), pack animals, and backpackers.

The severe limitations placed on the use of motorized equipment for administrative purposes by the Forest Service result in additional cost and create problems in the protection and preservation of wilderness and similar areas, as shown by the following examples.

--The $100 million (estimated) cost of planned construction and reconstruction of 18,000 miles of trails in three regions could be reduced, possibly by as much as 50 percent, by using a small trail machine especially designed for such work. The machine has a 24-inch tread width, weighs about 1 ton, and is operated by one man riding on the machine. GAO observed that trails constructed in other than wilderness and similar areas using the machine were essentially the same as those constructed by hand tools. (See pp. 13 to 20.)

--At a relatively inaccessible but heavily used lake area in a wilderness area, about 800 to 1,200 pounds of trash and litter had been collected. Removal would require about 30 man-days by backpackers or, on the basis of earlier Forest Service estimates, about 1 hour of helicopter flight time. A request to use a helicopter--which indicated that the trash and litter had accumulated to a point where it was disrupting the natural environment--was denied. (See pp. 22 and 23.)

--Transporting equipment and materials by pack animals instead of by helicopters for the construction of seven trail bridges in an area required 1,300 trips. The pack animals caused significant damage to the trails used. (See pp. 27 to 29.)

GAO believes that the National Park Service could realize significant savings by using the trail machines in areas managed under the same general concepts as wilderness areas. The National Park Service plans to construct about 2,000 miles of trails in areas where the use of motorized equipment is limited. In one National Park Service region, the average cost to construct trails, without the trail machine, is about $6,000 a mile. (See p. 32.)

In view of the additional costs and other administrative problems resulting from the policy of limiting the use of motorized equipment for trail construction and other activities in wilderness and similar areas, GAO believes that the Congress may wish to consider the appropriateness of such a policy.

The desirability of congressional consideration is further indicated by Forest Service statements that current funds fall considerably short of overall forest program needs and that significant increases are anticipated in the use of wilderness and similar areas by the public.

RECOMMENDATIONS OR SUGGESTIONS

GAO is making no recommendations or suggestions in this report to the administering agencies. As discussed below, GAO is making its recommendation to the Congress.

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Forest Service believes that

- --its policy on the use of motorized equipment is consistent with the intent of the Congress and in the best interests of the wilderness program and the wilderness-using public,
- --any substantial change would endanger the long-term perpetuation of the wilderness system, and
- --the Wilderness Act did not intend that economy or efficiency should form a basis for deciding when the use of motorized equipment may be permitted. (See app. I, p. 39.)

Similar views were expressed by the Department of the Interior with respect to National Park Service lands being administered under wilderness objectives. (See app. II, p. 42.)

GAO does not believe that economy or convenience should be the sole basis for deciding when motorized equipment should be used but does believe that these factors (as well as others) should be considered in reaching such a decision. The act and its legislative history do not spell out the circumstances under which the use of motorized equipment would be

considered necessary to meet minimum requirements for administration of wilderness areas. (See p. 30.)

GAO recognizes that the use of motorized equipment is not compatible with an ideal wilderness concept. Forest Service officials have stated that a basic problem in managing wilderness and similar areas is identifying what exceptions from the ideal wilderness concept would be tolerated by the Congress.

In GAO's view, the construction and presence of trails, bridges, and other facilities in wilderness and similar areas, as well as the presence of litter left in the areas by the users, are basically inconsistent with the ideal wilderness concept. GAO believes that, once decisions have been made to construct such facilities and to dispose of accumulated litter, the factors of economy and convenience as well as others should be considered in determining whether the use of motorized equipment is reasonable and desirable in the circumstances. (See p. 31.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

GAO recognizes that the establishment of national policy for administering wilderness and similar areas is the prerogative of the Congress and that it is the responsibility of the cognizant executive agencies to implement such policy. In view of the substantial cost for administering wilderness and similar areas and of other administrative problems resulting from the limitations on the use of motorized equipment, GAO is recommending that consideration be given in the Congress to providing further guidance to the administering agencies concerning the use of motorized equipment for administrative purposes in wilderness and similar areas.

CHIEF CLIFF'S COMMENTS

Mr. CLIFF. I will be glad to comment now if you want to take the time or we can place it in the record.

We do not agree with the Comptroller General's recommendation that we use mechanized equipment in the wilderness areas, because it is contrary to the provisions of the Wilderness Act. The Wilderness Act itself says there will be no mechanized vehicles in the wilderness areas, and we have refrained from using mechanized trail maintenance equipment because of this requirement of the law even though it costs more money to maintain the trails by other means. We think there is a basic conflict between the law and what the Comptroller General has recommended, and I don't believe that the organizations interested in wilderness would stand still for a minute if we started using mechanized equipment.

We don't think it is compatible at all with the wilderness requirements.

PROBLEMS OF RECREATION USERS OF MECHANIZED EQUIPMENT

Mrs. HANSEN. Aren't you also having a certain amount of trouble on your forest trails because of the increased use of motorbikes and other kinds of mechanized equipment?

Mr. CLIFF. There are problems in connection with recreation users of mechanized equipment. We don't permit this sort of use in the wilderness by the recreationists. It is a violation of the law, and when we find it we can prosecute the violators.

Outside of wilderness areas there are conflicts between hikers and horseback riders and the people who use scooters and other mechanized equipment. We have tried to meet this by classifying trails for particular use. We have trails that are designated for use by motorbikes and motor scooters. There are some that can be used jointly, and there are others where it is a safety hazard to permit the mixture of motor scooters and horseback riders, for example.

The damages to trails from this sort of use has been exaggerated. There is some damage in some places, but generally the damage to the tread of the trail if the vehicles stay on the trail is not serious. This is not always the case, but generally that is true.

The problem arises when the vehicle users get off the trails. Then they can, and do, cause considerable damage, and it is a difficult thing to police.

PROBLEMS OF TRAILS USED BY HIKERS AND/OR PACK STRINGS AND MOTORIZED EQUIPMENT

Mrs. HANSEN. You also have another problem. One of the newspapers in my district had a series of letters to the editor on the problem of the hikers who were on rather narrow trails being knocked off a cliff by motorbike users.

Mr. CLIFF. This is the public-safety feature I mentioned. This is even more of a problem where pack strings and saddle horses are using those kinds of trails. They become frightened, and it is difficult to get the motorized vehicles around. We are having to close those kinds of

trails to motorized use even though they might not cause damage to the land itself.

There is a basic conflict, too, between people who want solitude and resent very much the noise factor that comes from the use of motorized equipment. We get this not only with trail scooters but there are people who object to the use of the forest by snowmobiles, partly because of the noise factor and partly on account of the alleged damage they do by hazing game animals, and by damaging the vegetation which is underneath the snow. We know of instances where young tree plantations have been damaged by snowmobiles. This can be controlled in most instances.

We are designating trails and routes for snowmobiles. We think it is a legitimate use of the public lands if it is properly controlled and coordinated with other uses.

GENERAL COMMENTS ON GAO REPORT

Mr. M. NELSON. I believe the GAO report said Congress should clarify the point of whether or not mechanical equipment should be used in the wilderness.

Mrs. HANSEN. I think Congress made it very plain during the Interior and Insular Affairs Committee hearings.

Mr. M. NELSON. I think the GAO recognized that and indicated Congress should be the one to clear it up.

Mr. CLIFF. The increased costs of maintaining trails and other things in the wilderness areas is just one of the costs we have to pay for having wilderness. If we start permitting the motorized vehicles in the wilderness we will no longer have wilderness. Unless the law is changed or clarified we can't see where we can go along with some of the suggestions in that report.

MINERAL KING

Mrs. HANSEN. Please insert in the record at this point the status of your Mineral King problem.

Mr. CLIFF. We will be glad to.

(The information follows:)

STATUS OF MINERAL KING DEVELOPMENT FOR FAMILY RECREATION

In September 1970, the U.S. Court of Appeals for the Ninth Circuit overturned the preliminary injunction which precluded development of Mineral King. In overturning the injunction, the appeal court judges found: By unanimous opinion that the case could not stand on its own merits, and by a 2-to-1 opinion that the Sierra Club did not have "standing" to suit.

The Sierra Club asked for, and was granted, a stay of the Appeal Court's decision in order to seek Supreme Court review of the case. On February 22, 1971, the Supreme Court agreed to hear the *Mineral King* case. A date for oral argument has not been announced. It appears the Court's calendar will not allow scheduling until September or October 1971, and a decision could be much later.

The Supreme Court agreed to consider only the question of the Sierra Club's having "standing" to suit. If the Court rules in favor of the Sierra Club, the suit will be remanded to the Federal court for consideration of the case on its merits. If the Supreme Court upholds the decision of the appeal court the Sierra Club will lose its suit and development of the area may proceed.

UNFILLED POSITIONS AT END OF YEAR

Mrs. HANSEN. In your consolidated schedule of permanent positions you indicate 1,847 unfilled positions at the end of 1970 and 1,392 unfilled positions at the end of 1972. What is the explanation for these unfilled positions? This is shown in the budget appendix, on page 1020.

Mr. CLIFF. We will supply the correct information.

(The information follows:)

The details of permanent positions schedules in the Budget by instruction reflect those positions which the agency intends to have filled at the end of the year. Historically, not all positions can or should be filled at the end of the year because of such factors as lapse, inability to recruit, and related causes. Rather than request funding for those positions which the agency historically knows will not be filled, this projection of lapsed positions is included in the budget for the current and budget year. It is on the basis of the anticipated year-end employment rather than positions that the employment ceilings are imposed.

INCREASES IN NUMBER OF GS–14 AND GS–15 EMPLOYEES

Mrs. HANSEN. I also notice from your consolidated schedule of permanent positions that grade GS–15 employees have increased from 137 in 1970 to a proposed 249 in 1972. Likewise, GS–14 employees have increased from 389 in 1970 to 509 in fiscal year 1972. May we have your comments on that?

May we have your comments on that?

Mr. SCHULTZ. All of these have been the result of increased responsibility and more complex jobs as reflected on the national forests as well as State and private forestry programs, and higher levels of forestry research.

Mrs. HANSEN. Are these research categories?

Mr. SCHULTZ. These are research categories as well as others. These have all been based on classification and approved by the department and the Civil Service Commission.

Mr. M. NELSON. One example in your own district, the Olympic National Forest supervisor was upgraded to GS–14.

OLYMPIC NATIONAL FOREST

Mrs. HANSEN. I wish you would upgrade some portions of the Olympic National Forest. I was just appalled going through there this year.

Mr. CLIFF. I am interested in this, and if you would like to take the time. I would like to know what you did observe.

Mrs. HANSEN. It used to be a very beautiful area, filled with interesting trees and plants.

Along the road now, the landscape has completely changed. It looked like any other logged-off area—ugly.

Mr. CLIFF. What part of the forest?

Mrs. HANSEN. We were driving down to Aberdeen from Port Angeles on the outer rim.

Mr. CLIFF. From Port Angeles to Aberdeen on the coast side?

Mrs. HANSEN. Yes, on the coast side.

Mr. CLIFF. You really don't cross very much of the Olympic National Forest on that trip. You cross some between Lake Crescent and Forks. From Forks south——

Mrs. HANSEN. Is it private land?

Mr. CLIFF. That is correct. So the area you are talking about would be between Lake Crescent and Forks?

Mrs. HANSEN. Yes.

Mr. CLIFF. I haven't been there recently myself but I remember——

Mrs. HANSEN. Some of it is very beautiful. The areas around Crescent are lovely and the forest going up from Quiltene is beautiful. I know part of the area was the Olympic National Forest because of the signs.

Mr. CLIFF. I will certainly be interested in looking into that because we are attempting to give greater attention to protecting scenic values.

Mrs. HANSEN. If it is private land I would like to know who owns it.

Mr. CLIFF. We are attempting to give greater attention to maintaining esthetic qualities.

Mrs. HANSEN. Mr. Cliff, this timber was destroyed several years ago, and hasn't started to grow back yet.

Mr. M. NELSON. Sometimes there is private land after you pass an "Entrance National Forest" sign.

Mrs. HANSEN. It could be that this is part of private forest land.

Mr. M. NELSON. We would be interested in finding out about that, because it doesn't sound like what we would be doing at the present time in the national forests in the last 10 years.

Mrs. HANSEN. This happened longer than 10 years ago. The scars are pretty bad.

MAN-YEARS OF LAPSE

How many actual man-years of lapse did you have in fiscal year 1970 and how many man years of lapse have you made provision for in your 1972 budget estimate?

Mr. SCHULTZ. I will have to furnish that for the record.

(The information follows:)

Permanent full-time man-years of lapse in fiscal year 1970 were 1,674, the fiscal year 1972 estimate is 1,299 man-years.

1970 ADMINISTRATIVE AND SUPERVISION COSTS

Mrs. HANSEN. What was your total administrative and supervision costs for fiscal year 1970?

Mr. SCHULTZ. We have that.

Mrs. HANSEN. Insert the information in the record.

(The information follows:)

Administrative and supervision and/or program support costs:
Fiscal year 1970 ..... $61,314,000

PRORATION OF ADMINISTRATIVE COSTS

Mrs. HANSEN. Please insert in the record a tabulation indicating the proration of your administrative costs to the various program activities of your agency.

Mr. SCHULTZ. This is in the same breakdown.

(The information follows:)

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Program Support - By Appropriation or Fund
(Dollars in thousands)

Appropriation or Fund	1970 Obligations
FOREST SERVICE APPROPRIATIONS AND FUNDS:	
Forest Protection and Utilization:	
Program Support	33,929
Other	261,072
Forest Roads and Trails:	
Program Support	13,806
Other	140,026
Acquisition of Lands, Special Acts:	
Other	75
Acquisition of Lands, Wasatch National Forest:	
Other	12
Acquisition of Lands, Superior National Forest:	
Other	2
Assistance to States for Tree Planting:	
Program Support	33
Other	982
Expenses, Brush Disposal:	
Program Support	1,794
Other	9,582
Other Forest Service Permanent Appropriations:	
Program Support	11
Other	86
Advances and Reimbursements:	
Program Support	578
Other	7,702
Working Capital Fund:	
Program Support	5,179
Other	25,691
Trust Funds:	
Program Support	3,421
Other	34,244
Payments to States and Counties:	
Other	78,902
Total Forest Service Appropriations and Funds:	
Program Support	58,751
Other	558,376

Appropriation or Fund	1970 Obligations
Other USDA Appropriations:	
Watershed Works of Improvement, SCS:	
Program Support	10
Other	784
River Basin Surveys and Investigations, SCS:	
Program Support	45
Other	1,137
Watershed Planning, SCS:	
Program Support	44
Other	487
Flood Prevention, SCS:	
Program Support	504
Other	5,164
Resource Conservation and Development, SCS:	
Program Support	3
Other	536
Expenses, ASCS:	
Program Support	13
Other	150
Total, Other USDA Appropriations:	
Program Support	619
Other	8,258
Other Funds:	
Oregon and California Grant Lands, BLM:	
Program Support	10
Other	2,130
Land and Water Conservation Fund, BOR:	
Program Support	390
Other	17,742
Economic Opportunity Program, OEO:	
Program Support	1,359
Other	26,341
Appalachian Regional Development Program, Executive:	
Other	72
Federal-Aid Highway Trust Fund:	
Program Support	185
Other	9,391
Total, Other Funds:	
Program Support	1,944
Other	55,676
GRAND TOTAL, Forest Service:	
Program Support	61,314
Other	622,310

PER DIEM AND MILEAGE RATES

Mrs. Hansen. I would also like you to insert in the record your current schedule of mileage allowance and per diem rates for employees of the Forest Service.

Mr. Schultz. All right.

(The information follows:)

Schedule of per diem rates currently in effect:

1. Cost of lodging plus $8.00 not to exceed $25.00.
2. When night's lodging is not required, $8.00.
3. Cost of lodging plus $12.00 for travel in Alaska, not to exceed maximum authorized by Civilian Personnel Per Diem Bulletin.
4. Rates in items 1 and 2 are increased by $1.00, not to exceed $25.00, when official duty is performed in cities with a population of more than 250,000.
5. Within the maximum (items 1 and 2) rates may be adjusted by field offices due to local conditions.

Schedule of mileage rates currently in effect when travel performed is advantageous to the Government:

Airplanes	12 cents
Automobiles	10 cents
Trucks	12 cents
Motorcycles	5 cents

FOREIGN TRAVEL PERFORMED

Mrs. HANSEN. Please insert in the record a tabulation of all official foreign travel performed by Forest Service employees for the first 6 months of fiscal year 1971. This tabulation should include the name and title of the employee, the period of travel, the countries visited, the purpose of the travel, and the total cost.

Mr. SCHULTZ. We will do that.

(The information follows:)

OFFICIAL FOREIGN TRAVEL

July 1 - December 31, 1970

Name of Traveler	Title	Period of Travel	Countries Visited	Purpose	Cost
Herbert O. Fleischer	Director, FPL	9/14-10/6	Italy and Germany	IUFRO-Permanent and Enlarged Committee in Rome. Confer with Dr. Liese on proposed November meeting for Forestry and Wood Industry Research	$1,000
K. O. Wilson	Chief, Division of Fire Control, R-6	8/23-28	Canada	To accompany British Columbia Forest Service on fire control work	237
Therman W. Green	Chief, Soil Branch, R-8	8/7-14	Canada	Meeting, Soil Conservation Society of America	222
Richard H. Spray	Forester, R-5	8/9-13	Canada	Meeting, Soil Conservation Society of America	396
Robert F. Tarrant	Supervisory Soil Scientist	8/22-9/13	Netherlands, England, and Scotland	Summit Conference on Biological Nitrogen Fixation	660
Charles R. Whitt	Fishery Biologist, R-1	7/12-17	Canada	Meeting of Western Division of American Fisheries Society	200
E. R. Doman	Range and Wildlife, R-5	7/11-18	Canada	Meeting of Western Division of American Fisheries Society	285
John C. Barber	Branch Chief	9/4-30	Hungary and Yugoslavia	Technical Reviews of PL-480 Projects and FAO Study Tour	1,133
Charles F. Leaf	Hydraulic Engineer	9/28-10/3	Canada	Canadian Commission for the International Hydraulic Decade Workshop	250
James O. Evans	Research Hydrologist	8/9-12	Canada	Meeting, Soil Conservation Society	200
Darold E. Ward	Research Forester	8/19-22	Canada	Tall Timbers Fire Ecology Conference	314
Stephen S. Sackett	Research Forester	"	"	" " " " "	36
Dale D. Wade	Research Forester	"	"	" " " " "	36
R. K. Arnold	Deputy Chief, Forest Service	9/12-10/3	Italy and Yugoslavia	Consult with FAO officials and attend International Union of Forestry Research Organization	905
Frank A. TerBush	Forester, R-6	9/15-19	Canada	Meeting, Inland Empire Reforestation Council	282
Diana M. Smith	Supervisory Research Forest Products Technologist	9/14-18	France and England	Inspect equipment for specific gravity determinations and consult with Drs. Hughes and Sunley	150
Larry Carpenter	Forestry Technician	9/13-9/19	Canada	18th Annual Western International Forest Disease Work Conference	Not shown
Thomas H. Laurent	Research Forester	"	"	" " " " "	" "
Earl E. Nelson	Plant Pathologist	"	"	" " " " "	" "
Donald P. Graham	Assistant Director	9/14-19	"	" " " " "	" "
Paul C. Lightle	Pathologist	9/5-27	"	" " " " "	369
Paul R. Miller	Pathologist (Plant)	9/3-21	Germany	VII International Symposium of Forest Experts on Fungus Damages	826
E. G. Dunford	Branch Chief, Forest Engineering Research	8/15-9/12	Russia	FAO/USSR Symposium on Forest Influences and Watershed Management and field tour hydraulic stations, Western USSR	1,360

OFFICIAL FOREIGN TRAVEL-continued

Name of Traveler	Title	Period of Travel	Countries Visited	Purpose	Cost
Henry W. Anderson	Project Leader, Berkeley	8/15-9/12	Russia	FAO/USSR Symposium on Forest Influences and Watershed Management and field tour hydraulic stations, Western USSR	None
Jack S. Rothacher	Project Leader, Corvallis	"	"	" " " " "	None
Daniel I. Navon	Project Leader, Berkeley	"	"	" " " " "	$1,600
Clinton E. Carlson	Plant Pathologist	9/12-19	Canada	Western International Forest Disease Work Conference	283
Robert W. Brandt	Plant Pathologist	9/14-19	Canada	" " " "	431
Alfred C. Tegethoff	Pathologist	9/13-18	"	" " " "	264
Elliott L. Amidon	Research Forester	9/26-10/3	Canada	UNESCO/IGU-First Symposium on Geographical Information System	498
John Chambers	Forester	9/17-20	Mexico	Joint Section Meeting of American Society of Range Management	95
William D. Hurst	Regional Forester	"	"	" " " " " "	150
William H. Johnson	Regional Forester	9/26-10/1	Canada	64th Conference of the Pacific Northwest Trade Association	311
Robert W. Brandt	Pathologist	9/8-11	Canada	Tree Wilt Disease Research Review	225
Leroy Jones	Supervisory Forester, R-8	9/28-10/21	Sweden, England, and Norway	ISTA-Forest Tree Seed Commission	1,100
Robert Z. Callaham	Assistant Deputy Chief	9/13-10/5	Italy, Netherlands, and England	Meeting, IUFRO Permanent and Enlarged Committee. Study Tour Forest Biology Research Programs	875
Harvey V. Toko	Field Representative	9/12-9/20	Canada	Western International Forest Disease Work Conference	430
Peter W. Garrett	Project Leader	8/17-8/21	Canada	Symposium on Silviculture and Tree Breeding	150
Laurence P. Abrahamson	Research Entomologist	8/23-27	Canada	20th Annual Meeting of the Entomological Society of Canada	327
Jack E. Schmautz	Branch Chief	7/22-26	Canada	Tour-American Society of Range Management	200
Geoffrey Greene	Range and Wildlife Staff	"	"	" " " " " "	200
Alfred R. Graesser	District Ranger	"	"	" " " " " "	200
Wallace B. Gallaher	Forest Supervisor	"	"	" " " " " "	200
Fred Haller	Range and Wildlife Staff	"	"	" " " " " "	200
James Fishburn	Assistant Ranger	"	"	" " " " " "	200
Gary Halvorson	Forester	"	"	" " " " " "	200
Leonard D. Hendzel	Forester	"	"	" " " " " "	200
John Inman	Forester	"	"	" " " " " "	200
Jay Cravens	Regional Forester	8/3-8	Canada	Quetico-Superior Joint Advisory Committee	80
John Wernham	Assistant Regional Forester	"	"	" " " " "	155
Craig Rupp	Forest Supervisor	"	"	" " " " "	110
Donald L. Reukema	Silviculturist	9/13-27	Switzerland	IUFRO Working Group 25	840
Steven L. Wert	Research Forester	9/4-18	Germany and France	Symposium on Fumes Damage	799
Melvin J. Weiss	Plant Pathologist	9/14-18	Canada	Western International Forest Disease Conference	410

OFFICIAL FOREIGN TRAVEL-continued

Name of Traveler	Title	Period of Travel	Countries Visited	Purpose	Cost
Carl W. Swanson	Branch Chief	9/13-19	Canada	Western International Forest Disease Conference	$315
Donald J. Curtis	Entomologist	"	"	" " " "	315
John T. Wortendyke	Plant Pathologist	"	"	" " " "	225
John H. Thompson	Plant Pathologist	"	"	" " " "	225
Hubert H. Bynum	Plant Pathologist	"	"	" " " "	225
David Graham	Pathologist	9/15-19	"	" " " "	254
Neil MacGregor	Forester	"	"	" " " "	254
Merle S. Lowden	Director of Fire Control	8/17-21	Canada	Confer with British Columbia fire officials	105
James O. Evans	Research Hydrologist	8/9-12	Canada	Seminar-Soil Conservation Society of America	205
Harvey V. Toko	Field Representative	9/12-20	Canada	Western International Forest Disease Conference	430
Sidney Weitzman	Director of Flood Prevention and River Basin Programs	9/8-12	Canada	Soil Conservation Society of America	250
Magnus M. Selbo	Chemical Engineer	7/1-8	Sweden, Denmark, Norway	Visit wood research locations	345
Ed F. Wisker	Plant Pathologist	7/1/70-6/30/71	England, France, Germany, Austria, Switzerland, Italy, Yugoslavia, Belgium, Norway, Netherlands, Denmark, Sweden, Finland, Ireland, Spain, and Portugal	During year on fellowship at Cambridge, trips to be made to collect white pine blister rust specimens through Europe	4,000
Leslie A. Viereck	Botanist	9/70-9/71	Norway	Attend Agricultural College of Norway	4,900
Jerry F. Franklin	Plant Ecologist	2/28-12/31	Japan	Japanese government fellowship	1,340
W. L. Sheridan	Fisheries Biologist	7/12-18	Canada	Western Association of State Game and Fish	315
D. A. Jones	Wildlife Management Branch Chief	7/12-18	Canada	Commissioners and American Fisheries Society	410
William S. Platt	Fisheries Biologist	"	"	" " " "	264
Roger Bumstead	Wildlife Management Branch Chief	"	"	" " " "	285
A. F. C. Green	" " "	"	"	" " " "	280
A. E. Hall	" " "	"	"	" " " "	282
Jack H. Usher	Branch Chief, Plans and Silviculture, Timber Management	11/30-12/2	Canada	Annual Meeting, Western Reforestation Coordination Committee	115
Wayne T. Swank	Research Forester	11/22-12/11	Wellington, New Zealand	International Symposium on Rep and Experimental Basins	1,323
Wayne C. Lewis	Research General Engineer	11/28-12/9	Italy and London	Planning plenary sessions, FAO headquarters	998
Edward P. Cliff	Chief, Forest Service	11/6-28	Ecuador	FAO Eleventh Session Latin American Forestry Commission	800
Frank H. Wadsworth	Director, Institute of Tropical Forestry	11/11-25	Ecuador	Regional Forestry Research Commission and Eleventh Session of Latin American Forestry Commission	660

OFFICIAL FOREIGN TRAVEL-continued

Name of Traveler	Title	Period of Travel	Countries Visited	Purpose	Cost
Edward A. Hansen	Hydrologist	11/15-12/20	New Zealand	International Symposium on Rep and Experimental Basins	$1,500
Raymond M. Rice	Research Hydrologist	11/29-12/13	New Zealand	" " " " "	1,150
Robert S. Pierce	Research Hydrologist	"	"	Present paper at International Symposium on Rep and Experimental Basins	1,400
B. Francis Kukachka	Botanist	11/19-29	Portugal, France, and Germany	Consult with French officials on tropical hardwoods and visit laboratories in Portugal, attend last 41 IUFRO in Germany	950
Alan D. Freas	Supervisory Research Forest Products Technologist	10/31-11/30	Germany, England, and Denmark	Attend Section 41 IUFRO and visit industrial plants and laboratories in Germany, England, and Denmark	1,065
Roger R. Bay	Research Forester	11/29-12/13	New Zealand	Present paper to International Symposium on Rep and Experimental Basins	1,225
Douglas R. Leisz	Regional Forester	12/1-4	Canada	61st Western Forestry Conference	205
J. S. Barrows	Forester	11/30-12/4	Canada	Review of western forest fire programs	125
Walter J. Fillmore	Chief, Division of S&PF	12/1-3	Canada	Western Forestry and Conservation Association meeting	87
George R. Fahnestock	Research Forester	11/30-12/1	Canada	" " " "	60
Donald F. Flora	Assistant Director, REPE	11/30-12/5	"	" " " "	167
William I. Stien	Research Forester	"	"	" " " "	167
Roy R. Silen	Research Geneticist	"	"	" " " "	175
Keith R. Shea	Research Forester	"	"	" " " "	175
Kenneth H. Wright	Assistant Director, FPR	"	"	" " " "	167
Bohdan Maksymiuk	Research Entomologist	"	"	" " " "	N/A Official time
Carl W. Swanson	Forester	"	"	" " " "	305
Vernon O. Hamre	Regional Forester	12/1-4	"	" " " "	229
Marlin C. Galbraith	Chief, Division of Timber Management	11/30-12/6	"	" " " "	500
Alexander E. Smith	Chief, Division of Information and Education	"	"	" " " "	500
Robert S. McBride	Chief, Division of Fire Control and S&PF	"	"	" " " "	500
Craig C. Chandler	Assistant Director	11/30-12/3	"	" " " "	380
Donald C. Schmiege	Project Leader	11/30-12/5	"	" " " "	282
E. E. Silva	Staff Engineer	12/1-4	"	" " " "	135
Carl M. Berntsen	Assistant Director	12/1-4	"	" " " "	280
Herbert O. Fleischer	Director, FPL	10/26-29	Canada	Meeting for the World Consultation on the use of Wood in Housing	222
Wm. D. Hurst	Regional Forester	11/22-25	Canada	American Society of Range Management Meeting	378

OFFICIAL FOREIGN TRAVEL-continued

Name of Traveler	Title	Period of Travel	Countries Visited	Purpose	Cost
Philip L. Lee	Forest Supervisor	11/21-25	Canada	Annual Meeting American Society of Range Managers	$260
Albert G. Oard	Forest Supervisor	"	"	" " " " "	190
Samuel R. Dunlap	District Ranger	"	"	" " " " "	100
John S. Forsman	Forester	11/22-24	Canada	Annual meeting technical information on range management	125
Robert D. Nelson	Forester	"	"	" " " " "	125
Charles B. Waldron	Forester	"	"	" " " " "	N/A official time
Clarence E. Almen	Forester	11/22-25	Canada	Presentation of technical papers American Society of Range Management	166
Edward J. Javorka	Forester	11/22-24	"	" " " " "	N/A official time
Robert W. Harris	Assistant Director, Forest Environment Research	11/22-25	Canada	Meeting to disseminate information for environmental management of Range Resource	112
George A. Garrison	Supervisory Range Scientist	"	"	" " " " "	175
Robert S. Rummell	Deputy Director	"	"	" " " " "	419
Lee R. Gjovik	Technologist	10/11-17	Canada	American Wood Preservation Association Committee meeting	325
Bruce R. Johnson	Technologist	"	"	" " " "	325
Robert C. VanAken	Supervisory Forester	11/29-12/1	Canada	Annual Meeting of Western Mensurationists	115
C. G. Jorgensen	Assistant Regional Forester, Timber Management	11/30-12/5	Canada	Annual Meeting of Western Forestry and Conservation Association	200
K. O. Wilson	Assistant Regional Forester	11/30-12/4	"	" " " " " "	142
W. C. Wood	Forester	"	"	" " " " " "	142
Charles A. Connaughton	Regional Forester	11/30-12/5	"	" " " " " "	182
Benton Howard	Supervisory Forester	"	"	" " " " " "	183
Edward H. Marshall	Assistant Regional Forester	11/30-12/4	"	" " " " " "	202
M. R. Stenerson	Branch Chief	11/30-12/1	"	" " " " " "	100
L. T. Soule	Branch Chief	"	"	" " " " " "	100
Victor P. Miniutti	Research Forest Products Technologist	10/5-13	Canada	Visit Canadian FPL to discuss current research in wood finishing	219
Monte K. Pierce	National Air Officer	10/25-31	Canada	Seminar on Aircraft Management in Forest Fire Control	285
Edward G. Scholz	Air Safety Officer	"	"	" " " " "	285
Robert E. Stevens	Research Entomologist	10/12-19	Mexico	VII National Congress of Entomology, Attend and present paper	425

TRANS-ALASKA PIPELINE

Mrs. HANSEN. Is the Forest Service involved in any way with the Trans-Alaska pipeline?

Mr. CLIFF. Only at the terminus, Madam Chairman, near Valdez. The port facilities, or at least part of them, that are proposed at the terminus of this pipeline would be on a small piece of national forest land near Valdez. This is part of the land that is being selected by the State under the Statehood Act and will become State land and will no longer be a responsibility of the Forest Service. That is the only place in which we are involved in the proposed Trans-Alaska pipeline.

Mrs. HANSEN. In other words, you have no forest land that the pipeline will traverse?

Mr. CLIFF. No national forest land.

Mrs. HANSEN. Or there is no possible acquisition of new forest land that will include part of the pipeline route.

Mr. CLIFF. Not to my knowledge. There are no plans for having any of that land added to the national forest system.

Mrs. HANSEN. Then you have had no reason to be called in to discuss any forest problems involving the Trans-Alaska pipeline?

Mr. CLIFF. To my knowledge, we have not. We have a research center at Fairbanks, as you know, and it's possible that some of our scientists have been consulted: but if so I am not aware of it. Do you know of any consultations, Dr. Arnold?

Mr. ARNOLD. Indirectly there has been quite a bit, because we have one of the leading ecologists in this hemisphere. Dr. Viereck, who has been consulted on many general ecological questions. In this past year he has been on a special assignment to Scandinavia. Our general ecological research, particularly that dealing with permafrost, does apply to certain areas.

Mrs. HANSEN. Have they used the information developed by the Forest Service on permafrost?

Mr. ARNOLD. Yes, ma'am.

Mrs. HANSEN. Mr. Obey?

Mr. OBEY. Nothing.

Mrs. HANSEN. Mr. Galifianakis?

Mr. GALIFIANAKIS. Nothing.

Mrs. HANSEN. Mr. Cliff, you and your staff have acquitted yourselves very well in every field but that of requesting an adequate budget.

Mr. CLIFF. Thank you, Madam Chairman. It's always a pleasure to appear before this committee.

Mrs. HANSEN. I would like to express the appreciation of the committee for your presentation and express my appreciation to the Forest Service generally for the types of facilities that I see around the country and for the kind of personnel that you have.

Mr. CLIFF. Thank you very much.

Mrs. HANSEN. You do a very dedicated job.

STATUS OF PAYMENT BOND PROBLEM

Mr. CLIFF. Before you close the hearing, could I ask permission to insert in the record at an appropriate point a statement on the payment bond problem.

Mrs. HANSEN. Please do.

Mr. CLIFF. That is, the status of the payment bond problem that has been before this committee before and which the Senate Committee, year before last asked us to defer discontinuing the payment bond and to collaborate with industry to see if we couldn't find a solution. There have been some developments on this and I would like to put it in the record.

Mrs. HANSEN. I would appreciate it, and I am sure that Mr. Wyatt would appreciate it because this continues to be a problem.

Mr. CLIFF. We will insert it in an appropriate place.

(The information follows:)

Forest Service Deferred Scaling
and Payment Bond Practices

In 1968, in response to problems encountered in obtaining payments from sureties and because of other deficiencies, the Forest Service announced its intention to reduce the use of payment bonds by allowing them to cover logs only while on National Forest land. In response to strong objections by the timber industry, the proposal was modified to also permit coverage of logs while in transit and until they went into storage with billing on a thirty-day basis. This proposal was reviewed and upheld in industry appeals to both Secretaries Freeman and Hardin. In 1969, the Senate Appropriation Committee in its report on the appropriation bill for Interior and Related Agencies directed the Forest Service to make no changes in payment bond procedures during F.Y. 1970. It urged the Department and timber industry to study the problem with the aim of formulating a legislative proposal resolving their differences. We assured the Committee that we would make no changes until after December 31, 1970.

As was reported to you last year, the Office of the Inspector General of the Department of Agriculture was asked to study the payment bond issue and report to the Secretary. The OIG Appraisal Report has been received and copies have been furnished to this committee. As a result of their independent analysis, the OIG came to substantially the same conclusions that lead us to announce our intent to limit the use of payment bonds.

They found (1) the log accountability systems presently in use do not provide adequate protection of Government property during storage at locations beyond Forest Service custody, (2) that there was a substantial increased cost to the Government in interest because of borrowing which would be unnecessary if payments were made in advance (the OIG estimated that for the 18-month period included in their study increased interest costs to the Government were approximately $1,400,000), and (3) they found that bidders who are able to avail themselves of deferred scaling with payment bonds enjoy substantial competitive advantages over firms which do not. The report concluded, in part,

> "It is our opinion that it is not in the best interest of the Government and is, in fact, contrary to Government policy to unnecessarily delay collection of funds due the Government to any degree that results in increased or unnecessary costs ... Advance cash deposits should be required to preclude the incurrence of unnecessary interest costs."

These findings of the OIG and additional study which we have given this matter, lead us to conclude that the position we took two years ago was proper.

We have scheduled a meeting with the Federal Timber Purchasers Committee on April 20-22, 1971, in San Francisco to discuss this subject. At that time we hope to resolve this problem.

In addition to their findings on payment bonds, the OIG report recommended the phasing out of mill deck scaling. They further recommend that the Forest Service eventually discontinue log scaling and substitute tree measurement volume determination prior to sale. We now use tree measurement as the basis for payment extensively in the South and to a limited extent elsewhere. Application of tree measurement techniques to old-growth timber in the West has some technological problems. We are carrying on some tests in the Pacific Northwest to develop systems which will overcome or minimize these problems. In the long run, we are confident we can develop improved methods but it will take time and we will have continuing need to scale logs in the years ahead.

EXTENSION OF LOG CONTRACTS

Mrs. HANSEN. You have testified that $25 million board feet of timber has been purchased but not cut. How many problems have you had relative to small operators purchasing timber at a good price and then the log market declining so that they couldn't make their contracts and have had to extend?

Mr. CLIFF. I couldn't answer that without checking our records. I am not sure that they would reveal just what the reasons would be for people closing down.

Mrs. HANSEN. You had a combination, in some areas, of extreme weather and a declining log market so they simply couldn't get to markets.

Mr. CLIFF. We have tried to help out in these cases where people have purchased timber at the very high prices of a year and a half to 2 years ago by offering them additional sales at the current market and to keep them going on less expensive timber until such time as they were able to work off the more expensive stumpage. I will be glad to check what we have on this question and insert such material as we have in the record.

(The information follows:)

It is difficult to determine the basic reason why a small timber operator goes out of business or falls into a marginal operating situation. Usually there are several factors involved. In our judgment the combination of high-cost national forest timber, depressed market, and weather conditions could have contributed to three firms going out of business and could be the principal cause of the current marginal operating situation of approximately 47 firms (loggers and manufacturers). In addition, there are approximately four firms in Alaska which purchased national forest timber in anticipation of supplying wood for the construction of the Alaska oil pipeline. Due to the delay in the construction of this pipeline these firms are not currently operating.

LIBERAL EXTENSION POLICY

Mr. M. NELSON. We have a rather liberal extension policy, as you know, Madam Chairman. It creates a situation where we do have more extensions in cases like you have explained.

Mrs. HANSEN. Many small operators because of the weather and the market failure had a difficult time in continuing operations. The economy of this whole area is dependent, particularly in the smaller towns of the West, on these operators.

Mr. M. NELSON. We take all those things into account at the time of an extension.

Mrs. HANSEN. That is very good. Again may I compliment you on your presentation.

Mr. CLIFF. Thank you very much.

Mrs. HANSEN. Mr. McDade?

Mr. MCDADE. It's always a pleasure to see the Forest Service here. Well done.

Mrs. HANSEN. I would also like to thank Secretary Cowden for his appearance today.

Mr. COWDEN. Thank you, Madam Chairman.

THURSDAY, MARCH 18, 1971.

COMMISSION OF FINE ARTS

WITNESSES

WILLIAM WALTON, CHAIRMAN, COMMISSION OF FINE ARTS
CHARLES H. ATHERTON, EXECUTIVE SECRETARY, COMMISSION OF FINE ARTS

Mrs. HANSEN. The commitee will come to order.

This morning we have the pleasure of again hearing from our very distinguished friend and Chairman of the Fine Arts Commission, William Walton. Mr. Walton, it is a pleasure always to welcome you and, by the way, have you seen the White House since it was lighted again?

Mr. WALTON. Yes, indeed I have. I participated in that lighting.

(Discussion off the record.)

JUSTIFICATION MATERIAL

Mrs. HANSEN. Please insert the justifications in the record at this point.

(The justifications follow:)

COMMISSION OF FINE ARTS

SALARIES AND EXPENSES

Appropriation, 1970	$115,000	
Second supplemental appropriation, 1970	1,825	
Total appropriation, 1970		$116,825
Appropriation/Total available, 1971		115,000
Budget estimate, 1972		115,000

Analysis by Activities

Activity	F.Y. 1970 Amount Available	F.Y. 1971 Amount Available	F.Y. 1972 Estimate	Increase (+) or Decrease (-) 1972 Compared with 1971
Administration	$112,360	$115,000	$115,000	---
Unobligated balance lapsing	4,465	---	---	---
Total	116,825	115,000	115,000	---

Administration: Fiscal year 1971, $115,000; fiscal year 1972, $115,000; no change.

JUSTIFICATION

The Commission of Fine Arts was established in 1910 to fill the need for a permanent advisory agency whose members would be qualified to make available to the Government expert opinion on questions of art arising in the course of administration. As an independent agency, it is intended to serve a two-fold purpose; first, to give advice concerning aesthetic standards and matters of civic design involved in the orderly development of the District of Columbia; and second, to furnish expert opinion on questions of art to the President, to the Congress and its committees, and to the heads of various departments and agencies of the Federal and District Governments.

The Commission is composed of seven members, appointed by the President, who serve without compensation, receiving only actual travel expenses incurred in attending meetings. Since the Commission was established in 1910, more than 70 distinguished architects, landscape architects, painters, sculptors, and laymen in the field of fine arts have given freely to the Government the benefit of their experience and professional skills in advising the President, the Congress, and government agencies on matters involving the fine arts.

The specific functions of the Commission are as follows:

1. To advise generally upon questions of art when requested to do so by the President, heads of executive departments or by any Committee by either House of Congress.

2. To advise specifically on all plans for parks, public buildings, and other structures constructed by executive departments or the District of Columbia.

3. To advise upon location of statues, fountains, and monuments in public squares, streets and parks in the District of Columbia and upon the selection of models for the statues, fountains, and monuments erected under the authority of the United States and upon the selection of artists for the execution of the same.

4. To regulate the height, exterior design and construction of private and semi-public buildings in certain areas of the National Capital. This action requires review and recommendation of the Mayor of the District of Columbia on the merits of designs submitted for building permits.

5. To advise, as necessary, on projects of an important Federal character outside of the District of Columbia, and to render opinions on the merit of designs for metals, insignia, coins, or other art projects created and produced by the executive department.

The Commission of Fine Arts is requesting an appropriation of $115,000 for fiscal year 1972 to finance the travel expenses of the seven members of the Commission and the salaries and related costs necessary to finance a supporting staff of six permanent positions.

PERSONNEL SUMMARY

	1970 Actual	1971 Estimate	1972 Estimate
Total number of permanent positions	7	6	6
Average number of all employees	5	6	6
Average GS grade	11.1	11.2	11.2
Average GS salary	$14,742	$14,932	$15,177

ITEMIZATION OF ESTIMATE

Appropriation Title: Salaries and Expenses — Commission of Fine Arts

	1970 Actual	1971 Estimate	1972 Estimate	Increase (+) Decrease (-)
Program and Financing:				
Total obligations	$112,360	$115,000	$115,000	---
Unobligated balance lapsing	4,465	---	---	---
Budget authority (appropriation)	116,825	115,000	115,000	---
Object Classification:				
11 Personnel compensation	71,450	87,000	87,000	---
12 Personnel benefits	4,535	7,000	7,000	---
21 Travel and transportation of persons	1,641	2,000	2,000	---
23 Rent, communications and utilities	1,602	2,000	2,000	---
24 Printing and reproduction	13,932	6,000	6,000	---
25 Other services	18,255	9,000	9,000	---
26 Supplies and materials	728	1,000	1,000	---
31 Equipment	217	1,000	1,000	---
Total obligations	112,360	115,000	115,000	---

GENERAL STATEMENT

Mrs. HANSEN. Mr. Walton, please insert your general statement in the record and summarize it for us.

Mr. WALTON. I would be happy to place it in the record.

Mrs. HANSEN. Please do.

(The statement follows:)

The Commission of Fine Arts is requesting an appropriation of $115,000, which is the same as the amount appropriated for fiscal year 1971. No major changes are planned in our programs for the coming year.

During fiscal year 1970, the Commission acted upon 383 formal submissions, carrying an estimated cost of many millions of dollars. In addition to the continuing complexity of formal submissions, there has also been a steady number of informal reviews and daily requests for information about Washington. Balanced with current programs proposed for the development of the Capital, I expect the total number of submissions will continue at approximately the same level as the present year.

The appropriations for the Commission have remained relatively small throughout its 60-year history. I therefore hope the committee will favorably consider our request for the amount needed for the next fiscal year.

The members of the Commission are appointed by the President and serve without compensation, receiving only actual travel expenses incurred in attending meetings. Since the Commission was established in 1910 more than 70 distinguished architects, landscape architects, painters, sculptors, and laymen in the field of fine arts have given freely to their Government the benefit of their experience and professional skills in advising the President, the Congress and Government agencies on matters involving the fine arts.

Mr. WALTON. It has a certain monotony. You have heard it a number of times before. There are just number changes. I will give you one. We acted on 383 proposals this year. That is the only difference from last year. Last year it might have been 384. Otherwise our situation is the same.

The appropriation we are asking for is the same, and we are happy to be here at your service to answer any questions about our mistakes around the District.

Mrs. HANSEN. I don't think they are your mistakes.

Mr. WALTON. I am giving you a wide opening there.

COMMISSION MEMBERSHIP

Mrs. HANSEN. Please insert in the record a listing of the seven members of the Commission and indicate when their terms expire.

Mr. WALTON. Yes.

(The information follows:)

The members of the Commission of Fine Arts are as follows:

William Walton	Aug. 7, 1971
Gordon Bunshaft	Sept. 29, 1972
Kevin Roche	Jan. 19, 1973
Aline Saarinen	Aug. 11, 1971
Hideo Sasaki	Feb. 2, 1971
Chloethiel Smith	Aug. 3, 1971
John Walker	Aug. 7, 1971

Mr. WALTON. This will be my last appearance because mine expires in August.

Mrs. HANSEN. Mr. Walton, I am sorry to hear that.

Mr. WALTON. We have had 8 years together. You probably don't realize it is that long, but it is.

Mrs. HANSEN. I am sorry to see you leave the Commission.

Mr. WALTON. So am I, but we will leave it to the President's discretion now.

Mrs. HANSEN. I would hope that the President might see fit to reappoint you because I think you have been a very, very fine chairman.

Mr. WALTON. Thank you.

ACTIVITIES OF THE COMMISSION

Mrs. HANSEN. Can you highlight for the committee the activities of the Commission during the last fiscal year?

Mr. WALTON. You brought up the White House. Do you like the lighting, because this is something we participated in in great detail? It is a very difficult thing to do, you know, and we think that the White House is the most successful piece of outdoor lighting that we have.

Mrs. HANSEN. I think it is very beautiful.

Mr. WALTON. Because it is intense and it is concentrated on the right areas and it picks out the architecture and yet the fixtures are not visible. You have a hard time finding them, and this is enormously difficult.

If you look at the Federal Triangle, as an example, that is newly lighted. It is an example sort of how not to do it. If you look at it some night, the problem is different because it is so immense. It may be the biggest outdoor lighting project in the United States, probably, but you are aware of the source of each bulb. None of the fixtures are properly concealed and the color of the light is wrong. We are participating in this and trying to get them to modify it but it can't be done all at once.

Mrs. HANSEN. I frankly like the lighting in the White House.

Mr. WALTON. Great.

Mrs. HANSEN. I think it is beautiful and you only have to come down from the Hill on a dark evening to realize it. I think it is magnificent.

Mr. WALTON. And then I think Lincoln has been beautifully done, too. That has been relighted. I guess it is more than a year though, isn't it?

Mr. ATHERTON. Yes.

Mr. WALTON. A very good professional job.

Mrs. HANSEN. I have a question I want to ask you about a section of Independence Avenue.

Mr. WALTON. You mean in front of L'Enfant Plaza?

Mrs. HANSEN. That is right.

Mr. WALTON. You mean the color of those lights?

Mrs. HANSEN. That is right.

Mr. WALTON. That is a tough one. That was a demonstration project. You are talking about the yellowness of the lights?

Mrs. HANSEN. That is right.

Mr. WALTON. You know, seriously, lighting can be used as an anti-crime factor.

Mrs. HANSEN. Yes.

Mr. WALTON. And that was a demonstration project to try out the color and see if we could live with it before they put it in some of the

high crime areas and we decided that we could live with it. It isn't ideal but it is better than lots of things would be, and they have installed it now down around RFK Stadium and in two or three places in the northeast that were, you know, hot spots and they needed it and it has been effective.

Mrs. HANSEN. I am glad to see that the District of Columbia is taking some steps to improve their lighting because I have been convinced for years that one of the major deterrents to crime is light.

Mr. WALTON. Well, downtown shopping has now been relighted.

Mrs. HANSEN. Yes, and it is a great improvement.

Mr. WALTON. Yes.

Mrs. HANSEN. Though I am not sure whether business has improved in the downtown area.

WASHINGTON SUBWAY

Mr. WALTON. No, but then we get around to what I think is a topic, is the subway. I think that is what is going to have the greatest impact on the city and if you asked me what we had participated in in the last couple of years that I thought was the most important, I think I would nominate that. Then also as I think of a successor, of what I would tell him to beware of, it is also to beware of the subway. All of the design has not been finally done. We have approved something like five or six downtown stations and the design of the tube itself, but eternal vigilance is going to be necessary.

One of the places I put my finger is the environs of each station. The arrival of the subway will have enormous impact on business and the ambition of the property owners to cash in big. There is going to be very soon a massive campaign to raise the building height limit of Washington. Now, you have to stand firm.

Mrs. HANSEN. Please express your opinions on that for the committee.

BUILDING HEIGHT LIMITATION

Mr. WALTON. I am very strongly against changing the height limitation. One of the distinctive things about Washington landscape is that the Capitol, the symbolically most important building in the United States, remains the dominant element of this landscape. That is the way the city was designed and that is the way it should be preserved.

The second most important is the White House. It stands in a preserve that emphasizes its symbolic quality. One can think of many ways to get the population density in the downtown which does have many other ways to expand than just going up.

Mrs. HANSEN. Please give us some suggestions for the record.

Mr. WALTON. Once we start solving the parking problem—half of downtown is now empty of buildings. It is devoted to parking lots. The automobile is not properly entitled to that much space. If those spaces were filled in with viable business buildings you would have the concentration of population that is needed to support the subway.

In the growing area, you know, K and L at about 18th, 19th, over in there where all the big buildings have gone up in the last 10 years, there is no complaint there about the height limitation. They have already used the acreage so intensively that they are getting the proper

concentration of population. Downtown is old and worn out, and they need to renew the whole place.

Mrs. HANSEN. I agree with you.

Mr. WALTON. I think that is going to be the great problem you have.

Mrs. HANSEN. You have to renew the spirit of the downtown area. I have criticized them for years because the downtown area isn't well lighted at Christmas time. Of all the areas in the country, Washington, D.C. should be an area particularly doing some decorative lighting at Christmas because you have a lot of low-income people here who are downtown shopping and who can't afford these things for themselves but they certainly can participate in the beauty that might be had in Washington. Year after year we bring this up with the National Capital Planning Commission and year after year they agree, and year after year nothing is done. There are a thousand ways to beautify a city at Christmas time.

Mr. WALTON. Surely.

Mr. WYATT. Madam Chairman, if you will yield at this point, I just thought it might be appropriate to find out what the building height limitation is at the present time.

Mr. WALTON. I can't answer that as one flat figure because it varies.

Mr. WYATT. I am talking about the central area around the White House and the Mall.

Mr. WALTON. It is essentially 10 stories, give or take a story, a block back from some given point, but it is in the neighborhood of 10 stories. That is what gives the character downtown.

Mr. WYATT. And you feel that is a sufficient height to still protect areas like the White House and the Mall and the Smithsonian, and the other major buildings in the city center?

Mr. WALTON. I do think it is an adequate protection as it stands.

Mr. WYATT. If you start going higher you would lose that protection?

Mr. WALTON. It is a totally different scene because the terrain is irregular and if there were 20-story buildings in one place it would be the equivalent of 30 stories because there is a dropoff toward the Capitol.

Mr. WYATT. But the minute you start breeching the present limit going to 11 or 12 or 15 stories, then you just start a slow process of erosion and ultimately reach your 20- or 25-story building?

Mr. WALTON. Yes. I would make the exception that I would not oppose changing the height limit the further you get away from the Capitol and from downtown. If Chevy Chase wants to break their height limit let them go. I think we have an interstate problem, too, in that I just got someone doing some research on it now, really the proposal to put 19 stories in Rosslyn. Rosslyn is right in our landscape. We, the Commission of Fine Arts, have no control over anything in the State of Virginia, but here, there is some kind of an overriding Federal interest and I don't know how we are going to sort it out.

Mrs. HANSEN. Couldn't that be worked out in cooperation with the National Capital Planning Commission which has jurisdiction over the entire area?

Mr. WALTON. I think so, but we are going to have to have a little extra authority, too, because whoever issues the building permits in Virginia is not subject to our advice and control the way it is in the District. That is the source of our authority in the District, and we have none of that in Virginia.

Mrs. HANSEN. I think the thing that concerns everybody right now is the impact of highways and high rises, not only on the beauty of the landscape but on what they are contributing to pollution and the traffic problem. One of the most explosive items in our entire society is traffic. It is a mess.

Mr. WALTON. It is indeed.

Mrs. HANSEN. You only have to drive through northern Virginia to realize the problem. I was driving down to Norfolk not too long ago and in the northern Virginia area I was appalled at the forests that have disappeared just in the last 5 years. There is nothing but a series of righ rises the length of the area where forest land use to be.

Mr. WALTON. Way out in the country.

Mrs. HANSEN. That is right.

Mr. WALTON. It is true.

HIRSHHORN SCULPTURE GARDEN

Mrs. HANSEN. I want to ask you about a very controversial item which the committee will be discussing in greater depth at the Smithsonian Institution hearing.

Mr. WALTON. All right.

Mrs. HANSEN. It is the Hirshhorn Sculpture Garden.

Mr. WALTON. Yes, yes, I know. I know of where you speak.

Mrs. HANSEN. I would like to have you comment on that proposal.

Mr. WALTON. Well, all the cards should be on the table quickly. (A) The commission of which I am chairman has approved this project. (B) It was designed by a member of the Commission of Fine Arts. (C) I am going to express my frank opinion, anyway.

Mrs. HANSEN. Good.

Mr. WALTON. I do like the central design of the circular building on stilts.

Mrs. HANSEN. Yes.

Mr. WALTON. I do hope that maybe Congress will get up on its hind legs and prevent the creation of that ditch across the Mall. I don't think it is a proper way to display sculpture or use the Mall, frankly.

I have just stuck a deep dagger into the back of one of my dear colleagues by saying this. If he reads the record I hope he will forgive me.

Mrs. HANSEN. There have been several practical questions raised, relative to this particular setting. Considering the sunken sculpture garden and the heat it will not be very comfortable. This is not a city of cool summers.

Mr. WALTON. No.

Mrs. HANSEN. Isn't this true?

Mr. WALTON. Yes, indeed.

Mrs. HANSEN. There have been questions raised that perhaps there should be a different kind of design for the Mall, and not the particular design that has been approved.

Mr. WALTON. And that particular architect himself is notorious in our sessions of always saying to other architects that are just being turned down, "Well, just remember, there are so many other ways to skin a cat." That makes them all furious but we will give him back his words now.

No, I am serious, I do think it was a mistake for us to approve the sculpture garden part of that design. It was very difficult not to. It was hard to envision even, but the longer I study it, the more I feel that the flat surface of the Mall should be inviolate. I really do.

Mrs. HANSEN. That is what is known as a Mall?

Mr. WALTON. That is right, yes. A couple of people proposed other solutions of putting something along the side that wouldn't cut across. There are many other ways.

Mrs. HANSEN. Is it possible to secure at this time a review of the design?

Mr. WALTON. Congress can achieve anything that it wants to. I am serious. No, I am serious.

Mrs. HANSEN. I know.

Mr. WALTON. It would be very difficult to stop construction of the building. They are pouring the concrete. It would be ridiculous to try to revise that design, but until anything is done it isn't done. You know, you can stop it.

Mrs. HANSEN. That is why I ask the question this morning, because the committee will be hearing later in the month the agency that handles the funding of this project. I want it plainly understood I asked the questions not because it will be named The Hirshhorn Museum and Sculpture Garden. It is purely a matter concerning the proper design for the Mall. I think you have be very precise when you consider a design for that Mall.

Mr. WALTON. Yes. I agree with you.

Mrs. HANSEN. It wouldn't be there if it weren't for that concept.

Mr. WALTON. An interruption of it really destroys it. That is our concept.

Mrs. HANSEN. You are quite right.

Mr. WALTON. Not one single thing has been done in a structural way nor will anything be done very soon because you can see that is a superficial kind of a cut. It is not to be compared with a deep round hole full of cement and steel underneath the building, so I think it is up to you as watchdogs. You take our role for a while.

Mrs. HANSEN. The average Congressman is accused of not being interested in the District of Columbia, and sometimes I think this is the most erroneous charge of all because we do have to sit here away from our very pleasant homes for 10 or 11 months a year. Therefore, we are extremely interested in what happens to the District of Columbia and we enjoy the beauty.

Mr. WALTON. May we go off the record a minute?

Mrs. HANSEN. Surely.

(Discussion off the record.)

Mrs. HANSEN. To what extent have you been reimbursed for work performed for other Federal agencies?

Mr. ATHERTON. Not at all.

Mr. WALTON. None.

GEORGETOWN WATERFRONT

Mrs. HANSEN. We have discussed for the last 2 years the problems in the Georgetown waterfront area. Do you have any comments to make in this regard?

Mr. WALTON. A new landmark has just been passed. There was a study financed jointly by the National Capital Planning Commission and the Georgetown Citizens Association which has come up with a rather elaborate scheme which would involve sinking the Whitehurst Freeway underground, and so forth. It has been subjected to severe criticism in your favorite newspaper, the Washington Post, which says that it is an over-elaborate scheme, and I am rather inclined to agree with them.

Mrs. HANSEN. Mr. Walton, when was the Whitehurst Freeway approved?

Mr. WALTON. Well, in time, Charlie, it would be in the late fifties, wouldn't it?

Mr. ATHERTON. Yes.

Mr. WALTON. It was in use by 1956.

Mrs. HANSEN. Over-elaborateness isn't necessary if you want to create the spirit of a waterfront.

Mr. WALTON. It really is, and I should think that if we could reach some kind of a design plan to phaseout the Whitehurst Freeway eventually—to tear it down right now is probably to ask too much, but if some of the approaches to the Three Sisters Bridge are now sunk so that at a future stage the Whitehurst Freeway can be discontinued, you can proceed with a rational design for the waterfront that includes access by foot, which is what you finally want.

Mrs. HANSEN. Georgetown is predominantly a foot community.

Mr. WALTON. Absolutely, exactly, and it tends more and more in that direction. I would think that will be one of the first areas that will try some real cutting off of streets and just turning it into foot plazas at certain times.

Mrs. HANSEN. That can't come too fast.

Mr. WALTON. True, but it is a natural for experimenting in this area.

Mrs. HANSEN. It is. I have often wondered why they aren't experimenting in this area because it would seem to me that there are certain places that just lend themselves to no automobile traffic whatsoever.

Mr. WALTON. We don't yet, you see, have a city government that has the civic feeling that you can get in every other city. Ours is so split between Federal and city that there isn't any real central thing like an active chamber of commerce that would propose ideas like this. We don't have it.

Mrs. HANSEN. I agree.

FOREIGN TRAVEL

Mrs. HANSEN. Have any members of the Commission performed any foreign travel during fiscal year 1970?

Mr. WALTON. Not for the Commission.

(Discussion off the record.)

NEW PROPOSALS FOR DEVELOPMENT OF PENNSYLVANIA AVENUE

Mrs. HANSEN. Has the Commission participated in any new proposals for development of Pennsylvania Avenue?

Mr. WALTON. We have expressed opinion on legislation, new legislation in re Pennsylvania Avenue. I don't believe there has been any other step in the last calendar year.

Mrs. HANSEN. What was the opinion you expressed?

Mr. WALTON. We think that that this new approach of creating a public authority to take over both Pennsylvania Avenue and some of the land behind it is probably a very proper approach. Your chances of attracting private capital are so much greater to an authority that can go out and drum up support among, say, the big insurance companies and the people that have great wads of capital to invest, whereas if you just let it go it is likely if anything is done it will all be Federal, and that is just what we don't want. We want that to be a mixed-use area that is just not all office buildings down there because we don't have the life then downtown that we are seeking, so we approved this bill.

J. F. KENNEDY CENTER

Mrs. HANSEN. I have always thought the Kennedy Center should have been located downtown.

Mr. WALTON. You and I were on that. We were on the losing end of that fight.

Mrs. HANSEN. Yes.

Mr. WALTON. It showed how much power we had. They put it right where they wanted to put it.

Mrs. HANSEN. That is right, this committee spent endless hours pointing out that (1) they were going to get into an area that would be cluttered with highways and (2) they were going to get into an area that was going to be remote from those who are downtown.

Mr. WALTON. It was crazy, that is all, and they did it.

Mrs. HANSEN. It was.

Mr. WALTON. And they did it.

Mrs. HANSEN. I couldn't agree with you more.

Mr. WALTON. But it was Congress who put it there.

Mrs. HANSEN. I know.

Mr. WALTON. Really, that is who put it there.

Mrs. HANSEN. This committee was singularly powerless with our warning. It was an emotional time.

Mr. WALTON. Oh, yes. I was thinking of an earlier time when it was placed there in the late fifties. Congress gave that land for what was then called a cultural center, and that was wrong planning.

Mrs. HANSEN. I couldn't agree with you more, but even after that proposal this committee spent endless hours trying to talk the National Capital Planning Commission into another location.

(Discussion off the record.)

Mrs. HANSEN. Thank you, Mr. Walton. Does anyone have a question?

Mr. MCDADE. No questions. We are delighted to see the Commission here, and I think we all express our appreciation for your interest in the Nation's Capital.

Mr. WALTON. Thank you. I count a great deal on your support, all of you, because we get nowhere without your support. We don't need much money but we do need support.

Mrs. HANSEN. Mr. Walton, I can't begin to tell you how grateful the committee is to have had the opportunity of meeting once a year with you to discuss some of the problems that trouble us very much.

Mr. WALTON. Well, thank you. I always enjoy it, and I will always be at your service in any way, official or unofficial.

Mrs. HANSEN. Thank you. I hope you continue as Chairman of the Fine Arts Commission.

(Discussion off the record.)

Mrs. HANSEN. Thank you, Mr. Walton. Thank you all.

Mr. WALTON. Thank you.

FEDERAL METAL AND NONMETALLIC MINE SAFETY BOARD OF REVIEW

WITNESSES

JOHN B. RIGG, SPECIAL ASSISTANT TO ASSISTANT SECRETARY FOR MINERAL RESOURCES, INTERIOR DEPARTMENT
RICHARD L. BAKER, BUDGET ANALYST, OFFICE OF THE SECRETARY, DEPARTMENT OF THE INTERIOR

Mrs. HANSEN. We now have the Federal Metal and Nonmetallic Mine Safety Board of Review, and our principal witness is Mr. John B. Rigg.

GENERAL STATEMENT

Mr. Rigg, please insert your general statement in the record and summarize it for us.

(Mr. Rigg's statement follows:)

An appropriation of $167,000 is being requested to finance the Federal Metal and Nonmetallic Mine Safety Board of Review for fiscal year 1972.

COMPOSITION OF THE BOARD

The Board is an independent quasi-judicial agency established by section 10 of the Federal Metal and Nonmetallic Mine Safety Act, Public Law 89-577.

The membership of the Board is required to be tripartite in nature; that is, two members must represent the viewpoint of the metal and nonmetallic mine operators; two, the metal and nonmetallic mineworkers; and the Chairman, who is required to be an engineer experienced in the metal and nonmetallic mining industry and without financial or employment connections with the groups concerned, serves in effect as the public representative.

DUTIES OF THE BOARD

The adjudicative duties of the Board, in docketed cases, will involve the hearing and determination of applications filed by mine operators seeking annul-

ment or revision of, and temporary relief from, orders issued by the Secretary of the Interior under section 8 and 9 of the act. In performing its adjudicative functions, the Board will be required to conduct public hearings, to resolve interlocutory matters, to render final decisions and orders, and to certify records on appeals to the courts. Appeals from final Board orders may be taken to the U.S. courts of appeals, and then to the U.S. Supreme Court.

PERMANENT STAFF SUPPORT

In performing its duties the Board will be assisted by a regular staff of only five full-time employees. This staff will include a general counsel who, besides serving as chief legal officer, will perform the work of executive secretary; an assistant counsel; and three clerical employees. This would appear to be the minimum staff required by the Board to fulfill the various provisions of the act.

INITIATION OF THE BOARD

Funds in the amount of $167,000 were appropriated in fiscal year 1971 for this activity. Although the Board is not yet a functioning body, it is expected that the President will submit his nominations for membership to the Federal Metal and Nonmetallic Mine Safety Board of Review for Senate confirmation in the near future and that the Board will begin operations immediately thereafter. Tentative selection of the five nominees to the Board has been made, and their papers are now being given final review.

The Department of the Interior has been assigned administrative responsibilities for the Board and are here today to answer questions in support of the fiscal year 1972 appropriation request for the Federal Metal and Nonmetallic Mine Safety Board of Review.

Mr. RIGG. Thank you, Madam Chairman. The Board is an independent Board of review under the Federal Metal and Nonmetallic Mine Safety Act of 1966, and it is composed of five members.

The Chairman is an individual experienced in mining, with no ties to either industry or to labor, with two members each from labor and from industry. The Board is a quasi-judicial Board that will act on appeals from orders under section 8 and section 9 of the act. The Board is not yet in operation. We have the names up for consideration.

JUSTIFICATION MATERIAL

Mrs. HANSEN. We will insert pages 1 through 3 of the justifications in the record at this point.

(The pages follow:)

FEDERAL METAL AND NONMETALLIC
MINE SAFETY BOARD OF REVIEW

SALARIES AND EXPENSES

Appropriation, 1970	---
Appropriation/Total available, 1971	$167,000
Budget estimate, 1972	167,000

Analysis by Activity

Activity	F.Y. 1970 Amount Available	F.Y. 1971 Amount Available	F.Y. 1972 Estimate	Increase (+) or Decrease (-) 1972 Compared with 1971
Adjudication and administration	---	$105,000	$167,000	$+62,000
Unobligated balance lapsing	---	62,000	---	-62,000
Total	---	167,000	167,000	---

JUSTIFICATION

Adjudication and Administration: Fiscal year 1971, $167,000; fiscal year 1972, $167,000; no change.

An appropriation of $167,000 is being requested for operation of the Federal Metal and Nonmetallic Mine Safety Board of Review for fiscal year 1972. This amount is the same as appropriated for the establishment and operation of this Board in fiscal year 1971.

The Board is an independent, quasi-judicial agency, established by section 10 of the Federal Metal and Nonmetallic Mine Safety Act (30 U.S.C. 721-740). More particularly, section 10 (a) of the act provides:

> "An agency is hereby created to be known as the Federal Metal and Nonmetallic Mine Safety Board of Review, which shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate."

The membership of the Board is required to be tripartite in nature, that is, two members must represent the viewpoint of the metal and nonmetallic mine operators; two, the metal and nonmetallic mine workers; and the chairman, who is required to be an engineer experienced in the metal and nonmetallic mining industry and without financial or employment connections with the groups concerned, serves in effect as the public representative.

Briefly, the act provides for the promulgation, by the Secretary of the Interior, of mandatory health and safety standards applicable to metal and nonmetallic mines, and for the enforcement of such standards, beginning one year after publication of notice in the Federal Register of the designation of mandatory standards. It is estimated that virtually all of the provisions of this act will be implemented in fiscal year 1971, and fiscal year 1972 will be the first year of operations with all of the provisions of the act in force.

Enforcement of the mandatory standards is initiated under the act by the issuance of findings and mine closing orders by authorized representatives of the Secretary. It will be the principal function of the Board to determine the propriety of such orders, in the manner detailed in the act, upon requests for relief submitted to the agency by operators subject to those orders.

The adjudicative duties of the Board, in docketed cases, will involve the hearing and determination of applications filed by mine operators seeking annulment or revision of, and temporary relief from, orders issued by the Secretary of the Interior under section 8 and 9 of the act. Appeals from final Board orders may be taken to the U. S. Courts of Appeals, and then to the U.S. Supreme Court. In performing its adjudicative functions, the Board will be required to conduct public hearings; to resolve interlocutory matters; to render final decisions and orders; and to certify records on appeals to the courts. Because of the "the urgent need for prompt decision," all such actions of the Board are specifically required to "be taken as rapidly as practicable, consistent with adequate consideration of the issues involved."

As to the adjudicative workload, the number of appeals which will be handled by the Board will depend on the rate at which orders issued under the provisions of the act are appealed by mine operators. Accurate workload estimates cannot be made at this time due to the lack of definitive experience under the act. However, the act applies to an estimated 20,000 metal and nonmetallic mines in the United States employing about 235,000 people which does indicate the wide application of the provisions of the act.

Apart from its adjudicative functions, the Board will be required, at the outset, to perform the numerous organizational duties of any newly-activated, quasi-judicial agency in the executive branch. Furthermore, it will be required, during the fiscal year, to perform the ongoing activities of any independent agency, such as the preparation and adoption of administrative orders and regulations; the maintenance of records, files and supporting data; the submission of administrative reports to other executive departments and agencies; reports to the Congress, including a detailed annual report of its operations; the prompt handling of inquiries and correspondence; the analysis of, and reporting on, proposed and pending legislation; and the participation in hearings before committees of the Congress.

In addition to the five members of the Board, who will be employed on an intermittent basis, it is anticipated that the Board will perform its varied legal and administrative duties with a regular staff of only five full-time employees. The staff will include a general counsel who, besides serving as chief legal officer, will perform the work of executive secretary; an assistant counsel; and three office employees. This would appear to be the minimum number of employees required by the Board to handle its expected caseload and to fulfill its various other assignments under the Federal Metal and Nonmetallic Mine Safety Act.

While the Board is not yet a functioning body, administrative services such as obtaining office space, office establishment, and the tentative selection of support personnel has been accomplished. It is expected that the President will submit his nominations for membership to the Federal Metal and Nonmetallic Mine Safety Board of Review for Senate confirmation at the beginning of the 92nd session of Congress. Once these Members have been confirmed, staff can be appointed and operations of the Board can commence. Although activities of the Board will be at an accelerated level once established, current estimates indicate that only $105,000 of the $167,000 available for fiscal year 1971 will be obligated.

PERSONNEL SUMMARY

	1970 Actual	1971 Estimate	1972 Estimate
Total number of permanent positions	---	5	5
Full-time equivalent of other positions	---	2	2
Average number of all employees	---	4	6
Average GS grade	---	9.4	9.4
Average GS salary	---	$13,159	$13,513

ITEMIZATION OF ESTIMATE

Appropriation Title: Salaries and Expenses — Federal Metal and Nonmetallic Mine Safety Board of Review

	1970 Actual	1971 Estimate	1972 Estimate	Increase (+) Decrease (-)
Program and Financing:				
Total obligations	---	$105,000	$167,000	$+62,000
Unobligated balance lapsing	---	62,000	---	-62,000
Budget authority (appropriation)	---	167,000	167,000	---
Object Classification:				
11 Personnel compensation	---	54,000	84,000	+30,000
12 Personnel benefits	---	3,000	7,000	+4,000
21 Travel and transportation of persons	---	15,000	35,000	+20,000
23 Rent, communications and utilities	---	15,000	14,000	-1,000
24 Printing and reproduction	---	2,000	4,000	+2,000
25 Other services	---	11,000	20,000	+9,000
26 Supplies and materials	---	2,000	2,000	---
31 Equipment	---	3,000	1,000	-2,000
Total obligations	---	105,000	167,000	+62,000

NOMINATIONS TO THE BOARD

Mrs. HANSEN. The President proposes to appoint five members to the Board and as yet they have not been appointed, even though the appropriation for 1971 was approved July 31, 1970.

Mr. RIGG. They have not.

Mrs. HANSEN. You might give me some idea as to when the members will be appointed, and when the Board will begin functioning.

Mr. RIGG. Yes, ma'am. The members are in the review process now. We hope they will be submitted to the Senate for confirmation in the immediate future. The location of the Board has been set.

Mrs. HANSEN. I don't think this committee can fund the board until the appointments have been made.

Mr. RIGG. We expect them to be officially nominated within the next 30 days.

Mrs. HANSEN. I think this is something for you to bear in mind, that we are not going to fund a nonexistent commission. I think Members on both sides of the aisle would like to know that they are functioning and confirmed.

Mr. RIGG. We anticipate having that done.

Mrs. HANSEN. You had better do more than anticipate.

Mr. RIGG. I have my fingers crossed. We should have no problem with them.

ADMINISTRATIVE SUPPORT

Mrs. HANSEN. Since the membership of the Board has not yet been formally appointed, what action, if any, has been taken to date by the Board, even on an administrative basis?

Mr. RIGG. On an administrative basis, we support the administrative load for the Board; we have made space arrangements for the Board through GSA.

Mrs. HANSEN. Where will the location be?

Mr. RIGG. That will be at 1875 Connecticut Avenue, Northwest, the Universal Building North.

Mrs. HANSEN. An urgent request for funds was submitted last year to the Senate after the House had acted on the bill, indicating immediate need for funding for this activity in 1971. If the matter was so urgent at that time, what has happened to delay the creation and operation of this Board?

Mr. RIGG. There were some names that had been proposed for membership of the Board. We were worried that there would be a number of requests under the Act. The Act specifies you cannot go to court for relief from an order without going through the Board.

To our pleasant surprise, we haven't had any appeals to the Board. We have about a dozen that have indicated a desire to appeal.

Mrs. HANSEN. There is nothing to appeal to at the present time.

Mr. RIGG. There is nothing. The Bureau of Mines has been able to enforce the Act effectively, without any need for appeals yet.

Mrs. HANSEN. That answers my next question.

What backlog, if any, exists for consideration by the Board?

Mr. RIGG. There is no backlog per se.

Mrs. HANSEN. You were gambling that there would be no appeals?

Mr. RIGG. That is right. The operators who have the appeal rights have cooperated with the inspectors to the extent that they are obeying the rules and the enforcement of the Bureau so far.

Mrs. HANSEN. You are going to get to a place where you won't be in such a position.

Mr. RIGG. You are absolutely right.

CURRENT YEAR OBLIGATION

Mrs. HANSEN. What obligations, if any, have been incurred to date under this appropriation act?

Mr. BAKER. $13,500.

Mrs. HANSEN. Under what authority were they incurred, since you have no Board?

Mr. BAKER No payment has been made. What we did was to assume space that GSA provided the Coal Mine and Health and Safety Board. This has been the extent of our obligations.

Mrs. HANSEN. But no payment has been made?

Mr. BAKER. No payment has been made.

Mrs. HANSEN. Funds can't be expended?

Mr. BAKER. I think that is correct subject to a review of the Appropriation Act for fiscal year 1971.

Mrs. HANSEN. It is now the middle of March, which leaves only about 3 months in this fiscal year, yet you indicate an unobligated balance lapsing of only $62,000. How much do you estimate will actually be obligated in fiscal year 1971?

Mr. BAKER. Madam Chairman, when we put the budget together for your review, it was in late December. We expected that the Senate would act early in January. We expected that $62,000 would be lapsing. As you say, it is now the middle of March. We expect another $60,000 to lapse, so we will probably obligate no more than another $40,000 or $50,000.

Mrs. HANSEN. Please insert in the record a copy of the excerpt from Public Law 89–577 which is the legislative authority for the creation and operation of this Board.

Mr. BAKER. Yes, ma'am.

(The information follows:)

tary or his representatives are required to take under this section shall be taken as rapidly as practicable, consistent with adequate consideration of the issues involved.

CREATION OF REVIEW BOARD

Federal Metal and Nonmetallic Mine Safety Board of Review.

SEC. 10. (a) An agency is hereby created to be known as the Federal Metal and Nonmetallic Mine Safety Board of Review, which shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate.

Membership, duration.

(b) The terms of office of members of the Board shall be five years, except that the terms of office of the members first appointed shall commence on the effective date of this section and shall expire one at the end of one year, one at the end of two years, one at the end of three years, one at the end of four years and one at the end of five years, as designated by the President at the time of appointment. A member appointed to fill a vacancy caused by the death, resignation, or removal of a member prior to the expiration of the term for which he was appointed shall be appointed only for the remainder of such unexpired term. The members of the Board may be removed by the President for inefficiency, neglect of duty, or malfeasance in office.

Compensation.

63 Stat. 166.
5 USC 835 note.

(c) Each member of the Board shall be compensated at the rate of $50 for each day of actual service (including each day he is traveling on official business) and shall, notwithstanding the Travel Expense Act of 1949, be fully reimbursed for traveling, subsistence, and other related expenses. The Board, at all times, shall consist of two persons who by reason of previous training and experience may reasonably be said to represent the viewpoint of metal and nonmetallic mine operators, two persons who by reason of previous training and experience may reasonably be said to represent the viewpoint of metal and nonmetallic mine workers, and one person, who shall be Chairman of the Board, who shall be a graduate engineer with experience in the metal and nonmetallic mining industry or shall have had at least five years' experience as a practical mining engineer in the metal and nonmetallic mining industry, and who shall not, within one year of his appointment as a member of the Board, have had a pecuniary interest in, or have been regularly employed or engaged in, the metal or nonmetallic mining industry, or have regularly represented either metal or nonmetallic mine operators or workers, or have been an officer or employee of the Department of the Interior assigned to duty in the Bureau of Mines.

(d) The principal office of the Board shall be in the District of Columbia. Whenever the Board deems that the convenience of the public or of the parties may be promoted, or delay or expense may be minimized, it may hold hearings or conduct other proceedings at any other place. The Board shall have an official seal which shall be judicially noticed and which shall be preserved in the custody of the secretary of the Board.

Appointment of personnel, etc.

(e) The Board shall, without regard to the civil service laws, appoint and prescribe the duties of a secretary of the Board and such legal counsel as it deems necessary. Subject to the civil service laws, the Board shall appoint such other employees as it deems necessary in exercising its powers and duties. The compensation of all employees appointed by the Board shall be fixed in accordance with the Classification Act of 1949, as amended.

Ante, p. 288.
5 USC 1071 note.

(f) Three members of the Board shall constitute a quorum, and official actions of the Board shall be taken only on the affirmative vote of at least three members; but a special panel composed of one or more members, upon order of the Board, shall conduct any hearing provided for in section 11 and submit the transcript of such hearing

to the entire Board for its action thereon. Every official act of the Board shall be entered of record, and its hearings and records thereof shall be open to the public.

Review of application.

(g) The Board shall hear and determine applications filed pursuant to section 11 for annulment or revision of orders made pursuant to section 8 or section 9. The Board shall not make or cause to be made any inspection of a mine for the purpose of determining any pending application.

Rules of proceedings.

(h) The Board is authorized to make such rules as are necessary for the orderly transaction of its proceedings, which shall include requirement for adequate notice of hearings to all parties.

Subpena powers.

(i) Any member of the Board may sign and issue subpenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and adminster oaths. Witnesses summoned before the Board shall be paid the same fees and mileage that are paid witnesses in the courts of the United States.

Testimony by deposition.

(j) The Board may order testimony to be taken by deposition in any proceeding pending before it, at any stage of such proceeding. Reasonable notice must first be given in writing by the party or his attorney proposing to take such deposition to the opposite party or his attorney of record, which notice shall state the name of the witness and the time and place of the taking of his deposition. Any person may be compelled to appear and depose, and to produce books, papers, or documents, in the same manner as witnesses may be compelled to appear and testify and produce like documentary evidence before the Board, as provided in subsection (i). Witnesses whose depositions are taken under this subsection, and the persons taking such depositions, shall be entitled to the same fees as are paid for like services in the courts of the United States.

(k) In the case of contumacy by, or refusal to obey a subpena served upon, any person under this section, the Federal district court for any district in which such person is found or resides or transacts business, upon application by the United States, and after notice to such person and hearing, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Board or to appear and produce documents before the Board, or both; and any failure to obey such order of the court may be punished by such court as a contempt thereof.

Report to Congress.

(l) The Board shall submit annually to the Congress as soon as practicable after the beginning of each regular session, a full report of its activities during the preceding calendar year. Such report shall include, either in summary or detailed form, information regarding the cases heard by it and the disposition of each.

REVIEW BY BOARD

SEC. 11. (a) An operator notified of an order made pursuant to section 8 may apply to the Federal Metal and Nonmetallic Mine Safety Board of Review for annulment or revision of such order without seeking its annulment or revision under section 9. An operator notified of an order made pursuant to section 9 may apply to the Board for annulment or revision of such order.

(b) The operator shall be designated as the applicant in such proceeding, and the application filed by him shall recite the order complained of and other facts sufficient to advise the Board of the nature of the proceeding. He may allege in such application: that danger as set out in such order does not exist at the time of the filing of such application; that violation of a mandatory safety standard, as set out in such order, has not occurred; that such violation has been totally

or partially abated; that the period of time within which such violation should be be totally abated, as fixed in the findings upon which such order was based, was not reasonable; or that the area of the mine described in such order as the area affected by the violation referred to in such order is not so affected at the time of the filing of such application. The Secretary shall be the respondent in such proceeding, and the applicant shall send a copy of such application by registered mail or by certified mail to the Secretary at Washington, District of Columbia.

(c) Immediately upon the filing of such an application the Board shall fix the time for a prompt hearing thereof.

Temporary relief pending hearing.

(d) Pending such hearing the applicant may file with the Board a written request that the Board grant such temporary relief from such order as the Board may deem just and proper. Such temporary relief may be granted by the Board only after a hearing by the Board at which both the applicant and the respondent were afforded an opportunity to be heard, and only if respondent was given ample notice of the filing of applicant's request and of the time and place of the hearing thereon as fixed by the Board.

(e) The Board shall not be bound by any previous findings of fact by the respondent. Evidence relating to the making of the order complained of and relating to the questions raised by the allegations of the pleadings or other questions pertinent in the proceeding may be offered by both parties to the proceeding. If the respondent claims that imminent danger or violation of a mandatory safety standard, as set out in such order, existed at the time of the filing of the application, the burden of proving the then existence of such danger or violation shall be upon the respondent, and the respondent shall present his evidence first to prove the then existence of such danger or violation. Following presentation of respondent's evidence the applicant may present his evidence, and thereupon the respondent may present evidence to rebut the applicant's evidence.

(f) If the proceeding is one in which an operator seeks annulment or revision of an order made pursuant to section 8(a) the Board, upon conclusion of the hearing, shall find whether or not danger throughout the area of such mine as set out in such order existed at the time of the filing of the operator's application. If the Board finds that such danger did not then exist throughout such area of such mine, the Board shall make an order, consistent with its findings, revising or annulling the order under review. If the Board finds that such danger did then exist throughout such area of such mine, the Board shall make an order denying such application.

(g) If the proceeding is one in which an operator seeks annulment or revision of an order made pursuant to section 8(b), the Board upon conclusion of the hearing shall find whether or not there was a violation of a mandatory safety standard as described in such order, at the time of the making of such order. If the Board finds there was no such violation, the Board shall make an order annulling the order under review. If the Board finds there was such a violation, the Board shall also find whether or not such violation was totally abated at the time of the filing of the operator's application. If the Board finds that such violation was totally abated at such time, the Board shall make an order annulling the order under review. If the Board finds that such violation was not totally abated at such time, the Board shall find whether or not the period of time within which such violation should be totally abated fixed under section 8(b) or section 9(b) should be extended. If the Board finds that such period of time should

be extended, the Board shall also find what a reasonable extension of time should be, and shall immediately also find the extent of the area of such mine which was affected by such violation at the time of the filing of such application and the Board shall then make an order consistent with its findings, revising the order under review. If the Board finds that such violation was not totally abated at the time of the filing of the operator's application and that such period of time should not be extended, the Board shall find the extent of the area of such mine which was affected by such violation at such time, and shall make an order, consistent with its findings, affirming or revising the order under review.

(h) Each finding and order made by the Board shall be in writing. It shall show the date on which it is made, and shall bear the signatures of the members of the Board who concur therein. Upon making a finding and order the Board shall cause a true copy thereof to be sent by registered mail or by certified mail to all parties or their attorneys of record. The Board shall cause each such finding and order to be entered on its official record, together with any written opinion prepared by any members in support of, or dissenting from, any such finding or order.

(i) In view of the urgent need for prompt decision of matters submitted to the Board under this section, all action which the Board is required to take under this section shall be taken as rapidly as practicable, consistent with adequate consideration of the issues involved.

JUDICIAL REVIEW

SEC. 12. (a) Any final order issued by the Board under section 11 shall be subject to judicial review by the United States court of appeals for the circuit in which the mine affected is located, upon the filing in such court of a notice of appeal by the Secretary or the operator aggrieved by such final order within thirty days from the date of the making of such final order.

(b) The party making such appeal shall forthwith send a copy of such notice of appeal, by registered mail or by certified mail, to the other party and to the Board. Upon receipt of such copy of a notice of appeal the Board shall promptly certify and file in such court a complete transcript of the record upon which the order complained of was made. The costs of such transcript shall be paid by the party making the appeal.

(c) The court shall hear such appeal on the record made before the Board, and shall permit argument, oral or written or both, by both parties. The court shall permit such pleadings, in additions to the pleadings before the Board, as it deems to be required or as provided for in the Rules of Civil Procedure governing appeals in such court. 28 USC app.

(d) Upon such conditions as may be required and to the extent necessary to prevent irreparable injury, the United States court of appeals may, after due notice to and hearing of the parties to the appeal, issue all necessary and appropriate process to postpone the effective date of the final order of the Board or to grant such other relief as may be appropriate pending final determination of the appeal. Final order effective date; postponement.

(e) The United States court of appeals may affirm, annul, or revise the final order of the Board, or it may remand the proceeding to the Board for such further action as it directs. The findings of the Board as to facts, if supported by substantial evidence on the record considered as a whole, shall be conclusive.

(f) The decision of a United States court of appeals on an appeal from the Board shall be final, subject only to review by the Supreme Court as provided in section 1254 of title 28 of the United States Code. 62 Stat. 928.

BASIS FOR BUDGET REQUEST

Mrs. HANSEN. With no experience to date, and no members of the Board to participate in budget preparation, what is the basis for your budget request of $167,000 in 1972?

Mr. BAKER. Here again the basis was on the old Coal Mine Health and Safety Board. As a matter of fact, before that Board went out of existence, they had prepared a brief, rough budget estimate, which was in the hands of OMB at the time. That was the basis for this budget estimate.

SCOPE OF MINING INDUSTRY

Mrs. HANSEN. How many mines come under the jurisdiction of this Act?

Mr. RIGG. The latest figure from the Bureau of Mines indicates there are 19,194 mines at the present time that come under the jurisdiction of this Act?

Mr. MCDADE. Do you have any idea how many people are employed in those mines?

Mr. BAKER. I think there are around 247,500 people involved.

Mr. RIGG. All States.

Mr. MCDADE. Is there one category of mining that employs the bulk of the people we are talking about?

Mr. RIGG. The underground mines in the West.

Mr. MCDADE. Are we talking about any specific metals?

Mr. RIGG. All metals, anything other than coal.

Mr. MCDADE. I know that. I am saying is there any specific extracting industry of a metal like nature that has the bulk of the people employed in it that we are talking about?

Mr. RIGG. I would say the copper industry is probably the largest employer.

Mrs. HANSEN. Is the copper industry largely centered in Montana?

Mr. RIGG. Arizona produces 42 percent of the Nation's copper, and Montana has the largest underground copper mine.

URANIUM MINING

Mr. MCDADE. Do you have jurisdiction over uranium mines?

Mr. RIGG. Yes, sir.

Mr. MCDADE. Have you special regulations adopted for health and safety purposes in uranium mines?

Mr. RIGG. Yes, sir.

Mr. MCDADE. What has been the experience thus far in the uranium mines?

Mr. RIGG. As far as enforcement goes of our standards, it has been very good.

Mr. MCDADE. You have no complaints from either industry or from people working in mines?

Mr. RIGG. The standards that we adopted in uranium specifically were drawn up in cooperation, as all the other standards were, with labor and industry participating in advisory committees. We used health standards recommended by the ACGIH group of Government.

Mr. McDade. What is that?

Mr. Rigg. The American Conference of Government Industrial Hygienists is the full term. AEC has also put out criteria, and there are the American Standards Association rules and an interagency uranium standards group now under EPA.

Mr. McDade. And there has not been much of a problem since you adopted your standards?

Mr. Rigg. There hasn't been much of a problem so far. Our inspectors are making inspections. We have two States that are qualified under State authority. Colorado, if I remember correctly, had stronger uranium standards than we had. We changed the Federal standards to be more stringent.

MINING INDUSTRY HAZARDS

Mr. McDade. Is there a particular metal like or nonmetal like industry that seems to be more hazardous than others, based upon past experience?

Mr. Rigg. Any underground mine is more hazardous than an open pit mine or a sand and gravel quarry.

Mr. McDade. I am talking about a specific industry.

Mrs. Hansen. Which one is the most hazardous?

Mr. McDade. If there are any. Maybe they are equally hazardous. Are there any that seem to predominate?

Mr. Rigg. I couldn't say that any specific section, say the lead mines were more hazardous than the uranium mines or something like that. It is entirely the individual situation. I would say that the biggest hazard in metal mines is the lack of roof support, just as it is in coal.

Mrs. Hansen. You also have to consider the health hazards.

Mr. Rigg. The health hazards could be met with. You even have radon in mines that are not uranium mines, you have them in fluorspar mines, for instance.

Mr. McDade. What kind?

Mr. Rigg. Fluorspar.

(Discussion off the record.)

AEC WASTE DISPOSAL

Mrs. Hansen. I think it was this morning when Congressman Skubitz appeared before the Senate committee, to protest dumping of AEC waste in a salt mine in Kansas. Have you encountered similar situations and problems?

Mr. Rigg. Yes.

Mrs. Hansen. As you are well aware, the AEC is under attack in the areas of their underground testing. They have been under an attack for their waste dumping, and there is an increasing number of areas where they come under criticism. Some of them I am sure within the next few years will be related to your mining situation.

Mr. Rigg. Yes, ma'am.

PERMANENT POSITIONS

Mrs. Hansen. You indicate five permanent positions in 1971. Are any of these positions actually filled as of this date?

Mr. RIGG. We have not filled them because we can't until the Board gets appointed, but we do have an employee up there to handle mail and telephone inquiries.

Mrs. HANSEN. Who is paying her salary?

Mr. RIGG. She is part of our staff in Interior.

Mrs. HANSEN. The budget estimate provides for five permanent positions in 1972. Please describe these positions.

Mr. RIGG. The Executive Secretary or general counsel will be the man who will report to the Board members. He will have an assistant counsel, an administrative person, and then two typists.

Mrs. HANSEN. $20,000 is requested for other services in 1972. What does this involve?

Mr. RIGG. The Board is authorized to hire consultants and court reporters for field hearings. The $20,000 is mostly for hearings. The Board is authorized to have hearings in the field, and we anticipate that this will be done.

TRAVEL BUDGET

Mrs. HANSEN. For travel and transportation of persons $35,000 is requested. What is the basis for this estimate?

Mr. BAKER. We base that on the Board members who are appointed as consultants, and we would be paying their travel. We have budgeted $28,000 for the travel of the Board members.

Mrs. HANSEN. Is this for travel of the Board members to the site of the hearings?

Mr. BAKER. To the site of the hearings, or to Washington, D.C., if they are from outside. We have also budgeted $7,000 for expert witnesses, if the need occurs in the conduct of hearings.

Mrs. HANSEN. $35,000 is not going to bring many westerners back to Washington, D.C., very often.

Mr. BAKER. No.

Mrs. HANSEN. And you are not going west very often.

Mr. BAKER. That is true. As you indicated earlier, there wasn't too much experience on which to base this budget.

Mrs. HANSEN. If you have any details to add as to the responsibilities and authority of the Board, we would like you to comment at this point.

Mr. RIGG. I have nothing further to add.

Mrs. HANSEN. Mr. Galifianakis?

JUDICIAL PROCEDURE

Mr. GALIFIANAKIS. I was wondering what the power of the Board was. Does it impose penalties?

Mr. RIGG. No; it does not impose penalties. Under the Act, the Bureau of Mines has adopted mandatory standards, and it also has the power to withdraw men, in times of imminent danger or imminent hazard. If an operator of a mine is served with a notice from the Bureau that he has either failed to conform to a mandatory standard after he has been given time to do so, or if the men are withdrawn from the mine in case of an imminent danger, the operator can then appeal either to the Secretary or to the Board. If he appeals to the Secretary, then he has to appeal to the Board before he goes to court.

The Act authorizes the department to file for penalties under section 14 to the district courts.

Mr. GALIFIANAKIS. Is the order ever to shut down a mine, for example?

Mr. RIGG. Yes, sir. That is an immiment danger, the withdrawal of the men. That is the ultimate weapon we have, until the operator will make the mine safe or will enforce the standards that have been adopted.

Mr. GALIFIANAKIS. Is that normally the issue on appeal to the Board?

Mr. RIGG. Yes, sir.

Mrs. HANSEN. Mr. McDade?

FATALITIES

Mr. MCDADE. Can you tell me, and if you cannot furnish for the record, the number of fatalities in the metallic and nonmetallic mines in the country last year and the number of injuries.

Mr. RIGG. I don't have those figures. I will be happy to furnish them to you.

(The information follows:)

Fatalities at metal and nonmetal (including stone and sand and gravel) mines and mills, 1970, by cause and location

Kind of operation and cause	Fatalities	Percent
Underground mines:		
Falls of roof or back	20	33.90
Haulage	14	23.73
Machinery	8	13.56
Slips or falls of persons	7	11.86
Suffocation	3	5.08
Electricity	2	3.39
Explosives	2	3.39
All other	3	5.08
Total	59	100.00
Surface mines:		
Machinery	23	34.33
Haulage	16	23.88
Falls of face or side	9	13.43
Slips or falls of persons	6	8.96
Electricity	5	7.46
Handling materials	4	5.97
All other	4	5.97
Total	67	100.00
Mills:		
Machinery	9	32.14
Handling materials	6	21.43
Haulage	5	17.86
Sliding or falling material	3	10.71
Slips or falls of persons	3	10.71
All other	2	7.14
Total	28	100.00

Office of Accident Analysis
March 12, 1971

Fatalities in metal and nonmetallic mines and mills by State in 1970[1/]

	Metals	Nonmetals	Stone	Sand and gravel	Total
01 ALABAMA					
50 ALASKA			1		1
02 ARIZONA	7			6	13
03 ARKANSAS					
04 CALIFORNIA	3	1	3	5	12
05 COLORADO	6	2			8
06 CONNECTICUT		1			1
07 DELAWARE					
08 FLORIDA		1	4		5
09 GEORGIA		2	1	1	4
51 HAWAII					
10 IDAHO	1	1			2
11 ILLINOIS	1		3		4
12 INDIANA			1	2	3
13 IOWA			1		1
14 KANSAS					
15 KENTUCKY			1		1
16 LOUISIANA	1	6		1	8
17 MAINE	1				1
18 MARYLAND					
19 MASSACHUSETTS					
20 MICHIGAN	3	2		1	6
21 MINNESOTA	8			1	9
22 MISSISSIPPI					
23 MISSOURI	4		1		5

1/ Preliminary (March 12, 1971).

Fatalities in metal and nonmetallic mines and mills by State in 1970[1/] - Continued

	Metals	Nonmetals	Stone	Sand and gravel	Total
24 MONTANA	2				2
25 NEBRASKA					
26 NEVADA	4				4
27 NEW HAMPSHIRE					
28 NEW JERSEY	1				1
29 NEW MEXICO	5	2			7
30 NEW YORK	1	1	3		5
31 NORTH CAROLINA		1	1		2
32 NORTH DAKOTA					
33 OHIO					
34 OKLAHOMA					
35 OREGON	1		1	2	4
36 PENNSYLVANIA	1		5	2	8
37 RHODE ISLAND					
38 SOUTH CAROLINA			2		2
39 SOUTH DAKOTA	3		1		4
40 TENNESSEE	2		4	1	7
41 TEXAS		4	1		5
42 UTAH	3	1		1	5
43 VERMONT					
44 VIRGINIA			3	1	4
45 WASHINGTON	3			1	4
46 WEST VIRGINIA			1		1
47 WISCONSIN			2	1	3
48 WYOMING	1		1		2
TOTAL	62	25	41	26	154

1/ Preliminary (March 12, 1971).

HEALTH PROBLEMS

Mrs. Hansen. Also insert in the record the health problems that have been brought to your attention as a result of work in a metal or nonmetallic mines.

(The information follows:)

Health Problems in Metal and Nonmetal Mines

Silicosis is one of the oldest and most persistent problems in the industry. Other prominent health hazards include exposure to asbestos and other fibrous minerals which cause asbestosis and related diseases. Other toxic mineral elements which occur in mining and milling operations include antimony, cadmium, berylium, nickel, lead, mercury, and others of lesser prevalence. Toxic gases produced from the use of diesel equipment and other internal combustion engines, and from the use of explosives also create health hazards. Fumes from welding operations produce similar hazards.

Exposure to alpha radiation in uranium mines is a prominent health hazard. Nonionizing sources of radiation such as lasers and microwaves, and other physical agents such as noise which produces hearing loss are occupational health hazards.

Mr. Galifianakis. Have the members been nominated by the President?

Mr. Rigg. No, they have not.

Mr. Galifianakis. They haven't even been submitted?

Mr. Rigg. That is correct.

Mrs. Hansen. Thank you very much, Mr. Rigg.

Mr. Rigg. Thank you, Madam Chairman.

WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

March 25, 1970.

WITNESS

BENJAMIN H. READ, DIRECTOR

Mrs. Hansen. The committee will come to order.

We now have the Woodrow Wilson International Center for Scholars, and our principal witness is Mr. Ben Read, the Director. Mr. Read, I am sure you have a general statement, which you can insert in the record and summarize for us.

(The statement follows:)

The Woodrow Wilson International Center for Scholars was created by act of Congress in 1968 (Public Law 90-637). After an 18-month planning and development period, the Center's fellowship and guest scholar programs opened on October 19, 1970, in excellent interim quarters provided by the Smithsonian Institution on the third and fourth floors of the central section of the newly renovated, original Smithsonian Institution Building on the mall.

It is a pleasure to present this report of the first 5 months of operation of the Center as part of the fiscal year 1972 submission to the committee.

The Center's board of trustees, chaired by Senator Humphrey (see list at attachment 2), chose a theme for the Center designed to accentuate those aspects of Woodrow Wilson's ideals and concerns for which he is perhaps best remembered a half century after his Presidency—his search for international peace and the imaginative, new governmental approaches he used to meet major contemporary problems. In addition, the board invited substantial studies in two areas: oceans and environment.

Thus, of the 29 fellowship appointments and nine guest scholar appointments approved as of March 1, 1971, by the Board, acting on the advice of expert advisory panels (see list attachment 4) the scholars fall into three broad categories:

(1) Seventeen concerned with various general studies under the Center's basic theme of "increasing man's understanding of significant international, governmental and social problems";

(2) Twelve studying problems related to the increase of understanding, law and cooperative practice between nations in the uses of the oceans; and

(3) Nine studying various aspects of man's overall relations to his deteriorating environment, including the international institutional arrangements needed to resolve environmental problems transcending national boundaries.

As indicated by the list of scholars included at attachment 1, with biographical information and brief description of projects, the scholars appointed are:

Strongly international in makeup since approximately half come from the United States and half from other countries;

Selected from many nonacademic professions and occupations (government, law, business, journalism, diplomacy, et cetera) as well as a variety of traditional academic disciplines (social sciences, humanities and natural sciences);

Appointed for short as well as long terms of appointment to facilitate paticipation by busy executives as well as traditional scholars with well-developed study proposals;

Chosen without consideration of arbitrary age limits; and

Working individually as well as in groups in approaching their subjects of study.

In summary, Center scholars are appointed primarily for what they can contribute to the increase and diffusion of knowledge about significant international, governmental and social problems and their solutions.

In other words, the Wilson Center is not primarily an educational institution. It is not primarily a cultural exchange program—although both educational and cultural exchange benefits will exist. It is primarily a center for the encouragement of scholarship on vital current problems by persons of outstanding intellectual qualifications, experience and dedication.

Since the Center is a year-round institution, scholars come and go and applications and nominations are received and processed year round, the number of persons studying at the Center at any one time will fluctuate up to a maximum capacity of about 40. Invitations for appointment are issued regularly three times each year in December, March and July.

The development of the Center's institutional life has taken several forms. One is a regular weekly seminar on each of the two topics of special emphasis, both of which have attracted a number of the fellows from other fields of concentration and a substantial number of outside experts. A second procedure has been a noon discussion hour on Tuesdays and Fridays at which Center scholars and invited guests lead informal conversations on a variety of topics.

In addition, the Center is sponsoring a series of late afternoon seminars and dinner discussions to which members of the legislative and executive branches, the diplomatic corps and the public are invited on a fairly regular basis. Speakers and guests at such occasions to date have included Prof. Rene Dubos of Rockefeller University; Mr. Edward Wenk of Washington University; Ambassador Arvid Pardo of Malta; Mr. John Stevenson, Legal Advisor of the Department of State; Ambassador George Bush, U.S. Ambassador to the U.N.; and Mr. Christian Herter, Special Assistant to the Secretary of State for Environmental Affairs. We hope that these seminars and discussions will be of increasing interest to the members and their staffs.

The Congress and the trustees have envisioned a Center with an intellectual climate encouraging vigorous exchange of ideas and insights among the scholars in residence and between them and the capital community, and this process is well underway. In addition, of course, the scholars are producing a variety of articles and books for publication and a number of these have already been accepted for early publication.

FUNDING

The Woodrow Wilson Memorial Act creating the Center authorized the appropriation to the Board of such funds as may be necessary to carry out the

purposes of the act and directed the Board to raise money for such purposes from private sources as well.

By virtue of the strenuous efforts of the trustees and of Mr. C. Peter McColough, chairman of the Center's Advisory Committee (see list attachment 3), $288,066.42 had been raised from private sources for the Woodrow Wilson Center as of March 1, 1971, including $48,125.00 from the National Endowment for the Humanities under a $65,000 matching grant to the Center. The Center's private donations receipts are detailed at attachment 5.

The first Federal appropriation for the Center was $100,000 as part of the Smithsonian's "Salaries and expenses" for fiscal year 1970, of which $90,799.74 was actually obligated.

During fiscal year 1971 Congress appropriated $750,000 for preparation and operation of the Center. On September 1, 1970, $620,000 was apportioned for the Center's use by the Office of Management and Budget for the administrative expenses of staffing and equipping the Center and for support of the Center's fellowship program.

The Office of Management and Budget has indicated that it will make available the $130,000 of unobligated balance of "no year" funds at the end of fiscal year 1971, and in addition to that, the Board of Trustees of the Center is requesting Congress to approve an appropriation of $683,000 for fiscal year 1972.

The $683,000 requested for fiscal year 1972 is $67,000 beneath the $750,000 appropriated in fiscal year 1971, or $63,000 above the $620,000 actually apportioned by the Office of Management and Budget in fiscal year 1971.

When the $130,000 unobligated balance is added to the $683,000 requested for fiscal year 1972 the combined total of $813,000 is $193,000 above the $620,000 apportioned in the fiscal year 1971, or $63,000 above the fiscal year 1971 appropriation. The increase is due almost entirely to the 12-month operation of the Center planned for fiscal year 1972 as opposed to the 8½ months of operation in fiscal year 1971.

The $683,000 requested would be spent as follows:

Fellowship program: $332,000 of the requested funds plus the $130,000 available in the unobligated balance at the end of fiscal year 1971 would permit the Center to commit funds during fiscal year 1972 for 20 full fellowships to begin during fiscal year 1972 or subsequently at an average anticipated cost of $23,100 apiece, for stipends and travel. The anticipated costs are based on the same average yearly rate experience levels on which the fiscal year 1971 budget estimates were made with the addition of 5 percent actual cost for bookkeeping disbursements and accounting.

The Center's stipend policy approved by the Board of Trustees was spelled out in the 1970 submissions to the committee and is based on the practice of several other advanced studies centers. Under this policy each appointed fellow is asked first to devote his sabbatical or leave pay or other earned income during the fellowship period toward his support while at the Center and, second, to seek outside foundation or other support for his study proposal whenever possible. Thereafter, the Center's policy is to attempt to provide the fellow with a stipend rate which would be a no-gain, no-loss figure over his earned income rate in the preceding year (within a $30,000 ceiling authorized by the Board) with a cost-of-living increase for non-U.S. scholars to bring them up to an equivalent stipend rate with U.S. scholars of comparable experience and position.

In addition, the Center offers reimbursement of travel expenses for American carrier, round-trip, direct route, jet economy fare for the fellow and his accompanying dependent family members between his home city and Washington.

The Executive Committee of the Board of Trustees determined that in the Center's fiscal year 1972 and subsequent budget submissions to the Office of Management and Budget and to the Congress, the Board would not request public appropriations for more than 20 full fellowships in any given year during the occupancy of present interim quarters, and the Board and staff and advisory committee would attempt each year to raise funds from private sources to finance an additional like number of fellowships.

The experience of other advanced study centers and the Wilson Center to date indicate that most appointments must be made many months in advance of the date of the beginning of the period of appointment, and for this reason the Center is requesting the same "no year" provision for the fiscal year 1972 federal appropriation which Congress provided in the Center's appropriation for fiscal year 1971.

ADMINISTRATIVE EXPENSES

The $351,000 requested for administrative expenses of the Center in fiscal year 1972 represents an increase of $11,000 over the sum estimated for this purpose under the figure apportioned for fiscal year 1971.

The Center is budgeting in fiscal year 1972, except for the addition of one full equivalent part-time secretarial position, for the same number of permanent positions (15) as employed in the current fiscal year: five professional, 10 clerical, and one part-time clerical for $209,000.

The cost increase of $26,000 over the estimated $183,000 current fiscal year salaries cost is due to anticipated in-grade promotions and the added year-round costs for the pool secretaries for the fellows, who are on the rolls for only 70 percent of the current fiscal year but for the entire year in fiscal 1972. The need for an additional part-time clerical position is based on the demonstrated cyclical nature of the workload. Clerical help positions are designed to permit the Center to assign one secretary to every four or five scholars, which is the ratio found acceptable at other centers of advanced study and workable in practice to date.

The other administrative expenses of $142,000 are listed in detail in the justification sheets. The furnishing and equipment item is, of course, a fraction of the current fiscal year costs, since the Center will have acquired during the current fiscal year the major share of needed fiscal assets, other than basic reference library acquisitions which will be spread over a 3-year period.

On February 18, 1971, President Nixon and Senator Humphrey, Chairman of the Board, jointly presided over the official dedication ceremony of the Center. In his remarks Senator Humphrey stated well the theme of the Center: "So, Mr. President, in dedicating the Woodrow Wilson International Center for Scholars today, we have set our sights high indeed. We ask no less today of the scholars and staff of the Center and those who will follow than that they dedicate their experience, creativity and insights to the solutions of man's primary problems and the need for change to meet those problems."

The Board and staff of the Center are convinced that the members of the committee who made possible the opening on schedule of the Center last fall will share our sense of pride at the new scholars' community which has come into being in the Nation's Capital in honor of the Nation's 28th President. We hope that each member of the committee will have a chance to visit the Center in the weeks and months ahead and to meet the scholars assembled there from this and many other countries whose presence and work constitute Woodrow Wilson's "living memorial."

Att. 1

March 1, 1971

Fellows and Guest Scholars of
Woodrow Wilson International Center for Scholars

A. Fellows

(1) Environment Studies

Stephen V. Boyden, 45, Australia, Head of Urban Biology Group at Australian National University. Writer and lecturer on broad biological consequences of advancing technology in advanced societies. Writing book on "The Biology of Civilization" which will be an attempt to describe aspects of the contemporary human situation in biological perspective, and to discuss interaction between natural and cultural processes as they relate to problems of modern man. (October 1970 - February 1971.)

Douglas M. Costle, 31, attorney and government official. Graduate of Harvard University and University of Chicago Law School. As a senior staff associate on the Environment and Natural Resources Panel of the President's Advisory Council on Executive Organization under Roy Ash, Costle and one other have been given principal credit for formulation of President Nixon's reorganization plan and message on the new Environmental Protection Agency (EPA). Will concentrate at the Center on related basic values issues of the quest for a better environment and the international institutional and political questions which will call for sustained attention.

Elizabeth Haskell, 28, formerly on research staff of the Urban Institute in Washington, D. C.; previously a legislative aide to U.S. Senator Jackson; and policy analyst for the Assistant Secretary of the Interior for water pollution control; is heading small task force project funded largely by the Ford Foundation to analyze state environmental institutions. The study will formulate general guidelines based on legal and public administration research, to assist state legislatures in developing comprehensive, environmental institutional arrangements. Currently also co-authoring book on thermal pollution, she has in past year compiled two-volume compendium and evaluation of federal programs involved in urban waste management and regulation of quality of urban environment.

Paul G. Kuntz, 55, Professor of Philosophy, Emory University, Atlanta. A Ph. D. from Harvard, Kuntz has also taught at Smith and Grinnell Colleges. He is the author of several books on philosophy and numerous articles covering a wide range of humanist concerns. Is working at the Center on various writings stemming from The Concept of Order (1968) such as order in individual experience, the ordering of societies, and concepts of the order of nature crucial in discussions of the environment.

Athelstan Spilhaus, 59, meteorologist, oceanographer, environmentalist; American Association for the Advancement of Science, president 1970-71; Chairman of the Board 1971-72. Self-employed as writer and consultant in Florida during last year, Spilhaus has been president of the Franklin Institute in Philadelphia 1967-69; dean of the Institute of Technology at the University of Minnesota 1949-66; and has held a succession of teaching, consulting and board positions in the fields of meteorology, oceanography and other natural sciences. He has held presidential appointments--UNESCO, Seattle World's Fair and National Science Board--under Presidents Eisenhower, Kennedy and Johnson. His extensive writings have concentrated recently on environmental issues, particularly new town issues.

Robert E. Stein, 32, Attorney Adviser, Legal Adviser's Office, Department of State; served as attorney for U.S. Section of International Joint Commission (U.S. & Canada); previously attorney, U.S. Arms Control and Disarmament Agency; honor graduate, Brandeis University and Columbia Law School. His project deals with methods of organizing transnationally for environmental control with special emphasis on the role that can be played by regional institutions.

(2) Ocean Studies

R. P. Anand, 37, Professor and Head of the Department of International Law, School of International Studies, Jawaharlal Nehru University in New Delhi; author of several books and numerous articles on international courts, arbitration, conflict settlement, developing role of the newly-independent Asian-African countries in the present international legal order, and several other aspects of international law. Is writing a book on "Legal Regime of the Sea-bed and the Developing Countries."

Edward Duncan Brown, 36, Senior Lecturer in International Law at University College, London; Master of Laws with Distinction and Ph. D., University of London (Ph. D. thesis on legal regime of submarine areas); author of The Legal Regime of Hydrospace, 1971, and a number of articles and papers on ocean issues, particularly legal regime of deep sea mineral exploitation, freedom of scientific research, and pollution problems. Is completing a study on Arms Control in Hydrospace and undertaking a comparative study in depth of institutional models for a legal regime for the sea-bed beyond national jurisdiction.

Lucius C. Caflisch, 34, Assistant Professor of International Law, Graduate Institute of International Studies at Geneva, Switzerland. Holds law degrees (Licence en droit and Docteur en droit) from the University of Geneva and a Master of Arts Degree from Columbia University. Has published a book and articles on international law in various periodicals. Is doing research and writing on international legal questions relating to the pollution of the seas.

Moritaka Hayashi, 32, member of study group of ocean exploitation law at Japanese Institution of International Business Law in Tokyo; Lecturer at Hosei University in Tokyo; previous assignments with legislative reference bureau of the Japanese Diet. Has law degrees from both Waseda University in Tokyo and Tulane University in New Orleans, and has done advanced graduate study work at the University of Pennsylvania. Author of several articles and a book on various aspects of the law of the sea, particularly on continental shelf problems. Will do systematic research on Soviet attitudes toward ocean space, deep seabed and ocean floor problems, and the prospects for international cooperation with the West in this area. (Coming March, 1971.)

E. W. Seabrook Hull, 47, marine affairs publicist. President, Nautilus Press, and editor, Ocean Science News, Coastal Zone Management, and World Ecology 2000; previously editor, Underseas Technology; editor with McGraw-Hill, Whaley-Eaton Service; authors of books and articles on oceans; Master of Marine Affairs, University of Rhode Island. Is working on model international regime for prevention, control and clean-up of ocean pollution.

Vladimir Ibler, 57, Professor of Public International Law, University of Zagreb, Yugoslavia. Author of a number of publications on international law, in particular on the law of the seas. Is studying problems arising in connection with the proposed conference on the law of the sea in 1973, especially those of preservation of freedom of the seas.

Gerard J. Mangone, 52, former Vice President for Academic Affairs and Professor of Political Science at Temple University, Philadelphia, is the author, co-author, or editor of some twenty books on international relations. He is Senior Fellow and Coordinator of Ocean Studies at the Woodrow Wilson International Center for Scholars.

P. S. Rao, 27, a graduate of Andhra University, Waltair, India, Rao has just received his doctorate in international law from Yale University. His thesis was on "Legal Regulation of the Exploitation of the Deep Seabed". Is doing research on the international issues involved in offshore natural resources exploitation and world public order.

George E. Reedy, Jr., 52, writer; previously press secretary to President Johnson 1964-65; special assistant to the Vice President 1961-63; staff director, Senate Majority Policy Committee, 1955-60; member of (Stratton) Commission on Marine Science Engineering and Resources (1967-69). Based on his experience on the Stratton Commission and extensive subsequent research, Reedy is writing a book on marine policy problems.

Hideo Takabayashi, 43, Professor of International Law, Ryukoku University, Kyoto, Japan; author of numerous articles and book on maritime and ocean law problems, particularly questions concerning the territorial sea. Is doing study of future regime of the deep seabed and the exploitation of its resources, with special emphasis on the needs of developing countries. (October 1970 - March 1971.)

(3) General Studies

R. C. Anderson, 51, Associate Director, Brookhaven National Laboratory; specialist in chemistry and American Literature; studied role of science in modern society by an interview process with officials in the Executive and Legislative Branches. (October - November 1970.)

Shlomo Avineri, 37, political scientist and historian; chairman of the Political Science Department of Hebrew University in Jerusalem; Ph. D. from London School of Economics (1964). Author of recent works on Marx and Hegel, Avineri wishes to pursue his studies of possible options for the resolution of the Arab-Israeli conflict, with special attention to the role of the Palestinians on whom he is an acknowledged expert. (Coming Sept. 1971.)

Rajeshwar Dayal, 61, former senior fellow at Woodrow Wilson School, Princeton; previously Foreign Secretary and Head of Indian Foreign Service; Special Representative of U. N. Secretary General in Congo and head of U. N. Mission; Indian Permanent Representative to U. N.; High Commissioner to Pakistan; Ambassador to France, Yugoslavia, Bulgaria, Romania and Greece; Minister in Moscow. Is writing book on international peacekeeping, conciliation and mediation, drawing particularly on U. N. Congo experience.

Alton Frye, 33, on leave as Administrative Assistant to Senator Edward W. Brooke; political scientist; writer; Ph. D. from Yale; former staff member of the Rand Corporation. Is writing book on "A Responsible Congress: The Legislative Context of American Foreign Policy", for which he has received a grant from the Council on Foreign Relations.

Jackson Giddens, 35, Assistant Professor of Political Science at MIT; Ph. D. from Fletcher School of Law and Diplomacy. He is studying the origins and effects of Wilson's approach to communications with other nations, particularly the idea of open diplomacy and its implications for American propaganda overseas.

Jules Gueron, 62, Professor, Science Faculty, Sorbonne; specialist in physical chemistry; former Director, French Atomic Energy Commission; former Director General, European Atomic Energy Community. Wants to study (1) process by which U. S. Government science policy is developed; and (2) relevance of U. S. interstate regulating system for European Community. An internationally known physical chemist and science administrator as well as a philosopher and student of comparative political developments. (Coming June 1971.)

Donald L. Horowitz, 31, attorney, U. S. Department of Justice. Law degrees from Syracuse and Harvard Law Schools; Ph. D. in government, Harvard University. Author of several articles on race and ethnic problems. Horowitz plans to undertake research and comparative study at the Center on the politics of ethnic and racial relations in developing countries. The study will center on (1) the sources of ethnic conflict, (2) the patterns of ethnic politics, and (3) the strategies of ethnic accommodations in divided societies.

Robert E. Lane, 53, Political Science Department, Yale University; formerly, chairman of department; President, 1970-71, of American Political Science Association; author of several books and numerous articles on American government and political life; is studying ways in which political science research can become more useful and better known to top Executive and Legislative Branch officials.

Yves-Henri Nouailhat, 35, French historian, writer; Assistant Professor of History at the University of Nantes; is studying relations between France and U.S. between 1914 and 1917 for which he has received a grant from the American Council of Learned Societies.

H. J. Rosenbaum, 29, Assistant Professor of Political Science, Wellesley College, and specialist in Latin American politics and comparative foreign policy. A Ph.D. from the Fletcher School of Law and Diplomacy and author of numerous articles on Latin American Affairs, Rosenbaum is studying recent Latin American security developments and writing a book on Brazilian economic and political development.

Harold I. Sharlin, 45, Professor of History, Iowa State University. Teaches history of science and technology and their influence on American culture; author of numerous articles and of The Making of the Electrical Age (1963), The Convergent Century: The Unification of the Sciences in the Nineteenth Century (1966), forthcoming work on Lord Kelvin. Is working on the role of 19th century science and technology in the formation of American attitudes and beliefs.

Kurt R. Spillmann, 33, Switzerland, specialist in American History at University of Zurich; holder of research followship at Yale University, 1969-70; author of several publications, including articles on Wilson and Roosevelt. Studying "motives and goals of the peace concepts of Woodrow Wilson and Franklin D. Roosevelt: a case study of the gap between long-range objectives on foreign policy and the realities of making peace."

David Wise, 40, author and journalist, Washington, D.C.; formerly Washington Bureau Chief, New York Herald Tribune; co-author of The U-2 Affair (1962), The Invisible Government (1964), The Espionage Establishment (1967); and Democracy Under Pressure (1971), a college textbook on the American political system; numerous articles in leading newspapers and magazines. Studying processes through which government-decision making and action, especially in the field of foreign policy are - or are not - translated into public information and public support.

B. Guest Scholars

Lynton K. Caldwell, 57, political scientist; professor of government at Indiana University; author of a number of books and publications on bio-politics, science, ethics and public policy and articles over several years on environmental questions. Now working on book on "Protecting the Biosphere: International Organization for Environmental Control" for publication in 1972 prior to U.N. Environmental Conference. Based on considerable travels books will concentrate on international understanding, cooperation and arrangements necessary for combatting environmental problems on international scale, influence of international business, science and technology and limitations of present international structure. Will conduct and participate in planned series of seminars at Center in 1971 on international environmental issues.

Aaron L. Danzig, 57, attorney, senior partner in law offices of Nemeroff, Jelline, Danzig, Paley and Kaufman, New York City; A.B. and LLB Columbia; LLM New York University; President, U.S. Financial Co., Inc., New York City; charter member World Peace through Law Center; chairman of U.N. Charter Commission; member Commission to Study Organization of Peace. Author of books and articles, including draft legal regimes on seabeds, U.N., etc. Plans to spend three weeks at Center developing treaty proposal on ocean pollution matters.

Wilton S. Dillon, 47, anthropologist and educator, Smithsonian Institution, former director of seminars, now attached to Office of Environmental Sciences. A former university teacher and foundation executive, Dr. Dillon spent six years at the National Academy of Sciences, Washington, D.C., helping to organize international cooperation on science and technology in developing countries. He is author of Gifts and Nations, and co-editor, Man and Beast: Comparative Social Behavior. He is presently working on an essay about the management of science diplomacy, and a book on intellectual life in Africa.

Rene Jules Dubos, 69, micro-biologist and leading environmentalist; professor at Rockefeller University in New York City; first to demonstrate feasibility of obtaining germ-fighting drugs from microbes more than twenty years ago. Noted author of fourteen books, including Pulitzer Prize in 1969 for "So Human an Animal". Dubos has been concerned with the effects and environmental forces--physicochemical, biological and social--exerted on human life. His interest in the biological and mental effects of the total environment has involved him in the sociomedical problems of the under-privileged communities as well as the developed areas of the world. Dubos has indicated he will devote "ample time to participate in the activities of the Woodrow Wilson International Center" in defining environmental study objectives and in helping to find and select the scholars who would like to work on these problems at the Center in its opening year.

V. A. Fedorovich, 46, U.S.S.R., has higher degrees in both engineering and economics and has taught political economy at the University of Moscow. Currently a research fellow at Institute of U.S.A. in Moscow, Fedorovich is a specialist in science policy and is gathering data on U.S. government system of research and development contracting in science. (January - February 1971.)

Terrence R. Hutchins, 33, has degrees in history and law from Pembroke State University and Wake Forest University. American Council on Education Fellow, 1969. Conducting research on the impact of federal involvement in the education of American Indian students. (In December, 1970.)

Albert Koers, 28, Holland, visiting Assistant Professor of Marine Affairs, University of Rhode Island. Degree in law from University of Utrecht, Netherlands. Presently on leave from his position as research associate, Institute for International Law, University of Utrecht. Mr. Koers is spending regularly several days per month at the Center in collaboration with Fellow, Seabrook Hull on an ocean studies project.

Peter H. Sand, 35, Legal Officer in Charge of Environmental Protection, Food and Agriculture Organization of the United Nations, Rome, since 1970; previously member of Faculty of Law of McGill University, Montreal, Canada, 1968-70; Haile Sellassie University, Ethiopia, 1965-68; coming September - October 1971.

Ludwik Kos-Rabcewicz-Zubkowski, 67, Associate Professor of Criminology, University of Ottawa; to engage in a comparative study of the fundamental rules of treatment of juvenile delinquency in NATO countries; coming April - May 1971.

Edward Wenk, Jr., 50, professor of engineering and public affairs, University of Washington; Chairman, Committee on Public Engineering Policy, National Academy of Engineering; formerly executive secretary (1966-70), National Council on Marine Resources and Engineering Development; leading authority on multiple policy aspects of ocean uses; first advisor on science and technology, Legislative Reference Service, Library of Congress; Executive Secretary of Federal Council for Science and Technology; Director of Engineering in civil engineering, Johns Hopkins. Dr. Wenk is spending regularly two days a month on ocean studies at Center.

Att. 2

Board of Trustees*

The Hon. Hubert H. Humphrey, Chairman

_____, Vice Chairman (Vacancy)

Hon. William P. Rogers, Secretary of State

Hon. Elliott L. Richardson, Secretary of Health, Education & Welfare

Hon. Wallace B. Edgerton, Acting Chairman, National Endowment for the Humanities

Hon. S. Dillon Ripley, Secretary of the Smithsonian Institution

Hon. L. Quincy Mumford, Librarian of Congress

Hon. James B. Rhoads, Archivist of the U.S.

_____ (Vacancy)

Mr. James MacGregor Burns, Williamstown, Mass.

Mr. Ernest Cuneo, Washington, D. C.

Mr. Kevin Roche, New Haven, Connecticut

Mr. Charles Horsky, Washington, D. C.

Mr. Harry C. McPherson, Jr., Washington, D. C.

Mr. John P. Roche, Waltham, Mass.

Att. 3

WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

Members of Advisory Committee

Eugenie Anderson
Dwayne Andreas
Robert C. Baker
William Benton
Ralph J. Bunche
Harry Byrd, Jr.
William Cahill
Clifford Case
James E. Cheek
Hedley Donovan
John Eisenhower
Milton S. Eisenhower
Edwin D. Etherington
Luther H. Foster
Peter Frelinghuysen
John Gardiner
R. K. A. Gardiner
Robert F. Goheen
W. Averell Harriman
Linwood Holton
Chester R. Huntley
Austin Kiplinger
Arthur Larson
W. Price Laughlin
Henry C. Lodge, Jr.
C. Peter McColough, Chairman
Robert S. McNamara
James R. Martin
Takeo Miki
G. William Miller
Jean Monnet
David A. Morse
Lester B. Pearson
Claiborne Pell
Nelson Poynter
Stuart T. Saunders
Francis B. Sayre, Jr.
Edgar F. Shannon, Jr.
Cyrus R. Smith
William Spong
Frank Stanton
Arthur Ochs Sulzberger
Frank Thompson
Stewart L. Udall
Earl Warren
Walter Washington
Harrison Williams
Harold Wilson

Non-U.S. (Hon.)

H. R. H. the Prince of The Netherlands
Willy Brandt, Chancellor, Federal Republic of Germany
Edward Heath, Prime Minister, United Kingdom
Alec Douglas-Home, Secretary of State for Foreign & Commonwealth Affairs, United Kingdom
H. I. M. Mohammad Reza Pahlavi, Shah of Iran
Galo Plaza, Secretary-General, Organization of American States
Eisaku Sato, Prime Minister, Japan
Walter Scheel, Minister of Foreign Affairs, Germany
Maurice Schumann, Minister of Foreign Affairs, France
Mitchell Sharp, Secretary of State for External Affairs, Canada
Pierre Elliot Trudeau, Prime Minister, Canada

Att. 4

Members of Advisory Panels of Woodrow Wilson Center
on Appointment of Scholars--March, June & December, 1970

Lewis Alexander, Geographer, Law of the Sea Institute, University of Rhode Island

Marver Bernstein, Dean, Woodrow Wilson School, Princeton

Daniel Boorstin, Director, Museum of History & Technology, Smithsonian Institution

Francis T. Christy, Jr., Resources for the Future

Alexander Clark, Acting Executive Secretary, Division of Behavioral Sciences, National Academy of Sciences

Henry David, National Research Council, National Academy of Sciences

John Dixon, Applied Devices Corporation

Max Frankel, New York Times

Peter Grose, New York Times

O. B. Hardison, Jr., Director, Folger Shakespeare Library
Louis Henken, Professor of Law, Columbia University Law School
Robert E. Lane, President, American Political Science Assn.

Margaret Mead, Anthropologist

Henry Riecken, President, Social Science Research Council

Hedrick Smith, New York Times

William Trainor, Department of State

Gordon Turner, American Council of Learned Societies

John Voss, Executive Secretary, American Academy of Arts & Sciences

Att. 5

March 1, 1971

List of Private Donations
to Woodrow Wilson International Center for Scholars
(*to National Endowment for the Humanities for use of WWICS under $65,000 matching grant. Total matched to date: $48,125.00)

Date Received	Donor	Amount
4/1/69	Ford Foundation	$45,000.00
3/3/70	C. R. Smith	500.00
6/4/70	C. R. Smith	500.00
5/11/70	Occidental International Corp.	1,000.00
5/27/70	J. D. Bowerstock	75.00*
5/28/70	Harold Linder	1,000.00
	Bureau of National Affairs	100.00
	Charles F. Baird	25.00
6/12/70	Ford Foundation	17,000.00*
6/17/70	Arthur D. Little Foundation	100.00
6/19/70	The Andreas Foundation	10,000.00
7/21/70	Seymour J. Rubin	50.00*
8/3/70	I.B.M. Corporation	10,000.00*
8/13/70	Riggs National Bank	250.00
9/4/70	Jacob Blaustein	2,500.00
9/15/70	American Council of Learned Societies (Nouailhat)	500.00
9/23/70	Ford Foundation (Haskell Project)	95,000.00
9/28/70	New York Times Foundation (Library)	5,000.00
10/7/70	G. William Miller	1,000.00*
11/2/70	Xerox Corporation	15,000.00
11/9/70	Cafritz Foundation ($10,000 fellowships*; 5,000 library)	15,000.00
11/10/70	Paul Ignatius	100.00
11/30/70	Poynter Foundation	5,000.00
12/14/70	Anonymous	1,000.00
1/4/71	Merck & Co., Inc.	1,000.00
1/11/71	American Council of Learned Societies (Nouailhat)	500.00
1/21/71	Electronics Corp. of America	500.00
1/26/71	Scovill Manufacturing Co.	500.00
1/27/71	Cameron-Brown Co.	100.00
2/17/71	C. Peter McColough	1,141.42
2/22/71	Caterpillar Tractor Co.	500.00
2/23/71	I.B.M. Corporation	10,000.00*
	National Endowment for Humanities	48,125.00
	TOTAL	$288,066.42

General Statement

Mr. Read. Thank you, Madam Chairman.

I welcome the chance to report to you and the members of the committee on the opening of the Woodrow Wilson Center and our plans for the coming year.

With your permission, I would like to take 2 or 3 minutes to highlight the first 5 months of operation of the Center's fellowship and guest scholarship programs.

After rather strenuous planning, preparations and fund raising efforts by the Board of Trustees, advisory committee and staff, the Center opened on October 19, 1970.

FIRST SCHOLAR APPOINTMENTS AND ACTIVITIES

We are exceptionally pleased with the first scholars chosen by the Board on the advice of expert advisory panels. Since the Center is the group of men and women who constitute the "living memorial" to Woodrow Wilson, I hope you will have a chance to look at the list of the first 39 fellows and guest scholars appointed as of March 1, with individual bio and studies information shown in attachment 1 of my formal statement which has been put in the record. Five additional appointments have been made since March 1, and we will soon be acting on a number of new and promising applications.

Let me try to summarize the makeup of the scholars appointed to date and the reasoning that led to their choice:

First, they are strongly international. Approximately half of the first scholars appointed come from the United States; half from 11 other countries: Australia, Canada, France, Holland, India, Israel, Japan, Switzerland, United Kingdom, U.S.S.R., and Yugoslavia. In the applications now being considered, I am glad to report that there are scholars from Latin America and Africa as well.

Second, they come from many nonacademic professions and occupations—government, law, business, journalism, diplomacy—as well as from a variety of the traditional academic disciplines, including the social sciences, humanities and natural sciences. The Board felt strongly that no one discipline or occupation has a monopoly on "the world of learning," to use the wording of our statute, and that persons of intelligence and experience from many walks of life were needed to gain insights and answers to today's complex and interrelated problems. Among those at the Center currently are two heads of American learned societies, a diplomat, several international lawyers, three journalist/writers, a Congressional Administrative Assistant, four contemporary historians, an urban expert, and three drawn from Government careers, and others whose bio's are shown.

Third, they are given short as well as long terms of appointment—from 3 weeks to 18 months (averaging 10 months) in the first group to try and facilitate participation by busy professional people as well as traditional scholars with well developed study projects.

Fourth, the scholars are chosen without consideration of arbitrary age limits, and the first scholars range in age from 27 to 69, and average just under 40.

Mrs. HANSEN. Have you talked to John Gardner about how he feels about having scholars over 60?

Mr. READ. Well, John Gardner has been an adviser of the Center, and, if I recall correctly, he favored a wide spread of ages among the scholars to be invited to the center.

Mrs. HANSEN. He just doesn't believe in Congressmen being over 60.

Mr. READ. Fifth, the scholars work individually as well as in groups. Ten appointments have been awarded to those working on problems relating to the increase of international understanding, law, and cooperative practice in the uses of the oceans. Six are working on broader environmental issues. Thirteen others are pursuing various individual contemporary studies as shown on the list of appointments.

As Senator Humphrey, our board chairman, reported to President Nixon at the Center's official dedication last month:

> The scholars are appointed to the Center primarily for what they can contribute . . . to the better understanding and solution of significant contemporary, international, governmental, and social problems.

Weekly seminars in the two areas of specialty, biweekly noon discussion hours, occasional evening dinner discussion meetings—with resident scholars and frequent guests as speakers—a variety of papers, articles, and books, some accepted for early publication, have all been part of the developing institutional life of the Center. Some of the scholars have given outside lectures and appeared on radio and television panels. All scholars accepting appointment agree in advance to share the insights and work undertaken here with their colleagues and a wide audience on a regular basis.

INTERIM QUARTERS

The interim quarters for the Center generously provided by the Smithsonian Institution are excellent in all respects.

Mrs. HANSEN. Where are your interim quarters located?

Mr. READ. The third and fourth floors of the central part of the old castle, Mrs. Hansen, have been allocated to the Center, and we are very well set up there in terms of physical quarters. It is just right. The offices, library, meeting and commons rooms are ideal for scholars' uses, and the relationship with the Smithsonian is, I believe, a mutually happy one.

FUNDING

Proceeding to the funding request, which is discussed in the second half of my statement, we are requesting an appropriation of $683,000 for the Center for fiscal year 1972. This is $67,000 less than the $750,000 appropriated for fiscal year 1971, or $63,000 above the $620,000 actually apportioned by the Office of Management and Budget in the current fiscal year.

Mrs. HANSEN. How much was appropriated last year?

Mr. READ. $750,000.

Mrs. HANSEN. How much did you receive?

Mr. READ. $620,000.

Mrs. HANSEN. What happened to the rest of the funds?

Mr. READ. It has been held unapportioned by the Office of Management and Budget.

Mrs. HANSEN. Why?

Mr. READ. They told us that it could not be expended during this fiscal year, but that it would be freed as of July 1, 1971.

Mrs. HANSEN. Why?

Mr. READ. The rationale was not presented. It was the total apportionment figure that we received.

The increase in the appropriation now requested is due almost exclusively, I think it is fair to say, to the 12-month operation of the Center for the next fiscal year as opposed to 8½ months operation in fiscal year 1971.

As indicated, we propose to spend or commit $332,000 of the requested funds plus the $130,000 available in the unobligated balance at the end of the fiscal year—or a total of $462,000 for 20 full fellowships to begin in fiscal year 1972 or subsequently.

The Board, Advisory Committee headed by Mr. C. Peter McColough, president of Xerox, and staff will attempt to raise funds from private sources to finance an additional 20 fellowships in the same period to bring the Center up to the full capacity of 40. As of March 1, as shown on the last attachment to my statement, $288,000 had been raised from private sources.

The $351,000 fiscal year 1972 appropriation requested for administrative expenses is detailed on page 4 of the justification submission. This is an increase of $11,000 over estimated fiscal year 1971 administrative expenses.

Mr. Dunn and I would be pleased to try and answer any questions.

JUSTIFICATION MATERIAL

Mrs. HANSEN. Please insert justification pages 1 through 5 in the record at this point.

(The justifications follow:)

WOODROW WILSON
INTERNATIONAL CENTER FOR SCHOLARS

GENERAL STATEMENT

The Woodrow Wilson Memorial Act, approved on October 24, 1968, (Public Law 90-637) established the Woodrow Wilson International Center for Scholars as the nation's official living memorial to the 28th President. The Center was placed in the Smithsonian Institution under the direction of a 15-man, mixed private and public Board of Trustees, subsequently appointed by President Johnson and President Nixon. Former Vice President Hubert H. Humphrey was designated Chairman of the Board.

After a seven-month planning period the Board of Trustees approved at its fall 1969 meeting the opening in October of 1970 of fellowship and guest scholar programs in space made available for the interim use of the Center in the newly renovated, original Smithsonian Institution building on the Mall.

In the fall, winter and spring of 1969-70 the Board of Trustees authorized the publication of notices about the programs of the Center, and the Center staff disseminated information about the programs widely by correspondence with colleges and universities in every state and a large list of individuals and institutions here and abroad, including several Fulbright-Hays binational commissions and foundations in other countries with the consent of the Secretary of State. Hundreds of nominations and applications were received throughout this period and processed by the staff to obtain references, interviews whenever possible and writings of the fellowship candidates. After obtaining the recommendations of outside academic advisory panels on the files of leading candidates, the Fellowship and Guest Scholar Committee of the Board of Trustees approved in March, June and December the issuance of 29 invitations for fellowship appointments which have been accepted by the recipients. Other outstanding applications have been received subsequently and more are expected in the months ahead, which will be processed in the same manner.

The scholars are undertaking work in three principal areas: (1) the increase of understanding, law and cooperative practice between nations in the uses of the oceans; (2) man's overall relations to his deteriorating environment, particularly the international institutional arrangements which must be worked out to resolve environmental problems transcending boundaries; and (3) general studies under the Center's basic theme of "increasing man's understanding of significant international governmental and social problems and improving the organization of society at all levels to meet such problems".

The terms of appointment vary from a few weeks to more than a year in duration; the average to date being more than ten months (6 weeks - 18 months). The average age of the fellows is 39. Half of the first fellows appointed come from the United States; the other half from nine other countries (Australia, England, France, India, Israel, Japan, Korea, Switzerland and Yugoslavia). The first scholars come from the social and behavioral sciences, the humanities, the natural sciences, and careers in government, law, diplomacy and journalism.

In addition, the Center has a small guest scholar program under which eminent visiting scholars, particularly those expert in the fields being emphasized at the Center, are welcome to work for brief periods of stay in Washington.

In response to strong urging received during the legislative hearings, planning, congressional appropriation hearings and subsequent stages, the Center is sponsoring a series of seminars, dinner discussions and lectures to which members of the Executive and Legislative branches, the Diplomatic Corps and the public are invited on a fairly regular basis.

Funding

Section 6 of the legislation creating the Center authorized the appropriation "to the Board" of "such funds as may be necessary to carry out the purposes of the Act" and directed the Board to raise money from private sources as well.

Funding for planning, administrative and preparatory operations from March, 1969, through June 30, 1970, were based on the following sources:

Ford Foundation Grant.....	$45,000
Federal Appropriations for Fiscal Year-70 ($100,000) Actually Obligated.....	90,799.74

In addition, the State Department transferred $25,000 to the Smithsonian Institution, which was obligated in fiscal year 1970, to support in part the fellowship appointments at the Center of four duly appointed non-US scholars who arrived during fiscal year 1971.

For preparation and operation (from October 19) of the Center during fiscal year 1971, Congress appropriated $750,000. On September 1, 1970, $620,000 was apportioned for the Center's use by the Office of Management and Budget for the administrative expenses of staffing and equipping the Center and for support of the fellowship program.

In addition, the congressional appropriation committees specifically approved the extension of a $65,000 matching grant to the Center from the National Endowment for the Humanities to support the Center's fellowship program of scholarship in the humanities. As of January 1, 1971, the Center had raised $38,125.00 of private donations to the NEH so that an additional like amount of matching funds have been made available for the fellowship program. In addition, the Center had raised $100,075.00 of general purpose donations and $87,500 of special purpose private contributions as of the same date for a total of $263,825.00 in private support.

WOODROW WILSON
INTERNATIONAL CENTER FOR SCHOLARS

1970 Appropriation..... 0*
1971 Appropriation.....$750,000.00
1972 Estimate..... 683,000.00

Without consideration of the anticipated $130,000 unobligated fiscal year 1971 balance, the $683,000 requested for fiscal year 1972 is $67,000 below the $750,000 appropriated in fiscal year 1971 and $63,000 above the $620,000 actually apportioned by the Office of Management and Budget in fiscal year 1971. When the $130,000 unobligated balance is added to the $683,000 requested for fiscal year 1972, the combined total of $813,000 is $193,000 above the $620,000 apportioned in fiscal year 1971 or $63,000 above the fiscal year 1971 appropriation. The increase is due almost entirely by virtue of the twelve month operation of the Center in fiscal year 1972 as opposed to 8 1/2 months of operation is fiscal year 1971.

The $683,000 requested will be spent as follows:

Fellowship Program..... $332,000

The sum requested plus the $130,000 available in the unobligated balance at the end of fiscal year 1971 will permit the Center to commit funds during fiscal year 1972 for 20 full fellowships to begin during fiscal year 1972 or fiscal year 1973 at an average anticipated cost of $23,100.00 apiece for stipends and travel. The anticipated costs are based on the same average yearly rate experience levels on which the fiscal year 1971 budget estimates were made with the addition of a five percent actual cost for handling bookkeeping, disbursements and accounting.

The Center's stipend policy, which was approved by the Board of Trustees and spelled out in detail in 1970 submissions to the appropriation committees, is based on the precedents used by the Center for Advanced Study in the Behavioral Sciences (Palo Alto) and the Adlai Stevenson Institute of International Affairs. Each appointed fellow is asked first to devote his sabbatical leave or other earned income during the fellowship period toward his support while at the Center and to seek outside foundation or other support for his study proposal whenever possible. Thereafter, the Center's policy is to attempt to provide the fellow with a stipend rate which would be a no-gain no-loss figure over his earned income rate in the preceding year within set limits (maximum $25,000 offered to date; $30,000 authorized) and with a cost-of-living increase for non-U.S. scholars to bring them to an equivalent stipend with U.S. scholars of comparable position.

Most scholars of the stature appointed by the Center to date simply cannot be expected to come at a lower average stipend figure and many will come at a loss because of the preset limit, even though many of them will be devoting sabbatical or leave pay, foundation funds and other outside income to their support during the period of appointment at the Center. The highest stipends offered at the Center for Advanced Study in the Behavioral Sciences, the Fogarty Center (NIH), the Princeton Institute for Advanced Study and the Adlai Stevenson Institute

* $100,000 for Woodrow Wilson Center was included in Smithsonian's "Salaries and Expenses", Fiscal Year 1970.

are all higher than those offered by the Center to date. The most recent data of the American Association of University Professors shows that in the academic year 1969-70, ten percent of all universities in the U.S. had a mean compensation for full professors above $23,970.

In addition, the Center offers reimbursement of travel expenses for American carrier, round-trip, direct route, jet economy fare for the fellow and his accompanying dependent family members between his home city and Washington.

As in the present fiscal year, the Center's goal in fiscal year 1972 will be to raise an equivalent amount of private monies for support of the fellowship program to fund an additional 20 fellowships and to bring the Center up to full complement of 40 scholars. The "critical mass" for the Center according to the best advice we have been able to gather is a minimum of 20 to 40 scholars at all times. Without such a minimum number it would be hard for the Center to establish a fully satisfactory intellectual life of its own.

At a meeting of the Board of Trustees Executive Committee on September 23, 1970, it was decided that the Center, OMB and Congressional fiscal year 1972 budget presentations should state as a general principle that the Center would not request public appropriations for more than twenty full fellowships in any given year during the occupancy of present interim quarters, and the Board and staff would attempt each year to raise funds from the private sector to finance an additional equal number of fellowships. The Center's fund raising capability and experience will be fully tested in the months ahead, and a major corporation and foundation fund drive is now being launched.

The experience of other centers and the Wilson Center to date indicates that the heavy majority of appointments must be made many months in advance of the date of the beginning of the period of appointment, and for this reason the Center is requesting the same "no year" provision for the fiscal year 1972 federal appropriation with Congress provided in the Center's appropriation for fiscal year 1971.

Administrative Expenses $351,000

The $351,000 request for administrative expenses of the Center in fiscal year 1972 represents an increase of $11,000 over the sum estimated for this purpose under the figure apportioned for fiscal year 1971.

The breakdown of this figure is as follows:

(1) Staff Salaries - 5 substantive; 10 clerical

1 Director (GS-18)	35,505	
1 Deputy Director (GS-16)	27,432	
1 Administrative Officer (GS-13)	17,878	
1 Librarian (GS-12)	14,665	
1 Information Center Officer (GS-11)	12,302	
10 Secretaries for staff, fellows and guest scholars (GS-9, 1 GS-8, 1 GS-7, 7 GS-5/6 at $7500 @)	80,000	
1 Equivalent part-time GS 5/6 secretarial	6,879	
	194,661	
	14,339	
	209,000	209,000

(2) Furnishings, Equipment, Supplies, etc.

(a) Furnishings and Equipment	10,000	
(b) Supplies	10,000	
(c) Reference Library (books and periodicals)	23,000	
(d) Printing	9,000	
(e) Travel (trustees, staff and scholars)	15,000	
(f) Consultations (scholar coordinators, fund raising, guest scholars)	30,000	
(g) Seminars, dinner discussions, lectures	20,000	
(h) Permanent Site Selection Scholar Survey	13,500	
(i) Phones	7,500	
(j) Other (postage, etc.)	4,000	
	142,000	142,000
		351,000

A. Staff Salaries

The Center is budgeting in fiscal year 1972, except for the addition of limited part-time secretarial help, for the same number of permanent positions (15) as to be employed in the current fiscal year: 5 professionals; 10 clerical and one part-time clerical--$209,000. The cost increase of $26,000 over estimated current fiscal year costs is due to anticipated in-grade promotions and the added year-round cost for the pool secretaries for the fellows, who are on the rolls for only part of the current fiscal year but the entire year in fiscal year 1972. The need for additional part-time clerical assistance is anticipated because of the expected cyclical nature of the workload. Clerical help positions included are designed to permit the Center to assign one secretary to every 4 or 5 scholars, which is ratio found acceptable at other centers of advanced studies. The proposed staff arrangement appears minimal to run the Center, process the heavy flow of applications and scholar selection procedures--which are often as onerous for unseccessful as for successful candidates--and to provide the essential services approved by the Board of Trustees for the fellows, guest scholars and members of the public.

B. Other Administrative Expenses of $142,000 are largely self-explanatory.

The proposed scholar survey item, which will be undertaken jointly with the Archives and Library of Congress, will attempt to develop the first precise information about the resident and transient post-doctorate scholars in the Washington area, their work habits and residential arrangements. This information is needed to provide basic data for an intelligent choice of a permanent site for the Center, as directed in the Woodrow Wilson Memorial Act. The furnishings and equipment item is, of course, a fraction of the current fiscal year costs, since the Center will have acquired during the current fiscal year the major share of needed physical assets, other than basic reference library acquisitions which will be spread over three years.

FELLOWSHIP EXPENSES

Mrs. HANSEN. What is your average fund allowance for a fellowship?

Mr. READ. The average we are estimating, Mrs. Hansen, is $23,100 for a full year of fellowship, although as I have explained, some fellowships are for shorter periods than a year and some are longer. The estimate is based on the experience of four or five other advanced study centers in the country, and we are using their average experience table to date. I do not know yet whether our own experience will place us under or above that estimated average at the end of 1 full year.

LENGTH OF APPOINTMENTS

Mrs. HANSEN. I notice in your statement you had a Mr. Stephen V. Boyden from Australia, head of urban biology group at Australian National University as one of your scholars. How long was he at the center?

Mr. READ. He was there for 3 months, Madam Chairman.

Mrs. HANSEN. How long will Douglas Costle be at the center?

Mr. READ. Doug Costle joined the center on February 1 this year and will be with us for 1 year.

Mrs. HANSEN. How long has Elizabeth Haskell been at the center?

Mr. READ. She came when the center opened on October 19 and will be with us until the end of this calendar year. Her work is very largely financed by a Ford Foundation grant.

INDIVIDUAL FINANCIAL SUPPORT

Mrs. HANSEN. Do your private contributors stipulate what they want funded?

Mr. READ. Some do and some do not, Mrs. Hansen.

Mrs. HANSEN. So the Federal Government funds what the private sector doesn't want to fund?

Mr. READ. In each case when the scholar has been approved by the Board——

Mrs. HANSEN. Your board of trustees approves the scholars?

Mr. READ. Yes. We ask the scholar to devote any sabbatical or leave pay he may get from his home institution toward his support during his appointment at the center. Then we ask him to go out and try to get foundation or other private support, if he has a well-developed study project. Above and beyond that, we attempt to bring them up to a no gain-no loss posture over the preceding year earned income average within obvious limits. The highest stipend to date authorized by the board is $30,000. We do give a cost of living adjustment to those from abroad who obviously could not live on a comparable scale with the U.S. scholars at the center if we didn't have an adjustment factor.

DURATION OF APPOINTMENTS AND SCHOLARLY PRODUCTS

Mrs. HANSEN. I notice in your statement that a Mr. Hull, a Marine Affairs publicist, President of Nautilus Press, and the editor of Ocean

Science News, is working on model international regime for prevention, control and clean up of ocean pollution. How long has he been at the center?

Mr. READ. He came about November 1 and will be with us through June.

Mrs. HANSEN. You have people working on seabed treaties. You have people working on a variety of marine problems. You have one scholar working on a variety of marine problems. You have one scholar working on "The concept of order." That should be an intriguing document.

Mr. READ He is our one philosopher to date——

Mrs. HANSEN. He is a philosopher?

Mr. READ. Yes, from Emory. He has added an important dimension to our environmental discussions.

To try and respond to your question, each of them agreed in coming to the center to share their findings, the insights and the proposals they might come up with, not only with the people at the center as they go along but with a broader audience, with occasional public panels. The articles, books, and transcripts that they are working on while here will, if the trustees' judgment was correct in approving their study proposals be of public benefit when they appear.

In some cases we will be helping them get out their articles and writings and mailing them widely to a list of institutions and persons that we know to be interested in the subject matter.

Mrs. HANSEN. George Reedy, previously press secretary to President Johnson, is working on a book on marine problems. How long is his appointment?

Mr. READ. He has a 1-year appointment. It runs through October of 1971.

Mrs. HANSEN. Is he doing a book on marine policy problems?

Mr. READ. Yes, he was a member of the Stratton Commission on Marine Resources and Development and worked on marine questions rather extensively in his last years at the White House.

Mrs. HANSEN. You also have a Mr. Alton Frye, an administrative assistant to Senator Edward Brooke at the center. He is a political scientist, a writer from Yale, a former staff member of the Rand Corporation. He is writing a book on "A Responsible Congress." How long is his appointment?

Mr. READ. He came in December and will be with us for 1 year. He has also received an appointment by the Council on Foreign Relations from this same year, and the Center is sharing the funding of his effort with the Council.

Mrs. HANSEN. You also have a Mr. Jules Gueron at the Center. He is a specialist in physical chemistry, studying the process by which U.S. Government science policy is developed. How long is his appointment for?

Mr. READ. He comes for the summer months of this year.

Mrs. HANSEN. It is going to take him longer than 3 months to discover who develops the science policy.

How long will Mr. Horowitz from the Department of Justice be at the Center?

Mr. READ. Mr. Horowitz is the latest scholar to join the Center. He joined us in February and will be with us for a year.

Mrs. HANSEN. You also have a Mr. Rosenbaum, a specialist in Latin American policy and comparative foreign policy at the Center. He is studying recent Latin American security developments and Brazilian economic and political developments. How long will he be at the Center?

Mr. READ. That is a 1-year appointment also, Madam Chairman. He began in October of last fall.

Mrs. HANSEN. How long will Mr. Spillmann of Switzerland, a specialist in American History be at the Center?

Mr. READ. He came with us when the Center opened and he is leaving in June.

Mrs. HANSEN. How long will David Wise of the New York Herald Tribune be at the Center?

Mr. READ. That is a 1-year appointment running from October of 1970 to October of this year.

Mrs. HANSEN. He is studying processes through which Government decisionmaking and action, especially in the field of foreign policy, are or are not translated into public information and public support.

Mr. READ. His particular concern is with the public affairs handling of news and information by the major Government departments.

GUEST SCHOLARS

Mrs. HANSEN. How long will Mr. Danzig, an attorney be at the Center?

Mr. READ. You are now on the guest scholar list. These are scholars who visit the Center occasionally, or for short periods of time when there are available spare desk facilities. Mr. Danzig spent 3 weeks with us last fall. He did a model ocean pollution code. Since then he has come down for occasional seminars at his own expense.

Mrs. HANSEN. Is the fund allowance for each scholar proportionate to the amount of time he or she is at the center?

Mr. READ. Yes, but in most cases on the guest scholar list, there is no funding whatsoever. They are simply using facilities when there is space. Some receive expenses when they are doing work closely related to the work that is going on at the center, as in Mr. Wenk's case.

Mrs. HANSEN. Are the guest scholars allowed transportation expenses?

Mr. READ. Yes, and minimal living expenses while in town, when their work relates to the ocean or environment.

PRIVATE FUNDS

Mrs. HANSEN. You received about $288,000 from private sources. Do you expect your private contributions to increase?

Mr. READ. That is our goal. It has been heavy going, but that is our goal.

Mrs. HANSEN. Does the economy of the United States have something to do with that?

Mr. READ. It hasn't helped us one little bit. Until we had a going center in October we had minimal success. But I am hoping that there will be considerable improvement.

Mrs. HANSEN. Do you feel there will be increased contributions in 1972 from foundations?

Mr. READ. Yes, hopefully, and from major corporations. Mr. McColough of Xerox, chairman of Advisory Committee, helped us enormously in this fund-raising effort.

ADVANCE COMMITMENTS

Mrs. HANSEN. Your appropriation language provides that the appropriation shall remain available until expended. What is the rationale for this provision?

Mr. READ. The rationale, Madam Chairman, is that in many cases scholars apply to us to come months and months in the future. Particularly the academic ones make their plans far more in advance than people in public affairs do. If we didn't have this ability to make a commitment to them by virtue of that provision in the law, we would have a very difficult time giving them the commitments that they ask for sufficiently in advance. They are just accustomed to doing things this way in the academic world.

COMPARISONS WITH OTHER PROGRAMS

Mrs. HANSEN. Is your organization unique, or are there other organizations that conduct similar programs?

Mr. READ. The Center is unique in the combination of factors that make it up. If I may spell it out in a little detail, there is no other Center, for instance, in which there is an approximate 50–50, United States and non-United States participation. We want the Center to be more than token international.

Then there is no other advanced study center in which there is the same mix of academic and nonacademic scholars. We happen to feel nonacademicians have as much to contribute as academicians to the studies we are sponsoring.

Third, I think we are different in terms of our policy of concentrating on contemporary issues. Other advanced study centers are doing more theoretical, basic research on subjects which are not necessarily of potential early yield to the public. We also are different in having no arbitrary age limits, but I am glad to say there has been no generation gap problem so far.

BENEFITS FROM PROGRAM

Mrs. HANSEN. What are the benefits that you expect will eventually accrue from this program?

Mr. READ. New insights, and hopefully some new answers to some very tough questions.

Mrs. HANSEN. In what fields?

Mr. READ. Hopefully the ones we are concentrating on. In the first instance, in the better uses of the oceans and broader environmental questions, particularly the international ones. There is a U.N. Environmental Conference at Stockholm next year, and I hope we will have a contribution to make to that conference.

Other Center scholars are doing studies on a wide variety of public issues.

TRAVEL

Mrs. HANSEN. Do your scholars, during their stay in the United States, participate in discussions throughout the country?

Mr. READ. It has been limited to date, but some of them have participated in lectures and panel discussions elsewhere. Part of the stipulation when they accept our appointment is that it is for full-time studies here in Washington, unless travel seems to be of direct importance to their work at the Center. Then it's a matter of individual discussion in each case, because we did not want to and could not finance many side trips to places throughout the country.

Mrs. HANSEN. You know there is a world beyond the Appalachian Mountains. I can see where you might well participate in a panel discussion, for example, in Denver, Los Angeles, Seattle, or Portland.

Mr. READ. Some of them have done that. To date it has been very limited. I have not agreed to much travel because of the expense and the whole concept of the fellowship program, which the Board approved, of full-time studies in Washington.

OCEAN STUDIES PROGRAM

Mrs. HANSEN. In the marine field, we are having some very important discussions right here in this committee on uses of the ocean.

I would think your scholars could make a contribution in the discussions from a scholastic, intellectual viewpoint, that might be a fresh approach.

Mr. READ. I think that is true, and I think that it's a viewpoint that doesn't exist elsewhere in Washington, for instance, in the ocean field. If it meets with your approval, I might put in the record at this point a list of the activities of the ocean scholars to date.

Mrs. HANSEN. Please do.

(The information follows:)

REPORT OF OCEAN STUDIES PROGRAM ACTIVITIES

October, 1970 - March, 1971

Date	Speakers	Subject
5 November, 1970	E. W. Seabrook Hull	Exploitation of the Resources of the Seabed
10 November, 1970	Edward Wenk, Jr. Professor of Engineering and Public Affairs University of Washington	Development of National Ocean Policy over Last Decade - leading to NOAA
12 November, 1970	E. D. Brown	Arms Control and the Sea
19 November, 1970	Lucius Caflisch	International Law and Pollution
1 December, 1970	Capt. Francis D. Heyward Chief, Law Enforcement Division, U.S. Coast Guard Head, Marine Environmental Protection Program, U.S. Coast Guard From the Council on Environmental Quality Dr. Lee Talbot Senior Scientist-Ecologist Mr. Russell Cahill Mr. Eric Zausner Mr. William Matuszeski Mr. Charles Lettow Dr. Lewis Alexander Director, Law of the Sea Institute	Roundtable discussion of Report on Ocean Dumping by the Council on Environmental Quality
3 December, 1970	George E. Reedy	Social and Economic Effects of U.S. Ocean Policy
10 December, 1970	R. P. Anand	Regime of the Sea and Developing Countries
17 December, 1970	Vladimir Ibler	Freedom of the High Seas

Date	Speakers	Subject
22 December, 1970	John R. Stevenson, Esq. Legal Adviser Department of State Professor Louis B. Sohn Counsellor on International Law Department of State Mr. Bernard H. Oxman Assistant Legal Adviser for Ocean Affairs Department of State	Drafting of United States proposal for an International Seabed Resource Authority
7 January, 1971	Hideo Takabayashi	Developing Countries and the International Seabed Regime
14 January, 1971	Lincoln D. Cathers, Head Systems Test & Operations Branch Deep Submergence Systems Project Department of the Navy	New Developments in Submersibles
20 January, 1971	Robert L. Friedheim Center for Naval Analyses	Quantitative Analysis of Voting on the Seabed Issues in the UN General Assembly
28 January, 1971	Stuart McIntyre Bureau of International Organization Affairs Department of State	Drafting of U.S. Seabed Treaty and Analysis of Future Issues faced by U.N. Seabed Committee
2 February, 1971	Arvid Pardo, Ambassador of Malta to the U.S.	New Principles of International Law for the Oceans & Seabed
11 February, 1971	Vincent McKelvey Senior Research Geologist United States Geological Survey Department of Interior	Geological Aspects of International Seabed Regime

Date	Speakers	Subject
18 February, 1971	P. S. Rao	Exploitation of Mineral Resources under an International Seabed Regime
27 February, 1971	Regional Conference of American Society of International Law, University of North Carolina, "The Law of Marine Resources" Six Wilson Fellows participated in the discussions.	
4 March, 1971	Howard Chapelle Senior Historian Emeritus Smithsonian Institution	Pollution and the Use of Boating and Shipping
11 March, 1971	David P. Stang Assistant to the Undersecretary Department of the Interior	Historical Trends concerning Assertions of Dominion or Jurisdiction over Ocean Areas by Coastal States
23 March, 1971	Oliver L. Stone Vice President and General Counsel Shell Oil Company	Reflections of Petroleum Industry on the U.S. Draft Treaty for the Seabed

TRUSTEE APPOINTMENTS

Mrs. HANSEN. Thank you. As you will recall Public Law 90–637 says in section 3(e), "The President shall designate a chairman and vice chairman from among the members of the Board chosen from private life." Senator Humphrey is now a U.S. Senator. So how are you complying with that part of the law?

Mr. READ. The prohibition in that section of the act read most narrowly relates to the act of appointment or designation: "The President shall designate a chairman and vice chairman from among the members of the Board chosen from private life." The preceding section gives each Board member a full 6-year term, after the initial phasein period.

As we read it, it's not free of ambiguity. What happens when a member enters or reenters public life simply did not come up in the legislative hearings on the act, and the point wasn't considered at that time.

Mrs. HANSEN. When will the vice-chairmanship be filled?

Mr. READ. I hope it will be shortly. I have been in touch with the White House appointment staff, and I am hopeful that the vacancies will soon be filled.

Mrs. HANSEN. The chairmanship of the Endowment for the Humanities has been vacant for almost a year. So I don't offer too much hope for you. I think that ambiguity in the law ought to be settled because it's going to raise many questions.

Mr. READ. This is certainly a question that it is inappropriate for the Director employed by the Board to try to resolve.

Mrs. HANSEN. It's not for you to resolve, but I think there should be a decision made by the Board of Trustees.

Mr. McDade?

SCHOLAR'S WORK

Mr. MCDADE. Would you elaborate a little bit on your major accomplishments to this date.

Mr. READ. I would be glad to go through their work person by person, Mr. McDade, but I think it would give you a false picture, because some of them are working on long-range projects and some of them are working on short-range projects.

Mr. MCDADE. You have some who have completed their work, have you not?

Mr. READ. We have. And they have written articles that are in various stages of acceptance for publications. Some will be in journals that will be coming out later this spring. One or two have been published already. There is one excellent article which has appeared in the press in India. But it is really too early to give you an accurate reflection. Many of them are working on book length manuscripts, some on short articles. The production is becoming quite visible to us at the moment but it is in varying stages of promulgation.

STIPENDS OF OTHER CENTERS

Mr. MCDADE. On the question of your stipends, on page 3 of your justifications at the bottom of the page you indicate some relation-

ship to functioning centers now and the stipends they offer. Could you elaborate on that?

Mr. READ. We sought the experience of each of the centers mentioned. Most of the centers gave us this information privately, because they have never published their own stipend scale.

Mr. MCDADE. Not even the Fogarty Center?

Mr. READ. That has.

Mr. MCDADE. What, for example?

Mr. READ. I wouldn't want to speak for them. I believe their stipend is either $30,000 or $35,000. The Fogarty Center scholars are, of course, medical figures of world standing.

Mr. MCDADE. You can't offer figures on the others, except to state that you are below what they offer?

Mr. READ. I would be glad to give them to you privately. They were given to us in confidence, because they have never published those figures.

(Discussion off the record.)

Mrs. HANSEN. Thank you, Mr. McDade.

Mr. Wyatt?

ADVISORY COMMITTEE AND PANELS

Mr. WYATT. Thank you, Madam Chairman.

Mr. Read, some of your Board of Trustees, I assume, are statutory appointments, are they not?

Mr. READ. They are.

Mr. WYATT. Are they made by the President?

Mr. READ. They are all Presidential appointments, but seven of the 15 are ex officio. Actually, one of the seven is an unspecified Federal official, named by the President. That was Pat Moynihan. Pat dropped from the Board when he left the Government.

Mr. WYATT. How are the members of the Advisory Committee chosen? I think the record should show this.

Mr. READ. It was strictly a matter of individual judgments by members of the Board of Trustees initially.

Mr. WYATT. The trustees chose the members of the Advisory Committee?

Mr. READ. Right.

Mr. WYATT. Did the ex officio members participate in that selection process?

Mr. READ. I don't think in any case they did.

Mr. WYATT. How is the selection made for the members of the advisory panels on appointments of scholars? Is it by the trustees?

Mr. READ. I do that. I try to structure them in such a way that they reflect the various disciplines that are coming up for review at the time. But there is a selection subcommittee of the Board of Trustees to which I am responsible.

Mr. WYATT. Mr. Read, I don't want to be critical of you, but I think the record should show a very, very deep displeasure on my part, as one member of this committee, of the northeast orientation of this center. This is a pretty big country. I look at the members of the Advisory Committee and as far as I can tell there is one woman on it.

Perhaps I can't read some of these names correctly. I also see there are five Members of the U.S. Senate, two Members of the House, a situation where you have 4½ times as many House Members as you have Senators and a situation where Senators generally are felt to have a great deal more to do than Members of the House.

I can't imagine very many of these Members of the Senate really devoting much time to the affairs of the center.

I also don't find anybody, other than Senator Humphrey, whom I recognize, who comes from west of the Hudson River. You may have a few here that I have overlooked, but it certainly looks to me as if members of the Advisory Committee, certainly the members of the Board of Trustees, and certainly the members of the advisory panels on the appointment of scholars is heavily loaded with people from the Northeast. Of members of the advisory panels on the appointment of scholars, three out of the 18 people are from the New York Times. I think this is perhaps a little bit more than their share.

Mr. READ. I am cognizant of the geographic representative problem. The scholars are, of course, the product of the accident of the first application process. We mailed literature about the center to literally every college and university in the country. We are open for applications and nominations from all of them. Some have responded. Some have not. I would like to have the center, in terms of the half of the scholars who come from the United States, broadly representative geographically of the country.

Mr. WYATT. I am not talking about the scholars. I am talking about the advisory committees and the members of the advisory panel for the appointment of scholars. Something that kind of sticks in my craw is that the eastern intellectual community considers the rest of the country pretty parochial. What many people don't appreciate is that the rest of the country considers the eastern intellectual establishment pretty parochial, and the rest of the country really constitutes a very, very great majority of this great United States that stretches from four corners east and west and north and south.

I, for one, am going to be watching very carefully to see if there isn't a much broader geographic base in this operation, that it should not be so narrowly concentrated in an area that is very obvious all the way through the appointments.

Mr. READ. The advisory committee members were those who agreed to help Senator Humphrey in the development process. There were several people from the West Coast that we asked to join the committee who refused. It has been established mainly for development assistance purposes so far. We would be delighted to have a better geographic spread, I can assure you. We will see if we can't get a better one during the coming year.

Mr. WYATT. I think you will find that the Center will be accepted with a great deal more enthusiasm if you do accomplish a broader base and get more women involved in the advisory committee and on the panel for selection of scholars.

I am not very enthusiastic about the rather heavy emphasis on the New York Times, as many of us in the West don't even read the New York Times.

Thank you very much. I am not being critical of you, Mr. Read. I just want the record to reflect my views on this particular point, because I have strong views on it.

Mr. READ. I hope there will be a better spread in the near future.

Mrs. HANSEN. Mr. Clawson?

Mr. CLAWSON. Thank you, Madam Chairman. Mr. Read, I have just two or three questions.

SCHOLARS' ACTIVITIES

What control, if any, does the Center exercise over the utilization of time by each of the scholars?

Mr. READ. We asked them to agree, when accepting the appointment offers, to be full-time scholars at the Center. We find that they are putting in extremely full time. One of the tasks of the staff will be to make certain that those provisions are lived up to. To date there has been no problem.

Mr. CLAWSON. It hasn't been a problem?

Mr. READ. None whatsoever.

Mr. CLAWSON. Are any of the discussions or seminars open to the public, either by invitation or otherwise?

Mr. READ. They most certainly are. We hope to be doing more of that as we go along.

Mr. CLAWSON. Are facilities provided so that they can accommodate people from the outside listening in?

Mr. READ. Yes.

Mr. CLAWSON. I don't mean as participants but as observers.

Mr. READ. Yes. We can also borrow Smithsonian facilities for that purpose.

Mrs. HANSEN. Thank you, Mr. Read. We appreciate your presentation and the information.

NATIONAL GALLERY OF ART

APRIL 5, 1971.

WITNESSES

J. CARTER BROWN, DIRECTOR
E. JAMES ADAMS, ADMINISTRATOR
LLOYD D. HAYES, TREASURER

Mrs. HANSEN. The committee will come to order.

This morning we have the National Gallery of Art and our principal witness is Mr. J. Carter Brown, the Director.

GENERAL STATEMENT

It is a pleasure to have you here this morning, and I am sure you have a general statement which you can insert in the record and summarize for us.

Mr. BROWN. Splendid. I would be delighted to do so.

(Statement of J. Carter Brown follows:)

The continuing program objective of the National Gallery of Art is to encourage the study and enjoyment of the fine arts. That objective is fostered by:

(1) acquiring through private donations, for the Nation, art objects of the highest quality;

(2) exhibiting these objects to the general public without charge;

(3) preserving the collections as a part of the national heritage for future generations;

(4) exhibiting important temporary loans collections;

(5) offering tours and other educational services free to visitors;

(6) circulating instructional materials to schools, colleges, and other organizations; and

(7) administering art research fellowships.

Active planning for a new Gallery building has been in progress since August 1968. Its construction—to be financed from private funds—is expected to begin within the next 90 days. Completion of the construction and occupancy is now forecast for 1975. Preparatory to occupancy of the new addition, this estimate assumes a continuation of the orderly build-up of the present professional staff, which started with the approval of seven new positions for the current year. The increased staff will give greater program emphasis to:

(1) scholarship and publication;

(2) temporary loan exhibitions and their general educational values; and

(3) 20th-century contributions to the visual arts.

Twelve new positions are requested for fiscal year 1972. Two of these positions will provide the nucleus staff for a new photographic archives of the visual arts. Such a photographic collection will be a major library facility of the study center to be housed in the new building. The other new positions are for (or in support of) present functions which serve the public. New position employment costs for 9 months in 1972 will cost some $99,000. Microfilm equipment for the new photographic archives is estimated at $5,000, and additional art-educational materials to meet the increased demands being placed on our extension service by schools and colleges are estimated at $20,000.

In addition to the cost of the new positions and associated equipment and materials, $76,000 is included in this budget to restore two multiyear projects—building alterations and protective equipment purchases—to the levels planned in the current year appropriation. Both these projects have been reduced this year to provide for unforeseen increases in communications and utility services.

The remaining increase of $279,000 includes $75,000 to pay a portion of the costs of bringing temporary loan exhibitions to the Gallery, and $205,000 for noncontrollable increases in salaries and in the restoration of art objects.

The increases over the current year which I have mentioned total $479,000. Our current year requirement, consisting of a realized appropriation of $3,716,000 and an anticipated pay increase supplemental appropriation of $339,000 is $4,055,000. Thus, the appropriation requested for 1972 is $4,534,000. However, these estimates do not include the 1971 and 1972 costs of the January 10, 1971, pay increases established by the President under the Federal Pay Comparability Act of 1970.

Summarizing, of the total increase—43 percent is to pay nondiscretionary salary and art restoration increases, 16 percent is to restore building alterations and protective equipment purchases to planned levels, 26 percent is to provide additional staff and materials to meet expanding public demands for services, and 15 percent is to pay a portion of the costs of bringing temporary loan exhibitions to the National Gallery of Art.

INCREASE IN ATTENDANCE AND SERVICES

Mr. BROWN. I would like to say in highlighting our request that we have had an amazing year.

The attendance has been very gratifying. The number of visits to the Gallery here in Washington has gone up by a factor of 51 percent. We are just scratching the 2 million mark.

Mrs. HANSEN. Isn't this the largest visitor increase you have ever had?

Mr. BROWN. As far as I know. Furthermore, there have been increases also in the number of people reached outside of Washington. When we were here last year we could talk of serving a little over 4 million people. This year, for the first time in the Gallery's history, we have turned in a year of serving over 5 million people.

The strains on the organization have been considerable. In view of the added demands being placed on us and our plans to meet them with the new building which is being given to the American people generously out of donated funds, we are here to begin an orderly and gradual buildup of our human resources so that we will be in a position to meet this demand.

The major areas have to do in each case with inputs of private funds.

SUPPORT FROM PRIVATE SOURCES

We have gone to a foundation in New York and received a grant first of $50,000, we understand that next year it will be $100,000, for the purchase of photographs for our photographic archive. There is also a whole collection of photographs which we think we can get a grant for, an additional $48,000 purchase, en bloc. In order to process these, we need qualified people, and we are asking for two positions which will come to a little over $15,000 out of Government funds.

In our extension service, we have had an amazing year through the generosity of two funding organizations which have provided $185,000 to make film of "Civilisation" available to small colleges and universities all over the country.

Mrs. HANSEN. How many colleges and universities do you serve by your extension service?

Mr. BROWN. By the end of the year, we will have served 450. We have a waiting list of almost 1,000 beyond that.

Mr. YATES. What do they serve them with?

Mr. BROWN. This is the filmed series of "Civilisation," in 13 parts.

Mr. YATES. I saw it. I thought it was a very fine presentation.

Mrs. HANSEN. It was excellent.

Mr. BROWN. It is the kind of thing that I think can do immense good in making people aware of cultural values and getting them excited about the visual inheritance we represent.

HIGH COST OF TEMPORARY EXHIBITIONS

In the area of temporary exhibitions we are in great need of financial help. By virtue of the enormous increase in costs of works of art, the insurance which is needed when one borrows them is increasingly expensive. Also, various other expenses are costly—installing the works of art properly and producing a catalogue, which makes the benefits of the show an educational device which can outlast the exhibition and be of value over a very wide geographical area.

We are about to open a major show for the 500th anniversary of the birth of Durer. For financial reasons we had to restrict it only to

graphics, prints and drawings. Even so, we are finding that drawings by Dürer are valued now at $150,000 to $200,000 each. We are borrowing every single one in North America with the exception of two. We will have 36 drawings here, and at the high valuations, the insurance cost gets expensive.

We have some very exciting shows coming up in the future. Right now we are organizing a show of Northwest Indian art, and this will be the first one that will include objects from all the way up to Alaska and the Aleutians.

Mrs. HANSEN. Will this be a contemporary art show?

Mr. BROWN. No, this will be traditional.

This exhibition will include some of the masks, the carvings and the artifacts, many of which were discovered by the Russians in the 19th century, and were taken back to Russia. We are in negotiations with them to have these exhibited for the first time in this hemisphere.

We have plans for some very exciting shows, and this is another area we are asking for help.

Mr. YATES. Is not this the show that was at the Chicago Art Institute?

Mr. BROWN. I do not think so. This is the first time, to my knowledge, that the whole spectrum up into the Aleutians and out into the islands will be shown.

Mr. YATES. They had a marvelous one from the same area about two years ago.

Mr. BROWN. I know there have been several Northwest Indian art exhibitions, usually concentrating on the southern of these tribes, great spectacular totem poles and so forth. So far as I know, Washington has never had an exhibition of this kind.

Mrs. HANSEN. Will you be able to borrow any of the artifacts and some of the magnificent exhibits that they have in Victoria?

Mr. BROWN. We are going to try. Also, in Portland, there are some marvelous things.

Mrs. HANSEN. Yes.

Mr. BROWN. The top scholar in this field has been a professor at the University of Washington, Irma Gunther. She is writing a catalog for us, which hopefully will be a great contribution to scholarship.

JUSTIFICATION MATERIAL

Mrs. HANSEN. We will insert justifications pages 1 through 11 at this point in the record.

(The justifications referred to follow:)

HIGHLIGHT STATEMENT

1971 Requirement and 1972 Request

The Congress appropriated $3,716,000 for "Salaries and Expenses, National Gallery of Art, 1971." Pay act increases effective December 28, 1969; a wage-board pay increase effective November 1, 1970; a special wage-rate increase for guards effective November 15, 1970; and unforeseen increases in health benefits for employees, operating materials, utilities, and communication services will raise current-year operating costs $424,000 above the appropriated amount. A 1971 supplemental appropriation of $339,000 is anticipated. This will cover the full cost of the pay act, guard, and wage-board increases, but will leave $85,000 in other unplanned increases to be absorbed by the deferment of certain building alterations and security equipment purchases. The appropriation proposed for fiscal year 1972 is $4,534,000--a net increase of $479,000 over the 1971 requirement. These amounts do not include the 1971 and 1972 costs of the recent pay increases established by the President under the Federal Pay Comparability Act of 1970.

1972 Program

Over $205,000 of the proposed 1972 increase is nondiscretionary. This is the amount required to place six new positions, authorized for only three quarters of the current year, on a full-year basis; to pay within-grade and other mandatory salary increases; and to restore 2 tapestries and 1,400 Renaissance Bronzes to prevent permanent deterioration of these irreplaceable art objects.

$76,000 of the increase is for building alterations and security equipment purchases. This amount will restore these two multi-year projects to the levels ($193,000 and $50,000, respectively) which have been approved annually beginning in 1969.

$123,000 of the 1972 increase is primarily related to increased services to the public. Specifically, 12 new positions, $20,000 for Extension Service materials, and $5,000 for microfilm equipment are requested. Two of these positions will provide the nucleus staff for a new photographic archives of the visual arts which will be a major library facility of the study center to be housed in the new Gallery building. The remaining new positions are for (or in support of) functions now directly serving the public. Employment in all new positions has been estimated for only three quarters in 1972. The brief tabulation below gives some measure of the increased public interest in the National Gallery of Art over the past ten years compared with the total staff (including the 12 new positions) requested for 1972.

	Actual 1961	Actual 1970	Increase
Visitors	1,032,340	1,935,533	87%
Participants in education activities:			
In Gallery	117,280	396,424	238%
By Extension Service .	152,000	3,161,000	1,980%

	Actual 1961	Estimate 1970	Increase
AVERAGE NUMBER OF ALL EMPLOYEES.....	310	372	20%

The $75,000 balance of the increase is to pay a portion of the costs of bringing temporary loan exhibitions to the Gallery in 1972. The total expense of temporary loan exhibitions has historically been paid from Endowment Fund income.

Authorizing Legislation

This request for an appropriation is based on the premises contained in section 4(a) of the Joint Resolution of Congress, March 24, 1937, (20 U.S.C. 71-75) in which:

> "The faith of the United States is pledged that...the United States will provide such funds as may be necessary for the upkeep of the National Gallery of Art and the administrative expenses and costs of operation thereof, including the protection and care of works of art acquired by the Board, so that the National Gallery of Art shall be at all times properly maintained and the works of art contained therein shall be exhibited regularly to the general public free of charge."

NATIONAL GALLERY OF ART

Salaries and Expenses

Appropriation, 1970, including supplemental of $263,000	$3,653,000
Appropriation, 1971, including anticipated supplemental of $339,000	4,055,000

Summary of Increases and Decreases

1. To pay personnel costs for an additional holiday (Columbus Day) and 1 additional compensable day	15,039
2. To pay, on a full-year basis, salaries and benefits for 6 new 1971 positions authorized for only 3 quarters of the current year	13,820
3. To pay, on a full-year basis, wage and salary increases effective for only a portion of the current year	118,181
4. To pay statutory within-grade promotions, wage-board step increases, and accident compensation payments	15,028
5. To pay part-year costs of 12 new positions due to increased workloads	99,732
6. To pay for restoration of Renaissance Bronzes and tapestries	43,000
7. To pay increase in FTS telephone service	1,200
8. To pay for building improvements	41,000
9. To pay for new protective equipment	35,000
10. To pay for equipment for photographic archives and for additional materials for extension work	25,000
11. To pay a portion of the costs of temporary exhibitions.	75,000
12. Reduction due to non-recurring equipment purchases in 1971	-3,000
Net change, 1972	+479,000
Budget estimate, 1972	$4,534,000

EXPLANATION OF INCREASES AND DECREASES

1. Additional personnel costs due to new holiday and an extra compensable day in 1972, $15,039

Public Law 90-363, approved June 28, 1968, added Columbus Day, the second Monday in October as a public holiday. The Gallery, as on all other holidays (excepting New Year's Day and Christmas Day), will be open to the public on Columbus Day. Employees required to be on duty that day will earn premium pay estimated at $3,573. Also, fiscal year 1972 covers 262 compensable days--one more than the 261 in the current year. Pay for an average employment of 352 in full-time permanent positions is estimated at $11,466 for this extra day of compensation.

2. Pay and benefits to place 6 new positions on annual basis, $13,820

The allowance of 6 new library positions in the current-year budget covered only the salary and personnel benefits costs for three-quarters of the year. Full-year cost for these positions is $55,279. This is $13,820 more than the amount provided in the current year.

3. Additional cost of current-year wage and salary increases, $118,181

Laborers and employees in crafts and trades (averaging 81 in 1971 and 82 in 1972) were granted a wage increase of approximately 8 percent, effective November 1, 1970. The cost of this increase for the 17.3 bi-weekly pay periods that it is effective in the current year is $37,000. For the additional 8.9 pay periods in 1972, the added cost will be $18,181.

Effective November 15, 1970, the Civil Service Commission authorized special wage rates for guards under authority of 5 U.S.C. 5303 and Executive Order 11073. The cost of this increase for the 16.3 bi-weekly pay periods that is is effective in the current year is $159,000. For the additional 9.9 pay periods in 1972, the added cost will be $100,000. The average employment of guards at the Gallery is estimated at 150 in both 1971 and 1972.

4. Statutory within-grade promotions and wage-board step increases, $9,128

The net cost of within-grade promotions in the GS-series and wage-board step increases is estimated at $9,028 for fiscal year 1972. A four-year comparison of these costs follows:

	1969 Actual	1970 Actual	1971 Estimate	1972 Estimate
Net cost of within-grade promotions	-$4,265	-$ 1,585	+$ 728	$1,165
Net cost of wage-board step increases	-256	+10,051	1,758	7,963
Total net cost	-$4,521	+$ 8,466	+$2,486	$9,128

An estimated net cost of within-grade promotions and wage-board step increases was initially derived from an analysis of each position and present incumbent. The analysis took into consideration the

incumbent's past service at the Gallery, his age, general health, step-in-grade and prospects for promotion. This method produced an estimated net cost of $11,424 which has been adjusted downward to $9,028--a figure more consistent with the pattern in recent years.

Accident compensation payments, $5,900

Accident compensation payments, based on the annual billing from the Bureau of Employees' Compensation, U.S. Department of Labor, amount to $10,500 for 1970. This amount is payable in 1972 and exceeds the current year payment by $5,900.

5. New positions due to increased workloads, $99,732

Twelve new positions, required primarily because of increased workloads, are justified as follows:

(a) Administrative and craft positions ($27,702): In the past 20 years only three new positions have been requested for the offices providing administrative services for the Gallery's program--a GS-5 accounting clerk in 1959, a GS-5 payroll and leave clerk in 1968, and a GS-11 administrative officer in 1968. The payroll was computerized before the new payroll position was filled on a permanent basis and the position was abolished within the year. The tabulation below indicates the administrative overhead ratio for the years 1957, 1966, 1970, 1971 and 1972:

	Average Number of All Employees				
	1957 Actual	1966 Actual	1970 Actual	1971 Estimate	1972 Proposed
a. Administrative services personnel.....	29.8	25.0	23.6	23.6	24.6
b. Program personnel.....	286.2	307.7	312.4	335.4	344.4
c. Total of all employees..	316.0	332.7	336.0	359.0	369.0
Overhead ratio (a ÷ c)..	9.4%	7.5%	7.0%	6.6%	7.1%

As demonstrated by the tabulation the administrative overhead at the Gallery not only has been consistently low, but also has been on a downward trend. The adverse effect of this trend was especially apparent over the past year when a combination of changes in organization, personnel, and program at times made orderly and efficient administration impossible. Administrative services must keep pace with program advances. The services of a Procurement Specialist and a Management Analyst will significantly improve the effectiveness of administrative operations.

The increasing number and variety of temporary exhibitions uncrated, installed, and recrated each year has contributed to an unmanageable workload for our two carpenters. Also, after 31 years, the building maintenance tasks (repair of locks, hinges, door-closers, woodwork, etc.) require more man-hours of effort than is now available for this work. For these reasons we are asking for an additional position for our building operating and maintenance group.

Administrative and Craft Positions	Grade	Annual Salary
Procurement Specialist.....	GS-13	$16,760
Management Analyst.....	GS-7	8,098
Carpenter.....	WG-8	7,280
Total compensation.....		$32,138
Personnel benefits.....		2,571
Annual cost.....		$34,709

The $27,702 requested will pay the above costs for 9 months in 1972 and provide $1,400 for office furniture and equipment.

(b) General curatorial positions ($27,539): At present the general curatorial staff comprises 14 professional employees and 3 secretaries. The following new positions are requested for fiscal year 1972:

General Curatorial Positions	Grade	Annual Salary
Curator of 20th-Century Art.....	GS-13	$16,760
Secretary to Curator for 20th-Century Art.....	GS-5	6,548
Museum Technician (Index of American Design).....	GS-7	8,098
Total personnel compensation....		$31,406
Personnel benefits.....		2,512
Annual cost.....		$33,918

The $27,539 requested will pay the above costs for 9 months in 1972 and provide $1,800 for office furniture and equipment.

The importance of 20th-Century art in the Gallery's temporary exhibition schedule has been firmly established by such exhibits as: Paintings from the Museum of Modern Art, New York, held in 1964; Paintings from the Albright-Knox Art Gallery, held in 1968; and the recent exhibition, British Painting and Sculpture 1960-1970. The composition of the present staff provides no expertise in 20th-Century art. As the Gallery nears the 21st Century, great art produced in the earlier 20th Century should take its place as part of the visual heritage of work by the "Old Masters" belonging to the Nation. The Gallery's collections are still very inadequate in this field. A full-time curator will be able to identify and encourage gifts in this area. The first two positions in the above tabulation are needed to provide staff competence in this area of mounting significance in the Gallery's future plans.

The Museum Technician (Index of American Design) is critically needed to undertake the remounting and repair of a major portion of some 17,500 water color renderings of the crafts and folk arts of this country before 1700 to about 1900. A paper specialist from the Library of Congress has confirmed the necessity for this work in order to stop further deterioration of the original renderings.

(c) Photographic archives positions ($15,963): A major library facility of the study center to be housed in the new Gallery building will be a photographic archives of the visual arts. Funds for purchase of the thousands of photographs to be collected over the next several years have already been pledged by a private source. The same source has provided a curator-in-charge so that the work might be started without delay. In addition, by an adjustment within authorized current-year positions, an assistant has been assigned temporarily to the project. By 1972, the annual acquisition rate is expected to be 30,000 to 50,000 photographs. The identification, indexing, and storage of photographs in that quantity will, we believe, require a minimum of two cataloguers.

Photographic Archives Positions	Grade	Annual Salary
Cataloguer	GS-9	$ 9,881
Cataloguer	GS-7	8,098
Total personnel compensation		$17,979
Personnel benefits		1,438
Annual cost		$19,417

The $15,963 requested will pay the above costs for 9 months in 1972 and provide $1,600 for office furniture and equipment.

(d) Art education positions ($28,528): The following four positions reflect the increasing public demand for public services offered by the Gallery. The magnitude of that increase has been measured in the rising attendance and in the participation of the general public, schools, colleges, and other organized groups in the Gallery's educational efforts. Data on these measurements (tabulated in the Highlight Statement) show increases over the past 10 years of 238 percent in the number of participants in the education activities available to Gallery visitors, and 1,980 percent in the number of participants in our education extension work. The total staff of these two offices now serving over 3½ million students and members of the general public is 20 employees.

Art Education Positions	Grade	Annual Salary
Assistant Curator of Extension Services	GS-11	$11,905
Clerk-typist, Extension Service	GS-5	6,548
Clerk-typist, (Photograph and Transparency Service)	GS-3	5,212
Docent (Public tours)	GS-7	8,098
Total personnel compensation		$31,763
Personnel benefits		2,541
Annual cost		$34,304

The $28,528 requested will pay the above costs for 9 months in 1972 and provide $2,600 for office furniture and equipment.

6. Additional amount for the restoration of art objects, $43,000

The basic expense for the restoration of works of art is the compensation paid under an annual contract for painting restoration

work. In the current year $18,000 is the amount of this contract. Restoration of sculpture, tapestries, and decorative art objects is not budgeted for in a regular annual amount because of our limited requirement for such work. Restoration work is now urgently needed on two large tapestries and 1,400 Renaissance Bronzes to prevent permanent deterioration of these objects. The bronzes were removed from exhibit last spring when it appeared that deterioration was occurring at an accelerated rate believed to be caused by the interaction of the aluminum in the exhibition cases with the bronze in the objects. Estimates for the work to be done by contracts with selected specialists are:

Restoration of 2 tapestries	$13,000
Restoration of 1400 Renaissance Bronzes	30,000
Total	$43,000

7. Increase in FTS telephone service rate, $1,200

The General Services Administration establishes a flat rate for each agency using the Federal Telecommunications System's intercity telephone service. GSA has advised that the amount to be paid by the Gallery in 1972 is $5,980--some $1,200 more than the charge for the current year.

8. Building alterations and improvements, $41,000

A five-year plan for building modernization, alterations, and improvements--to be funded at approximately $200,000 annually--was approved in the 1968 budget. In the past three years (1968 through 1970) $487,133 has been obligated under the plan for an average annual amount of about $162,000. The 1968 plan has been modified consistent with construction of the new Gallery building to be started next spring. Because of modification of plans and "slippage" in the progress thereof (due in part to rising construction costs and the annual absorption of other increases in building operating expenses) we now estimate that funds for alterations in the present building will be required, through at least 1975, at about $200,000 annually. In the current year only $152,000 is available for construction after making budget adjustments necessary to provide an additional $41,000 to cover increases in communications and utility services. The restoration of this amount in 1972 will provide a total of $193,000 for building alterations and improvements. This sum is essential to meet the growing space requirements which cannot be deferred until the completion of the new building.

9. Purchase of protective equipment, $35,000

Beginning in 1969 an annual sum of $50,000 has been included in the Gallery's budget for the development and purchase of protective devices. A 1969 contract for the development and furnishing of a prototype protection system will be completed in the current year. The contract provides for ten exhibition rooms to be equipped with the system. The successful performance of individual components has already been determined, and operational tests of the system should be completed by the fall of 1971. In 1972 we expect to extend the use of this new system to additional exhibition rooms. An increase of $35,000 over the $15,000 available in 1971 will provide $50,000 for the purchase of protective equipment in 1972.

10. Additional materials for extension work and equipment for new photographic archives, $25,000

Last year the educational materials circulated by the Gallery's Extension Service to schools, colleges, and other organizations reached an estimated 3,161,000 persons. This was almost 20 times the estimated 152,000 served in 1961. During the past year about $34,000 was obligated for additional and replacement materials compared to the lower figure of $28,000 available in the current year. Considering the rising costs of replacement materials and the backlog of replacements which will continue to accumulate in the current year, the additional $20,000 requested for 1972 is consistent with past experience in meeting the ever-increasing demand for extension materials.

Microfilm equipment (a recorder, reader, and printer) are essential to the efficient recording, indexing, and use of the new photographic archives. This equipment, purchased under a GSA contract, will cost an estimated $5,000.

11. Temporary exhibitions, $75,000

A vital function of all major art galleries is to bring to their public important loan exhibitions. Advances in transportation and the increasing participation of many important museums i cooperative loan exhibitions have been significant factors in ra' ng the quality as well as in multiplying the numbers of outstandin xhibitions. That the general public has been responsive to these improvements is demonstrated by attendance figures even at museums that charge admission fees for temporary exhibitions. Today, temporary loan exhibitions contribute as much in educational values to the community as does any other part of a museum's public program.

The Gallery is prohibited by its charter from charging admissions. In past years temporary loan exhibitions have been financed from the Gallery's endowment fund income. Due to the relatively fixed nature of that income ($5,000,000 is on permanent loan to the U.S. Treasury at 4% interest), and to continually rising costs, available privat funds are no longer sufficient to support this function. For the reasons given, $75,000 is requested to cover a portion of the temporary loan exhibition costs in 1972. An additional $100,000 will be provided from the Gallery's endowment fund income. The importance of this item in the total Gallery program of public service cannot be overemphasized.

STATUS OF PROGRAM

Changes in Management Requirement:

An average employment of 336 (including the full-time equivalent of part-time and intermittent employment) was maintained during fiscal year 1970. This was 11 man-years under the estimate of 347 indicated in the 1971 budget. Our inability to keep guard positions filled necessitated unplanned overtime at a cost of some $86,000. This unplanned overtime was financed from a reduction of $46,000 in other personnel compensation and benefits, and a $40,000 reduction in other obligations. In total, 1970 obligations amounted to $3,045,394 for compensation and benefits, and to $607,606 for all other obligations.

The Gallery's 1971 appropriation is $3,716,000. Based on the estimates from which this amount was derived, the appropriation would have supported an average employment of 361 and would have provided

$243,000 for building alterations and protective equipment purchases. However, due to increased personnel costs (other than pay increases) and unforeseen increases in communications and utility services, the 1971 estimated average employment has been reduced to 359, and the amount allotted for building alterations and protection equipment purchases has been cut to $167,000. Notwithstanding these actions, Public Law 91-305 pay increases, higher rates granted to wage-board employees, effective November 1, 1970, and special pay rates for guards, established by the Civil Service Commission, effective November 15, 1970, change the 1971 requirement as follows:

1971 appropriation	$3,716,000
Pay increase (P.L. 91-305)	$143,000
Wage-board increase	37,000
Special pay rates for guards	159,000
Proposed supplemental	339,000
1971 total requirement	$4,055,000

Funds are requested in 1972 to support an average employment of 369--an increase of 10 over the current year due primarily to increased workloads. Additional funds over current-year amounts are also requested for restoration of art objects, building improvements, protective equipment purchases, educational materials for extension work, and a part of the costs of bringing temporary loan exhibitions to the Gallery. These items and pay costs not subject to administrative control total to a net increase in 1972 of $479,000 over the estimated requirement in 1971.

Accessions:

During the 1970 fiscal year 277 works of art were acquired.

Special Exhibitions:

The following exhibitions were held at the National Gallery of Art during the fiscal year 1970:

John Constable, A Selection of Paintings from the Collection of Mr. and Mrs. Paul Mellon--continued from the previous fiscal year through November 1, 1969.

111 Masterpieces of American Naive Painting from the Collection of Edgar William and Bernice Chrysler Garbisch--continued from the previous fiscal year through Labor Day, 1969.

Bandboxes and Wallpaper from the Index of American Design--continued from the previous fiscal year through August 19, 1969.

A Selection of Recent Acquisitions--July 1 through October 31, 1969.

Expressionist Prints and Drawings from the Rosenwald Collection--August 20, 1969 through November 19, 1969.

German Expressionist Watercolors--September 18 through October 19, 1969.

In Memoriam, Ailsa Mellon Bruce--August 29 through October 5, 1969.

Master Drawings from the Collection of the National Gallery of Art--October 31, 1969 through February 10, 1970.

Old Master Drawings from Chatsworth--November 2 through November 30, 1969.

Audubon Prints, The Birds of America--November 5 through November 30, 1969.

Joseph Wright of Derby, A Selection of Paintings from the Collection of Mr. and Mrs. Paul Mellon--November 22, 1969 through April 26, 1970.

Prints and Illuminations for the Christmas Season--November 20, 1969 through February 11, 1970.

The Artist and Space--December 6, 1969 through January 4, 1970.

Masterpieces of African Sculpture--January 28 through March 1, 1970.

William Blake's Graphic Art from the Rosenwald Collection--February 11, 1970 through end of fiscal year.

The Reality of Appearance, the Trompel'Oeil Tradition in American Painting--March 21 through May 3, 1970.

19th and 20th Century Paintings from the Collection of the Smith College Museum of Art--May 16 through June 4, 1970.

Selections from the Nathan Cummings Collection--June 27, 1970 through end of fiscal year.

Curatorial Services:

Advice was given regarding 1,562 works of art brought to the Gallery for expert opinion, and 25 visits to collections were made by members of the staff in connection with offers of gifts. About 5,500 inquiries, many of them requiring research, were answered verbally and by letter. The material in the Index of American Design was studied during the year by 261 persons doing special research or seeking material for publication and design.

Extension Service:

This service circulates to the public traveling exhibitions, Gallery films, slide lecture sets, and film strips. Traveling exhibitions are lent free of charge except for shipping expenses. Two hundred five exhibits were circulated in 1,261 bookings. It is estimated that 1,361,000 persons viewed these exhibitions. Three hundred twenty-nine prints of five films on the National Gallery and its collections were circulated in 2,631 bookings and were seen by approxmately 289,000 viewers. This represents an increase of 543 bookings (approximately 59,730 viewers) over last year when 219 prints of films were circulated. A total of 2,639 slide-lecture sets were circulated in 10,719 bookings, an increase of 329 bookings over last year. These were seen by an estimated 804,000 viewers. The special project of placing slide lecture sets on long-term loans with school systems was continued with a total of 434 slide sets distributed in 79 school systems. These slide sets were used in approximately 9,400 bookings with an estimated 707,000 viewers. This represents an increase of 329 bookings (approximately 24,675 viewers) over last year. Total bookings for all items numbered 24,011 compared with 22,820 in 1969. The estimated number of persons served in fiscal year 1970 was 3,161,000, an increase of about 404,000 over last year.

Education Office:

The staff of the Education Office continued to give daily tours and talks in the galleries, morning and afternoon, throughout the year. The attendance for the scheduled tours was 45,092. Lectures, films and tours given by special appointment served 31,312 visitors. There were 53 Sunday auditorium lectures illustrated with art films or slides, attended by 13,547 persons. Members of the Education Office prepared and recorded 41 radio broadcasts during the year.

Library Acquisitions:

During the year the Gallery library acquired 1,384 books, 860 pamphlets, and 3,701 periodicals. The library now has 27,845 books,

24,207 pamphlets, and 2,611 bound volumes of periodicals.

Photographic Laboratory:

The Photographic Laboratory of the Gallery made 80,865 color slides, 2,050 black and white slides, 5,035 negatives, 2,286 color transparencies, and 113 infrared and ultraviolet photographs, in addition to the prints required for study work and sale to the public.

Concerts:

The Sunday evening concerts in the East Garden Court, which are provided from private funds, were continued throughout the year. These concerts are free to the public.

Attendance and Maintenance:

There were 1,935,533 visitors to the Gallery during the fiscal year 1970--an increase of 652,135 (51 percent) over the 1969 attendance. The average daily attendance for the year was 5,332. The Gallery as a whole was maintained at a standard in keeping with the conditions of the gift of the building and the initial collection of works of art.

SALARIES AND EXPENSES

Object Classification (in thousands of dollars)

		1970 actual	1971 estimate	1972 estimate
	Personnel compensation:			
11.1	Permanent positions	2,526	2,893	3,102
11.3	Positions other than permanent	68	117	126
11.5	Other personnel compensation	250	169	183
	Total personnel compensation	2,844	3,179	3,411
12.1	Personnel benefits: Civilian employees	202	228	250
21.0	Travel and transportation of persons	10	10	10
22.0	Transportation of things	....	1	30
23.0	Rent, communications, and utilities	219	232	233
24.0	Printing and reproduction	28	34	35
25.0	Other services	77	69	129
26.0	Supplies and materials	108	124	152
31.0	Equipment	68	100	65
32.0	Lands and structures	216	193	193
	Total costs, funded	3,772	4,170	4,508
94.0	Change in selected resources	-119	-115	26
99.0	Total obligations	3,653	4,055	4,534

Personnel Summary

Total number of permanent positions	359	366	378
Full-time equivalent of other positions	13	20	20
Average number of all employees	336	359	369
Average GS grade	5.7	5.8	5.9
Average GS salary	$8,196	$9,029	$9,124
Average salary of ungraded positions	$7,186	$7,764	$7,780

PROGRESS ON NEW GALLERY BUILDING

Mrs. HANSEN. What progress has been made during the current fiscal year on the new Gallery building?

Mr. BROWN. Well, we are poised now to break ground. We have working drawings for the foundations, and we have virtually complete designs. Final approval of the overall design has just been received from the National Capital Planning Commission.

The ground-breaking date is set for May 6 at 12:45, and we certainly hope, Madam Chairman, you and all members of your committee will be there.

Mrs. HANSEN. I will be out of town.

Mr. BROWN. We would love to have you. You will be there in spirit any way.

It has been two and a half years in planning. This is a private funds enterprise, and at one point during the year, the stock market was going down, and the costs were going up, and we were biting our nails thinking we might have to abandon it. I am happy to say the Trustees have rallied around us in this uncertain financial situation.

Mrs. HANSEN. What was the problem that you had with the National Capital Planning Commission?

Mr. BROWN. It was, I think, a very healthy issue that was raised as to what to do with Fourth Street. A year ago they allowed us to go ahead with our plans, and we promised to make the plans in such a way that they would give an option for the city of Washington to go any of the three possible ways with Fourth Street. They could keep it on the surface, close it, or they could tunnel it, and we would design our underground link in such a way that it would not interfere with the tunnel. Everyone recognized that the third option of the tunnel, if ever built (and we frankly thought it probably never would be) would not be a very happy solution, even though it would be technically possible.

The National Capital Planning Commission raised this issue squarely at this time and said, let us take a hard look to determine now if we ever will want that tunnel. I am very pleased to say they voted no, they will not want the tunnel, and to go ahead as we have planned.

ANTICIPATED 1971 SUPPLEMENTAL APPROPRIATION

Mrs. HANSEN. You have indicated that you will be requesting a supplemental appropriation of $339,000 to cover pay act and wage board costs. Why is it not possible for you to absorb all or part of these costs?

Mr. BROWN. Well, we have absorbed I think a good deal.

Mr. HAYES. About $180,000, the way it looks now, will be absorbed in other increases. These are increased costs in utilities, principally steam and electricity, increased costs of overtime work and increased costs of within-grade promotions due to a slackening of our turnover rate.

Mr. BROWN. That was one of the things that struck me this year. No one wants to leave working for the National Gallery, which is costing us a lot of money. When you have turnover, those who leave are usually paid at a higher rate than the new employees who replace

them. This has been a blow. We have been brought to our knees and forced to abandon the evening hours until the middle of June, which is the only way we can see in the budget to get over the crunch period.

EVENING HOURS

Mrs. HANSEN. But you will have evening visiting hours from the middle of June to the beginning of September?

Mr. BROWN. Luckily, we will be in the new fiscal year soon, July 1, and that is the key time in the summer for the influx of visitors.

Mrs. HANSEN. How many visitors do you have during the evening hours?

Mr. BROWN. It is smaller than the visitors during the day, but it still is a significant group. In August and July, for example, we have some 30,000 people in the evening for each month. Now, that is in relation to maybe 100,000 or more visitors per month during the other hours, but it still is a significant group of people.

Mrs. HANSEN. Are you open until 9 p.m.?

Mr. BROWN. Until 9.

Mr. CLAWSON. What has been the policy in the prior years as far as opening for the summer season is concerned?

Mr. BROWN. Beginning in fiscal year 1966, we have been open from April 1 through Labor Day, excepting for fiscal year 1969 and a part of 1970. This was the initiative of this committee, and we are very grateful for it.

Mr. CLAWSON. So this is a rather long extension of time when you consider the last 2 years.

Mr. BROWN. Exactly, and we have been forced at other times to cut back and not open. But this is a compromise this year, and luckily if I may just quote the figures you will see how the trend goes. In the evening hours in April we have 14,000; in May, 14,000; in June, 18,000; then it jumps to 30,000 in July and August, so that is the peak period, and I am so glad we can do it.

Mrs. HANSEN. For the benefit of the new members of the committee, in the past the committee felt that one of the things that we could do to help get young people off the streets and into other acivities was to enable them to visit the Smithsonian Institution, the National Gallery of Art, and other areas that are of some value historically and culturally, in the evening hours.

The evening opening was started several years ago, when Mr. Kirwin was chairman of this committee. Both of us felt then that you should open the Smithsonian Institution and the National Gallery of Art particularly at night for these young people.

What was really the purpose of the evening hours, Mr. Clawson, was to enable young people and visitors who are not particularly night clubbers to participate in other activities in the evening.

Many visitors are the low-income people and students, who do not have a great deal of money.

EFFECT OF PROPOSED POSTAL RATE INCREASE

If the proposed postal rate increase goes into effect, how will that increase affect your budget?

Mr. HAYES. Around $10,000 a year, Madam Chairman. We have $30,000 allotted for postage for the current year and also in 1972. We do not, of course, have anything in as an increase because of the prospective postal rate increases.

Mrs. HANSEN. No; but many people do not realize that the postal rate increases affects Federal departments.

Mr. BROWN. Absolutely.

Mrs. HANSEN. Some people have the illusion that postage to the Government is free, therefore I like to pinpoint in each instance what these rising costs are.

Mr. BROWN. Another case in point, Madam Chairman, is in the increased costs of utilities paid to GSA for steam and to PEPCO for electricity.

Mrs. HANSEN. Is that due to the increase in utilities rates here in Washington, D.C.?

Mr. BROWN. Exactly, without an additional appropriation to pay them out of.

PROTECTION OF ART OBJECTS

Mrs. HANSEN. Haven't you also had an ever-rising cost in protecting your art objects?

Mr. BROWN. It is true, and I hate to say that one of the things we had to defer in this absorption that we have undergone this year is work on our electronic security devices, which we hope to be able to pick up again immediately when July 1 comes. This is a long-range investment of the Government which eventually we hope will save a lot of money. We have been out on the leading edge of developing a whole new principle of guarding electronically, and we want very much to get it perfected.

Mrs. HANSEN. What is your loss per year due to theft or vandalism?

Mr. BROWN. I can say with some pride, and knocking on wood, that so far in the history of the gallery we have had no loss from theft. Vandalism, however, continues to be of concern.

Mrs. HANSEN. What type of vandalism do you have in the gallery?

Mr. BROWN. It varies from wayward touching of the pictures and people brushing past them to actual attacks on the pictures from people who are mentally disturbed.

Mrs. HANSEN. Hasn't this type of vandalism been increasing?

Mr. BROWN. Yes, and we have had a great deal of trouble with this.

Mr. YATES. Will they be required to put this under glass?

Mr. BROWN. We have some of our most precious objects under glass, but we do it with the utmost reluctance, because there comes a point at which people might just as well go down and buy a reproduction of the painting, and we need not go through all the fuss and bother of having the original for the world to go and view.

No glass has yet been devised that does not make its presence felt, and the visitor has this reflecting surface, this wall, between him and the picture, which reduces the whole sense of an original. We have guard railings in front of some pictures, we train our guards, and we take every step possible short of this. If we are forced into putting pictures under glass, we will, but we hope we do not have to.

Mrs. HANSEN. It is a matter of getting the public to understand that one person touching an art object is not too bad, but 1,000 persons touching them means disaster?

Mr. BROWN. Yes, very much so. It is a tremendous temptation. I undergo it myself with sculpture. A good sculptor had that in mind, that you just want to touch it.

Mr. CLAWSON. That is why Will Rogers has his shoes shined so much down here all the time.

NEW POSITIONS

Mrs. HANSEN. You are requesting $99,732 for 12 new positions to handle increased workloads.

Can you give us the details on this for the following activities; administrative and crafts, three positions, $27,702; general curatorial, three positions, $27,539; photographic archives, two positions, $15,963, and art education, four positions, $28,528.

Mr. BROWN. Madam Chairman, first of all, in the administration, the gallery staff has been growing over the years, and the personnel involved in the orderly administration of the staff has not. We desperately need at this point some one to take charge of the whole procurement activity of the gallery and put it on a sound business basis. For that, we are requesting a procurement specialist. We also need a management analyst to help in this administrative area. I feel that these positions have been deferred for a long time, and are very much needed.

On the curatorial side, as the 21st century looms up, we are realizing that if we are to be a survey of the great contributions of Western man in the visual arts, we cannot arbitrarily cut off way back in the 19th century, and that our collections will have to grow into what are now considered the old masters at the beginning of the 20th century. We have no curator in this field.

There are great private gifts to be garnered in as this is one of the areas that has been collected assiduously, but we need curatorial help to identify those potential donors, to screen which pictures are worthy of our collections, to catalogue them when they come in, and to disseminate information about them.

We also have a great problem in our Index of American Design by virtue of the deterioration in some of the objects. We have had a specialist from the Library of Congress to look at them and he tells us that no time is to be wasted in getting these water color renderings remounted. We are asking for help there.

In the extension service, we need help also because of this growth of demand that I was mentioning earlier. Also in the photographic archive, we need help.

EXTENSION SERVICE

Mrs. HANSEN. For the benefit of the new members of the committee, please give us an overall view of your extension service.

Mr. BROWN. Well, this has been one of the success stories of the gallery which has really happened only in the last 10 years. In order to fulfill what we consider our mandate in being supported as we are by

Federal appropriations, coming from all over this country, we feel we cannot be just a local museum serving the greater Washington area. Therefore, we have tried to extend the benefits of the gallery's educational thrust to communities everywhere. We now serve some 3,000 communities in all 50 States. We have practically every congressional district being served by audio-visual materials, films, slides, books, film strips, packaged lectures, color reproductions, and so forth. The demand for this material has been extraordinary, and the growth curve has been almost 20 percent a year.

It is how hoped that with our new building we will have the office space to man an effort that will really bring our extension work to the scale that it deserves in terms of the immense demands from all sections of the country for it.

Mr. CLAWSON. May I ask a question?

Mr. HANSEN. Yes.

Mr. CLAWSON. What media do you use locally to provide this extension?

Mr. BROWN. All of them we can. We use the media of the film, of television. We are exploring cassette television at the moment. We use the book. We use color reproductions.

One of the most effective is the slide lecture. Since most of our objects are static, we can get very high color quality in slides. They are taken by a special camera, which we designed, directly from the objects, and each one is an original color transparency. We circulate sets of these slides with an accompanying text, recorded on tape or on a record, and also in written form, as a teacher's guide so they can go right into the classroom.

Mr. CLAWSON. Are schools primarily the vehicles you use for this?

Mr. BROWN. They are. We figure at the university level there are specialists in art history that can carry the basic burden of the educational need, although we want to be as great a service as possible to the university as well. Our basic thrust is to the high school level, because here is the great area where the visual arts have been ignored.

One exciting breakthrough of the last year is a joint enterprise we have done called Art and Man. This is a magazine published under the direction of the National Gallery, eight issues a year, which go out to schools each month with some audio-visual package.

Each issue is on a different topic, Art and the City, Art and the American Indian, Art and War, Art and the Renaissance, African Art, and so on.

We were amused that the largest circulating art magazine in the world we think has something about 35,000 circulation. Art And Man has been in operation since the fall. We now have over 150,000 circulation.

Mr. YATES. Are any charges made for this service?

Mr. BROWN. Yes, this is on a business basis, with Scholastic Magazine, a publisher in New York. The publisher makes the magazine available for $2 for the entire year's eight issues. This is one of those

areas where the public-private combination seems to work to everyone's benefit.

Mrs. HANSEN. How many people do you reach by your extension service?

Mr. BROWN. The extension service has grown to the point that the number of people now served is over 3 million.

Mrs. HANSEN. What charges are involved in your extension service.

Mr. BROWN. The charges are none except for the return postage on the materials lent.

Mr. GALIFIANAKIS. How much income do you take in from any kind of service that you render and the sale of any reproductions?

PUBLICATIONS FUND

Mr. BROWN. The reproductions are financed through a revolving fund called the Publications Fund.

Mr. GALIFIANAKIS. How is that financed? Is that public funds?

Mr. BROWN. No, this is strictly private funds. This is completely self-replenishing, and it grossed last year about $800,000.

Mr. CLAWSON. Do you continually increase the fund? Do you make it a margin of profit?

Mr. BROWN. We do. We plow everything from that fund back into it, increasing the breadth of the services so we can have more of our objects reproduced in color.

Mr. GALIFIANAKIS. Do you keep a minimum balance?

Mr. BROWN. We do. Unfortunately, the minimum balance is primarily in the inventory of the items sold.

Mr. GALIFIANAKIS. Off the record.

(Discussion off the record.)

Mr. GALIFIANAKIS. If a painting is mass reproduced, does it tend to diminish the value?

Mr. BROWN. I would think just the opposite. It tends to increase people's awareness of it, and their interest in seeing the original, because no process has yet been devised, and it is very unlikely that one ever will, that can completely reproduce a painting. There are just technical processes in painting whereby light goes through layers and layers of paint and gives the experience of the original a whole different order of magnitude than is possible by mass reproduction with inks.

Mr. GALIFIANAKIS. Do you give short courses of art?

Mr. BROWN. Yes.

Mr. YATES. Off the record.

(Discussion off the record.)

WORKS OF ART ACQUIRED BY DONATIONS

Mr. BROWN. The amazing thing about the Gallery is that every single work of art in it has been provided by donated funds. There is a Federal component to the extent people have been able to get tax deductions for a gift to a nonprofit organization, and I think that is

a splendid way for the Federal Government to participate in this activity.

Mr. YATES. You raise a very interesting point. That point was raised in connection with the Hirshhorn collection as to whether or not he was getting an extraordinary or special deduction as a result of his gift to the country, and she went into it very carefully .

I read the record of the hearing. You have a special panel, I think, of probably the best appraisers in the country to go into it.

Mrs. HANSEN. My request was to have the best art appraisers, obtainable at that time, to very carefully review the charges made about the tax deductions.

I think you have testified, Mr. Brown, that this is a very common deduction.

You are contributing not to the private benefit of anyone, but you are contributing to the betterment of humanity.

CONTEMPORARY PAINTINGS

Mr. YATES. May I ask another question? Are you restricted from exhibiting or purchasing, which are two different fields, I recognize, on contemporary paintings?

Mr. BROWN. No; we are not. The Board of Trustees has a policy of concentrating our efforts on the old masters, which are more expensive and more difficult to come by, with the hope that eventually citizens will give us things in the 20th-century field in the course of time.

Mr. YATES. I notice here in your justifications, and let me ask a question about the justifications, on page 5 you are asking for a curator of 20th-century art.

Where does 20th-century art begin and end? Does abstract expressionism come within the concept of 20th-century art, or 21st-century art?

Mr. BROWN. Well, that is a legitimate question. Obviously, there is no crisp answer to this, and it is something that every major national gallery has to wrestle with. The Louvre has one system. The National Gallery in London has another. There is no concrete way you can divide it and say, from here on back is the old masters, and from here on forward it is modern.

Mrs. HANSEN. Won't you be able to better classify art into certain periods, as time goes on?

Mr. BROWN. It takes some perspective.

Mr. YATES. There is a typographical error on page 5.

Mrs. HANSEN. There are many typographical errors this year in the record and in the justifications.

Mr. YATES. It says Albright-Know Art Gallery.

Following up on what I said, are you allowed to have exhibitions of abstract expressionisms?

Mr. BROWN. We have exhibitions of very contemporary art. We had one this winter of contemporary British Art. Some of the canvasses were hardly dry. There has been a lot of abstract expressionism in the shows mentioned here, the Museum of Modern Art and the Albright-Knox Art Gallery shows.

Mr. YATES. Somebody told me under your original gift that you could not show the paintings or purchase the paintings of an artist who is still alive.

Is this still true?

Mr. BROWN. There was a policy of the trustees in effect until a few years ago that we would not purchase or accept by gift, works of art that had been painted by someone who had not been dead at least 20 years. Already, some of the abstract expressionists have been dead for 20 years.

But the trustees have since abrogated that policy, because at the time of Chester Dale's death, it became an anomaly to say that his great Picasso, "Family of Saltimbanques," which was painted in 1905, and which is one of the great masterpieces of any period, could not be accepted, just because Pablo Picasso at age 80 was still alive.

Mr. CLAWSON. You have very many attempts to get paintings in that you have to turn down?

Mr. BROWN. Oh, very much so.

It is almost more difficult to say no to people who want to get their pictures in the National Gallery, than to say yes to the ones that we want to get in.

COPYISTS

Mr. CLAWSON. Then another question.

How many painters attempt to duplicate a lot of the old masters?

Do you have a lot of that?

Mr. BROWN. We have a service for copyists, and we provide, without charge, easels and drop cloths for qualified copyists to go up and work from the actual paintings.

Mr. CLAWSON. Do you permit that?

Mr. BROWN. Yes, we do.

Mr. CLAWSON. Do you have a room for this purpose?

Mr. BROWN. No; they can go right into the gallery where the picture is hanging.

Mr. YATES. I never saw that here.

Mr. CLAWSON. I have seen it at a time or two down there and I wondered how much this is done.

NEW BUILDING

Mr. GALIFIANAKIS. Where is your building going to be?

Mr. BROWN. On a site reserved for it by Congress in 1937, which is east of 4th Street between, basically, the existing building and Capitol Hill. It is a site bounded by 4th Street, Pennsylvania Avenue, 3d Street, and Madison Drive on the Mall. It is basically where the Mall and Pennsylvania Avenue come together.

Mr. GALIFIANAKIS. They follow the same vault type of architecture?

Mr. BROWN. It is going to be built out of the same materials. Hopefully, the same marble will be used. However, it is being designed by I. M. Pei, who is a very gifted architect.

Mr. GALIFIANAKIS. Will it be in concrete, then?

Mr. BROWN. No; in marble. But Mr. Pei, who understands the tradition of architecture and loves the present building, wants to operate in an evolving tradition rather than simply aping the style of that period.

Mr. YATES. I thought he was a specialist in concrete.

Mr. BROWN. He is, indeed. There will be concrete in some of the supportive sections and in the ceilings. He is one of the world's

foremost authorities on making concrete beautiful. In this case, we don't want to build an extension in concrete and have it next to the beautiful marble of the existing building.

PHOTOGRAPHIC ARCHIVE

Mrs. HANSEN. Please discuss for us your request of $15,963 and two positions for photographic archive.

Mr. BROWN. This has to do with the advanced study program we hope to put in the new building. One of its most important resources will be a photographic tool to allow scholars to find documentation on any subject that they wish. We have a good nucleus which we are building on and we need people to keep up with the inputs that are coming as a result of private donations.

ART EDUCATION POSITIONS

Mrs. HANSEN. What is involved in your request of $28,528 and 4 positions for art education?

Mr. BROWN. We have had a significant increase in the demand for tours inside the building and are asking for one position there. We also have this increase in our extension service needs and we are asking for help in that department.

Mrs. HANSEN. I want to congratulate you for doing some additional work on your crafts and folk art.

Your Index to American design, I think, is tremendously fascinating.

RESTORATION OF ART OBJECTS

Justify your requested increase of $43,000 for restoration of art objects.

Mr. BROWN. In the 1950's, we installed the great Dreyfus collection of Renaissance bronzes, which is probably the greatest single collection of these materials ever put together. It was given to us by the Samuel H. Kress Foundation. We installed them according to the principles of that day, which were to keep dust and the atmosphere out and away from them and therefore put them in as nearly hermetically sealed cases as possible.

Here is a photograph of the installation as it has been. We have discovered that we did our job to well, because what happens is that when you do not have ventilation of these bronzes, there are gases let off by the materials in the case, which combine chemically with the art objects in a way that deteriorates them. We have some which are rather alarming where deterioration has just begun. Therefore, we have taken these off exhibition and we are in desperate need to get the funds to arrest this chemical process and to re-install the objects in such a way that it will not happen again.

Mr. YATES. How do you propose to do it?

Mr. BROWN. Basically, by a process of washing and electrolytic treatment.

Mrs. HANSEN. Will this be done in-house or by contract?

Mr. BROWN. We can do this in-house. We have space in our restorer's studio. We will have to hire new people. There is a good specialist trained in London who will be available to come and work on these for us.

Mrs. HANSEN. He will be one of your own employees?

Mr. BROWN. It is by contract, to answer your question.

Mrs. HANSEN. Because of the very nature of the kind of technique involved, these are of necessity negotiated contracts. Isn't this correct?

Mr. BROWN. That is right.

BUILDING ALTERATIONS AND IMPROVEMENTS

Mrs. HANSEN. You are requesting an increase of $41,000 for building alterations and improvements.

Please give us the details on this request.

Mr. BROWN. We have two projects, basically. One is to open an information center at the entrance of the gallery just off the main entrance that goes down the steps to the Mall so that the visitor coming into the building can have a room in which he can become oriented as to what there is for him to look at.

Mrs. HANSEN. That is great.

Mr. BROWN. And it will greatly clear out the visitor's first view of the gallery which can be so fine looking through the Rotunda. That view now is cluttered up with desks and electronic tourguide equipment, all of which we will put in this new room.

PROTECTIVE EQUIPMENT

Mrs. HANSEN. You are requesting an increase of $35,000 for protective equipment, which we discussed earlier. How effective has the initial implementation of the protective devices been in combating vandalism in the gallery?

Mr. BROWN. Well, we are still in the trying-out stages with this so that we do not have much to report in terms of actual attack on the vandalism problem. We are just around the corner from being able to go into several galleries with a prototype system and, hopefully, by this time next year, we will be able to have some concrete evidence.

VANDALISM

Mrs. HANSEN. There are tremendous problems of vandalism in every installation of the Government.

We find it in the forests where there have been many deliberately set forest fires. You find vandalism in the national parks to a tremendous degree.

You have people who are mentally troubled who want to assault anything that belongs to the Government.

Do you have any of this type of vandalism in the gallery?

Mr. BROWN. We did have one instance of this, Madam Chairman, a little over a year ago, with someone who sprayed some red paint onto the base of a very valuable Desiderio da Settignano Tabernacle. He also sprayed the same paint on a street sign outside. This act came at

a time of demonstrations in Washington. We felt there was a link. Basically, we have been amazingly free, I would say, of acts associated with demonstrations.

Mrs. HANSEN. You are very fortunate.

Mr. CLAWSON. Paint spraying is one of the common things used today. It is so convenient to have the aerosol can and go on around and spray the obscenities.

Mrs. HANSEN. $25,000 is being requested for additional materials for extension work and equipment for the new Archives activity.

Please give us the details on this.

Mr. BROWN. I think that this has been covered, Madam Chairman, in my opening summary. The increase is needed for replacements and additional quantities to be lent to a larger number of schools.

TEMPORARY EXHIBITIONS

Mrs. HANSEN. You are requesting $75,000 in Federal funds for the temporary exhibitions which have previously been funded from the gallery's private fund.

Can you explain this?

Mr. BROWN. I touched briefly before on the mounting costs of putting on temporary exhibitions. I feel this is one of the most vital aspects of our program. It brings objects together which can be seen in juxtaposition only by this method, and there are other benefits when these tour to other sections of the country. We had an excellent show this fall of American painting which went to St. Louis and Seattle. We had a Mary Cassatt show and we have here catalogs of these exhibitions for the various members of the committee.

We have some very exciting shows coming up, one in the fall will be "Rodin Drawings, True and False." There will be some very beautiful authentic ones, and there will be some forgeries. There will be one room, hopefully, with these mixed together and the visitor will be asked to tell which is which. From exhibitions like this, I think we can begin to train the eye of the public to keep aware of the whole forgery problem and understand what makes a great authentic work of art beautiful.

For temporary exhibitions, the cost is going up and up. In the old days, we were able to take care of this completely out of private funds, but now it has gotten beyond us, and since it is written into our statute that we may not charge entrance fees for any activities of the gallery, we turn to Federal support as our only recourse.

Mr. CLAWSON. Madam Chairman, may I ask a question on the charging of fees?

Is it possible under your rules and regulations to consider the possibility of donations having the so-called church contribution?

Mr. BROWN. I would have to refer this to our legal staff.

Mr. CLAWSON. I ask the question because I think there are many people who would be small donors who otherwise would never do it.

Mr. YATES. You can even put a wishing well in there.

Mr. BROWN. We do get a few pennies in the fountain at the end of every day.

Mr. YATES. Put a sign up, "Make your Contribution to the National Gallery."

Mr. GALIFIANAKIS. And there is a lottery to draw for the masterpiece.

Mr. YATES. Win a Picasso.

Mrs. HANSEN. What percent of the fund requirements for this activity will be met from private sources?

Mr. BROWN. For the exhibitions?

Mrs. HANSEN. Yes.

Mr. BROWN. Over 50 percent.

Mrs. HANSEN. Please insert in the record your total visitations for the last 5 years.

Mr. BROWN. We will be very happy to do that.

(Information follows:)

PERSONS REACHED BY THE NATIONAL GALLERY OF ART

	Visitations to gallery	Persons (estimated) served by Extension Service	Total persons reached by gallery
Fiscal year:			
1966	1,577,108	1,170,434	2,747,542
1967	1,510,967	1,780,361	3,291,328
1968	1,267,028	2,182,000	3,449,028
1969	1,283,398	2,757,000	4,040,398
1970	1,935,533	3,161,000	5,096,533

ACQUISITIONS

Mrs. HANSEN. Please give us a résumé of some of your art and library acquisitions that have been outstanding this year.

Mr. BROWN. In the acquisitions field, the most spectacular one has been an early portrait by Cézanne, who is considered by many to be the father of all modern western painting that came after him. This portrait was an individual gift. It took 3 or 4 years of negotiations to get it out of France, because it was considered a national treasure and became exportable only after considerable changes in the government.

I have a reproduction of it here. It is very difficult to visualize from the reproduction because the picture is some six-and-a-half feet high. It is really life-sized and shows Cézanne at his early period. It has a strength and power which he achieved at this stage through the vigor of his brushwork. He later developed a means of expressing the same strength by an optical approach which historically has been of immense significance.

There is an exhibition at the Phillips Gallery which we have lent several pieces.

Another acquisition has been in the South American field and I hope to see the collections from that area grow. Also, we have begun to have donations in the 20th century field. All of this looks toward the opening of the new building.

(Discussion off the record.)

Mrs. HANSEN. Mr. Clawson?

Mr. CLAWSON. No questions.

Mrs. HANSEN. Mr. Yates?

QUALITY OF THE COLLECTIONS

Mr. YATES. Mr. Brown, I suffer from the same inadequacy as far as art appreciation is concerned, I mean sophisticated appreciation of art as do many of my colleagues.

I recall that some years ago it used to be said among some of the critics that the National Gallery did not compare, the paintings and collections of the National Gallery did not compare in quality with those of other national galleries. They would sort of say, yes, it is a fine building, but the paintings are not up to the quality of the Louvre or the national galleries of England or other nations, in Spain, the Prado.

What is your feeling about that?

Mr. BROWN. Well, I think that a case might have been made at one point in time. America got into this business very, very late. As a matter of fact, it got in at the last possible moment because it could not be done today. Just before World War II was the latest time that I think a collection of this quality could begin to be formed, and we were helped tremendously in the 1940's by virtue of many paintings coming loose as a result of the dislocations of the war and our having resources, particularly from the Kress Foundation, to command the market and really get anything that came up that we felt was of suitable quality.

Some of the early donations were given on the basis that we could give them back to the donors in exchange for better objects as they came along. In this period of 30 years the Gallery has had the fastest growth of any art museum in history. The quality of the collection is, I think, universally recognized to rank now with the great national galleries of Europe, in spite of the fact that we came in at the 11th hour and are competing against collections that were formed by kings and princes over many centuries.

Mrs. HANSEN. Also the art collections of the church.

Mr. BROWN. And the church. I think in the case of these bronze sculptures, for example, there are only two collections in the world that can begin to compare, the national one in Florence and the one in the Victoria and Albert Museum.

Certainly this is the great center in this hemisphere to study French 18th-century sculpture, and French 18th-century painting. It is by far and away the greatest collection of Italian painting in this hemisphere and I could go on and on about areas in which we are uniquely strong.

Mr. YATES. How do we compare with the Metropolitan Museum, or would you rather not comment?

Mr. BROWN. I would be delighted to. We do not compare, fundamentally, in one important sense in that we are a gallery, and they are, precisely as you say, a museum. The Metropolitan is an encyclopedic museum with 18 separate departments. They collect everything that man has produced over 50 centuries.

We specialize in European and American painting, sculpture, and the graphic arts from the Middle Ages to the 20th century. In that field I can say that curators at the Metropolitan have admitted that they feel that the collection in Washington is the primary one in this country.

Mr. YATES. You did not get any part of the Lehman collection, did you?

Mr. BROWN. We did not, no.

Mr. YATES. Thank you, Madam Chairman.

Mrs. HANSEN. Many kings, queens, and princes lost their heads because they had spent a lot of funds on art. I expect this is one reason the American forefathers had some mixed feelings about spending Federal funds on art.

You might have had more people in this country interested in art, but for the experiences in Europe. Isn't this correct?

Mr. BROWN. Very much so; and I think there is another point which was recognized by some of the Founding Fathers; that America at that time was still an experiment in the wilderness, and there were a lot of other priorities. John Adams had that marvelous statement in a letter to his wife in 1780, which I would like to add to the record:

> I must study politics and war that my sons may have the liberty to study mathematics and philosophy. My sons ought to study mathematics and philosophy, geography, natural history, and naval architecture, navigation, commerce, and agriculture in order to give their children the right to study painting, poetry, music, architecture, statuary, tapestry, and porcelain.

Mrs. HANSEN. John Adams' statement enabled me to get the humanities bill out of this committee, if you are interested.

Mr. YATES. Didn't Jefferson say anything?

Mr. BROWN. A great deal; yes.

Mrs. HANSEN. There is not a single activity that this committee funds that is as fascinating.

Mr. YATES. Hear, hear.

(Discussion off the record.)

Mrs. HANSEN. Mr. Clawson, do you have any more questions?

PROCUREMENT SPECIALIST

Mr. CLAWSON. I would like to ask one in connection with your procurement specialist.

Will he be traveling outside this country also in his work?

Mr. BROWN. No; he will not. This is not art procurement.

Mr. CLAWSON. This is not art procurement?

Mr. BROWN. All the curators are in that business and they have to travel widely. This is procurement of the growing amount of equipment, materials, and services.

Mr. CLAWSON. Just in the operation of the facility?

Mr. BROWN. To run our show, and to operate and maintain the building.

Mr. CLAWSON. All the curators then collect art objects?

Mr BROWN. They are really procurement specialists in another sense.

Mr. YATES. How many do you have?

Mr. BROWN. We have about six principal ones now.

Mr. CLAWSON. Do they do extensive traveling in countries where you might find the kind of art objects you want?

Mr. BROWN. We try to. We find it harder and harder to get things out of countries.

Mrs. HANSEN. Mr. Galifianakis?

Mr. GALIFIANAKIS. I was wondering what is encompassed in the future that you would house in the gallery. You mentioned sculpture and of course portrait work. What else? Is it a mixed artistic media type of thing?

Mr. BROWN. I think there will be, increasingly. In our new building, we are trying to design as much flexibility into it as possible. We cannot pretend to be able to foresee what the artists will come up with. Already they are operating in various technological media involving light and mixed media and we want to have the maximum flexibility for them.

Mr. GALIFIANAKIS. Thank you.

Mrs. HANSEN. Thank you, very much, Mr. Brown.

As usual, you have given the committee a very stimulating and educational morning.

MONDAY, APRIL 5, 1971.

SMITHSONIAN INSTITUTION

WITNESSES

S. DILLON RIPLEY, SECRETARY
JAMES BRADLEY, UNDER SECRETARY
CHARLES BLITZER, ASSISTANT SECRETARY FOR HISTORY AND ART
DAVID CHALLINOR, ACTING ASSISTANT SECRETARY FOR SCIENCE
WILLIAM W. WARNER, ASSISTANT SECRETARY FOR PUBLIC SERVICE
T. AMES WHEELER, TREASURER
JOHN F. JAMESON, DIRECTOR, OFFICE OF PROGRAMING AND BUDGET
RICHARD S. COWAN, DIRECTOR, NATIONAL MUSEUM OF NATURAL HISTORY
DANIEL J. BOORSTIN, DIRECTOR, NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY
FRED L. WHIPPLE, DIRECTOR, SMITHSONIAN ASTROPHYSICAL OBSERVATORY
THEODORE H. REED, DIRECTOR, NATIONAL ZOOLOGICAL PARK
ABRAM LERNER, DIRECTOR, JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

INTRODUCTION OF WITNESSES

Mrs. HANSEN. This morning we have the Smithsonian Institution and our principal witness is Dr. S. Dillon Ripley, Secretary.

Dr. Ripley, do you want to introduce your colleagues who are here today?

Dr. RIPLEY. I am sorry to produce such a groaning board for you today, but it is, in effect, a group that includes some of the bureau directors who will be testifying during the hearing. It seems to me that it would be an opportunity for the committee to see some of our people.

Mr. Bradley, who you know very well, is the Under Secretary; John Jameson, our Budget Officer; Mr. Challinor, the Acting Assistant Sec-

retary for Science; Mr. Blitzer, the Assistant Secretary for History and Art; Mr. Warner, the Assistant Secretary for Public Service; Dr. Whipple, Director of the Astrophysical Observatory; and Dr. Boorstin, Director of the Museum of History and Technology.

We also have Dr. Cowan, head of the Museum of Natural History, Mr. Lerner, Director of the Hirshhorn Museum; Mr. Michael Collins, former astronaut, who will be coming in as head of the National Air and Space Museum; Dr. Reed, Director of the National Zoological Park; and Mr. Wheeler, our Treasurer.

I want to say it is a great pleasure to be here and to be able to speak again to this committee which has been so friendly to our objectives in the past.

INCREASE IN VISITORS

We had difficulty getting here having to walk through the throngs that crowd the Capitol. Right now is also a peak of our holiday visitors and our attendance has come back this year to the level of 1967, the year prior to the riots, when we had over 13 million visitors.

Well, this year we anticipate we will have over 14 million, the way things are going now. How hard it is to get in and out of our buildings. We have another 5 million visitors at the Zoo and about 50,000 a year at Anacostia, our little neighborhood museum.

We are doing very well with the public and the public has more on their minds. They have more demands.

Mrs. HANSEN. I see the press has made some favorable comments about your activities.

Dr. RIPLEY. Yes; I think this is the sort of thing that happens when you become a little bit of an underdog and even the press tries to change their pace a little bit.

GENERAL STATEMENT

Mrs. HANSEN. Great. I am sure you have a general statement, Dr. Ripley; and if you will insert it in the record at this point and summarize it for us.

(The prepared statement of Dr. S. Dillon Ripley follows:)

Madam Chairman and members of the committee, it is a pleasure to appear again before this committee to review the Smithsonian Institution's accomplishments over the past year and to enlist your continued interest in and support of our programs. This coming August will mark the 125th birthday of the Institution. We are enthusiastic about the future and confident that our continued efforts at increasing and diffusing knowledge will result in contributions to the Nation as significant as those in the past.

NOTABLE EVENTS OF THE PAST YEAR

There have been many notable events and achievements during the past year which I would like to summarize briefly for the record.

Visitor attendance to the buildings on and in the vicinity of the Mall increased by approximately 3,200,000 persons in fiscal year 1970 over the previous year, from 10,400,000 to 13,600,000. Through February of this fiscal year we have had 8,024,000 visitors, slightly ahead of last year's pace. An additional 50,000 persons visit the Anacostia Neighborhood Museum and approximately 5 million come to the National Zoological Park each year. This use testifies to the growing interest in all public institutions as educational and cultural resources.

Construction of the Joseph H. Hirshhorn Museum and Sculpture Garden began in March 1970. As of now, the ground floor slab is 75 percent complete, the foun-

dation walls are complete, and the Mall level slab is 30 percent finished. We project that the building will be ready for occupancy in the fall of 1972, with a public opening to follow within 6 to 9 months.

Also in April 1970, the first issue of the *Smithsonian* magazine appeared. We now have some 230,000 associate members and are very pleased by this new capability to diffuse knowledge. As Joseph Henry, the first Secretary of the Smithsonian, stated in 1852, "The worth and importance of the Institution are not to be estimated by what it accumulates within the walls of its building(s), but by what it sends forth to the world."

A special word should be said about the coming to the Smithsonian of the Archives of American Art in May 1970. This extraordinarily important archival resource will strengthen our position as a leading national center for the study of American art and civilization.

More than 750,000 persons were drawn to the Mall during the 5-day period including the Fourth of July to participate in the annual Festival of American Folklife. At the Festival 350 craftsmen and musicians demonstrated the survival of America's cultural heritage. Although drawing participants from many States, each year we highlight one or more regions—Pennsylvania in 1969, Arkansas in 1970, and Ohio and the Indians of the Pacific Northwest this coming summer.

With funds appropriated to the Institution we have initiated a special interbureau program pointing toward the celebration of the American Revolution Bicentennial in 1976 and a reappraisal of our national experiences. We have a similar Institution-wide effort underway to develop long-range ecological assessments critical to improving man's understanding of the physical and biological environment upon which human society depends.

The current and growing concern for the safety of the food we eat has, as in so many cases in the past, led scientists to the collections in the National Museum of Natural History for clues to the answers which are being sought. The determination of the levels of mercury found in seafood products is a good example of the service which our staff is able to render. Analysis of specimens in our collections shows that as far back as 1878 tuna contained levels of mercury similar to those discovered recently in canned fish which were subsequently withdrawn from the market. Specimens of tuna from the Gulf of Mexico and the Atlantic and Pacific Oceans taken as far back as 80 to 90 years ago show concentrations of methylmercury ranging from 0.04 to 0.64 parts per million. As you are aware, the present safety guideline established by the FDA is 0.5 p.p.m. and seafood containing a higher concentration is deemed unsafe for human consumption.

DDT had long been suspected as exerting a harmful effect on the reproduction of birds. Recent studies on specimens in the National Museum of Natural History have confirmed this suspicion. A comparison of pre-pesticide birds' eggs with eggs of the same species of birds today shows a dramatic reduction in shell thickness. This increased fragility results in breakage of eggs during incubation and, of course, a lower reproduction rate. One species thus seriously affected of great concern to biologists is the fish eating hawk, the Osprey. Specimen Osprey eggs in the Museum's collections, some of which date back as far as 100 years, demonstrate convincingly this change in shell thickness.

We are proud of the initiation during the past year of the first programs for the Woodrow Wilson International Center for Scholars. The opening in October 1970 of fellowship and guest scholar programs is a further realization of the Smithsonian's traditional international role. President Nixon and Senator Humphrey, the Chairman of the Center's Board of Trustees, honored us by dedicating the Center on February 18, 1971.

The Encyclopedia of North American Indians is well along toward development. Planning has been completed, writing assignments have been partially made, and we are very optimistic that this comprehensive set of standard reference works will be published by July 1976 as part of the Institution's contribution to the American Revolution Bicentennial.

Public Law 91-629, approved December 31, 1970, reauthorized appropriations for the National Museum Act in the amount of $1 million each year, a portion of which would be made available by the Smithsonian to the National Endowment for the Arts and the National Endowment for the Humanities. This funding for training, conservation, and exhibits techniques is essential if the Nation's museums, now being visited by perhaps as many as 700 million persons a year, are to continue to offer educational and cultural opportunities.

Recently, we were pleased to announce the selection of a Director for our National Air and Space Museum after a long and intensive search. Astronaut Michael Collins will join our staff on about April 12 and immediately begin to help us develop our plans for the future.

Radio astronomers at the Smithsonian Astrophysical Observatory, coordinating research in the laboratory and at the telescope, have recently observed in space such surprising substances as methanol (wood alcohol) and formic acid (the agent that makes an ant bite painful) and are searching for still more complex molecules such as amino acids which are the building blocks of life.

On April 6, 1971, we will open a major exhibition in the National Museum of History and Technology featuring the music-making machines that have revolutionized the performance, reproduction, and dissemination of music in America. This will be an additional attraction for the more than 5 million persons who visit this museum each year.

These are but a few of the highlights of our activities during the past 12 months. Many more have been described in the recently issued *Smithsonian Year*, copies of which have been given wide distribution. We might add that this annual report has been revised and streamlined to make it a more useful document and to reduce the very substantial printing costs of previous editions.

PLANS FOR THE FUTURE

I would now like to identify in a summary way our 10 major objectives and guiding principles for the next several years. Additional details on our plans and requirements that will help us realize these objectives have been stated in our budget estimates and will be discussed during the course of the hearing.

(1) The central concerns of the Smithsonian represent national needs for the kind of sustained commitment that can be made only by an institution with a strong sense of continuity, tradition, and concentrated purpose. We believe that our first responsibility is to continue the general lines of endeavor that have marked the past 125 years: basic research in selected areas of national interest; development and maintenance of the national collections in science, history, and in the arts; and education of the public through exhibitions, publications, and lectures.

(2) An overriding concern must continue to be the quality of the professional staff effort within the Smithsonian in order to sustain the basic scholary program. We cannot too strongly emphasize the achievement of an adequate level of technical and financial support for this effort.

(3) There are a number of courses we should avoid. We must decline requests to assume responsibilities which we believe to be too extensive. For instance, while cooperating with universities we should not seek to assume their distinctive functions. And, while cooperating with and assisting museums elsewhere, as, for instance, through the National Museum Act, we should provide guidance and expert training, not assume a policy or directional role.

(4) Without infringing upon the autonomy of our bureaus and their distinctive objectives, we shall try to emphasize the advantages of existence as a community of scholars. Our desire to maintain unity of outlook and professional endeavor suggests that the Smithsonian should select program developments that reinforce its existing activities.

(5) The museum as an institution for communicating with the public at large is one focus for Smithsonian concern. The other focus is on the vigorous prosecution of lines of laboratory studies which, if it were not for the Smithsonian and companion institutions, would not receive the attention that the national interest requires. Whenever we constitute a museum it is with due emphasis upon its scholarly responsibilities in adding to the store of man's knowledge. These two foci of concern should continue to determine the Smithsonian's course.

(6) Begining this year, the observance of the Bicentennial of the American Revolution will become a predominant factor in the development of Smithsonian programs. Within the settings of our museums, members of the public may seek a reappraisal of our national experience with due reference to its international setting. Fresh insights of historians should be interwoven with superb offerings of objects and art works that portray our Nation's course over the past two centuries and suggest paths for our continued development.

(7) From the studies of the sources of energy and means for its use by living systems to the explanation of biological diversity, the Smithsonian represents an

unexcelled multi-disciplinary array of information resources and professional scientists. This puts the Institution in a unique position to improve our understanding of the physical environment upon which human society depends. We anticipate increasing demands upon our efforts in systematic biology, anthropology, astrophysics, and environmental studies as important resources in the national effort in environmental improvement.

(8) One of the most important unfulfilled hopes for the Smithsonian is that a great national museum might be developed on the Mall to recreate the experience of man's great adventure: flight and space exploration. We also aspire to present insights into significance of the space age for everyday life and to communicate an understanding of the scientific discoveries originating from space exploration.

Thus, we are coming to appreciate that it is not only machines, or relics of the past, or evidences of the skills of craftsmen that concern us, but man himself. Thus, we propose also to continue to study the idea of a museum of man which would convey additional knowledge about man and society.

(9) The birthright of today's citizen is an understanding of the forces shaping himself and his world. It is to museums that many people look for access to the works of artists, an appreciation of the past, an awareness of the scientific view of nature, and for portents of the future. All museums must experiment with new techniques of exhibition and embark upon research aimed at improving their effectiveness in popular education. The quality of our response to this democratic vista will continue to be a matter of overriding concern to the Smithsonian in years to come. We are hopeful that the programs under the National Museum Act can be implemented fully.

(10) From the amassing of great national collections have arisen difficult questions about how to guarantee access to the information they contain. This will call for innovative designs of indices, catalogs, and ways to manage these collections as information resources. Perhaps some of the techniques developed for the management of voluminous flows of data from satellite observations or oceanographic stations may be adapted to the needs of the future. If man is not to be engulfed by a rising tide of reports, paper, data, computer printouts, and memorabilia, organizations such as the Smithsonian must pioneer in winnowing and selecting from the spate of messages that now fill the communications channels of our advanced technological civilization. In our role as custodian of the Nation's collections we must try to serve the public interest in improved management of scientific and scholarly information. The Science Information Exchange is functioning in a related capacity.

BUDGET REQUIREMENTS FOR FISCAL YEAR 1972

Turning now to our budget requirements for fiscal year 1972, these are presented in four categories: "Salaries and Expenses" for the regular operating programs in our bureaus and offices and for special programs of an institutionwide nature; "Salaries and Expenses" for the operation of the Science Information Exchange; the special foreign currency program; and restoration and construction of buildings. In total, we are requesting fiscal year 1972 appropriations of $58,751,000, an increase of $12,794,000 over the estimated base of $45,957,000 for fiscal year 1971 as shown in the President's budget. I would like to discuss each of our appropriation requests in some greater detail with appropriate reference to our planning guidelines and objectives.

SALARIES AND EXPENSES FOR REGULAR AND SPECIAL PROGRAMS

For regular and special programs, the Institution is requesting a "Salaries and Expenses" increase of $8,672,000 on our estimated fiscal year 1971 base of $36,332,000 for a total of $45,004,000. The estimated 1971 base includes $1,630,000 of essential pay supplemental funds to cover three pay raises affecting Smithsonian general schedule and wage employees in fiscal year 1971. It does not include a proposed pay supplemental of $563,000 to fund the general schedule pay raise effective on January 10, 1971, which occurred too late to be reflected in the President's budget. These pay supplemental appropriations are an absolute necessity in order to avoid worsening a situation of already short support funds. We have absorbed this year approximately $68,000 of higher costs of the health benefits program resulting from Public Law 91–418 which became effective on January

1, 1971. Absorption of this cost in fiscal year 1972 will amount to about $140,000.

Included in the requested increase of $8,672,000 is an amount of $1,154,000 for necessary pay costs of current authorized staff, a portion of which is aimed at meeting the full-year costs of the pay raises. The balance of the requested increase, $7,518,000, is for two broad purposes. The first is a phased elimination of shortages in technicians, very necessary library materials and services, instruments and other equipment for research, electronic data processing, and other support requirements. The second is for the continued development of programs entrusted to us by the Congress.

The increase of $8,672,000 is distributed as follows:

An additional amount of $3,791,000 is requested for the operations of the science bureaus and offices. This program increase will permit improved basic research, documentation, and education related to the Institution's traditional responsibilities in anthropology, astrophysics, biology, geology, and the air and space sciences. Activities will range from investigations that contribute to our understanding of the origin and mechanics of the universe, through investigations on microscopic organisms in the ocean depths, to the development of man as shown by artifacts and productivity, including his air and space achievements.

An amount of $1,245,000 is sought as an increase for the Smithsonian's history and art activities to permit an understanding, illumination, and appreciation of our country's history through its material culture, its technology, and its art. No other institution has a greater opportunity to demonstrate what Americans have accomplished.

A funding increase of $183,000 is requested for the United States National Museum activities, primarily for museum registration and conservation purposes.

Additional funding of $118,000 is required for the Smithsonian's public service activities that enable it to expand its public reach beyond the walls of its centrally located museums and art galleries.

An increase of $1,926,000 is sought in the special programs category of the Smithsonian's budget request primarily for the environmental science program of environmental assessment, monitoring, and prediction; for the National Museum Act; and for a major exhibition on the World of Living Things. Continued funding of our American Revolution bicentennial program also is being requested.

And, finally, $1,409,000 are required to allow the administrative and central support services to give adequate technical and management assistance to the museums, galleries, and research laboratories and the Buildings Management Department to provide an acceptable level of maintenance, operation, and protection services to the physical plant and program activities.

SALARIES AND EXPENSES FOR THE SCIENCE INFORMATION EXCHANGE

Traditionally, the Smithsonian has been involved with the production and management of data required for research. Much of this effort, of course, has been directed at the information associated with our collections, but we have been involved in significant other ways. The Science Information Exchange was established in 1949 by a number of Federal agencies for the purpose of coordination and communication in research programing. Since 1953 the Exchange has been operated by the Smithsonian, first with funds provided by approximately a dozen agencies and since 1964 by contract from the National Science Foundation. This has been at the level of $1,600,000 for the past 2 years primarily to meet the costs of data acquisition and storage. The cost of output services is now met by user charges. The Science Information Exchange provides the national research community with a comprehensive, computerized source of prepublication information about research programs that are planned or actually in progress in the biomedical, social, behavioral, physical, and engineering sciences. About 100,000 records of currently active research are received annually and thousands of inquiries are being answered to assist research investigators and administrators in the planning and management of projects and programs.

Over the past year, discussions with the National Science Foundation, the Office of Management and Budget, and with user agencies have concluded that centralized responsibility for funding and management makes sense. For fiscal year 1972, the Smithsonian is requesting an appropriation of $1,400,000 for data input. We will make every effort to increase the income from users of the Exchange services in order to meet some portion of the trimmed budget requirements for data bank costs. This income amounted to $211,000 in 1970 and is estimated op-

timistically at $375,000 in the current year. If this effort is unsuccessful, the Exchange would be terminated in the latter part of fiscal year 1972.

SPECIAL FOREIGN CURRENCY PROGRAM

The requested increase for fiscal year 1972 for the special foreign currency program is $3 million for a total appropriation of $5,500,000. The increase is essential to support urgent field studies in the Smithsonian's traditional disciplines of astrophysics, systematic and environmental biology, and anthropology which today are recognized as basic to an understanding of man's environment and cultural change. The increase is important also to insure support for ongoing and new research which contributes to U.S. national programs under, for example, the International Biological Program under Public Law 91–438, the International Decade of Ocean Exploration, and the cooperative programs abroad under the Endangered Species Conservation Act.

Additional funds are needed to support pending and new research projects from some 22 U.S. institutions. Despite the slight increase provided in the fiscal year 1971 appropriation, this year's funding is sufficient only to support ongoing projects and these only at a reduced level. There will be no money for new research. And, finally, the increase is essential to permit multiyear obligation of funds for research in those "excess" currency countries, like Tunisia and Morocco, where the excess designation by the Treasury Department is subject to termination at any time because the excess accounts are small. Failure to obligate funds for a reasonable number of years for projects in such countries could prematurely terminate worthy studies by U.S. institutions without receiving full value from funds already expanded.

This program has had many accomplishments. It has benefited more than 200 institutions in 25 States. More than 107 research publications, 214 postdoctoral research opportunities for Americans, and 220 training opportunities for American doctors of philosophy candidates have resulted.

The General Accounting Office has recently concluded that "considerable greater amounts (of U.S.-owned Indian rupees) than are now being spent could be beneficially used." India is one of the most important areas for the conduct of comparative ecological studies. Our request for Public Law 480 moneys in fiscal year 1972 reflects this and includes vital proposals to conduct studies in India comparable to those initiated in the United States under the International Biological Program and under the Smithsonian Tropical Research Institute.

CONSTRUCTION AND RESTORATION AND RENOVATION OF BUILDINGS, NATIONAL ZOOLOGICAL PARK

We have recently entered into contract with the architectural firm of Faulkner, Fryer, and Vanderpool, for a comprehensive revision and updating of the master plan for the physical development of the zoo including schematic drawings of all facilities. This will give us the most complete plan we have ever had with reliable cost estimates at today's construction cost levels. We will apply the very latest techniques in animal habitat design and construction as well as those for the accommodation of visitors to the zoo. This redesign will require 1 to 2 years. In the interim, an appropriation of $200,000 is requested for fiscal year 1972 for repairs and continued maintenance on existing facilities in order to keep them in usable condition. This is the same level of appropriation as in the current year. Included in the necessary projects are repair and replacement of portions of the perimeter fence, the addition of water main lines, and repairs to buildings, cages, and sidewalks.

RESTORATION AND RENOVATION OF BUILDINGS

Our total request for restoration, renovation, and improvements to existing buildings amounts to $1,050,000. Included in this request are four projects.

An amount of $400,000 is required to complete the program of restoration of the Renwick Gallery. This gallery will serve the Nation as an exhibit center for American creative achievements in crafts, design, and the decorative arts. In addition to staging temporary exhibitions originating from outside the Institution, the Renwick will include presentations based on the Smithsonian's extensive collections. We hope to make this gallery an important national force in promoting the encouragement and understanding of American design. The re-

quested funds will be used to replace the sidewalk, install exterior lighting fixtures, restore the cast-iron grillwork on the roof and windows, replace damaged marble, install an essential bird-proofing system, and provide storage facilities and public gallery furnishings. This will complete our requests for the restoration of this building. With this requested funding, the total appropriations for the Renwick Gallery will amount to $2,770,000. I might add that this is well under the 1965 estimate of restoration costs if that estimate is adjusted to reflect the very substantial inflation in construction costs over the past 6 years.

Funding of $125,000 is requested to correct a serious sewer system problem in the Smithsonian Building, the Arts and Industries Building, and the Freer Gallery of Art by separating sanitary wastes and rainwater runoff. We have had serious flooding in the basements of these buildings during heavy rains.

We are also requesting $25,000 to modify space at the Smithsonian's Lamont Street building to house essential library materials, space for which does not exist in the mall buildings.

And, as a very important request, we are seeking an appropriation of $500,000 to prepare plans and specifications for Bicentennial facilities to be added to the History and Technology Building and to design exhibits for these facilities. The provision of these facilities, to be located on the terraces of the building, is central to this Museum's carrying out its planned twin themes of the Bicentennial celebration: what the nations of the world gave to the United States and what our Nation has given to other nations.

CONSTRUCTION

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

An appropriation of $3,697,000 is requested for fiscal year 1972 to liquidate the remaining contract authority. This appropriation, with the $1,000,000 legally committed by Mr. Hirshhorn, will complete funding of construction contracts and supervision of construction.

PLANNING AND REDESIGN

NATIONAL AIR AND SPACE MUSEUM

We are asking for an appropriation of $1,900,000 for planning and redesign of a building for the National Air and Space Museum. The object of this redesign from the authorized design of 1966 would be to apply the latest design, construction, and exhibit techniques to lower the cost of the building to some prudent ratio in today's expanding construction market between design and expectations and real dollars while still providing outstanding facilities to display the many unique aeronautical and astronautical items in the collections. We have the objective of opening this new museum building in July 1976 as a major element of our contribution to the commemoration of the Bicentennial of the American Revolution.

This completes an overview of the Smithsonian's budget requests for next year. For almost 125 years, the Institution has provided the American people with greater knowledge and appreciation of their common environmental, cultural, and technological heritage. This has only been possible by the support of the Congress. This support is deeply appreciated and with your continued involvement in our programs, we are confident of our ability to serve in the future.

Dr. RIPLEY. I do have a statement, Madam Chairman, and I would like to summarize it.

SIGNIFICANT GIFTS AND ACCESSIONS

In connection with our statement, I would like, if I may, to place in the record a list of some of the significant contributions that have been made to the Institution this year, on the private side, as a result of our own efforts.

It is only with the support of the general public on the one hand and donors on the other, that we are able to live up to our commitment

as an institution responsible for acquiring and caring for great collections.

This effort is largely subsidized, in effect, by the private sector, by donors who give us things for which we have never expected to ask the money from the Congress.

I think you would be greatly impressed and at an appropriate time, Madam Chairman, I have some objects which I would like to bring out which are rather striking and which will signalize the kinds of things that we have been receiving or acquiring during the year.

Mrs. HANSEN. Please insert in the record the significant accessions and gifts to the Smithsonian during the year.

(The information follows:)

SIGNIFICANT ACCESSIONS AND GIFTS TO THE SMITHSONIAN

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Six hundred pieces of English yellow-glazed earthenware dating from 1780–1830 (gift valued at $400,000).

Political memorabilia including an equestrian statue of Washington exhibited at the Centennial Exposition of 1876, a life-size bust of Lincoln by Leonard Volk, and other objects (gift valued at $5,500).

Ramsden telescope, ca 1775 (gift valued at $7,000).

Collection of 9,000 classic and rare 16th–18th century philatelic library and literature items (gift valued at $55,000).

Collection of 50 rare gold and platinum coins including items from ancient Rome, Western Europe, colonial Mexico, as well as the Far East (gift valued at $67,000).

Memorabilia of the Honorable John W. McCormack, Speaker of the House of Representatives (gift by the Speaker) and memorabilia of the Honorable Everett M. Dirksen, Senator from Illinois (gift by family).

NATIONAL COLLECTION OF FINE ARTS

Watercolor *"Off York Island Maine"* by John Marin (gift appraised at $20,000).

Painting *"Blessing of the Fleet"* by Helen Frankenthaler (gift valued at $18,000).

Sculpture *Victory Torso* by William Zorach (gift valued at $50,000).

NATIONAL PORTRAIT GALLERY

Self portrait *Thomas Sully* (gift appraised at $20,000).

Portrait *Harry Truman* by Greta Kempton (gift).

Portrait *John Randolph of Roanoke* by John Wesley Jarvis (gift appraised at $7,500).

NATIONAL AIR AND SPACE MUSEUM

Telegraph key used to send message of successful flight of Wright Brothers at Kitty Hawk.

Two lunar sample boxes used to carry Apollo 11 lunar rocks to earth (transferred from NASA).

Twelve varieties of Soviet Cosmonaut space food. Only examples known to be in United States (gift).

Apollo 11 Command Module to be transferred to NASM upon completion of U.S. tour.

ARCHIVES OF AMERICAN ART

Archival collection of some 5 million items; 3,000 rolls of microfilm comprising some 3 million documents; 30,000 photographs; 20,000 printed catalogues, pamplets, etc.; all valued at approximately $2,500,000. Plus about $200,000 in cash and securities.

NATIONAL MUSEUM OF NATURAL HISTORY

A completely restored fossil skeleton of the dwarf mammoth, *Elephas falconeri*. This Pelistocene mammal from Sicily is one of the smallest elephants known (gift from the donor who also presented the largest known African elephant to the museum in 1959).

Several hundred ethnological specimens with photographic documentation of disappearing crafts and arts collected for the museum under foreign currency programs in Ceylon and Pakistan as part of the Department of Anthropology's ancient technology and ethnotechnology program of studying disappearing technologies as a result of industrialization in South Asia. Cooperative research between National Museum of Natural History and University of New South Wales, Sydney, Australia.

The general collections of the cruises of the *Anton Bruun* and *Te Vega*, consisting of 60,000 specimens of marine mollusks from the Indian Ocean. These acquisitions form the data on which much mollusk research is based; as such, it is extremely valuable to countless scientists.

A collection of 2,000 specimen lots of "sea fans" (gorgonians) from the eastern Caribbean. A gift from the Rosenthal School of Marine and Atmospheric Sciences, University of Miami, Miami, Fla. The scientific value of this collection is beyond estimation.

More than 1,000 specimens of fossil ostracodes from several dozen cores were obtained from drilling into the deep ocean floor. (Deep-sea drilling project—NSF). These tiny animals which lived on the bottom during the time of ocean formation provide evidence supporting the theory of "continental drift" which postulates that North America, Europe and Africa were at one time during the Cenozoic a single land mass.

A 77 carat cut topaz gem of high quality (gift valued at $20,000).

The gift of the personal herbarium of Dr. E. Lucy Braun, consisting of 13,000 plant specimens from the Eastern United States. The collection contains many rare flora species and represents an extremely valuable addition to the Museum Herbarium.

Land and freshwater mollusks collections of 1,200 specimens from Thailand. This acquisition will aid in making the collection from this earth region among the finest in the world. A gift from SEATO through Dr. Rolf Brandt.

SMITHSONIAN MAGAZINE

Dr. RIPLEY. Now, during this year, another private enterprise which has been initiated has been of great importance, we feel, to the development of understanding by the public of what the Institution is all about.

This is the National Associates magazine which appeared just a year ago this month in its first issue.

At the present time, we have some 230,000 associate members outside of the Washington area from all of the States of the Union. These are people who, first of all, receive the magazine as a token of our responsibility for the "increase and diffusion of knowledge" and who will eventually receive, we hope, additional educational materials as part of the Associates organization.

ARCHIVES OF AMERICAN ART

I should mention particularly the coming to the Smithsonian of the Archives of American Art this past year. This is an extraordinary important archival resource in American art. Its acquisition is implicit in the legislation which required us to set up the National Collection of Fine Arts, on the one hand, to study the history of American art

and the National Portrait Gallery, on the other, to study the development of American history through iconography.

FESTIVAL OF AMERICAN FOLKLIFE

The folklife festival was an even greater success this year. This seems to be an area in which we can bring the museums to life on the Mall.

We had some 750,000 visitors for the 4 days of the festival which was dedicated this past year to the crafts and arts of America's cultural heritage in Arkansas.

Many Members of the Congress from Arkansas came. The Governor from Arkansas came. We had an extraordinarily good turnout because Arkansas happens to be a place which has done a great deal for folklife revival and perpetuation.

This coming summer, Ohio is our featured State, and Indians of the Pacific Northwest also are coming.

Mrs. HANSEN. Isn't this the Makah Tribe?

Dr. RIPLEY. I am going to mention the Makah Tribe in a moment, Madam Chairman.

We have been in touch with them and, in connection with our National Museum Act budget request this year, we have had some very positive responses from the Makah who want us to help them train technicians to build their own museum for their own art artifacts. I will be mentioning that in due course.

We are particularly interested and particularly delighted that they have initiated requests to us for training under the provisions of this act.

BICENTENNIAL AND ENVIRONMENTAL SCIENCES PROGRAMS

With funds especially appropriated to us this year by the Congress, we have initiated a special interbureau program in the institution toward the celebration of the American Revolution Bicentennial in 1976 and a reappraisal of our national experiences. In the same way, with another special appropriation this year, we have started long-range research activities in the realm of ecological assessment for which we feel we have a special capability.

(Discussion off the record.)

Dr. RIPLEY. The word "ecology" is being used so much by the public or newspapers as either a panacea or a threat.

In connection with our environmental concern, we have been quite fascinated to find something that I have been feeling for a long time; and that is that in so-called basic research it is almost impossible to preserve any demarcations or lines.

MERCURY LEVELS IN SEAFOOD PRODUCTS

We have always had the reputation of being the great center of the Government for basic research. For instance, here are our collections, which tend now to prove one way or the other whether a certain mercury level is found in fish.

Mrs. HANSEN. I am interested in your comment in your general statement on mercury pollution. At the time mercury pollution in tuna became evident I called several Federal agencies and they said they were not aware of how much the level of mercury was in tuna, years ago.

I notice in your statement that an analysis of specimens in your collection shows that as far back as 1878, tuna contained levels of mercury similar to those discovered recently in canned fish.

Dr. RIPLEY. Unless we maintained these collections to work with, no one would have them for reference purposes today such as tuna comparison.

Mrs. HANSEN. Have you collected canned tuna specimens through the years? For example, there was a cannery in my own district in the 1880's that used to win the national prize at Copenhagen and at London. Did you make collections at that time of the canned product?

Dr. RIPLEY. Madam Chairman, I do not think we specifically made collections of canned tuna, but we were collecting fish in the field at that time because the second Secretary of the Smithsonian started the U.S. Fishery Commission and in addition to being Secretary was the U.S. Fisheries Commissioner for something like 6 years. His name was Spencer F. Baird.

We were collecting first along the Atlantic Coast because it was more accessible to us. The vessel we had was called the Albatross. We collected later on the west coast.

Right up through to the Alaskan Coast. It is these very specimens that we have been using to determine the real facts in contrast to, you know, the scare or the publicity.

Madam Chairman, I, too, find that a very interesting statement.

SOURCE OF THE MERCURY

Mrs. HANSEN. Can your scientists tell what the origin of that mercury or methymercury was at that time?

Dr. RIPLEY. Assumedly, this is run off from nearby land masses and is not necessarily due at all to the use of agricultural chemicals, but results from the presence of mercury in various kinds of soil at that time.

Mrs. HANSEN. There were relatively few chemicals in use in those years.

Dr. RIPLEY. Yes; there is a natural runoff in contrast to the artificial runoff.

Mr. CLAWSON. Would it be a safe conclusion to say this is nature at work?

Dr. RIPLEY. Yes; but again it is very local, you see. You get different conditions.

Mrs. HANSEN. Doesn't this depend on the soil conditions?

Dr. RIPLEY. Depending on the geographical areas.

Mrs. HANSEN. Are you still collecting samples?

Dr. RIPLEY. We are still collecting for various reasons, but we do not have enough jars to go around and enough alcohol in cases to hold the specimens.

As Joseph Henry, the first Secretary of the Institution, pointed out, the important thing is to make collections and continue to maintain them. The sad thing is when you have not made the collections or when you have lost them before you have studied the gaps in knowledge. For example, the Lake Champlain fish collection was lost at the time of World War I. Now they have no way of checking against present rates of pollution or the occurrence or lack of occurrence of particular species of aquatic life in that huge inland lake.

Mr. CLAWSON. What I wanted to get to was, your statement indicates that you have a barometer measuring device for the presence of this metal in fish as far back as 1878.

Dr. RIPLEY. Yes.

Mr. CLAWSON. Are you currently with your samplings examining data for mercury back to 1878?

Dr. RIPLEY. In a random way, yes, as for instance at our Chesapeake Bay Center where we might attempt to determine the presence of metals or minerals in fish specimens. Generally, we would not undertake this task unless we were specifically asked to by the Bureau of Fisheries or some other organization. We would not do it automatically.

Mr. CLAWSON. Did your sampling commence back as far back as 1878? Did it delineate any geographical areas where there was more of an acuteness than in other areas?

Dr. RIPLEY. By having the collection, we are able to go back and in effect, sample for the first time.

In 1878, no one was checking on the presence of mercury unless it was for some specific experiment.

Having the collection is the important thing.

Once you have it, you can go back in time like going to the dictionary or to the encyclopedia for reference.

Mr. CLAWSON. My question is are you able to tell from those samples that were taken where there is a geographic area where the complexion of the soil or whatever causes this to occur?

Dr. RIPLEY. We have not followed that through yet. We would not, unless we were specifically asked to.

EXAMINATIONS FOR OTHER SUBSTANCES

Mr. CLAWSON. We had testimony here from the Bureau of Sport Fisheries that they are examining for some 11 metals.

Has the Smithsonian, using its old collection, examined for any of those others mentioned?

Dr. RIPLEY. Dr. Cowan, would you know anything about that?

Dr. COWAN. We were asked recently by that agency, I believe, to check our collection of eastern, coastal lobsters, for specimens collected in the late 1800's that could be assayed to determine the levels of not only mercury, but some of the others as well.

We responded to these requests from a sister agency for assistance by trying to find what we had in the collection.

In this particular case, you will be interested to know that of the eastern lobster we only had 20 lots and when we got through sorting these specimens, we had about three that were really useful.

This shows why these specimens have to be continually added to the national collections. Here is an example of a shortage of a local species that we could not provide.

Mr. CLAWSON. So you were not able to advise them.

Dr. COWAN. In only a limited way, because there were not enough specimens of this lobster to be statistically significant.

You need more than one or two examples to be able to help them very materially.

Dr. RIPLEY. For some specimens, like lobsters and shrimp, you have to be very determined with a very strong conscience to collect, especially nowadays.

EFFECTS OF DDT ON BIRDS EGGS

Well, this kind of thing is terribly useful and important. I have an exhibit also of the DDT problem.

Mrs. HANSEN. I notice you have specimens of the ospreys and I assumed that you have checked your collection of shells against today's shells.

Dr. RIPLEY. If you would like to look at them, I have two samples of eggs right here.

Thank you, Dick. This is a good, old-fashioned brown pelican egg from the west coast.

This is the specific pelican which is in very much trouble now. This set of three eggs was collected in 1894.

This is a nice kind of pelican egg that I should like to lay myself if I could do so. That is a proper pelican egg that you see.

Now, let me show you a 1969 specimen. It has to be encased in this box because it is so fragile. That is what the poor creatures are laying now. This thin-shelled egg is not capable of being sat on or incubated. It crushes under the weight of the bird.

Mr. CLAWSON. It was not that form when it was laid, was it?

Dr. RIPLEY. No, no; it is like tissue paper and no self-respecting pelican can produce a viable egg.

Mr. YATES. What is that attributable to?

Dr. RIPLEY. To the presence of DDT in the atmosphere which, as a result of its metabolite function, when it gets into its system, the bird has a chemical reaction in the egg duct and as the forming egg passes down the forming duct where it is encased with calcium, there is virtually no calcium left and as the egg is finally laid, it is the unviable thing you see here.

As a result, there is a terrific crisis. If you go to Monterey where the pelicans used to be nesting, you will see just a few old birds sitting around like an old geriatric rest home because there are no young to be born.

Mr. CLAWSON. Has this had any effect on other birdlife or peculiar to the pelican?

Dr. RIPLEY. This has had a particular effect on a species of birds at the end of a food chain. The DDT begins to concentrate with plankton and unicellular life and peaks in predators like sea birds which are part of the economy of nature—hawks, some owls, falcons, and so on, all now are laying unviable eggs in relative degrees.

Some species like our national bald eagle are becoming virtually extinct in the Southeast, although there is still a good population in Alaska.

The osprey, one of the most beautiful of the coastal fishing birds, is almost vanished, although we do have a colony in the Chesapeake Bay that for some reason or another continues to lay fairly good eggs. We have been robbing Peter to pay Paul.

We have been taking an egg or two out of their nests and putting them in colonies in Connecticut where for years they had been laying nothing but infertile eggs to see if the young retain the same effect or whether they will be able to lay a viable egg.

On pelicans, the State of Louisiana is in a terrible flap about this. They have a similar crisis.

Mr. CLAWSON. You are completely convinced this is the DDT?

Dr. RIPLEY. It has been proved over and over again. One of my graduate students when I was at Yale started working on this and found these metabolites. This was in the early 1950's and it is directly correlated with the massive use of DDT and pesticides beginning in those years.

Mrs. HANSEN. The Bureau of Sport Fisheries and Wildlife testified a few years ago that there are very few birds that are not affected in some way. One, interestingly enough, which was not affected was the pheasant. Nothing seems to disturb the pheasant.

Dr. RIPLEY. Well, it varies in certain areas. The kind of substances used in the South, for instance in the rice fields, are very hard on ducks and so on.

The advantage of having a collection of these eggs is that we can actually measure by a cross section of the thickness when the pesticide has begun to hit that population. For years, we were collecting eggs thinking that they were pleasant to have around, they did not take up too much room, and they were interesting as a kind of auxiliary to general studies or classifications of birds. Now, they have suddenly turned out to be very significant, because you have all kinds of historical chronologies and dates from them.

Some of these dangerous materials travel in the air and get dispursed all around the world.

DDT was brought from Africa to the Caribbean because of the use of chemicals. The blowoff with the constant winds caused many problems there.

Mrs. HANSEN. And DDT was also used in the malaria control program.

Dr. RIPLEY. Yes. Although the DDT may have to be used for malaria, it can be used locally in the house or just around the human habitations.

Mosquitos do not travel more than 100 feet. I am thinking of the tropics where you do not need to use blanket applications.

Mrs. HANSEN. Yet, Federal technicians did go out and show them how to use it in mass application.

Dr. RIPLEY. I could not agree more, and I am very sorry about that.

Mrs. HANSEN. The National Museum Act was just recently amended to allow additional appropriations annually of $1 million. A portion of this total would be made available to the Endowments for the Arts and the Humanities.

What proportion is that?

Dr. RIPLEY. $100,000 in the first year.

Mrs. HANSEN. Is this $100,000 to each of the Endowments?

Dr. RIPLEY. Yes, $100,000 to each Endowment for a total of $200,000. This act embodies a sort of effectuation of what the Smithsonian has actually been doing for many years, and that is responding to inquiries across the country from other museums or burgeoning museums, growing museums. These museums ask us, how do you train a technician; how do you develop an exhibit case; what kind of techniques should be used in the preparation of the open part of the exhibit which the public comes to.

We are always being sought out as the father and mother of this kind of expertise, how to make exhibits, how to do them, how to develop technical reports.

Mrs. HANSEN. You remember this committee criticized you because you did not do more in this area.

Mr. RIPLEY. Yes, Madam Chairman; we find that we get it both ways. If we do not have the money, we cannot do it. We cannot do it without the support people and we get criticized because we do not have the money to do it with.

I thought it was interesting that the Makahs came to us this year in connection with the discussions being held by the Center for the Study of Man. The people had been having tribal councils as to the preservation of the cultural and archeological heritage of the Indians and asked us if we would support the concept of their building their own museum and said they wanted help from us on the technical facilitation of this.

This is just the kind of thing we want to hear. If an Indian tribe, tribal group, actually wants to do this, what could be better, what could be more self-respecting?

Mrs. HANSEN. I think the Makahs are extremely fortunate that they have more artifacts left than probably any of the other northwest Indian tribes. This is because they have been up on Cape Flattery by themselves and they were far more interested than the other tribes in preserving their own culture.

Dr. RIPLEY. We have been astonished at the depth and richness of their archeological sites. There is a vein several feet deep where Washington University has been working. They have promised the Indians that they will bring back the materials and help them arrange them chronologically if somebody else will help them train the technicians.

This is the kind of cooperation that we seek and we are just delighted when an opportunity comes along. Anything that we can do

to help the Indian tribes believe that it is important to be an Indian is, I think, part of our original mandate, going back to John Wesley Powell.

NATIONAL AIR AND SPACE MUSEUM REDESIGN

I mention the fact that Mr. Collins is here; and we are delighted that he has accepted the position of Director of the National Air and Space Museum. As you will note, Madam Chairman and members of the committee, we are asking for redesign funds this year.

Mrs. HANSEN. I am sure Senator Goldwater will be pleased to hear that.

Dr. RIPLEY. We have responded to Senator Goldwater very positively and cooperatively. We are delighted with his interest. I may point out that we reminded him that the report of the Senate Committee on Rules and Administration is what has been holding us back each year.

Mrs. HANSEN. I reminded the Senator when he wrote me that funds would have been appropriated if Senate Report No. 1344 dated June 28, 1966, hadn't contained the following language: "Appropriations should not be requested pursuant to H.R. 6125 unless and until there is a substantial reduction in our military expenditures in Vietnam."

Dr. RIPLEY. As long as we have had this holdup on the building, I am delighted with the idea of redesign, because I feel that it is prudent and appropriate.

If you are building a museum for the public which involves a great deal of expertise in design and installation, it is far better to redesign and keep up to date than just simply to take something that was the plan 4 or 5 years ago and try to build it in the presence of today's escalation of cost. We want to take advantage of the changing technologies involved. I am delighted that Dr. Whipple and his colleagues at the Astrophysical Observatory are also interested in this prospect because I think that with the conquest of space, we have a special challenge in this Air and Space Museum to develop various techniques for exhibiting space exploration and its history.

We have a chance based on a sophisticated instrument like the planetarium to develop also a spacearium so that people can visualize our presence and experience in space.

Now, we have been working recently with some very interesting breakthroughs in research at the Astrophysical Observatory and Dr. Whipple is here and will be able to answer further questions about that, but they are mentioned in our opening statement.

PLANS FOR THE FUTURE

I have summarized in the opening statement, Madam Chairman, our plans for the future. These will be efforts by the Central Administration of the Institution to develop consolidated goals; for example, to attempt to continue to develop the quality of our professional staff and the attempt, as a corrolary of that, to develop the technical and financial support we need. There are many problems that we have to face as we go along this path. We have to decline certain responsibilities. We have to assess every opportunity that comes along the way, in terms of our overall goals and objectives. We continue to do this as carefully as we can.

One of our emphases is that our scientists and scholars will act as a community, as a group together, in broad, programmatic ways. In order to do this we must develop appropriate support from the Government and from private sources.

We find that a public institution such as the Smithsonian is one which depends on support of its basic research.

As I mentioned earlier, basic research so often has direct, applied, payoffs that it is difficult to assess whether it is basic or applied research.

In any case, even though the characterization of our research is basic, we must at the same time show how important it is for the public good.

AMERICAN REVOLUTION BICENTENNIAL

The bicentennial is coming up in 1976, and we find more and more that the Smithsonian is expected to participate and exercise a lead characteristic in Washington for the bicentennial.

Mrs. HANSEN. I notice that Dr. Boorstin is no longer a member of the American Revolution Bicentennial Commission. I am sorry to hear that.

Dr. RIPLEY. He is right here and I am sure he would be happy to answer that in case it is phrased as a question.

Mrs. HANSEN. My impression was that he resigned because he was so heavily involved with the bicentennial right here in Washington.

Dr. RIPLEY. I am still on the Commission and I hope he will push me.

Mrs. HANSEN. Wasn't Dr. Boorstin on the Advisory Commission?

Dr. RIPLEY. He was Presidentially appointed.

What do you say, Dr. Boorstin?

Dr. BOORSTIN. I am touched that the Congresswoman, Mrs. Hansen, should think it would be desirable for me to be there.

I was on that Commission for over 4 years and thought it was perhaps time for someone else to have a voice in it. I felt reassured by the presence of Secretary Ripley on the Commission and also by the fact I will have an opportunity right here in Washington to extend my energies in the celebrations of the bicentennial, I hope in an appropriate way.

Mrs. HANSEN. I may say I hope they appoint another historian to take your place.

Dr. BOORSTIN. I agree with you. In my letter to the President asking for release from the Commission, I did suggest that I hoped he would appoint a historian.

Mrs. HANSEN. I think it would be wise to have several historians on the Advisory Committee.

Dr. RIPLEY. We are very much concerned that we can, with the coordination of the Library of Congress and the other galleries and the National Archives, develop a very strong posture for Washington. We know that the city inevitably is going to be visited by an increased visitation over the period of the bicentennial. We are going to find ourselves holding the bag unless we develop a phased program, very conclusively directed toward the celebration with a dephasing after-

ward, as we explained last year in our request for the first appropriation toward this celebration.

This is not a permanent program.

Mrs. HANSEN. Your program should be a continuing effort after 1976 until at least 1987. Is this correct, Dr. Boorstin?

Dr. BOORSTIN. Well, it depends on how you conceive the celebration.

Mrs. HANSEN. Well, a revolution concluded with the successful establishment of a democracy has a meaning.

Dr. BOORSTIN. It would be our hope to make the occasion to celebrate the two centuries of American achievement. I would hope that would be our focus, not just the anniversary of the Revolution itself. That is our mission.

Dr. RIPLEY. We have sort of visualized building up to a height of observance in 1976, and then continuing it until 1983, 1984, and 1987, I forget the termination date, and then winding down.

Mrs. HANSEN. I think the celebration should continue until the anniversary of when the Constitution was adopted and ratified and the Government became operational. There should be some kind of commitment with the ideals, goals, and the problems of this Nation.

Dr. RIPLEY. That is right.

(Discussion off the record.)

MUSEUMS AS EDUCATIONAL INSTITUTIONS

Dr. RIPLEY. We, as you know, Madam Chairman, have been attempting to pioneer various ways of interesting the public in the learning processes.

We feel that the museums are the largest single source of study and experiment in the problems of how to make anybody interested in anything at all aside from self-preservation; how to make them interested in culture; how to make them behave in ways that we aspire human beings to behave.

The museum exhibit is open and unstructured. It does not have a teacher saying, "Now hear this, I am going to give you a 10-minute quiz next week on this subject." The museum environment is one of the best ways for sociologists and psychologists to learn what makes people interested in anything at all. We are continuing our studies on this, and we hope that eventually our museum activities will form an appropriate focus for this.

INFORMATION RETRIEVAL AND THE SCIENCE INFORMATION EXCHANGE

At the same time, within our own vast aggregation of collections, we continue the work on the problem of how to retrieve information. We need to develop automated systems so that information associated with our collections can be immediately accessible.

We want to develop ways by which we can find out what we really have and make this information useful and meaningful. We also need to develop additional and auxiliary systems which will tie into our oceanographic, biological, geological, astrophysical, and historical studies.

In this connection, we are making a separate appeal to you and your committee for the Science Information Exchange, which functions in

a related capacity as a part of the Smithsonian and which is critically faced with a year of decision in fiscal year 1972. We will be speaking about that during the course of these hearings.

As you know, the Budget Bureau has asked us to request this as a separate item, but has not approved funds for funding the exchange for what we estimate to be more than 10 months of the year. If we cannot make up the difference in user charges and user fees, then we will have to come to a likely termination of the Science Information Exchange.

I can summarize very briefly, if you care, Madam Chairman, our budget requirements for the year. We have an extraordinary number of line items.

Mrs. HANSEN. You always do.

Dr. RIPLEY. I might point out that over the past 10 years, the Congress itself has authorized and charged us with the execution of some 20 new obligations to those that we had prior to 10 years ago.

These additional responsibilities are one explanation of why we are here today with such a large group and why we are prepared to go into such detail on our line items.

Unless you have more questions, Madam Chairman, that concludes my opening statement.

SMITHSONIAN INSTITUTION POLICYMAKING PROCESS

Mrs. HANSEN. Thank you very much, Dr. Ripley.

Please review for the committee the general overall policymaking process currently in effect in the Smithsonian Institution.

Dr. RIPLEY. I would be very happy to do so, Madam Chairman.

We have, during the past year, had a thorough-going informal study of an experimental kind with the Civil Service Commission to assess how we conduct our policymaking processes, vis-a-vis, government agencies of various sorts and established groups.

We have prepared a report, informal in nature, which is accepted by the Civil Service Commission group and ourselves. As a result, we have once again reaffirmed our main administrative structure, consisting of the Secretary, the Under Secretary, and a group of Assistant Secretaries responsible in two ways for administration. In one way they are responsible for disciplines ranging from history through science, in other words, particular disciplines of expertise. They are responsible in another way, horizontally as it were, for services, personnel, management, fiscal affairs, and so on.

In this way, we have both the interwoven or interlocking mechanism of having immediate support for me in the form of a person like the Under Secretary who has direct authority over administration, supply management, personnel matters, and at the same time, Assistant Secretaries who are responsible for particular disciplines in groups of bureaus such as particular museums, galleries, research laboratories, and so on.

With this, we have an equivalent responsibility in the form of the Treasurer for direct oversight of our fiscal services. The Treasurer's Office has been of inestimable use to me in the Institution over the past 3 years in fitting together for the first time and creating a real understanding of what happens to every dollar. We have a unique

mix of dollars including federally-appropriated funds, grant funds, and private gifts and endowments.

As you know, we are uniquely chartered to administer this complex application of dollars of which the Smithson bequest was a kind of precursor, 125 years ago. This is our 125th anniversary year.

Under these offices on my immediate staff is the direct line authority of the bureau and office directors, of which a number are here present this afternoon. We interact constantly at several levels of liaison.

First, I and my principal staff officers meet once a week in the executive committee and lay out or discuss matters of policy as they may develop or matters of long-range programs and planning.

Second, we meet at frequent intervals, about every 2 weeks, with roughly the same group, plus the budget officer, to discuss exactly how we are meeting our obligations month by month during the fiscal year and living within our budgets, both private and Federal.

And, third, our Assistant Secretaries meet about every 2 weeks with all their bureau directors; that is, the Assistant Secretaries meet within their own realm. I meet with them about monthly to discuss policy matters that affect the bureaus.

In this way, we have attempted to refine and sharpen our direct liaison function.

Now, each bureau director on his own behalf is urged by the Assistant Secretary or myself to have equivalent meetings with the chairmen of the science or history departments of the bureau for the same kind of filtering of information both upwards and downwards.

At all times, we attempt to be appropriately coordinated.

Mrs. HANSEN. Thank you.

The committee will adjourn until 1 p.m.

AFTERNOON SESSION

ADMINISTRATION OF PRIVATE FUNDS

Mrs. HANSEN. The committee will come to order. Your operations are funded both by direct appropriation and private funds. Describe fully for the committee how the private funds are administered.

Dr. RIPLEY. Mr. Wheeler is our treasurer. Would you like to answer that?

Mr. WHEELER. We have endowment funds of some $40 million. Most of those are for restricted purposes like oceanography and so forth.

Mrs. HANSEN. When an endowment is given is it usually for a specific purpose?

Mr. WHEELER. Yes; they specify exactly what the purpose is. There are some unrestricted funds from which we may use the income for any institutional purposes. The total we receive overall in income from endowment funds is around $1.5 million.

Mrs. HANSEN. Is this per year?

Mr. WHEELER. Per year, yes. Only about $400,000 of that from the endowments is unrestricted which is not very much in relation to our total budget. We are trying to increase these endowment funds through a fund-raising campaign.

Now, as to how they are administered, we have each year a budget which is drawn up in advance specifying how much each of our administrative offices or activities will receive throughout the year hopefully achieving at least a balance of income and expenditures.

Mrs. HANSEN. Who approves this budget?

Mr. WHEELER. Secretary Ripley approves it.

Mrs. HANSEN. Does it also have to be approved by the Board of Regents?

Mr. WHEELER. Yes, it is then submitted to the Board of Regents for approval. I am wondering what other phases of the private funds you are especially interested in.

Mrs. HANSEN. There have been various accusations, some by your own employees, that some of your private funds are being misused. May we have your comments?

Mr. WHEELER. I think this refers to the use of certain of our restricted funds. At least I assume that because we had a meeting recently with some of the scientists who inquired very closely about those restricted funds.

About 3 years ago we stopped publishing in our *Smithsonian Year* the balances of each of these restricted funds and the annual income from each fund as we had done previously. I believe we are now going to resume this practice. There is no particular reason not to publish this information except the annual report had gotten so long that it seemed like information which could be omitted without harm. However, if this means a great deal both to the scientists and to people who leave bequests to the Institution, we certainly are going to put it back in. I have been talking to Secretary Ripley about putting it in the next year's edition.

In addition to that, we intend to furnish to our scientists this week the status of these restricted funds through the end of last fiscal year, and we will bring them up to date within the next couple of weeks on the current status of all of these restricted funds.

So I might say that as far as the funds being misused, that is absolutely not correct. Before we make any expenditures from these funds on which there is the slightest doubt as to propriety of use, we check the legality, and also of course the permission to use the funds is checked with Secretary Ripley.

Mrs. HANSEN. Before you expend funds do you also verify that the funds are being spent according to the deed of the gift?

Mr. WHEELER. Yes, the deed of gift. It is all spelled out and we have to adhere to that very closely.

ACTIVITIES FUNDED BY PRIVATE FUNDS

Mrs. HANSEN. Please give us your comments on how you determine what activities are funded by private contributions and what activities are funded by direct appropriations.

Dr. RIPLEY. Would you like to answer that, Mr. Bradley?

Mr. BRADLEY. Madam Chairman, the largest single item of private funding is the Freer Gallery of Art. In that case, the fund was given to the Smithsonian for the specific purposes of the Freer.

Traditionally, and this is more a matter of tradition than it is of law, the Secretary and I are on the private payroll. The Treasurer also tra-

ditionally has been a privately-funded position. So we find that there is a mix of Federally-financed activities and privately-financed activities But it is much more a matter of tradition than it is a matter that you can define precisely.

I think it makes sense that the Secretary should be privately-funded. In the absence of full control by the Board of Regents, the Smithsonian with over $30 million of endowment might assume a Federal character that would not be in keeping with the real roots of the Institution. It is that small cadre of privately-funded positions that is directly or through the Secretary responsive to the Board of Regents that recognizes its non-Federal character.

PERSONS DIRECTLY RESPONSIBLE TO REGENTS

Mrs. HANSEN. Please insert in the record a list of the people who are directly responsible to the Board of Regents.

Mr. BRADLEY. I would be very glad to.

Dr. RIPLEY. The legislation going back to 1846 says that the Secretary is the officer for the Board of Regents and that the Secretary with the consent of the Regents may appoint such assistants as he needs to carry out the business of the institution. That is the original phrasing of it.

The National Gallery's charter was modeled directly on this when the gallery was completed. The non-Federal officers of the gallery paid from the trust funds of the gallery are paid the same way and to the same effect as the principal officers of the institution.

(The information follows:)

PERSONS RESPONSIBILE TO THE BOARD OF REGENTS

While all employees are responsible to the Regents through the Secretary, the following employees are those who are paid from the endowment:

The Secretary; Under Secretary; special assistant to the Secretary; treasurer; assistant treasurer; Director and Assistant Director of the Freer Gallery of Art; curators, research assistants, and administrative officers of the Freer Gallery of Art; Director and several administrative clerks of the Smithsonian Press; and the Director of the Museum of History and Technology.

AUDITS OF PRIVATE FUNDS

Mrs. HANSEN. How often and by whom is the administration of your private fund contributions audited?

Dr. RIPLEY. The auditing process is done by privately employed auditors, and under the original rules of the Institution the audit may be performed by the Executive Committee of the Board of Regents. The Executive Committee then appoints or approves of the appointment of an auditor just as a corporation appoints or approves the setting up of an auditor. We have an auditing firm. Also, as of the last 2 years we have instituted an internal audit apparatus so that we not only have our funds externally audited by a formal auditing firm but we also have a unit of internal audit.

Mrs. HANSEN. So you have two audits performed?

Dr. RIPLEY. Yes; we have. So, now we have consulted with the Comptroller General's Office about the propriety of having audits from time to time or to a greater or lesser extent performed by the

GAO. It appears from the statutory authority of the GAO as well as the authority of the Smithsonian this is not appropriate. The GAO is required by the Congress to audit Federal funds. These funds which are private funds are not Federal funds in that sense, and, therefore, they have stated their opinion that they are not legally entitled to audit. But we have volunteered that we would like to have them suggest ways of having our private audits conducted or presented in a more informative manner. They are currently conducting a sample study to see whether they would be able to do this. But this is under active discussion at the present time. Our audit is done, of course, annually, Madam Chairman.

BALANCE SHEET OF PRIVATE FUNDS

Mrs. HANSEN. Please insert in the record a balance sheet as of the last reporting date of private funds available for use by the Smithsonian Institution.

Dr. RIPLEY. We would be happy to do so, and point out that of course this appears in our "Smithsonian Year" which you, as well as all interested persons, receive.

Mrs. HANSEN. But some of the interested persons do not always read the "Smithsonian Year."

Dr. RIPLEY. One of our problems is that people do not read and do not communicate.

(The information follows:)

Smithsonian Institution Private Funds—Balance Sheet, June 30, 1970

ASSETS

Current funds:	
Cash:	
In U.S. Treasury	$49,599
In banks and on hand	168,225
Total cash	217,824
Receivables:	
Accounts	349,484
Advances, travel and other	146,269
Reimbursements, grants and contracts	1,536,516
Total receivables:	2,032,269
Inventories at net realizable value	544,413
Investments, stocks and bonds at cost (market value $2,900,264)	3,409,426
Prepaid expense	39,541
Deferred magazine subscription expenses (note 2)	267,300
Equipment, museum shops (less accumulated depreciation of $49,932)	64,115
Total current funds	6,574,888
Endowment and similar funds:	
Cash	77,533
Note receivable	96,934
Investments, stocks and bonds at cost (market value $29,456,568)	30,213,145
Loan to U.S. Treasury in perpetuity	1,000,000
Real estate (at cost or appraised value at date of gift) (note 3)	1,760,448
Total endowment and similar funds	33,148,060

LIABILITIES AND FUND BALANCES

Current funds:	
Accounts payable	968,933
Accrued liabilities	63,986
Deferred magazine subscription income	1,030,115
Unrestricted fund balance	1,869,941
Restricted fund balances:	
Gifts	1,566,028
Grants	108,330
Contracts	177,814
Total restricted fund balances	1,852,172
Unexpended income:	
Freer	434,873
Other	354,868
Total unexpended income	789,741
Total current funds	6,514,888
Endowment and similar funds:	
Mortgage note payable (note 3)	310,697
Fund balances:	
Endowment funds, income restricted:	
Freer	13,188,994
Other	13,214,651
Total endowment, income restricted	26,403,645
Current funds reserved as an endowment, income unrestricted	6,433,718
Commitment (note 4)	
Total endowment and similar funds	33,148,060

NOTES TO FINANCIAL STATEMENT—JUNE 30, 1970

1. *Basis of accounting.*—The accounts for unrestricted funds are maintained on the accrual basis of accounting. Accounts for other funds are maintained on the basis of cash receipts and disbursements, except that reimbursements for work performed pursuant to a grant or contract are accrued and certain real estate is carried at cost or appraised value as explained below.

Except for certain real estate acquired by gift or purchased from proceeds of gifts which are valued at cost or appraised value at date of gift, land, buildings, furniture, equipment, works of art, living and other specimens, and certain other similar property, are not included in the accounts of the Institution; the amounts of investments in such properties are not readily determinable. Current expenditures for such properties are included among expenses. The accompanying statements do not include the National Gallery of Art, the John F. Kennedy Center for the Performing Arts, nor other departments, bureaus, and operations administered by the Institution under Federal appropriations.

2. *Deferred magazine subscription expenses.*—This amount represents promotional and other expenses incurred in connection with the introduction of the Smithsonian magazine. Amortization is over a period of 12 months which commenced in March 1970, the month of the first issue.

3. *Mortgage notes payable.*—The mortgage notes payable are secured by first deeds of trust on property acquired in connection with the Chesapeake Bay Center. Funds for the curtailment of these notes will be transferred from restricted funds—gifts, designated for the development of the Chesapeake Bay Center. The details of the mortgage notes payable are as follows:

a. A $266,000 note on property acquired for $376,000. The note is payable in twenty consecutive semiannual installments of $13,300, plus interest at the prevailing prime rate on the due date of payment but not less than 8 percent.

b. A. $44,697 note on property acquired for $118,533. The note is payable in monthly installments of $451.02, including interest at the rate of 6 percent, with the final payment due on November 1, 1989.

4. *Commitment.*—Pursuant to an agreement dated October 9, 1967, between the Institution and the Cooper Union for the Advancement of Science and Art, the Institution acquired, on July 1, 1968, all funds belonging to the Cooper Union

for use exclusively for museum purposes, and certain articles of tangible personal property as defined in the agreement.

The agreement provides, among other covenants, that the Institution will maintain a museum in New York City and has pledges in excess of $800,000 for the support of such a museum. Pledges in the amount of $500,000 have been collected to date.

CONCESSIONLIKE ARRANGEMENTS

Mrs. HANSEN. The Smithsonian operates various concessionlike arrangements. Please describe your operations in this connection.

Dr. RIPLEY. I would like to ask Mr. Wheeler and Mr. Bradley to answer that.

Mr. WHEELER. Madam Chairman, these deal with what we call our private activities for the most part. One Smithsonian concession is the restaurant in the National Museum of History and Technology which is operated by the Hot Shoppes organization. They pay us a percentage of the gross revenues of this restaurant so that is a concession from which we derive some income.

Mrs. HANSEN. Is the percentage you receive of the gross revenues reviewed from time to time?

Dr. RIPLEY. Yes. It is a contractual arrangement.

Mrs. HANSEN. Do you have the authority to audit their operations?

Mr. WHEELER. Yes, we do, to the extent that we are involved, namely with sales because our revenues are derived strictly from sales which is a better arrangement for us since we don't have to go into their accounting operations.

Mr. BRADLEY. We also have gift shops in most of our museums. We have a carrousel on the Mall from which income is derived. We have a press operation in which we publish learned publications, and we have a puppet theater in the Museum of History and Technology. Annually, when we have the Folk Life Festival on the Mall we are able to sell food and gain some income from that. On the whole I am forced to disclose that it is not a very profitable business that we find ourselves in. Usually we have to subsidize through private funds these various public service activities all of which in one way or another are related to what we are trying to do for the public.

Mrs. HANSEN. Do you have to subsidize your restaurants?

Mr. BRADLEY. No, that is a profitmaking affair.

Mrs. HANSEN. But your gift shops are subsidized?

Dr. RIPLEY. The press, the gift shops, and the associates activities which are partially supported by associates fees and their corollaries are all things in which we run a slight deficit. We do not actually make money out of these things with the exception of the restaurant and perhaps the carrousel where we make a few thousand dollars or so net at the end of the year, but it is very minimal. In fact, as we were able to point out in consideration of these private concessionlike activities with the GAO, we are running an overall deficit of about $200,000 as I recall. That is money made up from our private resources.

Mrs. HANSEN. Are federally appropriated funds used for any of these activities?

Dr. RIPLEY. No.

Mrs. HANSEN. Explain for the committee the disposition of proceeds from these various concessionaire activities.

Dr. RIPLEY. The proceeds help to underwrite the loss, Madam Chairman.

PRICES OF ITEMS FOR SALE

Mrs. HANSEN. I have a letter sent to Congressman Mahon from a gentleman in Arlington, Va.:

I am in receipt of your December 29 missive.

I have just spent some fascinating hours in the new Smithsonian Museum of History and Technology. It's well kept up and many of the displays are interesting. This, however, is not what I am writing to you about.

I live on a practically totally disabling U.S. pension. When I spend what money I have for recreation, I have to count my pennies. The coffee in that place is 19 cents a cup. I also noted a "bedspread (in the "gift" shop) from Appalachia for $250.

Would you please ask Secretary Dillon to look into this price structure.

Dr. RIPLEY. Madam Chairman, I am sure that the lady who made the bredspread and sent it up from Appalachia essentially determined the price.

Mrs. HANSEN. When you have crafts that are for sale isn't the price usually determined by the person who made them?

Dr. RIPLEY. As far as I know, there is a minimal inventory or institutional overhead fee that must be added to the price. So I think one could say that that price was very definitely negotiated by the seller rather than by the purchaser or by the stores.

Mrs. HANSEN. Why is the price of a cup of coffee so high?

Dr. RIPLEY. The cup of coffee is, of course, under the contract which provides to the Hot Shoppes the right to determine their own overhead and inventory costs.

Mrs. HANSEN. Does the Hot Shoppes have to pay rent for the facility?

Dr. RIPLEY. No.

Mr. WHEELER. They pay a percentage of their gross revenues in lieu of rent.

Mrs. HANSEN. Do they provide the utilities themselves?

Dr. RIPLEY. They install the utilities themselves as part of the contract.

Mr. WHEELER. I believe they carry their share of the utilities cost in the limited quarters which they occupy, and the same would apply to cleaning too.

Mrs. HANSEN. Why is a cup of coffee 19 cents in your cafeteria?

Dr. RIPLEY. Well, Madam Chairman, I don't know. I will have to go out and try pricing some cups of coffee in a cafeteria. It seems to me the prices of all these things have gone up, and the question is the veteran's pension rather than the comparable price of a cup of coffee.

Mrs. HANSEN. You are not going to sell many bedspreads at $250.

Dr. RIPLEY. I don't think we would either. I notice that some of those bedspreads are a great deal more than that, and I am sure they represent many thousands of hours of work.

Mrs. HANSEN. Are the bedspreads crocheted and handwoven?

Dr. RIPLEY. Yes. The bare fact that anybody is willing to, makes it a matter of such pride to us to be able to exhibit it and help them to sell it. This is the most important factor I think as far as our handling those articles is concerned.

MEMBERSHIP OF BOARD OF REGENTS

Mrs. HANSEN. Please insert in the record a listing of the current membership of your Board of Regents.

Dr. RIPLEY. We will do so, Madam Chairman.

(The information follows:)

SMITHSONIAN INSTITUTION—BOARD OF REGENTS

The Chief Justice—Hon. Warren E. Burger
The Vice President—Hon. Spiro T. Agnew
Dr. John Nicholas Brown—Citizen Regent
Dr. William A. M. Burden—Citizen Regent
Dr. Crawford H. Greenewalt—Citizen Regent
Dr. Caryl P. Haskins—Citizen Regent
Mr. Thomas J. Watson, Jr.—Citizen Regent
Mr. James E. Webb—Citizen Regent
Vacant—Citizen Regent
Vacant—Citizen Regent
Vacant—Citizen Regent
Hon. Clinton P. Anderson—Congressional Regent
Hon. J. W. Fulbright—Congressional Regent
Hon. Hugh Scott—Congressional Regent
Hon. Frank T. Bow—Congressional Regent
Hon. George H. Mahon—Congressional Regent
Hon. John H. Rooney—Congressional Regent

SMITHSONIAN MEMBERSHIP ON GOVERNMENT ADVISORY BOARDS

Mrs. HANSEN. Because of its varied activities the Smithsonian Institution is represented on several advisory boards and other panels of the Federal Government either by the Secretary or his designate. Please insert in the record all of these agencies or activities on which you are so represented in the capacity whereby the Smithsonian Institution could be said to have a "supervisory or policy making influence."

Dr. RIPLEY. We will do so, Madam Chairman.

(The information follows:)

REPRESENTATION ON FEDERAL ADVISORY BOARDS AND COMMISSIONS SECRETARY OR DESIGNATE

American Revolution Bicentennial Commission.
Federal Council on the Arts and Humanities.
Federal Council for Science and Technology.
National Council on Marine Resources and Engineering Development.
National Visitor Center Study Commission.
President's Temporary Commission on Pennsylvania Avenue.

SMITHSONIAN INSTALLATIONS

Mrs. HANSEN. The activities of the Smithsonian Institution are diversified and to some extent are becoming quite widespread. For ready

reference in the record I think it would be well for you to insert at this point a listing of all your installations, indicating the location and the type of activity administered in each instance.

Dr. RIPLEY. We will be happy to do so, and if I may say so we will supplement that by pointing out the particular items of legislation which are involved in the creation of these things.

Mrs. HANSEN. Please do. I think that is very important.

Dr. RIPLEY. Essentially what we are doing here is following the will of the Congress in having voted through such legislation.

(The information follows:)

LOCATION, PURPOSE, AND AUTHORIZATION OF SMITHSONIAN ACTIVITIES

Building or Facility	Location and Purpose	Legislative Authorization
Air and Space Building	Washington, D.C. Located behind the Smithsonian building, this temporary structure displays various objects related to air and space flight. Other exhibits are in the Arts & Industries Building, while collections are stored at the Silver Hill facility in Silver Hill, Md.	20 U.S.C. 77
Anacostia Neighborhood Museum	The Museum is located in an old theatre building in Anacostia, D.C. It develops exhibits and pursues educational programs as an inner-city community cultural center.	20 U.S.C. 41
Archives of American Art	Headquartered in Washington, D.C. in the Fine Arts and Portrait Galleries Building with branch offices in Detroit, New York City and Boston, the Archives is the largest single collection of art history related materials in the U.S., numbering several million items, and is used by students and scholars for basic research and documentation purposes.	20 U.S.C. 76
Arts and Industries Building	Washington, D.C. Exhibits objects related to air and space flight, and special temporary exhibitions. Also houses portions of central administrative services such as the Personnel Office, Office of Museum Programs, and Buildings Management Department.	20 U.S.C. 41

Barney House	Washington, D.C. Situated off Sheridan Circle, this house is administered by the National Collection of Fine Arts for traveling exhibits purposes.	20 U.S.C. 76
Belmont Conference Center	Howard County, Maryland. The facilities are utilized by a variety of government and private organizations for meetings and conferences.	20 U.S.C. 41
Chesapeake Bay Center for Environmental Studies	Edgewater, Maryland. Located on 1,344 acres of forest and marshland, the Bay Center maintains laboratory space and facilities for basic estuarine and terrestrial research conducted by Smithsonian and university-based scientists interested in ecological change.	20 U.S.C. 41
Cooper-Hewitt Museum	New York, New York. This Museum serves as a museum and study center of arts, crafts, and design, and will be located in the Carnegie Mansion. Supported by nonappropriated funds.	20 U.S.C. 41
Fine Arts and Portrait Galleries Building	Washington, D.C. This contains the exhibit and research activities of the National Portrait Gallery (American Portraiture), and the National Collection of Fine Arts (American Art). The National Collection is also responsible for developing the Renwick Gallery.	20 U.S.C. 75 20 U.S.C. 76
Freer Gallery of Art	Washington, D.C. The Freer Gallery exhibits, curates, and performs research on oriental art and special collections.	20 U.S.C. 41

Hillwood	Washington, D.C. A gift to the Smithsonian subject to a life estate, Hillwood will become a public art museum devoted to major collections of Imperial Russian and French art works.	20 U.S.C. 41
History and Technology Building	Washington, D.C. This is the principal location for the National Museum of History and Technology, which exhibits and curates collections relating to America's heritage and technological development. It also houses the Office of Exhibits offices, the Conservation Analytical Laboratory, and a portion of the Smithsonian Libraries.	20 U.S.C. 41, 60
Joseph H. Hirshhorn Museum and Sculpture Garden	Currently in New York City. Collections and administrative offices will be located in Washington, D.C. after building is completed. The museum exhibits and conducts research on contemporary painting and sculpture.	20 U.S.C. 76 aa-ee
National Gallery of Art	Washington, D.C. Administered by a separate Board of Trustees, the Gallery houses the Mellon collections, and is recognized as one of the world's great art museums.	20 U.S.C. 71-75
Natural History Building	Washington, D.C. The National Museum of Natural History is located in this building. This is the Federal repository for natural history collections, and conducts broad research investigations utilizing the collections, principally in taxonomics and systematic biology. The building also houses portions of the Smithsonian Libraries, Exhibits Office, Supply Division, as well as units of other agencies collaborating with the Museum.	20 U.S.C. 41, 50, 59

National Zoological Park	Washington, D.C. The Zoo's basic purposes are to provide for the advancement of zoological science and the recreation of the citizenry.	20 U.S.C. 81-85
Radiation Biology Laboratory	The Laboratory's headquarters are in Rockville, Maryland. It studies the responses of living organisms to various qualities and intersites of radiant energy. Solar radiation and atmospheric monitoring stations are located in Jerusalem, Israel and Point Barrow, Alaska.	20 U.S.C. 41
Renwick Gallery	Washington, D.C. The Renwick will be located in the original Corcoran Gallery of Art building (currently being restored) and will exhibit American design and decorative arts. It is currently being administered by the National Collection of Fine Arts.	20 U.S.C. 76
Silver Hill Facility	Silver Hill, Maryland. This area contains several temporary buildings for storing artifacts and collections related primarily to the activities of the National Air and Space Museum.	20 U.S.C. 77
Smithsonian Astrophysical Observatory	Cambridge, Massachusetts. The Astrophysical Observatory pursues a broad program of research in astrophysics and related earth and space sciences. In addition to scientists and supporting staff employed in Cambridge, the Observatory maintains scientific	20 U.S.C. 41

	facilities elsewhere in the United States and overseas. Field installations include: Mt. Hopkins Observatory (Tucson, Arizona); meteorite recovery stations (located in six midwestern states); satellite tracking stations (in nine foreign countries) and a meteor radar/high altitude wind installation (Havana, Illinois).	
Smithsonian Oceanographic Sorting Center	Washington, D.C. Located in the Washington Navy Yard, the Sorting Center is operated as part of the Smithsonian's Office of Environmental Sciences. It is responsible for coordinating collections of marine specimens gathered by governmental and nongovernmental scientists, and insuring that collections are processed for the benefit of science.	20 U.S.C. 41, 51
Smithsonian Tropical Research Institute	Canal Zone, Panama. The Institute conducts and supports basic research on tropical marine and terrestrial environments; maintains Barro Colorado Island as a natural preserve; and operates laboratory facilities for national and foreign scientists.	20 U.S.C. 41, 79
Smithsonian Institution Building	Washington, D.C. This original building houses the Institution's administrative offices and is the current headquarters for the Woodrow Wilson International Center for Scholars.	20 U.S.C. 41

DECLINING PRIVATE FUND INCOME

Mrs. HANSEN. Several months ago it was reported in several instances that available cash for Smithsonian activities was severely limited. I understand the situation was attributable partly to the fall-off of income from your private funds. What is your current situation in this respect?

Dr. RIPLEY. Any institution which has any endowment at all, just as an individual who holds any securities, is certainly aware over the passage of the last 2 years since the fall of 1969 of the condition of suspended or diminishing dividends. That is true, Madam Chairman.

Mrs. HANSEN. Appropriations for the Smithsonian Institution have accelerated at what some consider a rapid rate. For fiscal year 1965, your total appropriations were $25,950,000. The budget you are presenting today would provide $58,751,000. Considering the increased cost of doing business the past several years, this is still a relatively sizable increase in your appropriated funds. For example, the 1972 budget estimates you are presenting today reflects an increase of $14,424,000 over funds appropriated to date to your agency for fiscal year 1971. This is an increase of about 33 percent over your current appropriation. Please discuss for the committee the general thrust of your activities budgeted for 1972 giving special consideration to those areas where your activities are budgeted for the greatest expansion.

Dr. RIPLEY. I would like to give first of all if I may, Madam Chairman, in response to that very comprehensive question, some pertinent statistics. The "salaries and expenses" operations of the Institution have increased since 1968 by approximately $8,800,000 or at a rate of about 11 percent per year. This excludes the Zoo and the Science Information Exchange for comparative purposes which have been funded under other arrangements during part of that time. These figures assume also that the requested pay supplemental this year is approved. We estimate that about 70 percent of this increase which I have just described has been eroded by inflationary price increases and the necessity of improving the competitive salary situation in the Federal Government.

Mrs. HANSEN. What has been your inflation rate?

Dr. RIPLEY. The inflation rate has been running throughout the Nation at 12 to 15 percent a year in construction alone and 5 percent a year or better in other costs. If you take about 70 percent of that increase, which is essentially our estimate of our inflationary rate including wage increases plus about 6 percent devoted to costs associated with working into new building space already approved gives a total of 76 percent. That leaves us with a real increase out of that $8,800,000 that I mentioned of $2 million to $2,300,000, or an average amount usable for program development each year of well under $1 million. We estimate we have had between $700,000 and $800,000 for program development in each one of these years in which our overall net "Salaries and Expenses" appropriation increased by 11 percent.

Thus the apparent appropriation increases received since 1968 reduce to real annual growth of about 3 percent. In other words, the 11 percent apparent whittles down to 3 percent actually or 8 percent is swallowed up by inflation.

GROWTH OF VISITORS AND INFORMATION INQUIRIES

Mrs. HANSEN. Since 1965, what has your visitor load been?

Dr. RIPLEY. I have those figures right here, Madam Chairman. Our visitor load went up very high and peaked in 1967. In 1965, it was 13,154,000; in 1966, it was 12,151,000; in 1967, again high, 13,313,000. Then after the riots it suffered a very significant decrease, in 1968 to 11,524,000, and in 1969, to 10,431,000. In 1970, it was 13,584,000 and our estimate for 1971 is about 14 million.

Mrs. HANSEN. So your visitations are now over your crest of 1967?

Dr. RIPLEY. We are back up and over our crest of 1967.

Mrs. HANSEN. What has been the increase of requests for information to the Institution? As you know, you have many people who come to you for advice on your museum operations. You have people who come to you on advice about art.

Dr. RIPLEY. This shows a very marked increase and I would have to produce the figures for the record.

(Information follows:)

Professional and Public Inquiries Directed to Smithsonian Bureaus and Offices

The Institution has recorded a marked increase in inquiries directed to its various bureaus and offices from the general public and scientific community. Scientific visits to the Smithsonian, including all museums, galleries, and field stations, for research and scholarly purposes (ranging from a few hours to several weeks) numbered about 10,000 in fiscal year 1970. This represents about an 8 percent increase over the previous year. Mail inquiries from both the general public and the scientific or museum community is, of course, much higher and is estimated at about 122,000 in 1970; and represents an increase of around 20 percent over the previous year.

Selected information from bureaus and offices follows:

General Inquiries and Assistance (including technical and scientific visits)	FY 1970
Joseph H. Hirshhorn Museum	2,000
National Collection of Fine Arts	3,000
National Museum of History and Technology	3,000
National Museum of Natural History	15,000
National Portrait Gallery	3,000
Office of Museum Programs	5,000
Office of the Registrar*	70,000*
Smithsonian Astrophysical Observatory	4,000
Smithsonian Tropical Research Institute	9,000
Miscellaneous	18,000
Total	132,000

*Receives and distributes most of the mail inquiries directed to the Institution in general. To the extent possible to separate, these do not include inquiries going directly to the individual Bureau or Office.

ASSISTANCE TO OTHER MUSEUMS AND INSTITUTIONS

Mr. GALIFIANAKIS. Madam Chairman, if I may ask this question, do you have a program where you help other state institutions to build up comparable exhibitions that you have?

Dr. RIPLEY. We have it in two ways. We have it with the Travelling Exhibition Service which we maintain and which is again essentially on our private side. This consists of a series of anywhere up to 120 exhibitions circulating at all times throughout the nation, and which can be booked or subscribed to and so on. And we have it also under our National Museum Act with exchanges of information or offers to conduct seminars in technical museum presentation techniques.

Mrs. HANSEN. Do you conduct seminars in Washington, D.C. and in regional areas of the country?

Dr. RIPLEY. Here in Washington or in a regional area. For example, the musuem conferences in the southeast, in the northeast, in the northern states, central states and so on. We have been providing visiting teams of technical experts to go to these conferences and give seminars on various aspects of exhibition and presentation and restoration of objects. The field of conservation of objects is becoming of enormous importance as we discover how few objects we have left and we become more concerned about conservation of the objects that we do have.

Mrs. HANSEN. Does the same exhibition service policy apply to the National Zoo?

Dr. RIPLEY. The zoo has the same kind of relationship with other zoos although they don't have an exhibition service. They are currently considering some exchanges of animals which would be an extension perhaps of that, but they do have the same policy of trying to give counsel and advice to people in other zoos.

Of course, this we feel is part of our mandate. Since we are chartered here in Washington in the Federal District it has become an assumption on the part of the rest of the states in the nation that somehow or other we are supposed to be doing these things. We are supposed to be offering advice and technical counsel in the same way as a person might write to the Department of Agriculture or the Department of Commerce for a pamphlet on how to grow apples or how to make some carpentry device.

We get the same kinds of questions because we are known to be in the musuem field and thought to be able to provide a similar kind of expertise. The only thing is no one pays us for it. So our problem is that we simply lack the resources for these consultation services that the Agricultural Department and the Interior Department and others have. It is these resources that we are trying to obtain under the National Museum Act so that we too could fund the answers to the kinds of questions that we receive automatically because we are here in Washington.

JUSTIFICATION MATERIAL

Mrs. HANSEN. Please insert justification pages i through vi in the record at this point.

(The pages follow:)

SMITHSONIAN INSTITUTION

FISCAL YEAR 1972 ESTIMATES OF APPROPRIATIONS

GENERAL STATEMENT

This past year has been one of measured progress for the Smithsonian Institution. Where many of the prospects of the nation seem fraught with dissent and division, where the path of education has become obscured by the divisiveness which has beset the academies, the smaller private institutions of learning seem to have survived so far relatively unscathed. Like other institutions concerned with research and study, however, the Smithsonian suffered in the past year from the general decline in support for science as well as to related areas of study. Our problem with the declining government budgets for the support of basic science has been compounded by the tax reform act which produced a serious paralysis of will on the part of the foundations. In addition, the steadily worsening effects of inflation on the costs of personnel, research equipment, objects for the collections, as well as on the everyday supplies and materials for general museum and laboratory operations further threaten the Smithsonian's ability to carry out its traditional responsibilities.

One encouraging development has been a widening awareness that the Smithsonian's activities represent a kind of unity. In spite of the many bureaus, some of them incorporated in large buildings on the Mall and others located in laboratories in Washington and elsewhere, there are a series of unifying themes which run through the Institution's activities. Our concerns remain united around the general subject of history: history of art, science, and technology including the history of air and space flight, and the delineation of these histories through public exhibition. In addition, our science activities revolve generally around the compilation of statistics, information, and research about the biosphere and space. Our classical concerns in natural history and in astrophysics have come full circle so that today we can proudly claim our work to be of vital importance in the new sciences of the study of the environment on the one hand and of outer space on the other.

Within these common themes there are overriding considerations for the public good. Education and public exhibition are of paramount concern for all our main buildings and for the curators and the research staff who inhabit them. Education through research and publication remains paramount in the other bureaus whose activities are not contained in the large public buildings. In addition, Joseph Henry's initial concern with bringing scholars together with colleagues in foreign countries continues to be developed and encouraged through our foreign currency program as well as research activities both here and abroad.

In Joseph Henry's view the Smithsonian existed to stimulate research in pursuit of new truths and to make these available to both the public and to professionals, in the arts, sciences, and cultural history. His favorite phrase to describe the Institution's ultimate aim was a "College of Discoverers." This is still the unifying force, the common factor in all the diverse bureaus and museums of the Smithsonian--the Institution as a "College of Discoverers" which:

--First, keeps records of knowledge through its collections;
--Second, serves as a stimulus to research largely through its collections;
--Third, and perhaps most important, uses the collections and the results of research for public education.

These three elements may be found to a greater or lesser degree in all the bureaus of the Smithsonian, as they are today.

Increasingly, the Institution's bureaus and offices are engaged in common efforts. Notable among these are the contributions that will be made in the national celebration of the American Revolution Bicentennial and in studies of the environment. We have begun to lay-out long range plans for ecological assessments in both the New World temperate and tropical zones and in the Old World. We are uniquely equipped through processing and working with the National Collections to contribute to solutions, but we are pitifully undersupported financially to make our contributions effective.

In spite of appropriation increases each year, which have averaged somewhere between 6 and 8 percent, costs have continued to escalate so much that our scientists' work and our research and exhibits potential have been seriously undermined. Little has been allowed for growth, expansion and change, so necessary for a healthy concern, be it a corporation, university, or a research and museum complex. Examples of such needs are continuing additions to art, history, and science collections, modern inventory computerization for these collections, and development of new experimental ideas and fields of study.

While vigorously seeking additional federal fund support for these purposes, we are at the same time carrying out a program of self-examination of the use of our total resources with the objective of reducing or eliminating outmoded or low-priority activities.

Planning is of the utmost importance in all Smithsonian activities. Growth must be brought into effective relation to the availability of resources, especially for an establishment such as ours with more than forty line items in our federal budget, each of which could very readily be expanded to meet some external or internal need. We are strengthening the planning function within the Institution to maintain a balance between our pattern of commitments and the resources we may expect. It has been our judgement, however, that the Institution would have to inaugurate some new programs and achieve order-of-magnitude increases in some support activities in order to function successfully for the 1970s. With inflation, the requirements for new tools and techniques, and the ever-increasing demands placed on our staff, our budget meets no more than one-half of our requirements. The elimination of remaining shortages is a priority objective in our planning, for the next several years.

The central concerns of the Smithsonian represent national needs for the kind of sustained commitment that can be made only by an institution with a strong sense of continuity, tradition, and concentrated purpose. We believe that our first responsibility is to continue the general lines of endeavor which are traditional with the Institution: basic research in selected areas of national interest; development and maintenance of the national collections in biology, anthropology, history, and the arts; and enlightenment of the public through exhibitions and related activities.

In order to meet this responsibility, an overriding concern must be the quality of the professional staff effort within the Smithsonian. We cannot too strongly emphasize the achievement of an adequate level of support of that effort. We have repeatedly appealed for the remedy of deficiencies in support of research and scholarly programs. Virtually half of the growth in appropriations since 1964 has been devoted to staffing and operating new facilities authorized by the Congress. Much of the rest has been negated by inflation. A strong effort must now be made to sustain the basic scholarly program: support for fieldwork, instruments, libraries, conservation, automatic data

processing, technician support, related higher and elementary and secondary education activities, better access to colleagues through scholarly publishing, and unremitting emphasis on the professional character of staff appointments, all against a background of increasing costs. Our budget henceforth will proceed on two tracks, the first a phased elimination of these shortages and the second to provide for the continued development of programs entrusted to us by the Administration and the Congress. Several of these are identified in the following paragraphs.

Beginning this year the observance of the Bicentennial of the American Revolution will become a predominant factor in the development of Smithsonian programs. Within the settings of our history and art museums members of the public may seek a reappraisal of our national experience with due reference to its international setting. Fresh insights of historians should be interwoven with superb offerings of objects and art works that portray our nation's course over the past two centuries and suggest paths for our continued development.

From the studies of the sources of energy and means for its use by living systems to the explanation of biological diversity, the Smithsonian represents an unexcelled multidisciplinary array of information resources and professional scientists which bear upon critical needs to improve our understanding of the physical environment upon which human society depends. We anticipate increasing demands upon our efforts in systematic biology, anthropology, astrophysics, and environmental studies as important resources for the national effort in environmental improvement.

One of the most important unfulfulled hopes for the Smithsonian is that a great national museum might be developed on the authorized space on the Mall to recreate the experience of man's greatest adventure: flight and space exploration. We also aspire to present insights about the significance of the space age for everyday life and to communicate an understanding of the scientific discoveries originating from space exploration.

The birthright of today's citizen is an understanding of the forces shaping himself and his world. It is to museums that many people look for access to the works of artists, an appreciation of the past, an awareness of the scientific view of nature, and for portents of the future. All museums must experiment with new techniques of exhibition and embark upon training and research aimed at improving their effectiveness in popular education. The quality of our response to this democratic vista will continue to be a matter of overriding concern to the Smithsonian in years to come. Implementation of the National Museum Act through adequate funding will greatly strengthen the capability of all museums.

From the amassing of great national collections will arise difficult questions about how to guarantee access to the information they contain. This will call for innovative designs of indexes, catalogs, and ways to manage vast resources of information. Perhaps some of the techniques developed for the management of voluminous flows of data from satellite observations or oceanographic stations may be adapted to the needs of the future. In our role as custodian of the nation's collections we must try to serve the public interest in improved management of scientific and scholarly information.

The fiscal year 1972 appropriation estimates are designed to help correct many of the problems identified and to improve the Institution's capabilities in other areas. We are convinced that only by obtaining the requested additional resources can the Smithsonian meet the future of the decade.

The estimates are presented in four sections:

A. "Salaries and Expenses"
for regular operating programs in the museums, galleries, research laboratories, and program support units $41,529,000

for special programs of an Institution-wide nature and of unusual importance for national research and public education needs 3,475,000

B. "Salaries and Expenses" for Science Information Exchange as a separate appropriation account in recognition of the unique service nature of this organization 1,400,000

C. Special Foreign Currency Program in archeology and related disciplines, systematic and environmental biology, astrophysics, and museum programs 5,500,000

D. Restoration and construction of Smithsonian buildings and facilities 6,847,000

Each of these requests is summarized below. The estimates of the Woodrow Wilson International Center for Scholars are separately presented by its Board of Trustees.

A. "Salaries and Expenses" Regular Operating Programs

1970 Actual	1971 Estimate	1972 Estimate
$28,993,000	$34,783,000	$41,529,000

The total increase requested for "Salaries and Expenses" for regular operations is $6,746,000. Included in this amount is $1,154,000 for mandatory pay and related benefits commitments, largely for current staff, that will fall due in fiscal year 1972 and are relatively uncontrollable. This increase is distributed as follows:

	(In thousands of dollars) 1971 Base	Requested Increase	1972 Estimate
Science	$12,306	$3,791	$16,097

To correct serious deficiencies in the availability of technicians and other supporting staff, scientific equipment, laboratory supplies and materials, and key professional research staff in order that the Institution can continue its traditional basic investigations and educational services in anthropology, biology, geology, and the space sciences which are fundamental to a better understanding of the environment. Includes requests for the National Museum of Natural History, the Smithsonian Astrophysical Observatory, Smithsonian Tropical Research Institute, Radiation Biology Laboratory, Office of Environmental Sciences, National Air and Space Museum, Center for the Study of Man, Center for Short-Lived Phenomena, and the National Zoological Park.

	1971 Base	Requested Increase	1972 Estimate
	(In thousands of dollars)		
History and Art	$4,801	$1,245	$6,046
To provide essential support staff and the routine services, supplies, and equipment required for basic operations in order that the established and developing museums and art galleries of the Smithsonian can effectively tell the story of American civilization to millions of visitors annually. Includes the budgetary requirements of the National Museum of History and Technology, National Collection of Fine Arts, National Portrait Gallery, Joseph H. Hirshhorn Museum and Sculpture Garden, Freer Gallery of Art, Archives of American Art, and the National Armed Forces Museum Advisory Board.			
United States National Museum	3,120	183	3,303
To improve the documentation and conservation of the National Collections. Includes requests for the Office of Museum Programs, Office of Exhibits, Conservation Analytical Laboratory, and the Office of the Registrar.			
Public Service	807	118	925
To furnish additional capabilities to certain of those Smithsonian's activities which reach out to serve a wide public. Requests are included for the Anacostia Neighborhood Museum, the Office of International Activities, International Exchange Service, Division of Performing Arts, and the Office of Public Affairs.			
Program Administration and Support	4,478	602	5,080
To allow the central services to give adequate administrative and technical support to the museums, galleries, and laboratories. Includes requests for the Offices of the Secretary, General Counsel, Treasurer, and Personnel, and for the Smithsonian Press, Libraries, Information Systems Division, and other important support units.			
Buildings Management	9,271	807	10,078
To provide adequate maintenance, operation, and protection services in support of the Institution's research, collections' management, and public education services.			
Totals	$34,783	$6,746	$41,529

Special Programs

1970 Actual	1971 Estimate	1972 Estimate
$972,000	$1,549,000	$3,475,000

This request is aimed at strengthening the Smithsonian's abilities to perform ecological research of national significance, present important and timely exhibitions, and extend its public education services. Included are requests for program funding for the Environmental Sciences, the American Revolution Bicentennial, the National Museum Act, a Major Exhibition on the World of Living Things, Academic and Educational Programs, and the Research Awards Program.

B. Science Information Exchange

1970 Appropriation	1971 Appropriation	1972 Estimate
$ 1/	1/	$1,400,000

A separate appropriation account is requested to enable the Institution to both manage and fund the Science Information Exchange as a national information service to the federal and nonfederal research community.

1/ Funded under contract with the National Science Foundation at an annual rate of $1,600,000

C. Special Foreign Currency Program

1970 Appropriation	1971 Appropriation	1972 Estimate
$2,316,000	$2,500,000	$5,500,000

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 institutions of higher learning. Ongoing research, based on a broadened authority to employ these excess foreign currency funds, now consumes the entire appropriation (funding for many ongoing projects has had to be reduced). New demand, however, spurred by diminishing dollar support of basic research and by greater research opportunities abroad is steadily climbing.

D. Restoration and Construction

1970 Appropriation	1971 Appropriation	1972 Estimate
$4,625,000	$7,125,000	$6,847,000

Included in this request are $200,000 to continue to make essential repairs to existing buildings and facilities at the National Zoological Park; $1,050,000 for the restoration and renovation of Smithsonian buildings, including completing the Renwick Gallery of Art, providing Bicentennial facilities on the National Museum of History and Technology, and other projects; $3,697,000 to liquidate the balance of the Hirshhorn construction authority; and $1,900,000 for the redesign of the National Air and Space Museum.

Total 1972 Appropriations Requested $58,751,000

SALARIES AND EXPENSES

Mrs. HANSEN. Salaries and expenses. Please insert pages A1 through A142 of the justifications in the record.

(Pages follow:)

SMITHSONIAN INSTITUTION

"Salaries and Expenses"

Summary Statement

Appropriation Act, Fiscal Year 1971	$34,702,000
Anticipated Supplemental	1,630,000 1/
Total Available, Fiscal Year 1971	36,332,000
Budget Estimate, Fiscal Year 1972	45,004,000
Increase, Fiscal Year 1972	$8,672,000

1/ This supplemental covers the costs of the general schedule raise effective December 27, 1969, the wage board raise effective November 1, 1970, and the guard raise effective November 15, 1970, but does not cover any part of the general schedule pay raise effective January 10, 1971.

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1970 Appropriation and 1971 and 1972 Estimates

Page No.	Unit	1970 Approp. Pos.	1970 Approp. Amount	1971 Approp. Pos.	1971 Approp. Amount	1972 Estimate Pos.	1972 Estimate Amount	Analysis of Increases: Necessary Pay	Analysis of Increases: Program Pos.	Analysis of Increases: Program Amount
	I Science									
A-11	National Museum of Natural History...	258	$3,912,000	271	$4,205,000	349	$5,676,000	$163,000	78	$1,308,000
A-22	Smithsonian Astrophysical Observatory	57	2,086,000	57	2,076,000	57	2,630,000	21,000	0	533,000
A-25	Smithsonian Tropical Research Institute	40	522,000	45	560,000	57	796,000	60,000	12	176,000
A-30	Radiation Biology Laboratory.....	36	676,000	40	916,000	46	1,285,000	17,000	6	352,000
A-35	Office of Environmental Science.....	23	565,000	34	584,000	42	827,000	18,000	8	225,000
A-38	National Air and Space Museum.....	41	486,000	41	626,000	44	731,000	15,000	3	90,000
A-40	Center for the Study of Man.....	6	83,000	7	152,000	10	220,000	3,000	3	65,000
A-43	Center for Short-Lived Phenomena.....	0	11,000	1	37,000	4	127,000	1,000	3	89,000
A-46	National Zoological Park.....	0	0	249	3,150,000	297	3,805,000	70,000	48	585,000
	Total, Science	461	$8,341,000	745	$12,306,000	906	$16,097,000	$368,000	161	$3,423,000
	II History and Art									
A-60	Museum of History and Technology....	158	2,149,000	158	2,209,000	157	2,507,000	68,000	-1	230,000
A-63	National Collection of Fine Arts	59	1,015,000	70	1,137,000	72	1,245,000	46,000	2	62,000
A-65	National Portrait Gallery.....	30	768,000	37	831,000	38	902,000	21,000	1	50,000
A-69	Joseph H. Hirshhorn Museum and Sculpture Garden.....	13	308,000	18	416,000	21	1,017,000	14,000	3	587,000
A-72	Freer Gallery of Art.....	7	45,000	7	56,000	8	80,000	3,000	1	21,000
A-73	Archives of American Art.....	0	0	0	0	11	175,000	0	11	175,000
A-75	National Armed Forces Museum Adv. Bd.	8	182,000	8	152,000	6	120,000	5,000	-2	-37,000
	Total, History and Art.....	275	$4,467,000	298	$4,801,000	313	$6,046,000	$157,000	15	$1,088,000
	III United States National Museum									
A-77	Office of Museum Programs.....	7	233,000	9	304,000	9	308,000	4,000	0	0
A-78	Exhibits.....	167	2,354,000	167	2,361,000	164	2,428,000	67,000	-3	0
A-79	Conservation Analytical Laboratory....	11	134,000	11	154,000	14	209,000	5,000	3	50,000
A-81	Registrar.....	29	327,000	29	301,000	30	358,000	7,000	1	50,000
	Total, United States National Museum	214	$3,048,000	216	$3,120,000	217	$3,303,000	$83,000	1	$100,000

Page No.	Unit	1970 Approp. Pos.	1970 Approp. Amount	1971 Approp. Pos.	1971 Approp. Amount	1972 Estimate Pos.	1972 Estimate Amount	Analysis of Increases: Necessary Pay	Analysis of Increases: Program Pos.	Analysis of Increases: Program Amount
	IV Public Service									
A-83	Anacostia Neighborhood Museum	9	124,000	11	125,000	15	177,000	7,000	4	45,000
A-84	Office of International Activities	8	118,000	8	125,000	9	150,000	9,000	1	16,000
A-85	International Exchange Service	9	118,000	9	120,000	9	138,000	3,000	0	15,000
A-86	Performing Arts	7	226,000	7	196,000	7	202,000	6,000	0	0
A-87	Public Affairs	12	277,000	12	241,000	12	258,000	17,000	0	0
	Total, Public Service	45	$863,000	47	$807,000	52	$925,000	$42,000	5	$76,000
	V Special Programs									
A-89	American Revolution Bicentennial	0	0	2	400,000	2	400,000	0	0	0
A-92	Environmental Sciences Program	0	0	3	150,000	8	375,000	0	5	225,000
A-95	Major Exhibitions	0	0	0	0	0	525,000	0	0	525,000
A-101	National Museum Act	0	0	0	0	3	1,000,000	0	3	1,000,000
A-109	Academic & Educational Programs	18	572,000	20	599,000	23	725,000	11,000	3	115,000
A-118	Research Awards	0	400,000	0	400,000	0	450,000	0	0	50,000
	Total, Special Programs	18	$972,000	25	$1,549,000	36	$3,475,000	$11,000	11	$1,915,000
	VI Administrative & Central Support									
A-124	Secretary	38	462,000	38	598,000	40	656,000	12,000	2	46,000
A-125	General Counsel	8	110,000	8	135,000	9	158,000	5,000	1	18,000
A-126	Treasurer	31	573,000	31	604,000	33	672,000	13,000	2	55,000
A-127	Personnel	26	388,000	28	432,000	29	464,000	10,000	1	22,000
A-129	Libraries	49	659,000	54	739,000	63	950,000	21,000	9	190,000
A-132	Press	23	700,000	25	707,000	25	758,000	11,000	0	40,000
A-133	Information Systems Division	13	217,000	14	219,000	16	277,000	8,000	2	50,000
A-134	Archives	6	33,000	6	61,000	6	69,000	3,000	0	5,000
A-135	Photographic Services Division	20	265,000	20	252,000	20	280,000	8,000	0	20,000
A-136	Supply Division	21	318,000	21	327,000	21	355,000	8,000	0	20,000
A-137	Administrative Systems Division	9	140,000	9	157,000	9	171,000	4,000	0	10,000
A-138	Duplicating	7	83,000	7	70,000	7	88,000	3,000	0	15,000
A-139	Other Central Support	13	168,000	13	177,000	13	182,000	5,000	0	0
	Total, Administrative & Central Support	264	$4,116,000	274	$4,478,000	291	$5,080,000	$111,000	17	$491,000

Page No.		1970 Approp. Pos.	1970 Approp. Amount	1971 Approp. Pos.	1971 Approp. Amount	1972 Estimate Pos.	1972 Estimate Amount	Analysis of Increases: Necessary Pay	Program Pos.	Program Amount
A-140	VII Buildings Management Department.....	748	$8,067,000	768	$9,271,000	793	$10,078,000	$382,000	25	$425,000
1/	VIII Woodrow Wilson International Center for Scholars.....	8	91,000	0	0	0	0	0	0	0
	Total.....	2,033	$29,965,000	2,373	$36,332,000	2,608	$45,004,000	$1,154,000	235	$7,518,000

1/ Presented in a separate appropriation.

SMITHSONIAN INSTITUTION

NECESSARY PAY INCREASES, FISCAL YEAR 1972

An increase of $1,154,000 is required for personnel compensation and personnel benefits. The operations of the Smithsonian Institution have been carefully reviewed and the following have been absorbed in our existing base for salaries and benefits. Recent legislation increased the agency's contribution to the employees' health benefits. The agency's share was increased, on the average, from 24 percent to 40 percent of the cost of each employee's health insurance. This Public Law 91-418 became effective January 1, 1971. The Smithsonian is absorbing the cost of this increase which is estimated to cost $120,000 in fiscal year 1972.

The Smithsonian Institution is also absorbing part of the cost of the Wage Board increase effective November 1, 1970. The amount of the absorption in 1972 is estimated to be $87,000 and affects the Buildings Management Department and the National Zoological Park. No further absorption is possible without adversely affecting the operations of the Smithsonian.

The above increase will be used to finance the following items:

a.	Periodic step increases in accordance with Government Employees Salary Reform Act of 1964 and with prevailing practices in the wage scales	$623,000
b.	To finance the cost of promotions	185,000
c.	To finance an extra work day in fiscal year 1972	100,000
d.	Guard raise	163,000
e.	To finance the cost of housing allowance for United States citizen employees of the Smithsonian Tropical Research Institute	21,000
f.	Full-year costs of wage adjustments for wage employees at the Smithsonian Tropical Research Institute	13,000
g.	To finance a new holiday--Columbus Day--as authorized in Public Law 90-363	10,000
h.	Full-year costs of the wage board increase granted on November 1, 1970	39,000
		$1,154,000[1]

In fiscal year 1966, the Smithsonian Institution account obligated 68.9 percent of the total "Salaries and Expenses" budget for personnel compensation and benefits. In fiscal year 1971, we anticipate obligating 74.5 percent of our funds for personnel compensation and benefits. We are striving to achieve a better balance in our funds between those for salaries and benefits and those for other objects of expense. Much of this imbalance has been caused by absorbing portions of legislated salary and wage increases. In order not to have to reduce other objects further, this requested increase is of high priority. People are the Smithsonian Institution's most important asset provided by the budget process, but as modern techniques and equipment are coming into use, we must also be in a position to provide the professional research staff as well as the administrative and technical support staff with such tools as advanced equipment and computer

---

[1] This amount is distributed in the fiscal year 1972 column of the individual budget requests.

services. This can only be done if we have some flexibility in other objects. Currently this is not the situation. After we have provided for the other essential costs in other objects, i.e., electricity, steam, gas, air conditioning, rent, and communications, there are extremely limited amounts of funds left.

Periodic step increases are made in accordance with the Government Employees Salary Reform Act of 1964 and prevailing practices in the wage system. This amount includes the additional portion of the fiscal year 1971 step increases to be paid in fiscal year 1972 and the new amount to be paid to employees in fiscal year 1972. The apparent cost was determined through a position-by-position study and has been reduced to real cost by offsets resulting from employees being separated or promoted before receiving step increases and from filling some positions at a lower grade step than the former incumbents held. Experience in 1970 showed that we paid $191,000 in new costs which on an annual basis would have cost $388,000. We are requesting $623,000 for these costs in 1972. This is based on our higher employment in 1971 over 1970 and on the fact that 50 percent of 1970's experience was based on lower pay scales, and the wage system's experience was based on pay that will have been increased twice and will probably be increased again in early 1972.

In order to hold its eminent professional research and curatorial staff, the Smithsonian Institution must be in a position to offer promotions as these men gain experience and professional competence. Within the Smithsonian Institution, the historians and scientists are rated by their peers. Certain criteria have been established by these two groups in order to assess rates of professional advancement in order to obtain promotions. There are two groups known as Professional Accomplishments Evaluation Committees. One group is composed of curators and historians in history and the arts. The other group is made up of scientists and curators in the natural sciences. These groups have to recommend a scientist's promotion to the bureau directors before any action can be taken. Even then the bureau directors and the personnel staff have to apply the standard regulations before these promotions are accomplished. In order to keep this program going and to maintain the staff of qualified researchers that have been gathered, the Smithsonian Institution is requesting $65,000 to pay for the additional part-year cost of fiscal year 1971's promotions in fiscal year 1972 and the additional costs in that year for new promotions. We are also requesting $120,000 to help finance the upgrading of the rest of our staff.

In fiscal year 1972, there will be an extra workday since February will have 29 days in that year. This will cost $100,000 in additional salaries and benefits.

The Civil Service Commission was requested and granted authority under 5 U.S.C. 5303 and Executive Order 11073 to establish the special new higher salary rates for all guards GS-085 which is the category of the Smithsonian Institution's special policemen. These guards possess full police power within their jurisdiction including the power of arrest, and are qualified to bear arms under the authorizing statute. The increased salaries were deemed necessary to give them parity with other similar protective forces in the District of Columbia and enhance the ability to recruit suitable personnel and to retain those already on the force who possess the required training and experience. These factors became all the more important in light of the government's security crackdown because of the many recent bomb threats, and the alarming increase in demonstrations, protests, and crimes. The special guard raise gave the guards in GS-3, 4, and 5 an average increase of $1,500 per year. This increase became effective November 12, 1970. We are seeking $163,000 to annualize this raise in fiscal year 1972 for our Buildings Management Department.

The Smithsonian Tropical Research Institute is the only U.S. federal activity in the Canal Zone or in Panama whose employees are not offered low-cost Canal Zone housing, Government-leased quarters in Panama, or quarters allowances.

All STRI families must reside in Panama where high costs in comparison with District of Columbia costs provide the basis for State Department surveyed Foreign Quarters Allowances. STRI's U.S. staff members, however, now receive only a 15 percent pay differential as do all other U.S. employees working in the Canal Zone. This differential is approximately three-fifths the value of the Foreign Quarters Allowances received by all U.S. employees working in Panama. The requested funding of $21,000 would make up the difference by enabling the agency to lease quarters in Panama and sublease these to staff members on a partially subsidized basis. This will rectify a hardship on the STRI's employees. Authorization for a longer-term solution will be sought whereby full Foreign Quarters Allowances may replace the differential.

The Smithsonian Institution's Tropical Research Institute has manual employees who are maintained on a separate pay system from other employees within the Smithsonian. We are requesting $13,000 to finance the wage adjustments for these employees. This covers $9,000 for adjustments effective July 12, 1970, and an increase effective October 1, 1970, at $4,000 to raise the minimum wage paid in the Canal Zone from $1.45 to $1.60 per hour.

Public Law 90-363 provided a new holiday--Columbus Day--which will occur for the first time in fiscal year 1972. We are requesting $10,000 for this holiday since our museums and zoo are open every day of the year except Christmas. This is the holiday pay for the guards, policemen, animal keepers, custodians, and certain mechanics needed to keep the buildings open.

The Smithsonian Institution employs over 700 wage board employees. These employees received a pay increase on November 1, 1970. We are requesting $39,000 to finance the additional cost of this increase in fiscal year 1972. While most government agencies depend upon the General Services Administration to provide maintenance, operation, and protection services, the Smithsonian Institution because of the uncommon feature of our buildings being not only office space, but museums, galleries, and laboratories, maintains its own Buildings Management Department. At the National Zoological Park, we have the additional feature of having live exhibits. Animal keepers are required to maintain these live exhibits. It is not possible to further absorb pay increases in these two groups of employees by abolishing positions in order to finance wage increases from base resources. Additional building spaces and exhibits are creating needs for more, not fewer, such positions.

Necessary Pay Increases
Fiscal Year 1972

Organizational Unit	Periodic Step Increases	Promotions	Extra Day	Other*	Total
National Museum of Natural History	$108,000	$ 44,000	$ 11,000		$ 163,000
Smithsonian Astrophysical Observatory	16,000	3,000	2,000		21,000
Smithsonian Tropical Research Institute	20,000	4,000	2,000	$ 34,000	60,000
Radiation Biology Laboratory	14,000		2,000	1,000	17,000
Office of Environmental Sciences	14,000	3,000	1,000		18,000
National Air and Space Museum	10,000	3,000	2,000		15,000
Center for the Study of Man	3,000				3,000
Center for Short-Lived Phenomena	1,000				1,000
National Zoological Park	35,000	4,000	11,000	20,000	70,000
National Museum of History and Technology	51,000	11,000	6,000		68,000
National Collection of Fine Arts	29,000	14,000	3,000		46,000
National Portrait Gallery	17,000	2,000	2,000		21,000
Joseph H. Hirshhorn Museum and Sculpture Garden	9,000	4,000	1,000		14,000
Freer Gallery of Art	2,000		1,000		3,000
National Armed Forces Museum Advisory Board	3,000	2,000			5,000
Office of Museum Programs	3,000	1,000			4,000
Office of Exhibits	52,000	8,000	7,000		67,000
Conservation Analytical Laboratory	4,000	1,000			5,000
Office of the Registrar	6,000		1,000		7,000
Anacostia Neighborhood Museum	3,000	3,000	1,000		7,000
Office of International Activities	5,000	4,000			9,000
International Exchange Service	3,000				3,000
Division of Performing Arts	3,000	2,000	1,000		6,000
Office of Public Affairs	15,000	1,000	1,000		17,000
Academic and Educational Programs	7,000	3,000	1,000		11,000
Office of the Secretary	3,000	7,000	2,000		12,000
Office of the General Counsel	2,000	2,000	1,000		5,000
Office of the Treasurer	9,000	3,000	1,000		13,000
Office of Personnel Administration and Health Units	9,000		1,000		10,000

Necessary Pay Increases
Fiscal Year 1972
(continued)

Organizational Unit	Periodic Step Increases	Promotions	Extra Day	Other*	Total
Smithsonian Institution Libraries	$ 15,000	$ 4,000	$ 2,000		$ 21,000
Smithsonian Institution Press	9,000	1,000	1,000		11,000
Information Systems Division	6,000	1,000	1,000		8,000
Smithsonian Archives	2,000	1,000			3,000
Photographic Services Division	6,000	1,000	1,000		8,000
Supply Division	6,000	1,000	1,000		8,000
Administrative Services Division	3,000				3,000
Duplicating Section	2,000	1,000	1,000		4,000
Other Central Support	4,000	1,000			5,000
Buildings Management Department	114,000	45,000	32,000	$191,000	382,000
Total	$ 623,000	$185,000	$100,000	$246,000	$1,154,000

* Other:

Guard Raise--BMD	$163,000
Housing--STRI	21,000
Wage--STRI	13,000
Wage--NZP	17,000
Wage--BMD	21,000
Columbus Day--BMD	7,000
Columbus Day--NZP	3,000
Wage--RBL	1,000
	$246,000

SCIENCE

Discovering the history and development of natural phenomena and the characterization of natural events, especially as they relate to the evolution of man in response to his physical and sociological environment, represents the major scientific goal of the Smithsonian. If there is a single scholarly bond of interest among all the activities of the Institution, it is a common concern with history, the history of art, the history of technology, the history of science, and indeed natural history. Our staff of scientists is concerned with elucidating the interrelationships between organisms (including man), communities, and populations with the physical, chemical, and geological factors which play a role in forming the ecology of the earth now and in past ages. More than seventy specialties are represented by the Smithsonian's community of scientists. Activities range from astrophysical investigations that contribute to our understanding of the origin and mechanics of the universe, through investigations on microscopic organisms in the ocean depths, to the development of man as shown by his artifacts and productivity.

There is a major change occuring now in the nation's general scientific effort. This change regards the type of input information more and more investigators view as necessary to further research on problems which are biological or physical in nature. While the change is a contemporary one, it is related in an important way to the basic and long-term activities of the Smithsonian and similar research institutes across the nation, and indeed the world. The change, simply stated, involves the following.

Ecological investigations concerned with identifying long-term factors affecting environmental balance increasingly are becoming dependent on analysis and information constructed around collections of objects. Systematic collections of biological and geological specimens contain standards for describing and measuring ecological changes. Unfortunately, as of now, not enough historical information has been extracted to create "bench-marks" of change which would give scientists accurate indices for speculating about ecological trends, and about man-made solutions to problems which would be in keeping with the natural evolutionary process.

This, however, is the type of work which the various scientific laboratories and museums of the Institution have been involved in for a century and a quarter. In recent times, systematics has not been considered one of the more fashionable of sciences. Even during the hey-day of federal support for scientific research, systematics did not receive the measure of support needed to maintain a level of involvement adequate to the nation's best environmental interests. But now the demands for taxonomic information are increasing rapidly as our national programs of science and technology are redirected to cope with environmental deterioration.

The requests contained in this budget are pointed to rectifying certain support shortages in Smithsonian scientific endeavors in biology and to strengthening certain areas of the physical and anthropological sciences. The increases requested for this Science program amount to $3,791,000 or 44 percent of the total Institutional requested increase. It will permit improved technical assistance for our scientists to permit them to produce at their optimum level of professional competence.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM OF NATURAL HISTORY

	Object Class	1971 Base	Increase Requested	1972 Estimate
	Number of Permanent Positions	271	78	349
11	Personnel Compensation	$3,806,000	$ 654,000	$4,460,000
12	Personnel Benefits	286,000	51,000	337,000
21	Travel & Transp. of Persons	13,000	86,000	99,000
22	Transportation of Things	0	3,000	3,000
23	Rent, Comm. & Utilities	17,000	4,000	21,000
24	Printing & Reproduction			
25	Other Services	44,000	150,000	194,000
26	Supplies & Materials	24,000	90,000	114,000
31	Equipment	15,000	433,000	448,000
41	Grants			
	TOTAL	$4,205,000	$1,471,000	$5,676,000
	Analysis of Total			
	Pay Increase	$221,000	$163,000	$384,000
	Program	$3,984,000	$1,308,000	$5,292,000

Specification of Increase (Program):

Correct Museum Support Deficiencies (34 positions, $576,000)

A serious imbalance exists between the professional research and curatorial efforts and the technical support available for these efforts (museum technicians, assistants, equipment, supplies, etc.). This needs to be corrected over the next few years. The increase requested will more nearly reflect the support ratios as recommended by the President's Science Advisory Committee and the Panel on Systematics and Taxonomy, and allow a shift of professional attention to important contemporary environmental problems.

Environmental Studies (28 positions, $532,000)

The Museum has a major national role to play in producing baseline information and research related to environmental problems. This increase is directed at strengthening the Museum's ability to fill this role and will involve studies of deteriorating freshwater habitats, sea animal populations, the origin of oceanic ecological systems and terrestrial change.

Collections Information and Electronic Data Processing (16 positions, $200,000)

If this Museum is to serve as a base for important environmental research, it must make its collections and accompanying data more accessible to researchers and scholars. Data processing provides the only means by which this can be done. This request would expand current efforts to include fishes, marine mammals, and mineral sciences.

NATIONAL MUSEUM OF NATURAL HISTORY

1970 Actual	$3,912,000
1971 Estimate	$4,205,000
1972 Estimate	$5,676,000

This Museum serves as a national and international center for the natural sciences. It maintains the largest reference collections in the Nation and conducts a broad program of basic research on man, plants, animals, fossil organisms, rocks, minerals, and materials from outer space. Its research is concerned with classification, distribution, analysis, and environmental and ecological relationships. Its fundamental studies in systematics and biology are providing new information required for the solution of major national problems of conservation and pollution, food production, improvement of medical knowledge, and for planning national and international programs leading to predictive ecology and environmental management. It engages in joint educational programs with universities by teaching courses, training graduate students, conducting science seminars, and providing leadership in the improvement of museum techniques, collections management, and the training of technical assistants for cooperating institutions.

The NMNH has the legal responsibility (20 U.S.C. 59) to serve as the ultimate Federal repository of all collections and objects of natural history, archeology, and ethnology made by agencies of the Government when no longer needed for investigations in progress. Additionally, the NMNH has become the repository for numerous extremely valuable collections obtained from other sources, such as the scientific community, academic institutions, as well as many private individuals. Because the Museum is the national repository, it has responsibilities far beyond the research of its own staff. It assists both the layman and the scientist with identification, lends specimens for research, and safeguards the tangible results of research. As the National Museum, it has inherent responsibility to provide leadership for other museums and institutions. In this latter role through use of its collections, NMNH is a vigorous scientific organization devoting an increasing share of its resources of professional staff and unrivaled collections to research which is "locked into" understanding, explaining, and coping with the multitude of environmental problems which beset humanity.

For fiscal year 1972, the Museum is requesting an additional $1,308,000 to help correct imbalances that exist between the levels of professional scientific effort and support effort necessary for proper curation of the collections ($576,000), and to strengthen the Museum's ability to respond to national problems by expanding and intensifying its research efforts, which are directly associated with its collections interests in ecological and biological areas ($532,000). An additional $200,000 is being requested to strengthen the Museum's capability to extract and automate collections information related to the environmental research effort. An increase of $163,000 is needed to cover necessary pay increases.

Need for Increase

1. Museum Support Deficiencies (34 positions, $576,000)

With the enlarged emphasis on research on the collections, which is basic to explaining the many mysteries of how man must manage his environment, many internal imbalances have resulted. Within the limited resources available to NMNH in the past, it is impossible to perform adequately both the identification and care of the collections and undertake research. In this regard the efforts of the limited subprofessional staff are almost entirely devoted to performing

curation and collection maintenance in the face of ever increasing numbers of specimens which seriously tax the ability of the staff to keep abreast of the workload.

The scientific staff is deeply involved in research, but lacks the necessary support required to provide for daily routine functions. This is clearly most undesirable from both the scientific and the economic standpoints.

Several typical examples will serve to illustrate the nature of this problem:

a. The lack of sufficient technicians requires that highly skilled and compensated professionals must routinely perform such menial tasks as preparing thin sections for microscopic analysis. This task could be performed competently by subprofessional personnel, freeing the scientist to apply his expertise to meaningful research.

b. The shortage of technicians precludes the timely and proper provision of routine identification services to numerous requesters. Presently all departments have sizable backlogs of requests which cannot be processed without redirecting personnel efforts from other activities. Frequently, when these services are provided the scientists must do the work so that the curation responsibilities can continue uninterrupted. The professional staff does not do this because of preference, but rather in an attempt to continue the cooperative atmosphere which such consultant work promotes. This routine work can also be effectively performed by technicians.

c. The shortages of such subprofessionals as illustrators often forces scientists to prepare their own art work in order that research publications can go to press. This is a gross misdirection of scientific expertise. This work could more properly be done by lower-graded employees.

d. The lending of specimens to other museums and research laboratories is a time-consuming but essential process which requires the selection, withdrawal, packing, and processing of collection material both in the sending and receiving operations. Often this service is provided only by redeploying personnel from other more essential tasks. This is done to discharge the responsibility of the National Museum and to maintain close working relations with the requesters who are engaged in complementary research and who cooperate with SI in the solution of scientific problems. These services could be rendered effectively by technicians if adequate staff were available.

e. Clerical personnel are also inadequate in numbers to keep pace with the workload. This frequently forces the scientist to type answers to public inquiries, his own reports, memoranda, manuscripts, and do other routine office work.

As far back as 1953 a conference sponsored by the National Research Council called attention to the fact that "the active taxonomists are overwhelmed by the ever-increasing flood of collections crying for attention, to say nothing of the great accumulations of unworked, undetermined materials piled up in years past" and stated that the greatest needs to meet this problem were "increased manpower--more trained and experienced personnel--greater productivity on the part of active systematists and taxonomists."

In May 1969 the President's Science Advisory Committee and the Panel on Systematics and Taxonomy recommended a ratio of three support personnel (technical and clerical) to each professional employee as the optimum level for

research endeavors. As shown in Table 1, the NMNH is able to provide far less than this level of support. Support deficiencies other than those which involve personnel also result in less than truly effective utilization of Museum staff and facilities.

The Smithsonian Council, an Institutional advisory body composed of twenty of the Nation's leaders in art, science, and history, at its spring 1970 meeting adopted the following resolution:

> "In view of the present need to protect and appreciate the diversity of the environment, the Council is deeply concerned with the present trend relating to systematic biology as it affects the Museum of Natural History and strongly urges the allocation of additional resources to the Museum to promote this field."

These men, in their present capacities as research scientists, foundation directors, and university scholars, are used as a sounding board by the Institution to help integrate national needs with Institution activities.

Recently many special support services which had been provided by the Institution at no cost to the Museum have been discontinued by the support units because of budgetary constraints. This has required the Museum to redirect funds from other higher priority areas to provide these essential services. Some examples of this follow.

a. The SI Library now finds it necessary to require NMNH to fund many of its purchases of reference books for the various departments as it is unable to sustain former levels of this support.

b. The Administrative Systems Division, which formerly provided cataloging forms, labels, and other items essential to systematic and logical curation, is no longer able to furnish this service. The departments must finance their own needs which in some cases represent sizable dollar amounts.

c. The Supply Division, which in the past stocked most items normally required for departmental operation, has discontinued some 400 items with the result that the various Smithsonian operating units must now purchase these from their own already reduced funds.

d. The Buildings Management Department now requires the Museum to purchase supplies and materials used in performing many special projects requested. In the past, these materials were routinely supplied.

Other financial problems are present in support areas. For instance, the shortage of specimen storage cases and specimen bottles is acute. In past years it was possible to maintain adequate inventories of bottles for specimens but the financial constraints in the last several years have prevented the replenishment of these stock levels. Specimen storage cases and drawers which in some cases represent the largest single expenditure of a department are no longer purchased on a routine annual basis but rather whenever and to whatever extent funds can be assembled from all available sources. This is neither efficient nor economical since these are not available commercially and must be constructed to exact specifications. Larger volume purchases, such as were possible in the past, would result in lower unit costs. Further, despite selectivity in acquiring specimens, accessions have grown at a rate which outstrips the availability of cases in which to house them. This often means that valuable additions to the

Table 1

NATIONAL MUSEUM OF NATURAL HISTORY

Ratios of Man-Years of Effort Between Technicians/Scientists

	(1) Sub-Prof. Man-yrs.	(2) Clerical Man-yrs.	(3) Sub-totals Man-yrs.	(4) Prof. Man-yrs.	(5) (3)÷(4) Ratio Man-yrs.	(6) Departmental 2/ Other Supp. (nonpers.) FY 1970	(6) Departmental 2/ Other Supp. (nonpers.) FY 1971	(7) Scientist Share 2/ Other Supp. (nonpers.) FY 1970	(7) Scientist Share 2/ Other Supp. (nonpers.) FY 1971
Anthropology	14	9	23	17	1.35:1	$35,800	$14,800	$2,100	$900
Botany	9	6	15	17	0.88:1	36,700	14,400	2,200	800
Entomology	12	5	17	11	1.55:1	24,000	9,600	2,200	900
Invertebrate Zoology	13	6	19	18	1.05:1	32,000	12,100	1,800	700
Mineral Sciences	7	3	10	10	1.00:1	28,300	11,200	2,800	1,100
Paleobiology	18	6	24	18	1.33:1	37,900	15,300	2,100	800
Vertebrate Zoology	15	6	21	13	1.62:1	34,900	13,900	2,700	1,100
TOTAL	88	41	129	104	1.24:1 1/	$229,600	$91,300	$2,200	$900

1/ Note: The President's Science Advisory Committee and the Panel on Systematics and Taxonomy recommended a ratio of three support personnel to each professional employee.

2/ Travel for field work, equipment, laboratory supplies, etc. Excludes $22,000 for general museum support items in fiscal year 1971.

collections are subjected to improper storage, possible damage, and, most importantly, the inability to locate specimens readily when required for study by Museum and other scientists. Immediate relief is essential to curate incoming specimens in a timely manner, to facilitate proper collection management and provide the research information when needed.

The foregoing are but a very few of the examples of conditions which would be eliminated by additional funding for support shortages. There are many areas in need of increased financial support which individually constitute problems of great magnitude and which when taken collectively represent major deficiencies preventing the Museum from carrying out effectively both its curation and research activities. (See accompanying photograph for deficiency example.)

In order to correct these support shortage imbalances, an additional $576,000 is being requested. Shortages of museum technicians and museum aids constitute the greatest need and are largely concentrated in the areas of botany, zoology, and paleobiology (34 museum subprofessionals and $205,000).

The current Museum ratio of support personnel to scientific professionals is only slightly better than 1:1. The requested increases, while falling short of the standards selected by the President's Science Advisory Committee and the Panel on Systematics and Taxonomy, would serve to improve this ratio to approximately 1.6:1. In addition, $371,000 arerequested to provide needed support for equipment, supplies and materials, and travel. In this latter amount, $200,000 are in nonrecurring costs involved in major equipment and storage items. The balance of $171,000 is urgently needed to raise the current annual amount available for expenditures per professional from an average of $900 to an amount approaching $2,000, a figure which would permit efficient utilization of the Museum's professional expertise.

2. Environmental Sciences (28 positions, $532,000)

A total of $532,000 is requested to initiate or expand present exploratory research projects related to our environment. These projects include studies of the interactions of organisms with each other and with their surroundings--soil structure, temperatures, water supply, day length, available nutrients, and many others. A plant grows where it does, just as an animal feeds on it, because of a complex interrelationship between the non-living and the living parts of the total environment. The development of basic information on these interactions is critically important to establishing environmental standards and to the intelligent management of natural resources in a world increasingly threatened by man's activities. Table 2 presents a program breakdown of the Museum's request.

Concern for environmental matters and the research it engenders currently pervades all of national life, but the National Museum of Natural History has a unique role that has been poorly recognized and supported. The National Collections of natural history objects, now more than 50 million, are the largest data base in the Nation for information on the chemical makeup, structure, geography, and ecology of the world's plants and animals.

Much of this material was collected prior to the first atomic explosion and before pollution from pesticides, heavy metals, and other sources reached anywhere near their present levels. Consequently, it constitutes an irreplaceable base line resource available for analysis which cannot be duplicated. There is no other more reliable, documented source for determining what lived where and when and how. Therefore, the identification and protection of the specimens in the National Collections and the increased availability of information concerning them must be of the highest priority in the development of our Nation's efforts in this vital area. The research based on these collections which is conducted by the Museum's scientific staff is likewise a unique resource available to the entire

Table 2

NATIONAL MUSEUM OF NATURAL HISTORY

	Program Category	1970 Appropriation Pos	1970 Appropriation Amount	1971 Appropriation Pos	1971 Appropriation Amount	1972 Shortages[1] Pos	1972 Shortages[1] Amount	1972 New Prog Pos	1972 New Prog Amount	1972 Estimate Pos	1972 Estimate Amount
I.	Research and Scholarship	156	$2,386,000	156	$2,571,000	21	$451,000	28	$532,000	205	$3,554,000
II.	Nat'l Collections Mgmt & Use	83	1,251,000	94	1,349,000	11	236,000	16	200,000	121	1,785,000
III.	Education of the Public	19	275,000	21	285,000	2	52,000	0	0	23	337,000
	TOTAL	258	$3,912,000	271	$4,205,000	34	$739,000[1]	44	$732,000	349	$5,676,000

1/ Includes $163,000 necessary pay increases; requested program increase to help correct shortages is $576,000.

scientific community. The Nation's research in the environmental sciences, to be successful, must depend increasingly on the collections, data, and intellectual resources of the Museum.

Two Science Advisors to the President have emphasized the significance of these relationships. Dr. Donald Hornig, testifying before a Congressional committee on environmental quality, pointed out

> "the increasing attention being given ecological effects of man's activities calls for additional scientists capable of identifying the multiplicity of biological constituents of an ecosystem as a prerequisite to assessing changes."

More recently, Dr. Lee DuBridge stated in a letter

> "Certainly the Smithsonian Institution can play a unique role in meeting our future environmental needs, particularly in the areas of systematics and basic ecology. ... Undoubtedly the taxonomic and systematics capability of the Smithsonian will have to be utilized if we are to know the character of changes occurring in the natural environment."

The new research projects for which increased funds are requested in fiscal year 1972 are designed to permit the Museum to play its "unique role" and provide the services and information needed by all those who are or who will be engaged in these scientific investigations.

The destruction of natural ecological communities all over the world is proceeding at an accelerating rate as technology improves, as population pressure increases needs for space, food, shelter, etc. The effects of clearing large, previously undisturbed areas for housing, industry, and agriculture, and the building of dams and highways, canals and other large public works all pose urgent problems of proportions never before faced by man. It is necessary now to develop a better understanding of what constitutes the "communities" of interdependent plants and animals before disturbances alter them forever. Similarly, such studies permit the protection of organisms against destruction, so that their chemistry, behavior, genetic constitution, and other aspects of their biology, which may be important to man's survival, can be studied. The following projects are those which are most urgently needed.

Study of Deteriorating Freshwater Habitats (3 positions, $50,000)

Ongoing research on aquatic insects and crayfish will be expanded in order to meet growing needs for basic information by Federal agencies and research organizations investigating environmental quality problems. Both groups of organisms which are abundant naturally in freshwater habitats are quite sensitive to water pollution. Their presence or absence in a particular stream or lake can be an indicator of water quality. In addition, both larvae and adults of aquatic flies, the specific group to be studied in this project, are vital elements in the freshwater food chain.

Animals of the Sea (7 positions, $121,000)

Information on the identity, distribution, environmental requirements, and behavior of marine animals is fundamental to an understanding of the world-ocean ecological system. A very important international effort was made toward closing this information gap in the International Indian Ocean Expeditions during which large numbers of invertebrate animals were collected. This project includes studies of these materials, the results of which will permit fisheries, biologists, and others to frame rational plans for exploitation of the sea.

The coastal areas and estuaries are particularly critical ecologically because they are the breeding grounds of so many forms of marine life and they are among those most threatened by discharge of industrial/urban wastes. Data which would be developed in this research on bottom-dwelling, microscopic worms and small crustaceans, important food for fishes, will aid scientists in many fields to develop and increase the economic value of foods from the sea.

Marine mammals (seals, dolphins, and whales), in spite of over exploitation, still constitute a valuable natural resource for furs, oil, and food. In addition, the study of their physiological mechanisms (such as their deep-diving adaptations, highly discriminant sonar, and underwater communication) would provide clues to new techniques for ocean exploration and exploitation. The NMNH has the world's largest collection of both fossil and living marine animals and the finest library pertaining to them. The scientist who would be hired on this project would strengthen the Museum's research competence in the field of marine mammals and provide leadership in planning the projected new National Marine Mammal Research Center which will provide facilities to government and university scientists and will be capable of housing the collections, thus permitting adequate study of these outsized specimens.

One has only to have read recent newspaper accounts of pollution of fishes by mercury, pesticides, and petroleum residues to realize that these animals are highly useful indicators of environmental contamination. It is essential that natural populations of fishes be studied now while relatively undisturbed marine habitats are still available. Fishes are an important source of human food, and their number and diversity provide a wide variety of indicators for monitoring local contaminants. The National Museum of Natural History houses one of the world's largest collections of Indo-Pacific reef fishes; however, much of this material remains unsorted and unidentified. As part of this project, these collections will be put into order and provide a starting point for a basic inventory of the species. These specimens will also provide material for chemical analyses to establish the base line information on the amounts of heavy metals and other possible pollutants which they contain. Subsequent analysis of recently caught individuals will permit comparisons with a standard from an environment relatively unaffected by man.

Origins of Oceanic Ecological Systems (9 positions, $104,200)

Analyses of the rocks and fossils will provide data on the kinds, rates, and causes of natural environmental changes so critical to interpreting the modern situation. With such information, planners will be in a better position to predict the effects of environmental disturbances, whether natural or man-made.

The Atlantic Coastal Shelf is one of the most threatened areas of North America. As a model of the role that geology and paleobiology can play in the interpretation and prediction of environmental changes, the origin and development of the natural environments of the Shelf will be studied in detail. A complete, well-exposed physical record and rich fossil strata are available along the Atlantic Coast. These biological studies will be concentrated on mollusks, one of the most dominant and environmentally sensitive of the marine shelf organisms.

Coral reefs which contain communities of plants and animals which are so easily destroyed by changed environments would also be studied. An evaluation of the origin of the changes which are occurring cannot be made without a thorough understanding of reef ecology. Basic to this knowledge is the origin, structure, and history of the rock framework of the reef. This project is designed to provide these fundamental data.

Studies in Terrestrial Biology (6 positions, $74,400)

Environmental change affects organisms wherever they occur, from the upper layers of soil to thousands of feet above sea level. Rich soils may contain more than ten million insects and their relatives per acre. These tiny animals are critical links in the total ecological chain of the interrelationships of the soil because many break down plant and animal remains so that the nutrients can be recycled to the living plants. Many insects and plants are sensitive to insecticides and herbicides, and thus can be used as indicators of soil pollution; but in spite of their abundance, little is known of their identity and behavior. This project will develop such information for application to existing problems of land productivity and soil pollution.

The proposed study of birds and mammals would provide clues necessary for solutions to environmental and health problems. Because birds and mammals are closely tied to their habitats, they also are good indicators of environmental change.

Most of what we know about migrations, breeding cycles, population structure, and ecological interrelationships has been derived from investigations on birds and mammals of the Temperate Zone. However, many tropical species, which still live in relatively undisturbed situations and from which the temperate species have evolved, remain poorly known. Many of these species either migrate into the Temperate Zone themselves or come into contact with temperate zone migrants in the tropics and may therefore act as long-distance carriers of disease. Consequently, research in this project will concentrate on the identity, distribution, and ecology of these animals in tropical Asia and Africa.

Changing Climates and Man's Adaptations (3 positions, $124,400)

By constantly adapting himself, man has survived severe environmental changes throughout his history. Today, and in the forseeable future, he faces challenges to his survival of a magnitude not dreamed of earlier. But the basic problems are not new, and the more we learn of the adaptations that were successful in earlier periods, the better guidelines we have for current decision-making.

One of the most useful techniques for assessing past conditions in a particular site is the study of the pollens in the various soil layers. Pollen grains of wet-land plants at one soil-horizon followed by grains of desert plants provide important clues to man's life and activities in those periods. Similarly, the origin of cultivated plants in various cultures can be studied by pollen research coupled with archeology. Throughout history, man has had a profound effect on his surroundings, and it is essential that these interdisciplinary studies be initiated now to provide a better understanding of his relationships with the environment and its impact on his cultures, civilization, and ability to survive.

Crystallography Laboratory ($58,000)

Included in the amount for new program activities is the sum of $58,000 needed to begin equipping a much-needed crystallography laboratory, through the purchase of a single-crystal diffractometer. The extremely capable crystallographer in the Department of Mineral Sciences could then greatly extend the Smithsonian's research capabilities. The diffractometer is a highly versatile instrument, and yields valuable structural data on virtually any crystalline material. Minerals, meteorites, deep-sea basalts, lunar rocks, and even man-made materials can be studied in minute detail, thus greatly strengthening the analytical power of existing Museum facilities, and adding new dimensions to current and proposed investigations. This sum is a substantial fraction of the total that would be required for a complete laboratory, yet would secure the best instrumentation currently available.

3. Improvement in Collection Management and Availability of Data Through Electronic Data Processing (16 positions, $200,000)

Improved access for the scientific and museum communities to the data in the National Collections is urgently needed, and is a project of the highest priority of the National Museum of Natural History. Funds appropriated by Congress in fiscal year 1971 for the initial application of electronic data processing to natural history collections are being used in four projects. These projects will make available information on important collections in the Departments of Paleobiology, Botany, Invertebrate Zoology, and Vertebrate Zoology. Each data preparator can prepare for computer entry 8,000 to 12,000 records per year. Computer processing of these records, and the production of listings for internal use and publication, costs approximately fifty cents per record. It is estimated that during fiscal year 1971 a total of approximately 30,000 specimen records will be prepared and computerized for all four projects. The results already achieved in this program include three cross-referenced catalogs, containing information on over 4,000 specimens, which are soon to be published. Two more catalogs covering an additional 10,000 specimens will be completed in the current fiscal year.

The increase of $200,000 being requested for fiscal year 1972 would be used to expand current efforts to cover new groups of organisms and to initiate new programs in two departments. These projects would make information associated with specimens of animals, plants, and minerals in the National Museum of Natural History collections more readily available to all who need these data. In addition, the volcanic activity file will provide historical perspective and current awareness data on behavior of the world's volcanoes. Users of information produced in these programs include personnel connected with research and academic institutions, industry, and government, as well as other scientists, students, and the staff of the Museum itself. It is estimated that the increase requested would permit the preparation and computer input, manipulation, and output of information on approximately 150,000 specimens per year. Of this number, about 75,000 will be new specimens comprising about one-tenth of the yearly inflow of specimens to the Museum. A major goal for the future is to capture data on the 300,000 to 500,000 most important yearly additions to the collections while continuing work on the major collections already on hand.

Introduction of modern data management methods and computer technology into the control of specimen holdings at the National Museum of Natural History has the immediate benefit of assuring more accurate and permanent capture of information, while at the same time improving the efficiency of highly skilled personnel. However, it is already apparent that a more important benefit is the ability to obtain, through the computer, any of the stored items of data in any desired combination rather than in only the very few catagories possible through traditional indexing procedures. Thus, the limiting factor becomes the ingenuity and interest of the researcher rather than the restrictions presently placed on him by conventional paper filing systems. This flexibility is becoming increasingly important for investigation of the complex interrelationships of variables affecting the distribution, genesis, and evolution of minerals, animals, and plants.

Two environmental research proposals, for which funding is also requested, offer examples of the integration of computer data storage and the broader aims of scientific study. Data collected in both the Comparative Faunistic Inventory of Indo-Pacific Coral Reef Fishes and the Development of National Marine Mammal Research Center will be entered into the computer. Study of migration patterns, habitat preferences, population densities, and other important environmental parameters will be made much easier through computerization of the data from these programs.

The tremendous volume of information already in hand in the Museum, but largely in undigested form, and the increasing mass of information currently being collected, poses a staggering challenge. The proposed projects would attack discrete, select segments of this information mass to provide scientific results of the greatest immediate value, and would serve as a base for analyses and future investigations. Over the next several decades this progressive approach would result in the preparation of information about a significant proportion of specimens in the collections, largely as a by-product of other short-term studies which have scientific merit in their own right. The insights which can be gained by the use of the computer for such highly organized data cannot all be predicted, but it is clear from man's growing awareness of environmental interactions that such insights are already very badly needed. Because of the volume of data which must be organized, we must begin now the task of putting into order our knowledge about organisms, environmental phenomena, and the changes which have been and are now taking place.

To summarize, the National Museum of Natural History is requesting $576,000 (34 positions with $205,000 for associated personnel costs, plus $371,000 for equipment, supplies and materials) to correct operating support deficiencies; $532,000 (28 positions with $241,000 for associated personnel costs, plus $291,000 for equipment, supplies and materials, and information processing) for program development in the environmental sciences; $200,000 (16 positions, with $96,000 for associated personnel costs) for improving its ability to automatically handle environmental information associated with the collections; and $163,000 for necessary pay increases in the fiscal year.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

1970 Actual.....$2,086,000
1971 Estimate.....$2,076,000
1972 Estimate.....$2,630,000

The Smithsonian Astrophysical Observatory (SAO) pursues a broad program of research in astrophysics and related earth and space sciences. Established in 1890, the SAO was reorganized in 1955 and moved to Cambridge, Massachusetts. In addition to some 50 scientists and supporting staff currently employed in Cambridge, SAO maintains scientific facilities elsewhere in the United States and overseas. Included in these facilities are a multipurpose observatory on Mt. Hopkins, Arizona; a worldwide network of Baker-Nunn camera and laser tracking stations; camera and radar networks in the mid-western United States for meteor studies and meteorite recovery; and joint use with Harvard College Observatory of an 84-foot radio telescope in Massachusetts.

An appropriation increase of $533,000 is requested to continue the development of a large telescope to provide the kind of instrumentation essential to further scientific achievement and to correct research support shortages. An additional $21,000 are requested to cover necessary pay increases.

Need for Increase--The professional staff working at SAO has been unable to achieve its full potential because of severe budgetary restrictions. The results of the Observatory's research have established standards for other scientists engaged in similar investigations. Included in these accomplishments are the publication of the 1969 Smithsonian Standard Earth (II), the most accurate representation of the earth's size, shape, and gravitational field ever produced; a determination, through observations, of limits on the frequency and number of micrometeroids as hazards to space flight; the production of the Smithsonian Astrophysical Observatory Star Catalog and Star Atlas as standard references; and studies of the maser process to help measure the motions of the earth, to test the theory of relativity, and to investigate those areas of the universe where vast natural hydrogen masers operate.

The Observatory has always emphasized pioneering research. For example, SAO recognized even before the first Sputnik was launched that artificial satellites would provide a means for studying the earth and its atmosphere in more detail than ever before possible. The continuing role of SAO as a scientific pioneer depends upon timely, systematic acquisition of new instrumentation. Scientific inquiry is dynamic, and yesterday's tools are seldom sufficient for tomorrow's problems.

From year to year, the Observatory has applied a significant fraction of its funds to acquiring new research capability. The eminent scientific position of the Observatory is closely associated with the capabilities represented by its instrumentation. This necessary policy of instrumentation advancement was unfortunately broken in fiscal year 1971. Inflation and a relatively static budget have made any major equipment purchases impossible. This unhealthy situation must be remedied in 1972 if SAO is to survive as a productive research organization.

In an effort to select the most useful new instrumentation for SAO, the scientific staff evaluated the existing national instrumentation capabilities, the requirements of the world astronomical community, and the goals of SAO's own research program. It was clear that an appropriate step forward would be the construction of a large optical telescope designed for a broad range of applications from infrared astronomy and spectral photometry to observations complementing the capabilities of instruments detecting high-energy radiation.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

	Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..		57	0	57
11	Personnel Compensation.....	$1,157,000	$ 19,000	$1,176,000
12	Personnel Benefits.....	92,000	2,000	94,000
21	Travel & Transp. of Persons	50,000	0	50,000
22	Transportation of Things	12,000	0	12,000
23	Rent, Comm. & Utilities	152,000	10,000	162,000
24	Printing & Reproduction.....	30,000	0	30,000
25	Other Services	274,000	160,000	434,000
26	Supplies & Materials	85,000	0	85,000
31	Equipment	224,000	363,000	587,000
41	Grants			
	TOTAL.....	$2,076,000	$554,000	$2,630,000
	Analysis of Total			
Pay Increase		$ 68,000	$ 21,000	$ 89,000
Program		$2,008,000	$533,000	$2,541,000

Specification of Increase (Program):

Phased Development of Large, Low Cost Telescope ($ 533,000)

Since its establishment, the Observatory has been one of the leading organizations in the field of astrophysics. The Observatory's eminent scientific position is closely associated with its instrumentation capabilities. Recent years' budgeting constraints have jeopardized these capabilities. In conjunction with the University of Arizona and the Department of Defense, the Observatory has a unique opportunity to develop a large astronomical telescope for the nation with new techniques at very low cost. A scientific evaluation of existing national instrumentation capabilities, the requirements of the world astronomical community, and the goals of SAO's own research program, makes it clear that this opportunity should not be neglected. The telescope represents a break-through in instrumentation. A three-year phased plan for development requires $1,500,000 for engineering design, construction of facilities, and installation. To implement the first year's activity, $533,000 are requested.

To overcome the immense difficulties and expense inherent in the manufacture of a single mirror, studies at SAO and elsewhere indicate that design advances lie in the direction of multielement mirror arrays. A telescope of this new design can be relatively lightweight, inexpensive, and extremely accurate--incorporating provisions for small adjustments of the mirrors so that all the images fall upon each other with sufficient precision. Less than a decade ago, such a technique would have been impossible. Changes in temperature and flexure caused by repointing the telescope to observe a different sky section would have caused the delicate alignment of the individual mirrors to go awry. Modern electronics, however, now make it possible to readjust continuously and automatically the alignment of the mirrors to ensure a single image.

SAO has a unique opportunity to undertake a cooperative project with the University of Arizona to build such a large multielement telescope. This pioneering effort will not only produce an instrument with resolving power equal to a 240" conventional telescope but will pave the way for the scientific community to build even larger, more powerful telescopes at remarkably modest costs. A photograph of the planned telescope follows; additional detail related to its development is being separately transmitted in the supplement A Large Astronomical Telescope at Low Cost. The Optical Sciences Center of the University of Arizona has acquired six 72" mirrors. With assistance from the Department of Defense (DOD), they plan to build six systems that will be tied together optically and electronically to function as a single but stationary optical system. The technology developed through this phase of the program will satisfy DOD's requirements. The Smithsonian, a cooperating agency with complementary objectives, plans to work with the University to design and construct a control system, mounting, and shelter so that the instrument can then be used as an astronomical telescope. If this is not done, the nation may lose an opportunity to convert an experiment in technology into a powerful operational scientific instrument at modest cost. An amount of $1,500,000 spread over three fiscal years will be required for engineering design, construction of facilities, and installation of the telescope. For the first phase of the project, $533,000 is requested for fiscal year 1972.

SAO RESEARCH PROGRAM

SAO's activities for 1972 will be grouped under three major program headings: 1) THE EARTH AS A PLANET, 2) THE SOLAR SYSTEM, 3) ENERGETIC PHENOMENA in the universe.

The Earth as a Planet

SAO's investigations of THE EARTH AS A PLANET are centered on the dynamics of the earth and its atmosphere. The Observatory applies the most precise laser and electronic techniques now available to monitor geophysical changes by observing the motions of artificial satellites in the earth's gravitational field. This can lead toward better understanding of processes within the earth and may eventually result in practical benefits such as the prediction of earthquakes. Employing techniques developed for measuring satellite orbits, SAO uses its worldwide observing stations to monitor temperature and density variations in the upper atmosphere caused by solar activity.

Man lives in a small and extremely fragile environment close to the surface of the earth; SAO scientists are making major contributions to an understanding of the physical processes that have such a important effect on man's environment.

The Solar System

Studies of THE SOLAR SYSTEM include the near-space neighbors of the earth--the moon, planets, comets, asteroids, and meteoroids--as well as the sun itself and its relationship to other members of this complex system. SAO's research program incorporates theoretical, laboratory, and observational studies of extraterrestrial bodies, their history since the formation of the solar system, and the sea of radiation to which they have been exposed.

Energetic Phenomena

ENERGETIC PHENOMENA studies are concerned with the sources of radiation, including the nature of newly discovered and largely unexplained sources of radiation far outside the solar system. For many scientists, these new astronomical sources present some of the most intellectually challenging problems in science today. More energy is being emitted from the centers of galaxies and from quasars than can be explained by any processes now understood. Most likely, the answers to these newest mysteries will be provided by the newest astronomical tools--radio, infrared, ultraviolet, gamma-ray, and advanced optical instrumentation.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	45	12	57
11 Personnel Compensation	$ 409,000	$ 147,000	$ 556,000
12 Personnel Benefits	25,000	9,000	34,000
21 Travel & Transp. of Persons	20,000	9,000	29,000
22 Transportation of Things	4,000	6,000	10,000
23 Rent, Comm. & Utilities	26,000	6,000	32,000
24 Printing & Reproduction	0	0	0
25 Other Services	32,000	24,000	56,000
26 Supplies & Materials	32,000	16,000	48,000
31 Equipment	12,000	19,000	31,000
41 Grants			
TOTAL	$ 560,000	$ 236,000	$ 796,000
Analysis of Total			
Pay Increase	$16,000	$60,000	$76,000
Program	$544,000	$176,000	$720,000

Specification of Increase (Program):

Support to Professional Research Efforts (3 positions, $34,000)

The environmental research programs have suffered because of a lack of back-up support activity. The greatest shortages are two field aids and a launch operator ($17,000) and additional direct support for the scientific operations ($17,000).

Support to Facilities Operations (5 positions, $64,000)

A large portion of the Institute's annual budget is used to keep the facilities in reasonably good shape; this is a difficult task because of the tropical climate, the growing use of facilities, and condition of some buildings and equipment. A manager and a janitor are needed for the marine station's facilities, a maintenance laborer for Barro Colorado Island, and an electrician and a messenger for all facilities ($25,000). Additional funding for facilities maintenance and equipment is also requested ($39,000).

Environment and Behavior Research (2 positions, $44,000)

A marine ecologist and a forest ecologist are needed to allow a measured step of progress in the research program ($33,000). Direct support funding is requested for laboratory and office needs, travel and household transportation, and supplies ($11,000).

Administrative Support and Interagency Research (2 positions, $34,000)

With the growing utilization of STRI's facilities, administrative support is urgently needed; one office administrator and one technical typist are requested ($21,000), along with support funding for central administrative functions ($13,000).

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

1970 Actual $522,000
1971 Estimate $560,000
1972 Estimate $796,000

Established 25 years ago to foster understanding of the tropical environment as preserved on Barro Colorado Island, the Smithsonian Tropical Research Institute has become a center of excellence for advanced studies by staff, advanced students, associates, and visiting scientists on the processes of survival and their relationship to the environment--ever more essential questions for which the tropics are uniquely suited. In the tropics, diversities are greater, competitive processes and interactions more complex, new lines of adaptive radiation more pronounced, and year-round field study and experimental opportunities richer by far than in other climes.

Panama, easily accessible, offers an array of terrestrial and marine study habitats within immediate reach. The Isthmus is a land bridge for the biotic interchange of two continents and, at the same time, a continuing barrier to the biota of two oceans--separated by several millions of years, but only 50 miles apart. This affords an observational and experimental potential which cannot be matched elsewhere. The interdependence of ocean and continent is beginning to be publically recognized. STRI has one of the few teams of scientists in the world organized jointly to pursue the biology of both realms.

Questions on survival, importance of diversity, the critical role of communications, mapping and influence of environmental change, invasions by new populations, partitioning of environmental resources on land and in the oceans--on these and many other fronts STRI progress is recognized by leaders in biology from around the world. Last year, ten STRI staff biologists gave 25 seminars at leading universities and prepared 53 contributions in research for publication. More than 100 other contributions were made by visiting scientists based on work at STRI.

The great growth in visitor demand from across the United States is testimony to the key value of STRI's role. In the last twelve months alone, 624 men and women from sixty-two universities and 33 agencies and institutions in 28 states and 22 countries spent 8,757 work days mining the combined intellectual and environmental resources at STRI. STRI harbors five laboratories for studying tropical marine and terrestrial ecology from forest and lake to seashore and mountain. Work is underway in forty different habitats on interactions between hundreds of different organisms and their environment. STRI provides a base of operations for pursuing fundamental questions in biology and for understanding the tropics--habitat for one-half of mankind. Concurrently, comparative studies elsewhere in the New and Old World tropics are magnifying the value of efforts at any one locale.

Other recent sources of testimony include the following comments by a prominent scientist and past president of the National Academy of Sciences:

> "It is terribly impressive to me and most encouraging that in recent years STRI has expanded into such a first rate and significant institution. Most of the scientists whom I met and talked to at some length are from good to excellent. The program of bringing young people in for substantial working periods is really justifying itself according to my first-hand impressions. The whole organization is gaining immensely from the effect of having a critical mass with genuine group interaction and intellectual intercourse on a high plane.

"In addition to my congratulations on the existence of such a scientifically significant group as that represented by your staff and invited fellows, I must also speak to the value and importance for the total biological community of the excellent facilities you maintain for transient visitors like ourselves."

An increase of $176,000 is requested to provide a balanced program of research and research support, facilities management, and administration adequate to keep pace with the accelerating demands on the activity. An additional $60,000 are requested for necessary pay increases, compulsory benefits' cost hikes, and to rectify a housing benefit inequity.

Need for Increase

1. Research Support (3 positions, $34,000)

During the past year 43 long-term research projects have been conducted by STRI's ten staff biologists, 18 projects ranging between one and two years by visiting postdoctoral and predoctoral fellows, and 40 projects of shorter term by visiting scientists.

Typical staff highlights included:

--the first explorations of Eastern Pacific shores of Western Panama discovering previously unknown large constructional coral reefs, nine species of fishes new to science and eleven new to the region, hydrocorals new to the Eastern Pacific and the first reported stable populations of the coral predator, the Crown of Thorns starfish. The STRI expeditions laid the basis for a new dimension of comparative Atlantic and Pacific analysis, as well as for uncovering natural controls for the predatory starfish that has been highly destructive elsewhere.

--behavior among animals is often critically affected by the success of their communication systems. Major advances were made at STRI in understanding the ways in which "messages," whether simple or highly specialized, mediate among organisms, and with the environment.

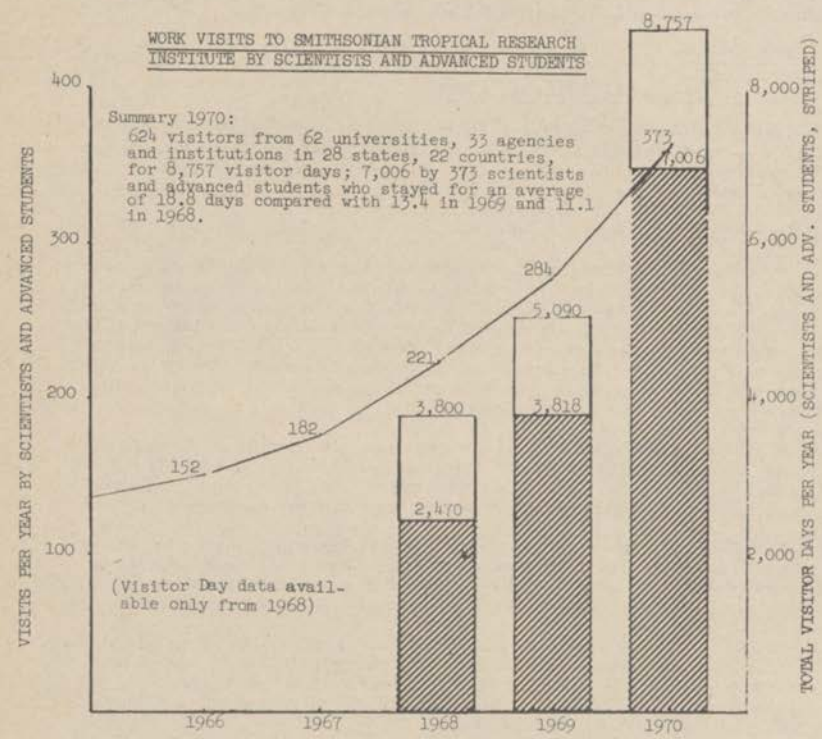
--survival patterns were charted of a highly venomous sea snake widespread in the Pacific but nonexistent in the Western Atlantic in order to predict the colonization and distribution success of the animal should it gain access to the Atlantic through construction of a sea-level canal.

--on Barro Colorado Island, which has housed hundreds of separate studies for four decades, an accelerating recent effort including 16 long-term studies is laying the basis for the development of new methods, with possible broad applicability, for predicting the effects of environmental change on the survival of organisms.

The common denominator on these and nearly all promising efforts is that their productivity has been hampered greatly by the lack of reasonable support. Levels of support are far below national standards. Scientists and staff often work around-the-clock to substitute for support. Immediate needs include two field aides (marine, Barro Colorado) and one marine research launch operator, for $17,000 in salaries; partial make-up of travel shortages ($3,000); rectifying a practically zero consulting and computations funding capacity ($4,000); supply funding deficit of $400 per scientist ($4,000); essential equipment needs for balances, drying ovens, freezer, and one four-wheel drive research vehicle ($6,000); for a total of three positions and $34,000.

2. Facilities Operation Support (5 positions, $64,000)

World-wide biology is being enriched importantly by a belated but increasing focus on the tropics. STRI provides a base of operations for tropical research unique in this hemisphere and is acting increasingly as a work-ground and interchange point for collaborators from around the world (e.g., over the last twelve months, 23 leading biologists from the U.S. and Europe conducted advanced seminars at STRI). The following table shows the increased demands on STRI operations.



This demand is greatly welcome and offers promise of concerted advances on urgent biological problems of the Seventies. The effect is that STRI is crammed literally to the rafters with staff, fellows, and visiting scientists. Immediate needs include a marine station chief (the burden for planning and coordinating the greatly increasing number of complex marine laboratory and field visits must fall on the scientists--an inefficient and very costly solution. The marine stations have immediate need for a counterpart to BCI's station manager), one marine station janitor (none now), one general maintenance laborer for BCI, one electrician (none now) for all facilities, one messenger (only one on board now), for $25,000 in salaries; make-up of shortages in utilities, supplies and fuel ($7,000); work bench construction, and equipment maintenance

contract support ($3,000); partial replacement (20% of that needed) of ancient furnishings (e.g., main hall chairs on BCI were surplus 15 years ago), messenger vehicle, new and replacement air conditioners, mechanical maintenance tools ($4,000); for a subtotal of five positions and $39,000.

In addition, essential building repairs previously shown under the Restoration and Renovation appropriation must now be grouped here. Thirty-six structures with 69,760 square feet of space must be maintained. Repair budgets of $25,000 over each of the past two years have let STRI narrowly keep pace with some of the most rudimentary of building needs, i.e., replacements of heavily used and rotting floors, completely depreciated air conditioners, etc. Although this level of funding will not permit any substantial projects of renovation, i.e., dock replacement, electrical wiring replacement on BCI, tramway replacement, it is absolutely essential to safeguard present housing space, laboratories, and the people using them. The $25,000 requested includes $14,000 in contract services, $8,000 in supplies and materials, and $3,000 in equipment. The total increase required for proper facilities operation support is, therefore, five positions and $64,000.

3. Environment and Behavior (2 positions, $44,000)

Additions to the STRI staff of a marine ecologist and a forest ecologist will permit progress in comprehending the relationships between ecology and behavior in these two realms. Current studies will incorporate research of wide ecosystem scope including analysis of processes such as energy flow, productivity, nutrient cycling, and food webs. The increase would enable group attacks on key questions and would contribute to the foundation of fundamental research on which to build productive collaboration with others on determining the biological costs of climatic and other physical environmental changes. In addition to fitting precisely within STRI's overall research plan, both scientists would assist in helping STRI to meet the increased calls for advanced training guidance in the subject fields. At the heart of STRI's success has been the slow but steady and deliberate assembly of an outstanding corps of young scientists. The addition of these two positions would allow a measured step of progress in servicing an area of growing need in biology. Salary needs are $33,000; travel, households transportation, supplies, lab and office needs ($11,000); for a total of two positions and $44,000.

4. Administrative Support and Interagency Research (2 positions, $34,000)

An example of interagency joint research interest is STRI's present contract with the Federal Water Quality Administration. FWQA is concerned over the effects of oil pollution on shoreline habitats. STRI, with its Galeta Point Atlantic field station and professional resources, is interested in analysis of the shoreline ecology and in changes upon it. The concerns merge under the contract to permit a study of the effects of oil pollution on a tropical shore, and natural corrective factors. Many other areas of STRI capability could be brought into mutually beneficial contract relationships with the needs of other agencies (e.g., natural controls of mosquitoes, models for crises resolution, special advanced training programs, etc.).

Proposal drafting, contracts negotiation and administration, however, require capabilities that the small hard-pressed administrative staff at STRI does not possess. The same sized work staff has handled a two-fold increase in workload only because of its devotion, energy, and efficiency. In addition to the several hundreds of research visitors per year, the administrative section now services a total of 72 full-time persons, including, on the permanent staff, ten scientists, three research aides, two librarians, three wildlife aides, and 21 facilities support personnel (game wardens, launch operators, kitchen crew, etc.), in addition to eight contract scientists, eight contract support staff, and eleven

full-year fellows. In many cases, clerical employees substitute as well as they are able for the present lack of middle management. Relief is urgently needed. Investment in an office chief and one technical typist (technical typing for the entire staff and fellows is in the hands of one person only) would be repaid many times over, and would permit STRI's small management corps to pursue a greatly increased opening of STRI's resources to cooperating agencies.

The two positions would cost $21,000 in salaries. Administrative travel increases are necessary to permit continued progress in tying in STRI programs with those centered in Washington ($3,000); transportation, utility and communications, rental, supply and office equipment shortages must be met ($7,000); duplicating machinery rental contracts and administrative equipment service contract needs require increased funding ($3,000); for a total of two positions and $34,000.

RADIATION BIOLOGY LABORATORY

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	40	6	46
11 Personnel Compensation.....	$443,000	$ 72,000	$ 515,000
12 Personnel Benefits.....	34,000	6,000	40,000
21 Travel & Transp. of Persons	8,000	2,000	10,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	306,000	2,000	308,000
24 Printing & Reproduction	3,000	1,000	4,000
25 Other Services	25,000	6,000	31,000
26 Supplies & Materials	39,000	4,000	43,000
31 Equipment	58,000	276,000	334,000
41 Grants			
TOTAL.....	$916,000	$369,000	$1,285,000
Analysis of Total			
Pay Increase	$ 20,000	$ 17,000	$ 37,000
Program	$896,000	$352,000	$1,248,000

Specification of Increase (Program):

Environmental Biology and Solar Radiation Monitoring (6 positions, $352,000)

The requested increase will permit the restablishment of Laboratory activity in the highest priority area of its operations-Environmental Biology. Facilities and controlled growing areas at the Mall location are being phased out; $275,000 are requested for the completion and equipping of five environmentally controlled rooms at the new Rockville location. This amount will cover the shell installation, controls for light quality, intensity, duration, the relative humidity, gas content, and temperature equipment. Six positions are requested ($61,000 personnel costs) cogent to the Environmental Biology Program, a radiation physicist, environmental physiologist, a laboratory technician, two aides, and a refrigeration mechanic. In addition, direct support funding ($16,000) is sought to cover related program costs.

RADIATION BIOLOGY LABORATORY

1970 Actual.....$ 676,000
1971 Estimate....$ 916,000
1972 Estimate....$1,285,000

From the initial charge that it be concerned with the effects on the sun's energy on earth's life, the program of the Radiation Biology Laboratory has been devoted to the study of the responses of living organisms to various qualities and intensities of radiant energy. The research of the Laboratory consists of three principal areas: 1) Regulatory Biology, 2) Environmental Biology, and, 3) Carbon-14 Dating.

Light has been recognized as the key controlling environmental factor for the development and growth of biological systems. The storage of solar radiation as chemical energy in photosynthesis is basic for all life on earth. However, the utilization of radiant energy and stored chemical energy is regulated by subtle changing signals of light quality, duration, and intensity. A primary objective of the Laboratory's efforts has always been to explain the influences of the various factors in the environment--light, temperature, humidity, and atmospheric content--on the growth and development cycles of plants and to characterize the mechanisms through which environmental signals eventually manifest their effects on the developmental processes in living organisms. This is accomplished by studying the problems in the Laboratory under controlled conditions using biochemical, biophysical, and physiological techniques and then verifying the importance of these processes in nature by monitoring the natural, dynamic environment. Such programs of research by their very nature are long-term and require the concerted team efforts of many scientific disciplines. (See the following newspaper extract).

From shortly after its inception in 1928 the Laboratory has occupied a position at or near the forefront of research on the effect of the spectral quality of visible light on plant growth and development. The existing experimental programs encompass a greater number of projects under study than in any other single laboratory in the country and perhaps in the world. The complexity of the problems studied is demonstrated by the number of disciplines encompassed within the program, which has a range through physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology. The Laboratory has been credited with major contributions in the field of photobiology.

The Laboratory has a phased plan of research development and for fiscal year 1972, an increase of $352,000 is requested to correct shortages in the current Environmental Biology Research Program. The appended chart shows the past and current distribution of resources and indicates that the research program has remained relatively static in funding except for increases for legislated pay increases. An additional $17,000 are requested for necessary pay increases.

Need for Increase

Shortages in Research Programs

In the area of Regulatory Biology, the research is primarily concerned with the photoregulatory mechanisms through which small and large changes in radiant energy trigger biochemical, physiological, and morphological changes

in living organisms. A major effort has been devoted to the isolation and physiochemical characterization of the photoreceptor "phytochrome", the pigment system responsible for regulating such diverse responses as seed germination, gross morphological development, and flowering.

Also under the program of the Radiation Biology Laboratory is a Carbon-14 Dating Unit that has a research function in addition to its operation as a service facility. The unit plays a significant role in the Institution's program of dating geological and archeological artifacts of cultural and scientific importance. Its research program includes efforts toward refinement of techniques and new instrumentation.

Although there are serious shortages in staffing for carrying on these programs, for maintenance of the building, for acquisition of sufficient laboratory furniture and adequate equipment to make the new laboratories functional at a reasonable level, and for the refrigeration capacity for providing controlled temperatures in laboratory areas, there is a critical and basic need for Environmental Biology staffing, and for establishment and equipping of environmentally controlled areas for growing plant material.

Environmental Biology and Solar Radiation Monitoring

This area of Radiation Biology Laboratory's activities is concerned with the development of instrumentation and data acquisition systems for continuously monitoring the visible solar spectrum at various stations at different latitudes. At present, two monitoring centers are operating in the Washington area, and one in Israel. Other stations are in the planning stage. Significant data have already been acquired demonstrating the presence and effects of pollutants in the atmosphere.

In conjunction with measuring the spectral quality and duration of sun and sky radiation incident to the earth's surface, studies are being carried on to correlate biological responses (such as flowering, fruiting, and other morphological characteristics) with daily and seasonal fluctuations in the color composition of sunlight. Greenhouse facilities and environmentally controlled growth rooms (until recently, located behind the Smithsonian Building) are used in the studies in determination of correlation between measured solar radiation changes and responses in plant development. A new greenhouse and environment chambers, interference filter monochromators, and other instruments have been designed and developed by the Laboratory.

When the Laboratory was relocated from the basement of the original Smithsonian Building to the facility in Rockville, there were no funds for completing the research facilities. The Environmental Biology program of the Laboratory is dependent upon controlling the major physical factors of the environment, maintaining some at constant levels and varying others to determine the comparative influence of each on plant growth. The influence of atmospheric pollutants can be analyzed under these controlled conditions, as well as influences of varying combinations of temperature, humidity, different wavelengths of light, and nutrition. Installation and equipping of the five environmental control rooms at the new Rockville location could not be undertaken. Facilities now at the Mall location are now being phased out to make room for other Smithsonian purposes. Each of the rooms projected, approximately 100 square feet of floor space, requires precision control of light quality, intensity, duration, relative humidity, gas content, and temperature. Current estimates come to approximately $35,000 each for the shell of each room, including temperature control, humidity and gas exchange equipment, for a minimum total of $175,000. The lighting units, capable of simulating subtle changes in spectral quality, as well as the natural photoperiod of daylight,

are presently estimated at $20,000 each, for a total of $100,000. The requested amount for the five environmental control rooms, with provision for the required lighting equipment, is $275,000.

In addition, the most critically understaffed area in the Laboratory's research program is Environmental Biology, which consists of about one-third of the total program in work projected and in emphasis. The correlation of solar energy measurement data with biological growth and development is dependent upon the study of plant material grown under controlled conditions that are identical to those produced by the daily and seasonal fluctuations of the sun's light. The six major staff shortages in Environmental Biology research are a radiation physicist, an environmental physiologist, a laboratory technician, two laboratory aides, and a refrigeration mechanic. The total sum requested for these positions is $61,000. At the present time, the Director of the Laboratory is the only PhD-level scientist engaged in research in this program facet, and it can well be realized that administrative and other duties preclude a major part of his time being spent in directing and carrying on a research function. In five object categories (travel, rent and utilities, publication costs, contractual services, and supplies) a total of $16,000 is requested to offset rising costs.

EXTRACTED FROM WASHINGTON POST, JUNE 5, 1970

AIR POLLUTION DIMS SUNLIGHT HERE BY 16 PERCENT

By Thomas O'Toole

"Air pollution has reduced the amount of sunlight reaching Washington by 16 percent in the past half century."

"This dramatic change probably took place fairly recently. It was discovered when the Smithsonian Institution compared findings from the last two years with two similar studies of sunlight conducted 50 and 60 years ago."

"The decline could have some far-reaching effects, since it is the "quality" of sunlight that regulates the growth of plants and crops, controls the manner in which birds migrate and even dictates such things as the sex lives of some animals, like rodents and fowl."

"The Smithsonian has no direct evidence that air pollution has caused the decline in sunlight, but it has eliminated the weather as a possible cause and by doing so has concluded that it must be air pollution."

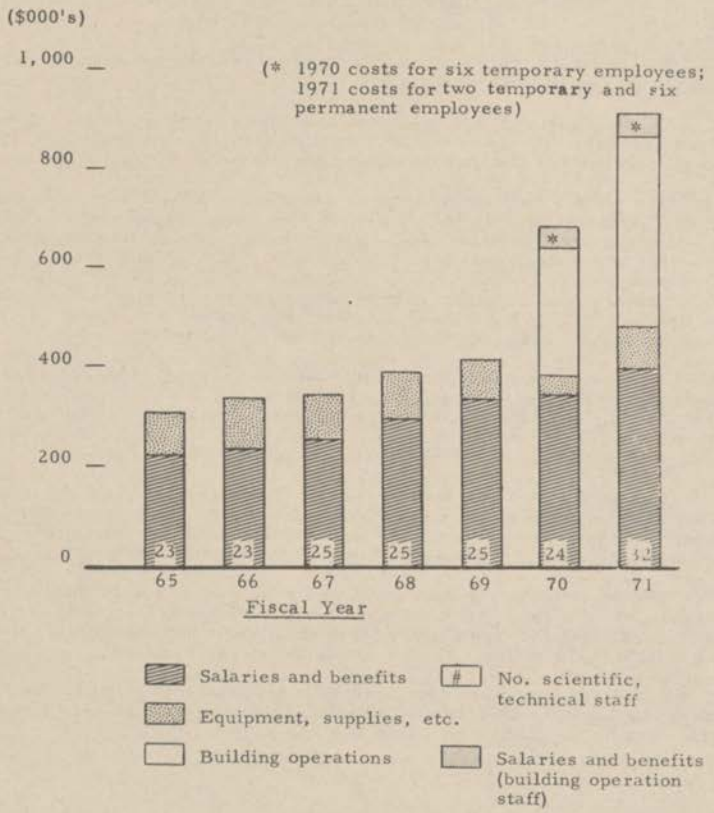
"'The weathers not a factor since we've carefully compared sunlight readings on clear days," said Dr. William Klein, head of the Smithsonian Radiation Biology Laboratory, which directed the study. "The only thing that can change the amount of sunlight is the air, so it's got to be aerosols, dust particles, water vapor and hydrocarbons in the air that's doing it.'"

"The Smithsonian has taken readings of the sunlight reaching Washington from sunrise to sunset on almost every day since September, 1968. It missed about 20 days, either because its instruments needed maintenance or because the building where the instruments were housed needed renovating."

"The experiment has been conducted from the tower of the Smithsonian's administration building on the Mall, where instruments recorded the amount of sunlight striking the tower every three minutes. Instruments also measured the amount of light filling the sky from horizon to horizon."

"These readings were compared with readings from similar instruments put in the tower in 1909 by Dr. Charles Abbott, a Smithsonian physicist who later became the institution's fifth secretary."

Radiation Biology Laboratory:
Funding Distribution, Fiscal Years 1965 through 1971



Using the numbers of scientific and technical staff, and monies available for equipment, supplies and other support, the figure demonstrates that there has been no major increase in operational funds for the research program since 1965. The small annual increases from that date represent primarily salary adjustments and inflation. Although the total appropriation for 1970 and 1971 appears to have doubled over previous years, more than half represents costs associated with the operation of the new building. It should be noted that space, utilities and services were previously supplied from BMD budget. The increase in scientific staff for 1971 is primarily in non-professional technical and non-technical support.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF ENVIRONMENTAL SCIENCES

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	34	8	42
11 Personnel Compensation	$503,000	$ 79,000	$582,000
12 Personnel Benefits	38,000	4,000	42,000
21 Travel & Transp. of Persons	6,000	6,000	12,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	4,000	4,000	8,000
24 Printing & Reproduction			
25 Other Services	22,000	40,000	62,000
26 Supplies & Materials	5,000	60,000	65,000
31 Equipment	6,000	50,000	56,000
41 Grants			
TOTAL	$584,000	$243,000	$827,000
Analysis of Total			
Pay Increase	$ 28,000	$ 18,000	$ 46,000
Program	$556,000	$225,000	$781,000

Specification of Increase (Program):

Smithsonian Oceanographic Sorting Center (6 positions, $81,000)

Emphasis in fiscal year 1972 will be on achieving urgently needed capabilities in Smithsonian Sorting Services. Several thousand samples of fresh-water organisms have been sent for sorting in connection with water quality standards. The International Decade of Ocean Exploration, the Cooperative Investigations of the Mediterranean, the International Studies of the Caribbean have regular requirements for marine sorting. The Sorting Center urgently needs four sorters, an assistant supervisor, and a registrar ($45,000), and funds for operational support ($36,000).

Chesapeake Bay Center for Environmental Studies (2 positions, $144,000)

The establishment and utilization of natural areas has become very important to public and private interests in the United States and in the world. The development of principles for the evaluation of alternative land uses lags far behind the requirement for use of such concepts in decision-making. Through the Chesapeake Bay Center for Environmental Studies, the Smithsonian is developing a model watershed study of the Rhode River estuary. Together with the University of Maryland, Johns Hopkins University, Georgetown University, and several Maryland and U.S. agencies, we expect to establish rates and processes of environmental change which will be incorporated in land use management and contribute fundamental data important to the development of urban and suburban areas. To strengthen the services of the Chesapeake Bay Center, a botanist and a security officer are requested ($20,000), and additional support funds for supplies, materials, and equipment ($124,000).

OFFICE OF ENVIRONMENTAL SCIENCES

1970 Actual $565,000
1971 Estimate $584,000
1972 Estimate $827,000

The Office of Environmental Sciences was established in order to integrate the Smithsonian programs in ecology and oceanography and limnology, and to strengthen the Chesapeake Bay Center for Environmental Studies. In this establishment, it was recognized that there must be increased concern with the interface between land and water. Knowledge of land use practices as they affect waters, and of the water cycle as a vital contribution to land, becomes of first importance in environmental studies, especially of pollution.

During fiscal year 1971, a study was initiated of the environmental relationships of the Chesapeake Bay Center. Aimed at providing baseline information which could be used in planning, predicting, and evaluating the results of development of the megalopolis, this study will involve many public and private agencies and individuals in sociological, economic, and scientific investigations.

The ecology program has embarked on a series of studies designed to gain insights regarding the management of development projects. Guidelines are being developed to identify the ecological consequences of river basin development, highway construction, growth of cities, and establishment of large biological preserves. The oceanography and limnology program, working especially with offices of the U.S. Antarctic Research Program, the International Cooperative Investigations of the Mediterranean, the International Decade of Ocean Exploration, and other national and international programs, coordinates the participation of scientists of several Smithsonian bureaus and of scientists associated with the Smithsonian in exploration of the oceans. The Office also provides impartial sounding boards for public and agency examination of such issues as pollution in New York Harbor, underwater archeology, Chesapeake Bay research, and marine natural preserves. Through its sorting centers in Washington, D. C. and in Tunisia (the latter principally supported by the foreign currency program), the Office supplies marine biological and geological specimens and related data to scientists around the world.

A program increase of $225,000 is requested for fiscal year 1972 primarily for the support of the Oceanographic Sorting Center and the Chesapeake Bay Center as national resources. An additional $18,000 are requested for necessary pay increases.

Need for Increase

1. Smithsonian Oceanographic Sorting Center (6 positions, $81,000)

The Sorting Center 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 operates 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 has made concerted efforts to improve its productivity. An automatic data processing system for specimen records has been started. Many instruments and scientific devices have been acquired or fabricated to improve efficiency. When possible, items have been procured through government surplus sources to save funds.

Despite improved productivity, 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 results primarily from the inability of the present staff to process and sort the more than 10,000 samples being received annually. Unless these samples are sorted soon, many will deteriorate to the point of being useless for research.

In order to alleviate this backlog, $45,000 are requested for four sorter-technicians, an assistant supervisor, and a registrar. Support funds in the amount of $36,000 also are requested for contract services, supplies, and equipment needed to sort, package, and distribute specimens, and for travel and rental of equipment.

2. Chesapeake Bay Center for Environmental Studies (2 positions, $144,000)

The Chesapeake Bay Center is a 2,000 acre natural and semi-natural area located seven miles south of Annapolis, Maryland, about equidistant from Baltimore and Washington. It was established in 1966 and a formal open-ended consortium with Johns Hopkins University and the University of Maryland was created to promote a program of research and education designed to develop ecological knowledge with emphasis on populations, communities, and ecosystems. This program demands the preservation of the land in a natural state, the development of a model watershed research and management program, and the use of the Center as a focal point for educational activities.

A major difficulty that impedes the study of natural systems is the shortage of adequate field stations and research facilities. Ecology is an outdoor science. Although important studies have been done in the laboratory, with few exceptions these have been inspired by observations made in the field. The most effective starting point for the development of ecosystem science is the establishment of natural areas to be used for research and education, with a guarantee of administrative continuity so that long-range research programs can be initiated confidently. The fundamental importance of the Center is the fact that it constitutes the primary mechanism for both teaching and research on complex living systems.

Together with collaborating universities, federal and state agencies, the Center can be used for a model watershed program for the Rhode River. The Center has 12 miles of shoreline and occupies nearly one-half of the shoreline of the Rhode River estuary. Yet the Center has no resident capability for the study of this estuary. It is proposed that such a capability be established. A scientist would be employed and support provided for studies of the estuary. The monitoring of rates and processes of change in this environment is especially vital as the development of suburbs begins to encroach on the Rhode River watershed.

Data on land use history, ecosystem function, and socioeconomic trends and attitudes will be used in a way that will result in optimal wise use of the land and water resources of this small watershed and its adjacent estuary. This model community action program is being developed in conjunction with the Anne Arundel County Office of Planning and Zoning, the Maryland Department of Natural Resources, the Soil Conservation Service, the U.S. Geological Survey, the Department of Housing and Urban Development, and other agencies. A constructive interaction will be established with the people of the area. Such interaction will demonstrate land use planning that offers tangible environmental benefits while avoiding the undesirable elements of a rapidly urbanizing complex. The movement of fertilizers, herbicides, and pesticides, and the effects of soil erosion and estuarine sedimentation, as well as the role of marshes as filter mechanisms, and the influences of these phenomena on the land, living systems, and estuary are studies that may result in suitable control measures applicable to other areas.

The maintenance of the Center as large natural area serves educational purposes and contributes to the esthetic quality of the region. As the area between Washington and Baltimore becomes increasingly populous, the Center increases in importance as a training ground for pre and postdoctoral students, undergraduates, visiting scientists, and others. The use of the Center as a major interpretive facility for young people is rapidly increasing in volume and importance. A museum and nature trail, visual aids, lectures, and "in the field" presentations assist in instilling the individual ecological perspective necessary for our future existence.

For fiscal year 1972, funds are requested for a botanist to survey the vegetation of the watershed, and a security officer to protect the land and water areas ($20,000). An additional amount of $124,000 is requested for travel, utilities, services, supplies, and equipment in support of the watershed program and other community-related services of the Center.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL AIR AND SPACE MUSEUM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	41	3	44
11 Personnel Compensation	$462,000	$ 47,000	$509,000
12 Personnel Benefits	37,000	4,000	41,000
21 Travel & Transp. of Persons	13,000	2,000	15,000
22 Transportation of Things	22,000	5,000	27,000
23 Rent, Comm. & Utilities	3,000	0	3,000
24 Printing & Reproduction	7,000	0	7,000
25 Other Services	43,000	20,000	63,000
26 Supplies & Materials	19,000	12,000	31,000
31 Equipment	20,000	15,000	35,000
41 Grants			
TOTAL	$626,000	$105,000	$731,000
Analysis of Total			
Pay Increase	$22,000	$15,000	$37,000
Program	$604,000	$90,000	$694,000

Specification of Increase (Program):

Preservation and Restoration of Collections and Exhibits Planning (3 positions $90,000)

The target year of 1976 has been selected for the opening of the new National Air and Space Museum building as an important contribution to the national celebration of the American Revolution Bicentennial. A request for planning and redesign funds for this building appears in the construction section of the Smithsonian's budget estimates. This lends impetus to what is already a major institutional need; that is, preserving and restoring our air and space collections. Most of these items are located at the Silver Hill, Maryland, storage facility. About 60 aircraft require conservation and restoration to prevent deterioration. An amount of $81,000 is requested for three curatorial assistants, contractual restoration services, replacement parts and equipment, and related needs. Also requested are $9,000 to initiate planning of new exhibits for the building.

NATIONAL AIR AND SPACE MUSEUM

1970 Actual.....$486,000
1971 Estimate.....$626,000
1972 Estimate.....$731,000

By Act of August 12, 1946, the Congress established the National Air Museum as part of the Smithsonian Institution and later by Act of July 19, 1966, added the memorialization of space flight to its responsibility and changed its name to the National Air and Space Museum. The functions of the Museum are to memorialize the national development of aviation and space flight; collect, preserve, and display aeronautical and space flight equipment of historical interest and significance; and serve as a repository for documents pertaining to the development of aviation and space flight. The same Act of July 19, 1966, authorized and directed the Regents of the Smithsonian Institution to prepare plans and to construct a suitable building for the National Air and Space Museum. The target year of 1976 has been selected for the opening of this new building as an important part of the Smithsonian Institution's program for celebration of the American Revolution Bicentennial. A request for planning and redesign funds for this building appears in the construction section of the Smithsonian's budget estimates.

An additional $90,000 are requested for the preservation and restoration of the Museum's collections and the initiation of exhibits planning. Funding of $15,000 for necessary pay also is requested.

Need for Increase--The staff of the National Air and Space Museum in carrying out the Museum's functions has selectively acquired the world's most comprehensive collection of historically significant aircraft, spacecraft, engines, instruments, components, and accessories. At the same time there has been assembled a large and valuable collection of documents, photographs, drawings, and publications recording experimentation, research, and development of aircraft and spacecraft together with the history of the aerospace industry.

The museum exhibits a small quantity of historical aircraft, spacecraft, and memorabilia in a 1917 steel shed called the Air and Space Building and in the Arts and Industries Building which was built in 1879-81 for the United States National Museum. These temporary quarters are both inadequate and inappropriate for exhibit of the history and development of this country's aviation and spaceflight. Nevertheless these temporary displays are among the most popular at the Smithsonian museums. In fiscal year 1970 over two and one-half million visitors were counted entering the Arts and Industries Building.

The Museum currently has on loan to other museums some 25 aircraft and 30 engines and propellers. Spacecraft and spacesuits are loaned to the U.S. Information Agency and U.S. Department of Commerce for display in U.S. overseas exhibitions, but the majority of most significant spacecraft are displayed in Washington and many locations throughout the United States.

Most of the aircraft, engines, and spacecraft are located at the Smithsonian storage facility at Silver Hill, Maryland. About 60 of the aircraft are unassembled and inadequately protected from deterioration. A program of conservation and restoration of these historic aircraft is being conducted. On following pages, are photographs showing the U.S. Navy NC-4, first transatlantic airplane, undergoing restoration and restored. The restoration of aircraft is slow and costly, however, and it is necessary to accelerate this program to arrest deterioration and prepare the collections to memorialize the nation's

flight accomplishments in an effective and dignified manner. Among the first aircraft scheduled for restoration are the XC-35 (the first pressurized, high altitude airplane), the Douglas World Cruiser, and the Neiuport 83. In the case of spacecraft, as received from the National Aeronautics and Space Administration, refurbishment by replacement of missing instruments and sheathing with protective plastic is necessary prior to placing on exhibition.

For the essential program of preservation and restoration of aircraft and spacecraft collections an increase of $81,000 is required. This will provide for three curatorial assistants for research supporting restoration of collections, the planning and production of new exhibits, and increased requirements for public services. Last year a series of new educational programs were initiated in cooperation with local high schools and limited tours at the Silver Hill facility commenced. It is desired to increase these and other services to the American public. This funding will also provide specialized maintenance and repair, replacement parts and equipment, contractual restoration services, and related travel and transportation.

For the research and planning of details for the new museum building, and development of new exhibit techniques which will be utilized in the new structure, an increase of $9,000 is required.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CENTER FOR THE STUDY OF MAN

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		7	3	10
11	Personnel Compensation	$ 71,000	$ 22,000	$ 93,000
12	Personnel Benefits	5,000	2,000	7,000
21	Travel & Transp. of Persons	10,000	5,000	15,000
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services	63,000	37,000	100,000
26	Supplies & Materials	1,000	0	1,000
31	Equipment	2,000	2,000	4,000
41	Grants			
	TOTAL	$ 152,000	$ 68,000	$ 220,000
	Analysis of Total			
	Pay Increase	$ 4,000	$ 3,000	$ 7,000
	Program	$148,000	$65,000	$213,000

Specification of Increase (Program):

Encyclopaedia of North American Indians (3 positions, $48,000)

Planning and initial development of the 17 volume Encyclopaedia are proceeding smoothly. A distinguished group of anthropologists and historians have been chosen as volume editors. By May 1971, it is anticipated that writing assignments will be established with about 850 contributors. The first return of manuscripts is expected by August 1971 with all manuscripts received and revised by May 1974. A July 1976 publication date is planned as part of the American Revolution Bicentennial celebration. To meet a firmly identified growing workload, three additional personnel are requested (a copy editor, a research assistant, and a typist) and other funds for the expenses of volume editors and contributors--$48,000 in total.

Anthropological Communications and Research Programs ($17,000)

An additional $17,000 are requested to fund additional small grants for urgent anthropology research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communication, better transportation, or other factors. These funds would also be used to support a task force study of world population growth.

CENTER FOR THE STUDY OF MAN

1970 Actual	$ 83,000
1971 Estimate	$152,000
1972 Estimate	$220,000

The Center for the Study of Man is presently concentrating its efforts in three general areas of program development: American Indian Program; International Anthropological Communications Program; and the Coordination of Research on Major World Problems. Under the American Indian Program, three interrelated activities can be identified:

--Development of the 17 volume Encyclopaedia of North American Indians (successor to the original Handbook) including appropriate American Indian scholarly input and involvement.

--Development of a system for providing scholarly educational materials concerning Indians to individuals, schools, and Indian communities; and helping to coordinate educational intercommunication among Indians themselves, and with scholars and appropriate governmental and private agencies.

--Development of a legal-historical research program on the North American Indian land base.

For fiscal year 1972, an increase of $65,000 is requested for continued development of the Encyclopaedia of North American Indians and for the anthropological communications and research programs. An additional $3,000 are requested for necessary pay for current staff.

Need for Increase

1. Encyclopaedia of North American Indians (3 positions, $48,000)

The purpose of the Encyclopaedia, consisting of 17 volumes, is to summarize all that is known of the prehistory, history, and traditional and modern cultures of all the Indian groups north of Mexico, to bring up to date and replace the previous standard encyclopaedic work on this topic which was issued by the Smithsonian in1907-1910. This will become the standard reference work on all aspects of North American Indian history and anthropology for students, teachers, authors, researchers, and administrators, both non-Indian and Indian, both U.S. and foreign. A list of the volume titles is shown on a following page.

Ever since its founding, the Smithsonian has conducted important research on American Indian history and cultures, and has been looked to as an important (often the most important) source of information on these topics. As a result, the resources of the Institution--scientific staff, manuscript and picture archives, library, and museum collections--are unexcelled anywhere as a basis for this project.

Planning for the Encyclopaedia of North American Indians has now been completed. A series of meetings have been held, first by an Advisory Committee to choose volume editors, and then by each volume editor to select authors for his particular volume. A distinguished group of anthropologists and historians, including two American Indians, have been chosen as volume editors. These volume editors come from a number of distinguished institutions including the University of Nevada (Dr. Warren D'Azevedo), University of Iowa (Dr. June Helm), Portland State University (Dr. Wayne Suttles), University of Oklahoma (Dr. William Bittle), University of Arizona (Dr. Frederick Hulse), Harvard University (Dr. Ives Goddard), University of Chicago (Dr. Raymond Fogelson),

University of California (Dr. Mary Haas and Dr. Robert Heizer), McMaster University (Dr. David Damas), Princeton University (Dr. Alfonso Ortiz), McGill University (Dr. Bruce Trigger), and the University of Saskatchewan (Professor D'Arcy McNickle). The Encyclopaedia office is functioning smoothly and everyone connected with the project has been cooperative and enthusiastic.

The timetable for this project is as follows:

May 1971--writing assignments given to approximately 850 contributors;
May 1972--completed manuscripts received;
May 1973--revised and reassigned manuscripts completed;
May 1974--submission of manuscripts for the 17 volumes to the printer;
July 1976--issuance of the Encyclopaedia as part of the American Revolution Bicentennial celebration.

The requested additional funds will be used to hire three new personnel (a copy editor, a research assistant, and a secretary-typist) and to pay for the expenses of volume editors and contributors. It is anticipated that the first manuscripts will be arriving by August 1971 and that they will increase in number as the year progresses.

2. Anthropological Communications and Research Programs ($17,000)

The remainder of the requested increase would go to support the International Anthropological Communications Program and the research program on topics relevant to the understanding of major world problems. For the former, $5,000 are requested to be used mainly in support of the Urgent Anthropology Small Grants Program. The remaining funds ($12,000) would be used to assemble a task force of human science specialists to begin a five-year research program on how different cultures manage their environment.

The Urgent Anthropology Small Grants Program has been meeting the needs of the scientific community by identifying, publicizing, and financing small grants for research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communications, better transportation, and other factors. During fiscal year 1970, in collaboration with 40 scholars and nine institutions, nine grants with a value of $7,600 were made. As an example of this program, during the past summer, a small grant of $1,000 resulted in a study of the Ahashamen Indians of San Juan Capistrano. Twenty-five reels of taped materials were collected on the language and oral history of these people. In addition, a number of pictures were taken and a large number of field notes were recorded. Another small grant of $1,000 has resulted in an unusual study of a Tibetan monastery which was recently built in Switzerland. For the first time, we have been able to record the actual construction of a Tibetan monastery, together with the accompanying ritual. It may never be possible to do this again.

The research program on management of the environment is a continuation of efforts to assemble "task forces" of human scientists from appropriate institutions throughout the world to work together on major world problems. This year the Center is studying and inventorying present knowledge about problems of world population growth with emphasis on discovering what an anthropological approach to this problem will reveal. Included in this effort are scientists, scholars, and persons involved in administration of programs (governmental and otherwise) concerned with this problem. Educational means (including museum exhibits, mass media communication, etc.) to provide information to the public, including governments and other appropriate organizations, are being established. It is anticipated that members of the "task force" will work together for a five-year period before publishing their final results.

Volumes of the Encyclopaedia of North American Indians

I. Introduction

II. Contemporary Affairs

III. Environment, Origins, and Population

IV. History of Indian-White Relations

Area Volumes:

V. Arctic

VI. Subarctic

VII. Northwest Coast

VIII. California

IX. Southwest

X. Basin-Plateau

XI. Plains

XII. Northeast

XIII. Southeast

XIV. Comparative Culture

XV. Languages

XVI. Biographical Dictionary

XVII. General Index

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CENTER FOR SHORT-LIVED PHENOMENA

	Object Class	1971 Base	Increase Requested	1972 Estimate
	Number of Permanent Positions ..	1	3	4
11	Personnel Compensation.....	$ 14,000	$ 26,000	$ 40,000
12	Personnel Benefits.....	1,000	2,000	3,000
21	Travel & Transp. of Persons	1,000	2,000	3,000
22	Transportation of Things	0	1,000	1,000
23	Rent, Comm. & Utilities	9,000	26,000	35,000
24	Printing & Reproduction	5,000	14,000	19,000
25	Other Services	4,000	15,000	19,000
26	Supplies & Materials	3,000	3,000	6,000
31	Equipment		1,000	1,000
41	Grants			
	TOTAL.....	$ 37,000	$ 90,000	$127,000
	Analysis of Total			
	Pay Increase	$2,000	$1,000	$3,000
	Program	$35,000	$89,000	$124,000

Specification of Increase (Program):

World-Wide Natural Event Monitoring and Reporting (3 positions, $89,000)

Over the past three years, the Center has reported over 320 ecological, geophysical, and astrophysical events occurring in 78 countries and all the world's oceans. Its reporting network has grown to 2,600 scientists and scientific field stations in 148 countries and territories. Despite an enthusiastic response from federal agencies and the international scientific community, outside financial support for regular, on-going operations is difficult to obtain. Special reporting projects are so funded and the Center has a subscription program which produces about $25,000 a year. A program increase of $89,000 is requested to find three additional positions (event research specialist in biology; an event information specialist, and an operations specialist for $27,000) and to provide for communications, printing, computer services, and other operational costs ($62,000).

CENTER FOR SHORT-LIVED PHENOMENA

1970 Actual..... $11,000
1971 Estimate..... $37,000
1972 Estimate.....$127,000

The Center for Short-Lived Phenomena is an early alert system and clearinghouse for the reception and dissemination of information on short-lived natural events. The Center alerts scientists, agencies, and research institutions to major short-lived ecological, geophysical, and astrophysical events occurring anywhere in the world. It quickly communicates data and descriptive information on events such as large oil spills, major atmospheric and water pollution events, high biocide residue discoveries, massive fauna and flora mortalities, volcanic eruptions and major earthquakes, the birth of new islands, the fall of large fireballs and meteorites, sudden changes in biological and ecological systems such as animal migrations and colonizations, and any other natural or man-made phenomena that require rapid response from scientists in order that they may take advantage of research opportunities while environmental changes are occurring.

During the past three years the Center has reported over 320 short-lived events that occurred in 78 countries and all the world's oceans, including 143 earth science events, 102 biological and ecological events, 49 astrophysical events, and 8 urgent anthropological and archaeological events that led to 237 scientific field expeditions. The Center has issued over 1,000 event notification and information reports to thousands of research scientists and institutions, published 52 event reports, handled a communications volume of over half a million cable words and mail volume of 690,000 event notification and information cards. Charts on a following page show growth of the Center's activities.

An increase of $90,000 is requested for the Center's basic operations.

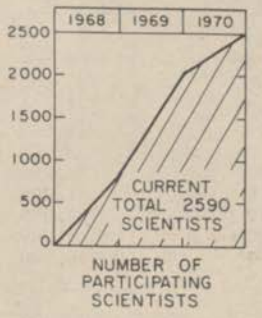
Need for Increase--The Center has had an overwhelming response from federal agencies and the international scientific community. At the urging of a number of agencies and international organizations, it has become involved increasingly in reporting significant environmental pollution events. Because of its comprehensive global communications system and its reporting network that has now grown to 2,600 scientists and scientific field stations in 148 countries and territories, the Center was able to report every major environmental pollution event, volcanic eruption, earthquake, oil spill, and meteorite fall that occurred on earth in 1970, usually within hours after the events occurred.

The Center has instituted many labor and cost-saving measures such as the development of automatic computer printouts of event notifications, but current staff and resources are severely limited. Its ability to cope with the demand for its services, particularly requests from federal agencies and international organizations for fast, qualitative information on environmental pollution events, is very inadequate. The Center has been successful in obtaining outside financial support from the Ford Foundation, from UNESCO, from NASA, and from the AEC for special projects dealing with global environmental monitoring and the transient lunar phenomena program. It has also instituted an event notification subscription program that now has over 600 subscribers and produces income of over $25,000 per year, but the success of the Center's regular operations will depend heavily on the level of core federal funding that will be received.

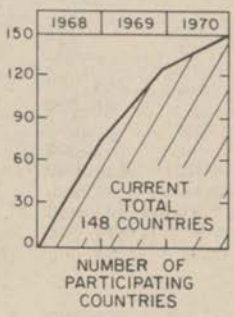
The Center will begin no new activities in fiscal year 1971 and plans none for fiscal year 1972 that will use federal funds but requests that fiscal year 1972 federal support be provided for two types of current shortages: those resulting from the Center's increased commitments in environmental pollution event information communication, and those resulting from the loss of grant and contract support from NASA and NSF due to agency budget cuts.

An increase of three federal positions is requested: an event research specialist (biology) to handle a burgeoning volume of event research on ecological and environmental pollution events; an event information specialist to assist in the collection and dissemination of event information to 160 federal agencies and scientific research centers throughout the world; and an operations specialist to handle a continuously increasing communications and computations workload ($28,000). In order to continue to operate the Center at its current level, the following increases in basic federal support for the Center also are requested: travel ($2,000); transportation of things ($1,000); rent, communications, and utilities ($26,000); printing and reproduction ($14,000); other services (computations and information systems support) ($15,000); supplies and materials ($3,000); and equipment ($1,000). The total increase requested, $90,000, will permit the Center to continue to operate at its current level of activity in fiscal year 1972.

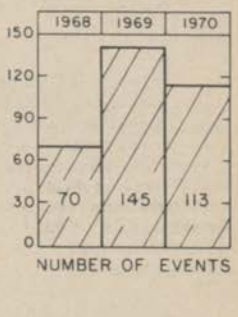
GROWTH OF ACTIVITIES OF THE
SMITHSONIAN CENTER FOR SHORT-LIVED PHENOMENA



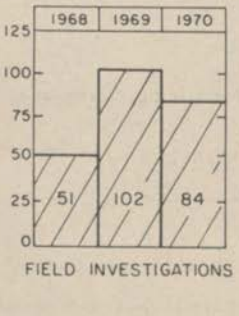
NUMBER OF
PARTICIPATING
SCIENTISTS



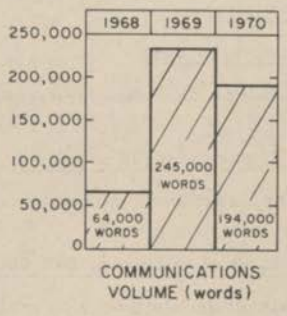
NUMBER OF
PARTICIPATING
COUNTRIES



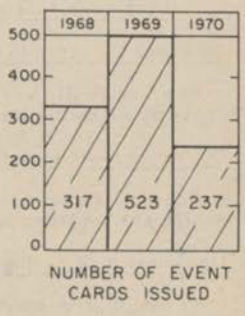
NUMBER OF EVENTS



FIELD INVESTIGATIONS



COMMUNICATIONS
VOLUME (words)



NUMBER OF EVENT
CARDS ISSUED

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK

	Object Class	1971 Base	Increase Requested	1972 Estimate
	Number of Permanent Positions	249	48	297
11	Personnel Compensation	$ 2,384,000	$ 357,000	$ 2,741,000
12	Personnel Benefits	208,000	43,000	251,000
21	Travel & Transp. of Persons	8,000	10,000	18,000
22	Transportation of Things	3,000	0	3,000
23	Rent, Comm. & Utilities	114,000	30,000	144,000
24	Printing & Reproduction	1,000	0	1,000
25	Other Services	42,000	23,000	65,000
26	Supplies & Materials	319,000	97,000	416,000
31	Equipment	71,000	95,000	166,000
41	Grants			
	TOTAL	$ 3,150,000	$ 655,000	$ 3,805,000
	Analysis of Total			
	Pay Increase	$ 155,000	$ 70,000	$ 225,000
	Program	$2,995,000	$585,000	$3,580,000

Specification of Increase (Program):

Office of Director (8 positions, $135,000)

Improve public services; staffing the Hospital-Research Building; increased costs of operating items.

Operations and Maintenance Department (30 positions, $293,000)

Accomplishment maintenance workload; increased costs of operating items; equipment replacement.

Department of Living Vertebrates (5 positions, $72,000)

Accomplish research workload; acquisition of animals; animal food; increased costs of operating items.

Department of Scientific Research (1 position, $31,000)

Accomplish research workload; temporary employees.

Animal Health Department (4 positions, $54,000)

Improve medical treatment.

NATIONAL ZOOLOGICAL PARK

1970 Actual.....$2,847,000 1/
1971 Estimate.....$3,150,000
1972 Estimate.....$3,805,000

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 increased scientific knowledge and for 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 1972, a program increase of $585,000 is requested to staff and operate the new Hospital-Research Building and other facilities; to operate the new heating plant; to replace ground equipment items; to augment the travel, animal acquisition, and food funds; and to install a new communication system. An additional $70,000 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)	1970 Pos.	1970 Amount	1971 Pos.	1971 Amount	1972 Pos.	1972 Amount
Office of Director	60	$814	61	$909	69	$1,088
Operation and Maintenance	99	975	100	1,114	130	1,420
Living Vertebrates	77	874	77	962	82	1,043
Scientific Research	5	72	6	84	7	118
Animal Health	5	67	5	81	9	136
Total	246	$2,802	249	$3,150	297	$3,805

The number of zoo visitors increases annually. In calendar year 1970, approximately 5,200,000 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 animals & 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 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

1/ Included in the District of Columbia budget.

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 June 1965, the new Great Flight Cage and two parking lots for 245 visitor cars were completed. A parking lot which accommodates 260 visitor cars and 24 buses was completed in October 1965. Construction of a trunk sewer to eliminate most of the pollution discharged into Rock Creek was completed in June 1967. The remaining discharge, chiefly from waterfowl ponds, was 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 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. The old coal fired boilers were replaced with new gas fired units during the summer of 1970.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Office of the Director

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		61	8	69
11	Personnel Compensation	$ 657,000	$ 72,000	$ 729,000
12	Personnel Benefits	56,000	21,000	77,000
21	Travel & Transp. of Persons	8,000	4,000	12,000
22	Transportation of Things	1,000	0	1,000
23	Rent, Comm. & Utilities	114,000	30,000	144,000
24	Printing & Reproduction	1,000	0	1,000
25	Other Services	28,000	18,000	46,000
26	Supplies & Materials	33,000	18,000	51,000
31	Equipment	11,000	16,000	27,000
41	Grants			
	TOTAL	$ 909,000	$ 179,000	$ 1,088,000
	Analysis of Total			
	Pay Increase	$ 45,000	$ 44,000	$ 89,000
	Program	$864,000	$135,000	$ 999,000

Specification of Increase (Program):

Improve the Services of the Director's Office (2 positions, $38,000)

As the Zoo increases in popularity as a source of scientific information, the volume of correspondence has increased. Two secretarial positions and supplies and equipment are requested ($16,000). Additional travel funds ($4,000) are needed largely in connection with the animal acquisition program. Funds are also required to meet the rising costs of routine services, supplies, and equipment associated with Director's Office operations ($18,000).

Staffing the Hospital-Research Building (3 positions, $34,000)

The Hospital-Research Building was completed and occupied in January 1970; the Pathology Office was transferred to this building in September 1970. A histopathology technician and a secretary are needed for specific research projects ($16,000). One police position is requested to enlarge the night shift for the protection of drugs and expensive medical equipment ($9,000). Supplies and equipment, including books, are required for hospital operations ($9,000).

Administrative Services (3 positions, $63,000)

As Zoo programs develop, the Supply Section workload has expanded. Request is for two positions, supplies, and equipment to augment the staff of this section ($14,000). One clerk-typist position and supplies and equipment are required for the protective service program to perform administrative tasks now done by officers who should be on patrol duties ($8,000). An increase in utilities funding ($30,000) is requested to operate the new heating plant and to meet the increased cost of operating the Hospital-Research Building. Funds ($11,000) are requested to replace and expand the communications system on a rental basis.

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 and the Planning and Design Office; directs the protective service program; develops and maintains the Zoo's educational program; and furnishes general administrative services. The animal acquisition program is under the direction of this office. The Office of Pathology performs histopathologic and gross pathologic diagnosis of disease in the animal collection and education of biomedically aligned students and trainees. The Planning and Design Office coordinates all construction projects and prepare criteria and architectual design of major structures. The protective services program enforces laws and regulations for the protection and safety of visitors, animals, and Government property. The educational 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 $135,000 is requested to provide eight positions to meet the increases in workload in the Director's Office, Pathology Office, protective services program, and administrative services; to cover increased costs of travel, utilities, supplies, and equipment; and to install a new communication system. An additional funding of $44,000 is sought for necessary pay purposes.

Need for Increase

1. Directors Office (2 positions $38,000)

As the Zoo increases in popularity as a source of scientific information, the volume of correspondence (local, national, and international) has increased, causing a backlog of administrative requirements. To meet the increased volume of work in the Director's Office and the Assistant Director's Office, two secretarial positions are requested ($16,000).

Additional funds are sought for travel, largely in connection with the animal acquisition program, and for services, supplies, and equipment associated with Director's Office operations. For the most part, these funds are required to meet rising costs ($22,000).

2. Staffing the Hospital-Research Building (3 positions $34,000)

The Hospital-Research Building was completed and occupied in January 1970. The Pathology Office was transferred to this building in September 1970. The plans for the coming year are to continue to improve the service to the Zoo and to undertake specific research projects by means of conventional pathologic techniques. The Zoo has the opportunity to offer outstanding research and training services. Space will be available for visiting scientists, undergraduate fellows, and trainees interested in the research potentialities of the pathology laboratory. The degree to which specific research can be accomplished will depend largely upon the availability of technical and clerical help. To expand this service, two positions, a secretary and a histopathology technician, are requested ($16,000).

One police position is requested to enlarge the night shift for the protection of drugs and expensive medical equipment and for park security around the Hospital-Research complex, located in the wooded area of the Park ($9,000).

Travel, supplies, and equipment, including books, are required to provide program support to the operations of the Hospital-Research Center ($9,000).

3. Administrative Services (3 positions $63,000)

As the number of personnel in the Zoo increases and programs expand, the workload in the supply section of the Administrative Service Division increases. For instance, the availability of funds for capital renovation and repairs to existing surroundings and buildings has increased the workload. An additional purchasing agent and a clerk typist are required ($14,000).

One clerk typist position is needed for the protective service program to perform the administrative duties now accomplished by officers who should be on patrol duties. Forms that are required to be typed cover police activities, personnel manning, park safety, and requisitions for supplies and equipment ($8,000).

During the summer of 1969, the first phase of conversion of the heating plant from coal to gas was accomplished. The complete conversion was accomplished in the summer of 1970. The cost for operating the Hospital-Research Building has exceeded estimates. Additional funds are required for utilities ($30,000).

There are remote areas of the Park in which tradesmen, police, and professional staff must work. It is frequently important to communicate quickly with these people and telephones are not readily available. Funds are requested to replace and expand the Zoo's radio communication system on a rental basis ($11,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Operations and Maintenance

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	100	30	130
11 Personnel Compensation.....	$ 870,000	$ 185,000	$ 1,055,000
12 Personnel Benefits	84,000	15,000	99,000
21 Travel & Transp. of Persons	0	1,000	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	14,000	5,000	19,000
26 Supplies & Materials	122,000	49,000	171,000
31 Equipment	24,000	51,000	75,000
41 Grants			
TOTAL.....	$ 1,114,000	$ 306,000	$ 1,420,000
Analysis of Total			
Pay Increase	$ 52,000	$ 13,000	$ 65,000
Program	$1,062,000	$293,000	$1,355,000

Specification of Increase (Program):

Maintenance and Operations of the Physical Plant (30 positions, $293,000)

General workload demands for maintenance and operations require staff and funding increases in several areas. For supervision and general operations of this department, an assistant buildings manager and a production control clerk and funds for work uniforms and safety supplies are needed ($33,000). Delay in zoo reconstruction makes it necessary to prolong the life of existing facilities. Five crafts workers and maintenance supplies and equipment are needed ($65,000). Tree and grounds maintenance over 156 acres, including newly developed areas, requires six additional grounds workers and replacement supplies ($63,000). The installation of new technical control boilers and other heating and air-conditioning machinery requires six additional boiler plant operators for adequate maintenance of this expensive equipment ($45,000). The requirement for personnel to operate auto equipment has increased beyond a workable schedule for pick-up and delivery services. Two additional auto equipment operator positions are requested. One junior mechanic position is requested to augment the present staff assigned to maintaining zoo vehicles ($22,000).

As the visitors increase, the demand for laborer and custodial service also rises. Taking into consideration annual and sick leave and the 40-hour workweek requirement, the 17 available laborer positions and four custodial workers are not sufficient to maintain a seven-days-per-week schedule requirement. An increase of five laborer and three custodial positions and custodial supplies is requested ($50,000). An increase is also requested in the equipment allotment to permit scheduled replacement of vehicles and scooters ($15,000).

National Zoological Park
Operations and Maintenance Department

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

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

--Maintenance and construction: maintaining and repairing 15 major buildings and 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.

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

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

An increase of $293,000 is requested to provide thirty positions for workload increases in maintenance and operational services. An additional $13,000 are requested for necessary pay increases.

Need for Increase

1. Operations and Maintenance Management (2 positions $33,000)

A maintenance work order system to provide useful information on workbad and maintenance costs has been in operation for three years. This consists of a monthly summary report and a cumulative fiscal year report. Since there is no position available to perform the daily duties required to maintain these accounts and manpower statistics, the monthly report frequently falls 30 to 45 days behind reporting dates. This system provides manpower and material utilization reports and cost data necessary for developing systematic maintenance throughout the entire Zoo. It also provides vital information for budget requirements and projections. One production control clerk position is requested ($7,000).

Funds are required to provide all wage-board employees in this department with work uniforms and safety supplies. There are 90 regular wage-board employees in need of instant recognition by other employees and the visiting public for security reasons. Also requested are travel funds for the O & M manager and for Zoo employees transporting animals ($15,000).

One assistant building manager position is requested to assist the building and ground manager by performing routine estimating, inspections, and obtaining plans, bids, prices, etc., and to act in the absence of the manager ($11,000).

2. Maintenance and Construction (5 positions $65,000)

With the completion of the Great Flight Cage; Delecate and Hardy-Hoofed stock buildings, shelters, and areas; new roadways and parking lots; and the Hospital-Research building, the following workload has been added to the maintenance program since 1963:

--24 drains, 30 water outlets for hoses, 15 basins, 2 rest rooms, and 16 water troughs. The Hospital-Research building will have 27,000 feet of sanitation sewer, water, and vent pipes to maintain, 116 floor drains and sink waste, 8 rest rooms, 64 hot and cold water outlets, 3 disposals, 1 sterilizer, and 27 valves and controls.

--49,640 feet of fencing to be maintained.

--236 locks and 348 doors which require the repair of various type mechanisms.

--293,972 square feel of asphalt roadways and parking lots to be maintained.

The wear and deterioration of the old facilities from the action of time, elements, visitors, and animals creates a normal workload. New facilities, added to the preventive maintenance demands on the present maintenance staff, leaves many of the facilities in a state of disrepair and deterioration causing a backlog in the various trades. Only one additional electrician, one carpenter, and one steamfitter positions have been authorized for this program since 1963.

For instance, at present, there are one lead foreman, three pipefitters, and one junior pipefitter (including plumber conversions in the past 12 months) to maintain the pipes and equipment of the Zoo's heating, water, sewage, and drainage systems. These systems are located in and around 20 buildings in an area of approximately 100 acres. Due to the condition of 75 percent of these systems, emergency repairs seem to be the order of each day, creating a backlog of preventive maintenance. A backlog of 16,700 man-hours jeopardizes the safety and well being of the animals.

Two pipefitters, a carpenter, one asphalt worker, and one maintenance helper are requested with funds for building and maintenance supplies and equipment purchases on a planned replacement cycle ($65,000).

3. Tree and Garden Maintenance (6positions $63,000)

There are approximately 12,000 trees in the Park. Using the International Shade Tree Evaluation Scale, the value of these trees is estimated to be $6.5 million. There are five (including the supervisor) tree maintenance worker (climbers) positions available to prune and treat diseased trees, remove dead or hazardous trees, plant or replace trees, and feed and water trees located in public areas. There is only one grounds worker position available to assist in this work, which requires climbers to be used as ground workers. The tree section has a backlog of 24,000 man-hours of climbing work or 8-years of work with the present available positions. An addition of two grounds worker positions will increase the actual climbing hours per year and reduce this time to six years, permitting the tree section to start another cycle of preventive maintenance and insure the safety of visitors, employees, and animals ($12,000).

Three additional grounds worker positions also are required to assist the Garden Section in maintaining the horticultural features in new areas created by the construction and improvement of the Zoo. The areas to be maintained are:

Hoofed Stock area.....	2.5 acres	Horticultural features to be pruned and sprayed.
Harvard Street Bridge area..	.5 acres	Lawn to be mowed, sodded, seeded, and fertilized.
Hospital-Research area.....	2.5 acres	Horticultural features and lawn to be maintained.

New areas and dry seasons have tripled the watering activity, adding 2,300 additional man-hours; an increase of 1,000 man-hours in pruning activities; and a minimum increase of 1,500 man-hours must be added to the weed spraying activity. Some flower beds will have to be eliminated in order to give proper maintenance to the remaining ones and to the turf and ornamental feeding ($18,000).

One clerk-typist also is requested to perform the administrative duties of this division. At the present time, maintaining time cards, filing records, ordering supplies and equipment, typing reports and correspondence and maintaining a horticulture library consumes 75 percent of the chief of the division's time. Many of these duties fall days behind and correspondence goes unanswered because of lack of clerical personnel. A clerk would also allow the division chief to spend his time inspecting construction sites for damage to existing plants and trees; designing detailed landscape plans; estimating costs; and setting up work orders and training programs for the division ($7,000).

Funds are sought for supplies and to replace the 40 foot skyworker. This piece of equipment is ten years old. A climber's life depends on the safety of this machine when operating the bucket 40-feet off the ground. The machine is checked by special mechanics of the District Highway Department every six months for efficiency and safety. Because of the lack of housing, the skyworker must be subjected to the elements, causing wear and deterioration. The new skyworker will reach 60 to 70 feet from the ground which will enable the climbers to eliminate a hazardous climb of 20 to 30 feet above the 40-foot bucket ($26,000).

4. Air-heating (6 positions $45,000)

The change from prior years of air-pollution and coal scoop engineering to a sophisticated anti-pollution and climate control system for the health and well-being of the animals involves equipment requiring constant surveillance and planned preventive maintenance. From simple operating boilers and equipment plus emergency maintenance, with preventive maintenance being performed during a few summer months, progress has been made to a system of weekly inspections with spot inspections when manpower is available. With emergency type maintenance a high factor, frequent and necessary inspections are sometimes omitted because of manpower shortages. A tight surveillance of operating conditions in buildings during all seasons is necessary to prevent over heating or extreme chilling that might cause the loss of valuable and/or irreplaceable animals. The workload is further increased by the addition of a boiler plant to operate the year around and the addition of large tonnage air conditioning for the summer months.

A comparison of manpower requirements of the present and proposed Boiler Plant operation is as follows:

	Man-years Present	Man-years Proposed
Supervisory	2.0	2.0
Main heating plant (three complete shifts)	4.5	4.5
Roving watch, steam tunnel and buildings		4.0
Hospital-Research Building (three shifts)	4.5	4.5
Refrigeration and air conditioning mechanic	1.0	2.0
Incinerator operator and trainee	1.0	2.0
Total	13.0	19.0

Due to the increased workload and the backlog of preventive maintenance, four boiler plant operators, one junior engineer, and a helper are requested to bring the manpower up to standards for the safety of the personnel and animal and maximum operating efficiency of the boiler plants and buildings ($45,000).

5. Operational Services (11 positions $87,000)

The motor pool is responsible for furnishing transportation and pickup and delivery service to all departments. It hauls ashes and debris to the Mount Vernon Boulevard Dump twice daily. Out of town trips (average one weekly) and trips to the three local airports (average four weekly) to pickup and deliver animals, require the services of an auto equipment operator. When these and other requests have first priority, the pickup and delivery services for the departments fall behind schedule. Two additional auto equipment operator positions are requested to aid in carrying out the work that is assigned to the motor pool ($14,000).

At present there are one lead foreman, two auto mechanics, and one junior mechanic to maintain a fleet of 26 trucks, 3 station wagons, 4 jeep-type vehicles, 13 scooters, and 9 pieces of equipment. Some trucks are on the road seven days a week and others have been in service for ten years or more. One additional junior mechanic position is requested to augment the present staff assigned to maintaining all zoo vehicles ($8,000).

An amount of $11,000 is required to increase the vehicle replacement allotment. The cost of a truck or station wagon has increased 18 percent in the past two years. There are thirty vehicles in the Zoo fleet with an average age of 6 years. There are nine vehicles in the fleet that are ten years old or older. Replacement standards for trucks are 6 years or 50,000 miles for 1-ton or less; 7 years or 60,000 for 1 1/2 through 2 1/2 tons. Passenger cars may be replaced when they have been operated for 6 years or 60,000 miles whichever occurs first. The police vehicle must operate on a 24-hour, seven days a week basis and must remain mechanically safe for operators and passengers. This vehicle should be replaced every two to three years. This request will permit the replacement of 4 or 5 vehicles each year over the period of six years.

An amount of $4,000 also is requested to replace three scooters used in police duties. Scooters have been invaluable in reducing the response time of patrolling officers to reach troubled or critical areas. Officers patrolling the parking areas in these vehicles appears to have a deterrent effect on the type of offenses generally committed (especially larcenies from autos).

The labor force is responsible for assisting mechanics, maintaining the fifteen major buildings, twelve public rest rooms, and sixteen employees' rest rooms in a clean, presentable, and sanitary condition, and removing trash left by visitors over the 156 acres of Park grounds. The walkways in the eight public buildings are scrubbed with detergents and disinfectant once a week and swept once a day. The assigned duties of the available four custodial workers are those of maintaining the public rest rooms in a clean and sanitary condition. Employees' rest rooms are cleaned only once a week. As the visitors increase, the demand for laborer and custodial services increases. Taking into consideration annual and sick leave and the 40-hour work-week requirement, the 17 available laborer positions and four custodial workers are not sufficient to maintain a seven-days-per-week schedule requirement. An increase of five laborer and three custodial positions and custodial supplies is requested to meet this schedule and to maintain efficiency in operations ($50,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Department of Living Vertebrates

	Object Class	1971 Base	Increase Requested	1972 Estimate
	Number of Permanent Positions ..	77	5	82
11	Personnel Compensation.....	$720,000	$45,000	$ 765,000
12	Personnel Benefits.....	57,000	3,000	60,000
21	Travel & Transp. of Persons	0	2,000	2,000
22	Transportation of Things	2,000	0	2,000
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services			
26	Supplies & Materials	155,000	20,000	175,000
31	Equipment	28,000	11,000	39,000
41	Grants			
	TOTAL.....	$962,000	$81,000	$1,043,000
	Analysis of Total			
	Pay Increase	$ 49,000	$ 9,000	$ 58,000
	Program	$913,000	$72,000	$ 985,000

Specification of Increase (Program):

Improve Divisional Supervision and Assist in Research (5 positions, $43,000)

With the expanded activities in research and conservation, it is apparent that a professional approach must be followed to apply the animal management techniques that are fast becoming available to the conservation-oriented zoological world. This will require the services of a trained biologist to supply the exotic animal management expertise, a secretary to assist the four zoologists, and three special keepers to accomplish the research and breeding efforts ($43,000).

Acquisition of Animals and Increased Costs of Food and Sundry Supplies ($29,000)

An increase in the animal acquisition fund ($5,000) is needed to provide 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 in the food allotment, sundry supplies, uniforms and equipment is requested to cover increased costs. Funds also are requested to provide for travel of five zoologists to attend annual meetings of their professional societies, visit other zoos, and collect native species of birds, mammals, and reptiles for exhibit.

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, collect medical data, evaluate medical programs, and develop, investigate, and support various research programs.

An increase of $72,000 is requested to provide five positions to accomplish the research workload and to cover the rapidly rising costs of animals, animal food, sundry and uniform supplies, and equipment as well as to provide for travel of five professional staff members in this department to attend annual meetings of their professional societies. An additional increase of $9,000 is sought for necessary pay increases.

Need for Increase--There are four zoologists who require secretarial assistance. The various headkeepers also are in need of clerical aid at various times. The services of other secretaries within the Park have been utilized when time permitted. This situation is often difficult and far from satisfactory for efficiency in over-all operations. One secretary position is requested ($7,000).

One wildlife biologist position is requested to aid in divisional supervision of animal care. With the expanded activities in research and conservation, it is apparent that a professional approach must be followed to apply the animal management techniques that are fast becoming available to the conservation oriented zoological world. Trained biologists would supply the exotic animal management expertise not before available to this Zoo. In zoos, as in the cattle or poultry industry, there is a need for professionals trained in animal husbandry to apply scientific knowledge rather than tradition to such specialized areas as nutrition, propagation, and sanitation. The biologist would also serve important functions in keeper training, improved exhibition, and collection planning ($12,000).

Three special keeper positions and funds for equipment are requested to assist the zoologists in research and breeding efforts. These consist of extensive incubation, hatching, and rearing programs and the collection of behavioral and natural history data on special animal groups. The efforts to breed rare and endangered species demand close supervision by a keeper specialist. The collection of data is accomplished through observations, instrumentation, weighing, measuring, and animal care. Due to the compelling duties for the routine care and protection of the animals by the animal keepers, there is no position available that can be assigned to this phase of the operations ($24,000).

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 $5,000 is requested. There has been no increase in these funds since 1965. Animal prices have risen rapidly in the past six years. 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 meet steadily rising prices. Approximately $138,000 are 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 and equipment also have risen sharply. Funds are requested to cover the increased cost and usage of these items ($23,000).

Funds also are needed to provide for travel of five zoologists to attend annual meetings of their professional societies, visit other zoos to become familiar with their operations and collections, and collect native species of birds, mammals, and reptiles for exhibit ($1,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Scientific Research Department

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		6	1	7
11	Personnel Compensation	$ 73,000	$ 21,000	$ 94,000
12	Personnel Benefits	6,000	2,000	8,000
21	Travel & Transp. of Persons	0	1,000	1,000
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services			
26	Supplies & Materials	2,000	5,000	7,000
31	Equipment	3,000	5,000	8,000
41	Grants			
	TOTAL	$ 84,000	$ 34,000	$ 118,000
	Analysis of Total			
	Pay Increase	$ 5,000	$ 3,000	$ 8,000
	Program	$79,000	$31,000	$110,000

Specification of Increase (Program):

Improve Scientific Research Efforts and Care of Research Animals
(1 position, $31,000)

The Hospital-Research Building was completed and occupied in January 1970. Request is for one reproduction physiologist position ($17,000) to collect behavioral data, and treat the data in such a way that it will generate fruitful hypotheses for analyzing the physiological mechanisms underlying certain expressed behavior. Funds are requested to provide for three temporary employees ($7,000) during the summer months to permit the regular employees to take leave. An increase in the supplies and equipment allotments is requested to cover increased costs ($6,000). Funds also are requested to provide for travel of three scientists to attend annual meetings and seminars ($1,000).

National Zoological Park
Scientific Research Department

The Scientific Research Department undertakes studies of animal behavior, reproduction, and nutrition. The Zoo collection is a major scientific resource. For this reason, facilities and assistance are often provided to scientists from federal agencies such 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 $31,000 is requested to provide one position to improve research efforts; provide for temporary employees; cover the increased costs of supplies and equipment; and to establish a travel allowance for three scientists. An additional $3,000 are requested for necessary pay increases.

Need for Increase--The new Hospital-Research Building provides facilties for extensive research necessary for caring and rearing of animals in captivity. One reproduction physiologist position is requested to collect behavioral data, and treat the data in such a way that it will generate fruitful hypotheses for analyzing the physiological mechanisms underlying certain expressed behavior; to develop studies that are required to determine growth and the ontogenesis of behavior, especially with respect to sexual behavior; and to gain knowledge of hormonal treatments and their effects on animal behavior ($17,000).

There are two animal keeper positions available to care for the animals under study seven-days-per-week. Funds are requested to provide for three temporary employees during the summer months to permit the regular employees to take leave. This is to assure that the best care is given to these animals ($7,000).

Funds also are requested to provide for the increased cost and usage of research supplies and equipment and to establish a travel allowance for the three scientists to attend annual meetings and seminars ($7,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK

Animal Health Department

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	5	4	9
11 Personnel Compensation	$ 64,000	$ 34,000	$ 98,000
12 Personnel Benefits	5,000	2,000	7,000
21 Travel & Transp. of Persons	0	2,000	2,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	7,000	5,000	12,000
31 Equipment	5,000	12,000	17,000
41 Grants			
TOTAL	$ 81,000	$ 55,000	$ 136,000
Analysis of Total			
Pay Increase	$ 4,000	$ 1,000	$ 5,000
Program	$77,000	$54,000	$131,000

Specification of Increase (Program):

Improve the Medical Treatment (4 positions, $54,000)

In order that basic biomedical research devoted toward improvement of the care of collection animals, development of physiological norms, and more in-depth study of therapeutic regimes be broadened, three positions are requested (associate veterinarian, medical technologist, secretary for $34,000) to care for hospitalized animals, one keeper position and supplies and equipment are requested ($16,000). Additional funds are needed to meet the increased cost of medical supplies ($2,000) and funds to establish a travel allowance ($2,000) for the three professional staff members to attend annual veterinarian conferences and educational seminars.

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 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 $54,000 is requested to provide four positions to improve medical treatment and care for the hopsitalized animals; to cover the increased costs of supplies; and to establish a travel allowance for three professional staff members. An additional $1,000 are requested for necessary pay increases.

Need for Increase--In order that basic biomedical research devoted toward improvement of the care of collection animals, development of physiological norms, and more in-depth study of theraputic regimens be broadened, three positions are requested associate veterinarian, medical technologist, and a secretary ($34,000).

There is one veterinarian position available to maintain an around the clock call schedule. An associate veterinarian will alleviate the necessity of one person being on duty 24-hours when there are emergencies. Other major problems encountered are a lack of time for study, literature search, or attendance at continuing education seminars. This is the area in which new advances in treatment regimens and medical techniques are disseminated and attendance is of inestimable value. The medical technologist will develop the physiological norms in all quarantined animals as well as studying the physiological changes in those animals that come into the Hospital as medical or surgical patients. There is also a necessity for extensive bacteriological culture examination of the necropsied animals. This will provide a broader knowledge of bacterial disease agents present in the National Zoological Park, and, through sensitivity testing, permit the more rapid establishment of prophylactic measures to protect the cagemates that have been exposed to the disease. Secretarial assistance is necessary to maintain the increased clerical workload on a current status as a direct result of changes being made in Hospital operations and medical record keeping.

The increase in animal holding space will permit the hospitalization of ill patients presently impossible in the existing quarters. By hospitalization and improved observation of these animals, it is reasonable to expect a higher percentage of cure. It will assure that proper medication at regular intervals will be administered and a much closer evaluation of the patients' progress will be made. Provision of adequate, centralized quarantine facilities will insure continuing observation of quarantined subjects and permit the use of laboratory studies not presently possible with the subjects scattered throughout the Zoo in substandard quarters and with sometimes very limited observation. This facility will also protect against the possibility of the introduction of diseases into the static animal collection. The institution of a nursery facility will centralize the handrearing of baby animals under stricter observation and supervision of nursery techniques. The present program of "farming out" baby animals to keepers, secretaries, and friends obviously must be stopped. With this centralized facility, particularly in the same physical location as the Scientific Research Department, a continuing study of behavioral traits of the

specimen during infancy, growth and growth-rate statistics will be provided. The one keeper position is not sufficient for a 7-day-per-week operation and care of hospitalized animals. An addition of one keeper position and supplies and equipment is requested ($16,000).

An amount of $2,000 is s required to meet the increased cost of medical supplies and $2,000 to establish a travel allowance for the three professional staff members to attend annual veterinarian conferences and educational seminars.

HISTORY AND ART

The Smithsonian possesses an unequaled array of resources, both material and human, for the understanding and illumination of our country's history through its material culture, its technology, and its art. No other Institution has a greater and more exciting opportunity to demonstrate and celebrate what Americans--all Americans--have accomplished.

As the custodian of national collections comprising literally millions of historic objects and works of art, it is our responsibility to make sure that these collections are used as effectively as possible for the benefit of all. We must care for these collections, we must make them available to scholars both from our own staff and from the broader academic community, and we must use them intelligently and imaginatively to help tell the story of American civilization to our millions of visitors and, through publications and traveling exhibitions, to an even wider audience. It is also our responsibility to seek the continued growth of these national collections; as we are the beneficiaries of the foresight of past generations, so must we be the benefactors of future generations, passing on to them the fruits of our stewardship.

With one essential exception, the Joseph H. Hirshhorn Museum and Sculpture Garden, the budget requests in the area of history and art are modest, reflecting our determination to fulfill our obligations and to realize our opportunities as economically as possible. The increases requested for the History and Art activities amount to $1,245,000, or 14 percent of the total Institutional requested increase.

Although many history and art bureaus of the Smithsonian have received no increases in operating funds during the past two or three years, and although inflation has caused many of them to suffer in effect a decrease in funds, we have sought insofar as possible, to meet our needs out of existing resources. To this end, we have undertaken to terminate some activities and to reduce others drastically--for example, the International Art Program, the Smithsonian Journal of History, and temporary exhibition programs in all our museums. We shall continue to scrutinize all our activities with a view to maintaining a strong sense of priorities. At the same time, with the enthusiastic cooperation of our museum and bureau directors, we have encouraged cooperative efforts among our history and art bureaus in the name of efficiency and economy; shared library and conservation facilities, for example, serve the National Collection of Fine Arts and the National Portrait Gallery better and more cheaply than would separate ones.

Despite these efforts, which will continue, certain real needs hamper the effective operation of our history and art bureaus and prevent us from deriving the full benefits from the investment that has been made in them. The requested increases that follow represent, in our judgment, the minimum amounts needed to partially correct the most pressing of these shortages.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		158	-1	157
11	Personnel Compensation	$1,943,000	$ 63,000	$2,006,000
12	Personnel Benefits	154,000	5,000	159,000
21	Travel & Transp. of Persons	43,000	0	43,000
22	Transportation of Things			
23	Rent, Comm. & Utilities	4,000	10,000	14,000
24	Printing & Reproduction	3,000	5,000	8,000
25	Other Services	21,000	45,000	66,000
26	Supplies & Materials	10,000	22,000	32,000
31	Equipment	31,000	148,000	179,000
41	Grants			
	TOTAL	$2,209,000	$ 298,000	$2,507,000
	Analysis of Total			
	Pay Increase	$ 88,000	$ 68,000	$ 156,000
	Program	$2,121,000	$230,000	$2,351,000

Specification of Increase (Program):

Support for Planned Museum Programs ($230,000)

The National Museum of History and Technology, a systematic general museum devoted to the historical and technological achievements of the Nation, now has attendance approaching 6,000,000 visitors a year. It has developed an explicit set of purposes and principles to guide its planning and its current activities. Specifically, these are:

--to widen, deepen, and enlarge the exhibits and the visitors' museum experience;
--to become a more important, more attractive, more lively, and more seminal center for scholarly study, interpretation, and reinterpretation of American civilization and the history of technology;
--to widen its reach to all ages and conditions, both in Washington and throughout the nation and the world;
--to make the Museum a place for emphasizing the positive, discovering the extent and the limits of our national achievements and the achievements of man; and
--to emphasize, dramatize, and interpret the relevance of past to present.

These purposes can be achieved with no immediate increase in personnel if certain urgent non-personnel shortages can be corrected. An increase of $230,000 is requested for a wide range of essential supplies, services, and equipment needs.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

1970 Actual.....$2,149,000
1971 Estimate.....$2,209,000
1972 Estimate.....$2,507,000

The National Museum of History and Technology, a systematic general museum devoted to the historical and technological achievements of the Nation, is the most successful and important institution of its kind in the United States. Since its opening in January 1964, it has been visited by more than 30,000,000 people. Attendance is approaching an annual rate of 6,000,000--the greatest in the world. Under its distinguished new director, Daniel J. Boorstin, the NMHT has developed an explicit set of purposes and principles to guide its planning and its current activities:

I. To widen, deepen, and enlarge the exhibits and the visitors' museum experience.
   A. Toward a more total and more vivid, a more personal, a more participatory and a more communal recapturing of man's experience.
      1. By including parts of man's experience until now neglected or ignored: food, shelter, and clothing; heating and cooling; modes of educating, self-educating, and informing.
      2. By employing new techniques and the most effective forms of older techniques: by making our exhibits more selective, our interpretation more widely intelligible, and drawing more freely on all techniques of photography, sound, and sensory stimulation to reinforce and vivify the impressions of objects; by directing visitors movement in parts of the museum (e.g., by corridors).
   B. Toward a more total and more vivid and more personal and more communal recapturing of the kinds of men and women who have made America, and their relation to all men.
      1. By explicit demonstration of the origins, original experiences, ways of arriving and experiences after arrival, of the diverse strains of the American people.
      2. By explicit demonstration of the impact of American civilization on the world, the backwash of American peoples to their places of origin.

II. To become a more important, more attractive, more lively, and more seminal center for scholarly study, interpretation, and reinterpretation of American civilization and the history of technology.
   A. Toward attracting visiting scholars, immersing them in the concerns of the museum and drawing on their knowledge, imagination, and ideas for museum activities.
      1. By attracting the ablest and most imaginative, established scholars, and the most promising younger scholars: as consultants, part-time or visiting curators, or advisers on particular exhibits and projects; as research scholars: offering them improved and attractive facilities in library, research collections, offices, and secretarial assistance.
      2. By numerous, current, and monumental contributions to the scholarship of American civilization: as in the Smithsonian Encyclopaedia of American Life, pamphlets, and books with the widest reach.

III. To widen our reach to all ages and conditions both in Washington and throughout the nation and the world.

A. Toward a more effective, more widespread, more inclusive, and more continuous reach to press, radio, television: a stream of stories of the events in the Museum; planning of more and more newsworthy and widely-interesting interpretations of our activities.
B. Toward reaching all age groups and interest groups: preparation of interesting and understandable exhibits and programs for younger children, for visitors from abroad, and for the undereducated at home; interpretations of American history and technology more intelligible to nonexpert adults (special dramatic and other programs and a special area for younger children).
C. Toward a more effective connecting with holiday and festive occasions: celebration of national anniversaries, the birthdays of history-making Americans, and anniversaries in the history of the American standard of living and epochs in science and technology.
D. Toward a more effective tying of all events occurring in our museum to the large and explicit purposes of the National Museum of History and Technology.
E. Toward a more effective orientation and guiding of all visitors: by brochures, publications, orientation center at entrances, motion pictures, live guide services, informing of guards, etc.

IV. To make the National Museum of History and Technology a place for emphasizing the positive, discovering the extent (as well as the limits) of our national achievements, and the achievements of man.
A. To emphasize the greatness of individual man: by interpreting, dramatizing, and explaining the careers of history-making Americans: the discovery and rediscovery of American heroes.
B. To explore the epochs of great achievement, and the circumstances which helped make them possible: by exhibits on creative periods of American History and of the history of technology, and the social conditions which helped make these possible, e.g., in the exhibits, "What Makes a Creative Moment?"
C. To explore and remind Americans of their institutions--how they came into being and how they have changed: by a fuller exhibit of our political and social institutions, and institutions which have helped make the American standard of living (e.g., the businessman, newspapers, advertising, labor unions, public schools, universities, museums, etc.).
D. To help give meaning and content to national holidays (e.g., Thanksgiving, Fourth of July, Washington's Birthday, Memorial Day, etc.).

V. To emphasize and dramatize and interpret the relevance of past to present.
A. By current and changing programs of orientation.
B. By new programs of publication in print, on radio, television, etc.
C. By conferences and new exhibits and new kinds of museum experiences.

The director and staff of the Museum believe that these purposes can be achieved with no immediate increase in personnel, if certain urgent non-personnel shortages can be corrected. At present, the Museum has available only about five percent (some $100,000) of its appropriation for support activities. An additional $298,000 are requested for the following purposes:

Shortages by Category of Expense

11 & 12

Mandatory increases in pay.....$68,000

23

Rent high-speed photocopying unit to replace outmoded machine	$10,000

24

Purchase photographs for research. Print exhibit catalogs	5,000

25

Contract for lectures by visiting scholars	5,000
Training for existing professional and nonprofessional staff to increase competence and efficiency	3,000
Purchase service contracts for maintenance of typewriters and dictating machines	2,000
Contract with expert consultants for long-range planning of major programs and exhibits	15,000
Contract with architectural restoration experts for reconstruction and restoration of period rooms now owned, but in storage	20,000

26

Purchase office supplies	5,000
Purchase photographic supplies--film, flashbulbs, and chemicals	2,000
Purchase exhibits maintenance supplies	15,000

31

Purchase office furniture and furnishings	10,000
Purchase urgently needed storage cases for visible storage of collections in maximum security areas	20,000
Purchase storage units for offices	4,000
Replace worn-out typewriters (10 at $700 each)=$7,000 Purchase 10 two-machine dictating units to increase efficiency in understaffed offices, totalling $10,000	17,000
Replace worn out photographic equipment and purchase additional laboratory cameras and apparatus	5,000
Purchase specimens and objects for collections necessary to complete already constructed halls and period rooms which cannot be opened for lack of specimens	20,000
Purchase specimens for completion of certain collections now on display and for research	25,000
Purchase books and other reference materials for curators and technical manuals for specialists and technicians	15,000
Purchase exhibits maintenance tools	5,000
Purchase laboratory equipment	7,000
Remodel certain offices and laboratories to alleviate crowded and unacceptable working conditions	20,000
Total	$298,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL COLLECTION OF FINE ARTS

	Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		70	2	72
11	Personnel Compensation	$ 643,000	$ 51,000	$ 694,000
12	Personnel Benefits	50,000	5,000	55,000
21	Travel & Transp. of Persons	31,000	0	31,000
22	Transportation of Things	30,000	0	30,000
23	Rent, Comm. & Utilities	14,000	0	14,000
24	Printing & Reproduction	1,000	0	1,000
25	Other Services	146,000	6,000	152,000
26	Supplies & Materials	25,000	7,000	32,000
31	Equipment	189,000	24,000	213,000
41	Grants	8,000	15,000	23,000
	TOTAL	$ 1,137,000	$ 108,000	$ 1,245,000
	Analysis of Total			
	Pay Increase	$ 30,000	$ 46,000	$ 68,000
	Program	$1,107,000	$ 62,000	$1,177,000

Specification of Increase (Program):

Research, Exhibit, and Collections Management Support (2 positions, $62,000)

In current and future years, the National Collection of Fine Arts expects to achieve most of its goals in research and public education in the field of American art by the judicious use of its professional staff talents and by redirecting the current level of operating funds. If this effort is to be successful, however, certain basic functions must be strengthened in order to provide a strong foundation for public service. For the budget year, these requirements fall into four areas. An amount of $15,000 is required to fund additional research scholar grants in the study and interpretation of American art. A small increase in staff (a museum aid and a museum technician) and funds for services, supplies and equipment are needed to open and continue the new activities of the Renwick Gallery ($25,000). In addition, the NCFA must build its funds (now about $38,000) for the purchase of works of art in the face of rising costs and prospective donors increasing reluctance to donate. Fifteen thousand dollars additional are requested. And, lastly, $7,000 are needed to reorganize the Museum's collections to protect them and make them more accessible to scholars and the public.

NATIONAL COLLECTION OF FINE ARTS

1970 Actual.....$1,015,000
1971 Estimate.....$1,137,000
1972 Estimate.....$1,245,000

The National Collection of Fine Arts is the custodian of an ever increasing national heritage of valuable acquisitions and deposits of American Art both of the past and the present. Some 13,000 paintings, sculptures, and decorative objects are included in its exhibits and reference collections. To meet responsibilites assigned by law (20 U.S.C. 76c), the museum provide a repository for Government art; carries on an active program of conservation and conservation research; lends art to the White House and cabinet offices; promotes the public appreciation of art through publications and by permanent and special exhibits in its gallery, and by sponsoring traveling exhibits within the United States and abroad through the Smithsonian Institution Traveling Exhibition Service which circulates exhibitions to small and large institutions throughout the country.

The museum's expanding education program is being developed in close association with school curricula to provide material and study programs both in Washington and throughout the country. In addition, with its varied collections, library, photographs, and archives, the NCFA provides a research center for students and scholars devoted to the study of American art. The recent addition by the Smithsonian of the Archives of American Art, a rich repository of source information for research purposes, greatly enhances its overall capabilities in this area. The NCFA is responsible for the developing activities of the Renwick Gallery to be devoted to American arts and crafts design and shares photographic and conservation laboratories and library facilities with the National Portrait Gallery.

The requested program increase of $62,000 will be directed at strengthening educational, scholarly, and curatorial support activities and preparing for the opening of the Renwick Gallery. An additional $46,000 are requested for necessary pay for existing staff.

Need for Increase--The objective of the National Collection of Fine Arts' education program is to discover the way in which schools and museums can best work together to make real to children and adolescents the creative freedom and expressive satisfaction which comes from the serious study of works of art. The gallery's activities in this regard will be exportable. A series of traveling exhibitions that can be done inexpensively will be presented, and classroom materials will be made available throughout the country. Attention is being paid to practical exhibiting procedures (such as the Children's Gallery and new "Discover" gallery in NCFA) and school materials to be used in conjunction with the changing needs of area and national art curricula. In 1970, it is estimated that NCFA was able to accommodate about $14,000 of this activity within its appropriation. In current and future years, the museum administration expects to achieve most of the new goals in education and research by the judicious use of NCFA professional staff talents and by redirecting the current level of operating funds. If success is to be realized, however, the collections and curatorial support functions, i.e., the basic housekeeping operations of the gallery which are currently underfunded, need reinforcement.

An amount of $62,000 in new funds is needed for the following purposes: to supplement research scholar grants $15,000; for two positions in the Renwick Gallery $10,000; $15,000, toward increased Renwick operations costs

related to the opening of the museum to the public; a $15,000 increase in NCFA funds for purchases of art; and $7,000 for the reorganization of the museum's archives and collection, making them available for research activities.

To provide for the continuation of the program of research scholars on a significant scale, $15,000 should be directed toward the research scholars program in American art, for both graduate and post-doctoral scholars to encourage sound scholarship in this much neglected field. This will provide opportunities for scholars throughout the country to work on the rich collection of materials in Washington and allow the National Collection of Fine Arts to serve as a center for the study and reinterpretation of American art. Closely allied to the exhibition and publication programs, this activity has a significant impact on both the scholarly community and the general public.

The opening of the Renwick Gallery is to take place in fall 1971, and the development of a permanent museum staff to accommodate the new activities of this Gallery is of high priority. Since both the semi-permanent exhibit galleries and the large public opening will then be inaugurated, a museum technician and a museum aid along with materials and equipment needed in advance of the opening are requested ($25,000). About $65,000 are available for Renwick development in the NCFA appropriation for fiscal year 1971.

Within NCFA itself, the acquisition of works of art to supply some of the embarrassing gaps in the museum's collection has become increasingly difficult owing to rising prices and a growing reluctance on the part of donors to present significant works of art. If the collection is to be other than simply a fortuitous conglomerate, the museum's acquisition program must be made more active and selective. A $15,000 addition to the present level of acquisition funds would be a modest start in this direction. Only about $38,000 are available for art acquisitions in fiscal year 1971.

Seven thousand dollars is needed to facilitate the systematic management of the National Collection of Fine Art's extensive holdings, inherited from many sources over the past years. The rehabilitation of many important works, and the proper organization of the Collection's archives must move forward quickly if the Collection is to be properly safeguarded and available to scholars and the public.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL PORTRAIT GALLERY

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	37	1	38
11 Personnel Compensation	$ 403,000	$ 54,000	$ 457,000
12 Personnel Benefits	32,000	3,000	35,000
21 Travel & Transp. of Persons	15,000	1,000	16,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction	4,000	3,000	7,000
25 Other Services	177,000	7,000	184,000
26 Supplies & Materials	25,000	1,000	26,000
31 Equipment	175,000	2,000	177,000
41 Grants			
TOTAL	$ 831,000	$ 71,000	$ 902,000
Analysis of Total			
Pay Increase	$ 20,000	$21,000	$ 41,000
Program	$811,000	$50,000	$861,000

Specification of Increase (Program):

Public Education (1 position, $50,000)

The National Portrait Gallery is a unique national museum of American history responsible for collecting, exhibiting, and studying portraiture of men and women who have contributed significantly to the formation and development of the United States. It has a responsibility to use its collections of paintings, sculptures, and other resources for public education. To do this, two areas of the Gallery's basic operations need strengthening in fiscal year 1972. The History Department has had a long existing need for a chief historian to take charge of biographical and other research on the collections to assure impeccable historical accuracy in exhibits labels and related materials for the public. This will cost $25,000 including associated reference materials. Second, the Education Department needs $12,000 to fund part-time temporary personnel to conduct teaching tours of the exhibits and to prepare teaching materials. Some 300 children each month receive tours, but the program is growing. An additional amount of $13,000 is requested to prepare three special teaching exhibits of special interest to school groups and to prepare related printed materials for classroom use.

NATIONAL PORTRAIT GALLERY

1970 Actual $768,000
1971 Estimate $831,000
1972 Estimate $902,000

The National Portrait Gallery is a unique national museum of American history responsible for collecting, exhibiting, and studying portraiture in painting and sculpture of the men and women who have contributed significantly to the formation and development of the United States. Open to the public for only two years (since October 1968), the Gallery is still developing its staff and programs, particularly in the History and Education Departments, to meet public demands for its services.

The Gallery's current activities can be grouped into four major categories: (1) the care and expansion of the collection; (2) public education through programs with schools and through exhibition of the permanent collection and special loan exhibitions illustrating particular subject areas of American history and portraiture; (3) the research, publication, and national distribution of catalogues of these exhibitions, as well as other studies, both scholarly and popular in nature, related to the subject of American historical portraiture; and (4) the compilation of a definitive Catalogue of American Portraits to be a comprehensive data bank and national information service on American history and biography comprised of entries on all portraits of historically significant Americans.

An increase of $50,000 in program funds is needed to support the activities of the History and Education Departments. An additional $21,000 are requested for necessary pay for current staff.

Need for Increase

1. History Department (1 position, $25,000)

The History Department requires a chief historian to be hired early in fiscal year 1972, culminating a two-year search for a prominent historian qualified in American history and art history ($19,000). Basic operating support funds are needed for the chief historian's office to provide for travel, material services for office operations and personnel services by specialists in various aspects of American history and the public use of history collections, and for supplies, equipment, reference books, and materials for this new department ($6,000). Total funding requested for this activity is $25,000.

It is essential that a history museum have as its core a well researched collection. Initial activities of the chief historian will, therefore, involve upgrading and expanding the biographical research files on the portraits so that the historic contents of materials and exhibits for the public based on these individuals and their relations to historic events are of impeccable accuracy. At this point, only 1/10 of the Gallery's holdings of 500 portraits is thoroughly researched, and the one staff member assigned to biographical research pending arrival of the chief historian cannot keep current with new acquisitions, let alone cope with the bulk of the permanent collection.

Other major activities will be to study the permanent collection in terms of historical interpretation in its display arrangement, its labeling, and the content of printed materials distributed in the galleries, and to evaluate continually the historic content of future exhibitions being planned and researched by other members of the staff.

The History Department's efforts in both of these areas will immediately benefit the activities of the other major program to be strengthened in fiscal year 1972, the Education Department. This department is in more immediate contact with the public than any other, and it is upon its activities that the Gallery's educational services to schools, organized public groups, and individual visitors of all ages depend.

2. Education Department ($25,000)

Most of the $25,000 required to support a broad educational program beginning in fiscal year 1972 will provide part-time, temporary personnel to conduct teaching tours of the exhibits, to contact schools and other interested organizations, and to help research and write teaching materials based on the visual and historical content of special teaching exhibitions.

An average of 300 area school children each month are now receiving tours often tailored to their classroom needs. Many inner city teachers are discovering for the first time how the educational programs of this Gallery can make the study of American history more meaningful to their students. This use is expected to increase considerably next year, and the Gallery must provide a teaching staff to meet those demands.

The number of school and other public groups the Gallery can serve through tours is directly proportional to the numbers of trained volunteers and part-time paid teaching staff available to supplement the small permanent administrative and research staff of the education department (curator, secretary, and temporary researcher). These non-permanent staff visit schools to meet classes and discuss prospective visits with teachers, provide teaching materials based on the exhibits, conduct tours in the Museum tailored to the teacher's needs, and provide any desirable follow-up contact with the teacher and the class.

The core of this part-time teaching staff--comprised of persons with teaching experience, and graduate and undergraduate students--must be paid to assure that they will reliably meet the rigorous study requirements and demanding schedules of the educational program on a regular basis. Based on a projection of this year's experience using only available volunteers, the Gallery needs funds for the equivalent of two man-years of work ($12,000). This will guarantee 80 hours of trained teaching staff each week. These paid staff will work with and be supplemented by approximately two dozen volunteers who give a few hours each week to the Gallery as their time allows.

In addition to educational activities based on portraits in the permanent collection and on major loan shows arranged twice yearly, one-room teaching exhibitions are produced by the Museum to focus in depth on one individual or topic of particular interest to school groups. These exhibits contain portraits, audio-visual materials, personal objects, and other historical information especially designed and labeled in a compact gallery area to provide an environment offering teachers or Gallery staff several possible directions for leading discussions and stimulating student learning. To provide two of these exhibits during the school year, at least one of which will study persons involved in the history of the District of Columbia, and another during this summer, funding of $6,000 is requested.

Based on research and visual information gathered for the exhibits, the Gallery plans to produce classroom naterials containing much more visual information than is normally found in available literature on the subjects. The writing and content will be aimed at the various student reading and comprehension levels. Teachers can use these materials to prepare students for the visit, to reinforce the visit afterward, and as a permanent resource after the exhibit is disassembled. For coordinating the curriculum research and writing of these

brochures and pamphlets for the teaching exhibits, the Gallery needs $4,000 for temporary personnel to help the regular staff. For printing and reproducing these teaching materials to supplement the exhibit in the Gallery and to extend its use in the classroom $3,000 are required.

Fiscal Year 1971 Activities of the National Portrait Gallery

Within the major program categories identified at the beginning of this justification, there are a number of recent developments and accomplishments. The NPG is expanding and upgrading its small permanent collection through acquisitions from commercial galleries and private individuals, as well as by gifts. In the past two years 106 portraits were added at a total cost $391,640. The curatorial staff is preparing catalogs and planning exhibitions to be held this spring (portraits by American Revolutionary War period painter Henry Benbridge) and fall (portraits illustrating the history of the performing arts in America to coincide with the opening of the Kennedy Center). The Gallery's Fall 1970 show presented the life portraits of John Quincy Adams together with personal objects related to his life. Portraits for these shows are located and borrowed by the Gallery from museums and individuals in this country and abroad, a process often requiring two or more years advance research and planning by the Gallery staff.

Where no formal education program existed one year ago, the Gallery is training two dozen volunteer docents to conduct educational tours. Contacts are being made with metropolitan area schools and with organizations serving schools and teachers locally and nationally. To the extent limited resources can be temporarily borrowed from other programs, the Gallery has funded the research and production of experimental aids and one-room exhibits designed for use by tour leaders and teachers.

The Catalogue of American Portraits has standardized its computer entry forms and processes in cooperation with the Smithsonian's Information Systems Division and is entering information regularly obtained from correspondence and staff visits to nearby collections such as Mt. Vernon. The CAP handles continuing requests for portrait information from both scholars and the general public. Forty thousand portrait prints in the collection are being sorted and inventoried. Finally, 18,000 partial portrait entries gathered by researchers contracted between 1964 and 1967 are being definitively researched and processed into the data bank. In addition, the CAP is forming a roster of possible field researchers in various locales and gathering information on the logistics of collecting widely scattered portrait data.

Research is being performed on subjects related to American portraiture by two members of the staff. Two contract scholars are researching an exhibition catalog and exhibit on portraits of the American Negro to be held in spring 1972, and a separate publication on the same subject to be distributed nationally. The assembled papers and archival materials will remain with the research resources of the NPG.

The exhibits staff has continued to upgrade the appearance of the galleries and to provide for the display of the growing collection. A suite of first floor galleries was prepared for the John Quincy Adams exhibition designed as a versatile exhibit area which will be the location of all major temporary loan exhibitions in the future. Other projects are the formation of a new acquisition gallery area, the improvement of graphics to direct and inform visitors, the installation of a first-floor lounge area, and a redesign of the vestibule and foyer to be a more welcoming and informative entrance to the Gallery, including an orientation exhibit and film about the history of portraiture and how to look at portraits in the Gallery. The production shop and silk screen facilities have been improved to provide in-house capabilities for constructing cases, pedestals, posters, labels to reduce some of the costs of exhibition production and a reliance on contracted exhibit production services.

Summary and Future Goals

The additional $50,000 requested here will enable the Gallery to take the next logical step in fulfilling the goals set forth by Congress when establishing the Gallery in 1962.

Prior to fiscal year 1971, the primary goal was establishment and management of the collection. With stress on developing an exhibits staff during the past year and plans for the History and Education Departments next year, the Gallery is focusing now on relating and exhibiting the collections to the public. It is in the public education category that the new program funds will enable expansion.

Continued basic staffing and program support in the coming years is necessary for the National Portrait Gallery to reach maturity as a fully operative national history museum and reference center. By the mid-1970's, when interest in American history will be heightened by activities commemorating the Bicentennial, it should be prepared to serve the public broadly through relevant exhibitions, scholarly and popular materials and programs, and through dissemination of information on historical portraiture from the computerized Catalogue of American Portraits.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE GENERAL COUNSEL

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		8	1	9
11	Personnel Compensation	$ 121,000	$21,000	$ 142,000
12	Personnel Benefits	10,000	1,000	11,000
21	Travel & Transp. of Persons	1,000		1,000
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services	1,000		1,000
26	Supplies & Materials	1,000	1,000	2,000
31	Equipment	1,000		1,000
41	Grants			
	TOTAL	$ 135,000	$23,000	$ 158,000
Analysis of Total				
Pay Increase		$8,000	$ 5,000	$13,000
Program		$127,000	$18,000	$145,000

Specification of Increase (Program):

Legal Counsel Requirements of the Institution (1 position, $18,000)

The Institution has grown considerably since 1964. There have been added to its already numerous responsibilities the Renwick Gallery, the Hirshhorn Museum and Sculpture Garden, the Cooper-Hewitt Museum, the Archives of American Art, the Chesapeake Bay Center for Environmental Studies, and the Woodrow Wilson International Center for Scholars. It has taken on such program as the National Museum Act and the Foreign Currency Program. Each of these required OGC staff participation in its establishment and each places demands on the staff for its continued development and operation within the framework of applicable laws. There is a growing backlog of matters requiring legal attention. An additional $18,000 is requested: $17,000 for an additional part-time attorney and a secretary and $1,000 for other expenses of the office.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	18	3	21
11 Personnel Compensation	$ 174,000	$ 72,000	$ 246,000
12 Personnel Benefits	11,000	6,000	17,000
21 Travel & Transp. of Persons	6,000	3,000	9,000
22 Transportation of Things	3,000	0	3,000
23 Rent, Comm. & Utilities	40,000	5,000	45,000
24 Printing & Reproduction	2,000	2,000	4,000
25 Other Services	162,000	97,000	259,000
26 Supplies & Materials	9,000	16,000	25,000
31 Equipment	9,000	400,000	409,000
41 Grants			
TOTAL	$ 416,000	$ 601,000	$ 1,017,000
Analysis of Total			
Pay Increase	$ 8,000	$ 14,000	$ 22,000
Program	$408,000	$587,000	$ 995,000

Specification of Increase (Program):

Meeting Target Date for Building Opening (3 positions, $587,000)

The operating staff of the Joseph H. Hirshhorn Museum and Sculpture Garden will continue to be expanded. Three additional members are being sought in the budget year, a registrar, administrative assistant, and clerk typist ($23,000) plus additional funds in other objects ($33,000) and funds to annualize part-time positions authorized in 1971 ($41,000). These funds will be added to the current budget and form the nucleus of the continuing budget for the Museum.

Additional funds ($50,000) are requested to continue with the program of conservation and framing of the collection for its initial opening in the new gallery.

Funds for the design and production of storage screens ($400,000) are being requested. Since this is a sizeable job it will be considerably cheaper to let the bid for the entire job at one time instead of doing the work in increments. These screens need to be placed on the top floor of the museum as soon as possible in order for the physical move of the collection to Washington to take place.

Funds are needed for the equipment necessary to set up three work rooms. ($40,000). The carpentry, frame and paint shops have been chosen to be equipped first because they seem the most essential to the immediate operations of the building as construction work is completed. These shops will be useful as the collection is moved and uncrated and hung in storage. Immediate attention to small repairs will save wear and tear of having to repack and reship the works that might be in need of modest work.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

1970 Appropriation.....$ 308,000
1971 Estimate.....$ 416,000
1972 Estimate.....$1,017,000

The Hirshhorn Museum, now under construction on the Mall, will house the magnificent gift to the nation of more than 7,000 paintings and sculptures. The Act of November 7, 1966, authorized construction of the Museum and designated the Mall site. Building construction began in March, 1970, and the estimated completion is October, 1972. All phases of work are presently geared to prepare for the opening of the Museum and to place it in operation.

An increase of $587,000 for fiscal year 1972 will be used for acquiring equipment and furnishings to facilitate an early transfer of the collection to Washington as portions of the building become ready for outfitting and occupancy and for expanding the basic and continuing operations. The former item for equipment and furnishings consists of one-time, non-recurring costs, which are phased over two years. The attached table provides a detailed flow of projected operations for fiscal years 1972, 1973 and 1974, as related to the expected growth prior to and immediately following an anticipated public opening six to nine months following the completion of the building. An additional $14,000 is sought for necessary pay purposes.

Need for Increase--In order to bring this major new Museum into existence, a dramatic acceleration in operating program activity must take place during the two and one-half year building construction period. This will require a very substantial increase in program funds over this period in order to meet the projected public opening date. Major additional funding requirements are in two categories: ongoing preparation of the collection, and the acquisition of furnishings and special equipment for the building.

Approximately twelve hundred choice paintings and pieces of sculpture are being selected from the more than 7,000 items in the collection for exhibit when the Museum opens. These paintings and pieces of sculpture must be examined, photographed, mounted, cleaned, and in some cases restored prior to exhibition. The total cost of this effort in fiscal year 1972, is estimated at $200,000 for such contractual services.

Of these 1,200 items, 600 are paintings and 600 are sculptures. Based on a survey of the restoration and framing requirements of these items the following funding needs have been projected which total $565,000. Some objects are included in two categories.

--100 large paintings (5 to 15 feet) will need restoration at an average cost of $1,000 ($100,000) and 50 will require work at $300 each ($15,000).

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

--500 paintings must be framed at prices averaging $200 for a total cost cost of $100,000.

--400 sculpture pieces, including about 150 which are classed as monumental, will require restoration at prices averaging $500. Estimated total cost of the job is $200,000.

Approximately 350 paintings have been restored, conserved, and framed during fiscal years 1969 and 1970, and are now completed for initial exhibition display. These include items that required both conservation and framing.

In fiscal year 1971 it is estimated that an additional 300 items will be completed, so that by the end of the fiscal year about 50 percent of the work for the opening will be completed.

The additional funds requested for conservation and framing in fiscal year 1972 ($50,000) will allow for completion of nearly 90 percent of the total number of items planned for use in the opening exhibition. Fiscal year 1973 will be devoted to completing the remainder of the initial showing.

An increase in technical and support staff is required to prepare for the Museum's opening and subsequent exhibition and research programs. This staff must: 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. Three additional staff members are requested: registrar, administrative assistant, and clerk-typist ($23,000), plus funds to annualize new positions authorized only part year in fiscal year 1971 ($41,000).

An additional $33,000 are requested for other contractual service costs related to the collections, the rental of working space and services (moving items in and out of storage for inspection, conservation, framing, etc), photography to document the collections for exhibits planning and research purposes. Professional visits to art museums and galleries for research will be necessary as well as other field trips.

Non-recurring Costs

Construction costs of $16,000,000 ($15,000,000 appropriated by Congress and a $1,000,000 gift by Mr. Hirshhorn) will provide the Institution with the basic Museum building, including necessary utility equipment and connections. This amount does not permit the Museum to be completed to the point necessary for public opening or for conducting basic educational functions. It does not prepare the galleries or public areas, or furnish the administrative office space. To insure an opening to the public as soon as possible after completion of construction, it is essential that procurement and installation of furniture, furnishings, moveable equipment, and other items be provided as soon as possible. Approximately $1,466,000 of furnishings and equipment not included in the original construction contracts (for furnishings and equipment) and necessary to prepare and make effective use of the laboratory, gallery and administrative space, have been identified as needed over the next two years. Funding for these items is being requested over two years, $440,000 in fiscal year 1972, and $1,026,000 in fiscal year 1973. Operating costs and non-recurring costs are identified in the following table.

Operating Costs	FY 1971	FY 1972	FY 1973	FY 1974
Positions	18	21	45	60
Staff Costs (Including benefits)	$185,000	$263,000	$494,000	$688,000
Conservation and restoration	150,000	200,000	100,000	40,000
Supplies & Materials & Equipment	18,000	40,000	32,000	15,000
Other (Exhibits, planning, travel, rent, etc.)	63,000	74,000	193,000	135,000
Subtotal, regular operations	$416,000	$577,000	$819,000	$878,000
Non-recurring costs				
Carpentry, frame, paint shops		40,000		
Storage screens		400,000		
Coatroom furnishings & area lights			8,000	
Gallery furnishings			210,000	
Lamps and partitions			32,000	
Fourth floor furnishings			205,000	
Photography lab			27,000	
Library shelving			50,000	
Registrars office and staff lunchroom			19,000	
Stone pedestals			95,000	
Security systems			50,000	
Exterior lighting			50,000	
Examination lab			38,000	
Conservation lab			65,000	
Auditorium furnishings			67,000	
Tour guides			60,000	
Sales room			50,000	
Subtotal, non-recurring costs		$440,000	$1,026,000	
TOTAL	$416,000	$1,017,000	$1,845,000	$878,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

FREER GALLERY OF ART

	Object Class	1971 Base	Increase Requested	1972 Estimate
	Number of Permanent Positions	7	1	8
11	Personnel Compensation	$ 49,000	$ 8,000	$ 57,000
12	Personnel Benefits	4,000	1,000	5,000
21	Travel & Transp. of Persons			
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services			
26	Supplies & Materials	3,000	15,000	18,000
31	Equipment			
41	Grants			
	TOTAL	$ 56,000	$ 24,000	$ 80,000
	Analysis of Total			
	Pay Increase	$ 2,000	$ 3,000	$ 5,000
	Program	$54,000	$21,000	$75,000

Specification of Increase (Program):

Support of Research and Care of the Collections (1 position, $21,000)

Freer endowment funds provide for the purchase of objects and for the development and study of the collections. Federal funds, in accordance with the Deed of Gift, are to be used for general support purposes. Funds are requested for a clerical position to assist research in Near Eastern Art ($6,000) and for the purchase of storage equipment and related supplies ($15,000).

FREER GALLERY OF ART

1970 Actual.....$45,000 1/
1971 Estimate.....$56,000 1/
1972 Estimate.....$80,000 1/

The Freer Gallery of Art houses one of the world's most distinguished collections of Oriental Art of over 10,000 objects. Including works of art from China, Japan, Korea, India, and the Near East, the collection covers paintings, sculptures, and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold, and silver. Items not currently on exhibition and the library of 40,000 volumes are available and used extensively by the Gallery's staff and numerous visiting scholars and students from throughout the world. The two-fold program envisaged by the founder involves the continuing search for works of the highest quality that may be added to the collections and the continuing study of these works of art as keys to understanding the civilizations that produced them.

An appropriation increase of $21,000 is requested to provide basic support to research, collections maintenance, and exhibition programs of the Gallery. Funds in the amount of $3,000 are also requested for necessary pay for staff.

Need for Increase--Endowment funds provide for purchase of objects and for the development and study of the Freer collections. In accordance with the acceptance of the Deed of Gift, federal funds are to be provided and used for the upkeep, repair, guarding, heat, light, cleaning of building; repair and cleaning of collection; and recording, labeling, and moving of specimens and related services. Current federal employees are support staff. There has been a great increase in use made of Freer resources by the general public, scholars, and students; and inflation in the costs of supplies and equipment makes the current level of federal support chronically inadequate. It is our responsibility to correct this condition.

For fiscal year 1972, funds are requested to provide a clerical position for the newly-filled curator of Near Eastern Art to assist with a large backlog of accumulated work ($6,000). An additional $15,000 are requested for cabinets for the storage of Chinese and Japanese handscrolls and albums, and for miscellaneous office and other supplies.

1/ Excludes approximately $300,000 in maintenance, operations, and protection support from the Buildings Management Department.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ARCHIVES OF AMERICAN ART

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		0	11	11
11	Personnel Compensation	$ 0	$ 145,000	$ 145,000
12	Personnel Benefits	0	11,000	11,000
21	Travel & Transp. of Persons			
22	Transportation of Things			
23	Rent, Comm. & Utilities	0	4,000	4,000
24	Printing & Reproduction			
25	Other Services	0	10,000	10,000
26	Supplies & Materials	0	3,000	3,000
31	Equipment	0	2,000	2,000
41	Grants			
	TOTAL	$ 0	$ 175,000	$ 175,000
	Analysis of Total			
	Pay Increase	0	$ 0	$ 0
	Program	0	$175,000	$175,000

Specification of Increase (Program):

Maintenance of Archives Holding (11 positions, $175,000)

The Archives of American Art came to the Smithsonian Institution in May 1970. The several million documents in its collection constitute an invaluable aid to research and scholarship in the history of American visual arts from prior to the American Revolution to the present time. With the other resources of the National Collection of Fine Arts and the National Portrait Gallery, the Archives makes the Fine Arts and Portrait Galleries Building a major center for the study of American art. During the past year, several hundred researchers have used the Archives and a number of recent publications depended heavily on Archives documents. The $175,000 requested for fiscal year 1972 will provide for personnel, space rental, contractual services (including microfilming), office supplies and equipment.

ARCHIVES OF AMERICAN ART

1970 Actual ..... $ 55,000[1/]
1971 Estimate ..... $175,000[1/]
1972 Estimate $175,000

The Archives of American Art, founded in Detroit in 1954 and a bureau of the Smithsonian Institution since May 1970, is committed to aiding research and scholarship in the history of the visual arts in this country from prior to the revolutionary war period to the present time. It acts to achieve this goal by acquiring, organizing, and preserving the primary documentation needed by historians--the correspondence, diaries, business papers, and photographs of painters, sculptors, critics, dealers, and collectors, and the formal records of galleries, museums, and art societies. These collections of paper are cataloged, microfilmed, and made available to scholars. A photograph of an item in the Archives holdings is shown on a following page.

The processing and chief reference center of the Archives is now located in space provided by the National Collection of Fine Arts and the National Portrait Gallery library. Added to the library, and to the archival material already possessed by these two museums, the Archives will make the old Patent Office building a major center for the study of American Art.

The organization expects to raise private funds amounting to about $200,000 in fiscal year 1971. This income is used primarily to support Archives' activities outside Washington. It is hoped that this level will be maintained. The National Portrait Gallery and the National Collection of Fine Arts have helped to offset initial costs by providing facilities and earmarking some of their funds to supplement the Archives own resources. Because the Archives came to the Smithsonian after the fiscal year 1971 budget had been submitted, it was not possible to include in that budget a request for separate funds to enable the Institution to make full use of this great collection of materials. This year, $175,000 are being requested to be appropriated for the AAA, an amount which reflects no increase over the estimated fiscal year 1971 level of funding shared by the National Collection of Fine Arts and the National Portrait Gallery.

During the past year the Archives has acquired over 100,000 individual items. Among the more important collections received were the papers of William Baziotes, Cecila Beaux, Karl Bitter, Herbert Ferber, Palmer Hayden, Ibram Lassaw, Guy Pene du Bois, and Ben Shahn. Of particular interest is a large collection of records accumulated by Charles Henry Hart, an authority on 18th and early 19th century portraiture.

The Archives' oral history program continued its activities with a series of tape recorded interviews with administrators and other figures in the New York art world. Among those people interviewed were Harvard Arnason, Ralph Colin, Lawrence Fleischman, Henry Geldzahler, Huntington Hartford, and Gordon Washburn.

Since the objective of the Archives is to serve scholarship by providing documentation to researchers, its achievement is measured by the effective use of Archives resources in the writing of exhibition catalogues, catalog raisonnes, articles, biographies, monographs. The Archives further approaches its goal by offering grants in aid, by publishing a quarterly Journal, and by disseminating information on its holdings to universities and museums.

1/ These amounts reflect shared costs by NCFA and NPG, and are included in the amounts shown for those galleries.

Research on the painter Stuart Davis, the Sculptor David Smith, the Black Mountain College Art Department, and the federal art programs of the 1930's are a few of the more important projects now under way. Among other recent publications which depended heavily on Archives documents are Barbara Novak, American Painting of the Nineteenth Century, N. Y., 1969; Marcia M. Mathews, Henry Ossawa Tanner, Chicago, 1969; William I. Homer, Robert Henri and his Circle, Ithaca, N.Y., 1969; and Sheldon Reich, John Marin; A Stylistic Analysis and Catalogue Raissone, Tucson, 1970.

With the establishment of its office in Washington, D. C., the volume of use of Archives holdings has risen sharply owing to the need for documentation by the staffs of the National Collection of Fine Arts, the National Portrait Gallery, the National Gallery of Art, and student and faculty researchers at the University of Maryland and George Washington University. Since the Archives is still a recent arrival here, it anticipates a further increase in the use of its resources in the coming year.

Funding requested in the fiscal year 1972 budget will provide for administrative and curatorial personnel ($156,000) and for space rental, contractual services (including microfilming), office supplies, and equipment ($19,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		8	-2	6
11	Personnel Compensation	$111,000	$ -8,000	$103,000
12	Personnel Benefits	9,000	-1,000	8,000
21	Travel & Transp. of Persons	2,000	-1,000	1,000
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services	29,000	-22,000	7,000
26	Supplies & Materials	1,000		1,000
31	Equipment			
41	Grants			
	TOTAL	$152,000	$-32,000	$120,000
	Analysis of Total			
	Pay Increase	$ 8,000	$ 5,000	$ 13,000
	Program	$144,000	$-37,000	$107,000

Specification of Increase (Program):

NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

1970 Actual $182,000
1971 Estimate $152,000
1972 Estimate $120,000

The National Armed Forces Museum Advisory Board advises and assists the Board of Regents of the Smithsonian Institution on matters related to the establishment of a national historical museum park to be known as Bicentennial Park and a study center to be known as the Dwight D. Eisenhower Institute for Historical Research. Preliminary approval has been obtained for two sites on the Potomac River, both already under federal ownership and within a short distance of downtown Washington: Fort Foote Park, in Prince George's County, Maryland, and Jones Point Park, on the southern edge of Alexandria, Virginia.

UNITED STATES NATIONAL MUSEUM

This group of activities includes a major segment of the conservation and preservation efforts of the Institution, the collections documentation function, the exhibits effort, and the leadership role of the Smithsonian in diffusing knowledge and training in these areas to the national museum community.

For fiscal year 1972, only necessary pay increases are being requested for the Office of Museum Programs, the Office of Exhibits, and small program amounts for important needs in the Conservation Analytical Laboratory and the Registrar's Office. A separate request for a major exhibition project is being requested in the special program's section, but these funds are nonrecurring in nature and are necessary to develop and improve the permanent educational displays. The increase requested for United States National Museum activities is $183,000, or two percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF MUSEUM PROGRAMS

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	9	0	9
11 Personnel Compensation.....	$ 143,000	$ 4,000	$ 147,000
12 Personnel Benefits.....	11,000	0	11,000
21 Travel & Transp. of Persons	8,000	0	8,000
22 Transportation of Things	2,000	0	2,000
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction			
25 Other Services	120,000	0	120,000
26 Supplies & Materials	1,000	0	1,000
31 Equipment	18,000	0	18,000
41 Grants			
TOTAL.....	$ 304,000	$ 4,000	$ 308,000
Analysis of Total			
Pay Increase	$ 4,000	$4,000	$ 8,000
Program	$300,000	0	$300,000

Specification of Increase (Program):

Museum Services

This Office provides program planning for museum and exhibition activities, surveys visitor reactions to the Smithsonian's exhibits, and works with other museums and organizations on matters of mutual concern. No program fund increase for the operations of this Office is requested for fiscal year 1972.

UNITED STATES NATIONAL MUSEUM
OFFICE OF MUSEUM PROGRAMS

1970 Actual $233,000
1971 Estimate $304,000
1972 Estimate $308,000

The Office of Museum Programs provides program planning and review of the Smithsonian Institution's museum and exhibition activities with special emphasis on developing experimental and educational exhibits, surveying visitor reaction to the Institution's services, and providing advice and technical assistance to other museums. It works cooperatively with museum professionals and their associations and organizations to increase the effectiveness of museums in the performance of their scholarly and public education functions. The Office of the Registrar, the Conservation Analytical Laboratory, and the Office of Exhibits are under the general administration of this Office.

No program fund increase is sought for fiscal year 1972 for the operations of this Office. An amount of $4,000 is requested for necessary pay purposes.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF EXHIBITS

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	167	-3	164
11 Personnel Compensation	$1,936,000	$62,000	$1,998,000
12 Personnel Benefits	143,000	5,000	148,000
21 Travel & Transp. of Persons	10,000	0	10,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction	40,000	0	40,000
25 Other Services	64,000	0	64,000
26 Supplies & Materials	127,000	0	127,000
31 Equipment	40,000	0	40,000
41 Grants			
TOTAL	$2,361,000	$67,000	$2,428,000
Analysis of Total			
Pay Increase	$ 98,000	$67,000	$ 175,000
Program	$2,263,000	0	$2,263,000

Specification of Increase (Program):

Maintenance of Current Exhibits Program

No program increase is sought for fiscal year 1972 for the Office of Exhibits as such. Its base resources are largely absorbed by the maintenance and upgrading of existing exhibits, the design of new permanent exhibits, and a program of changing special exhibits. A request for new nonrecurring funds for the construction and installation of a major permanent exhibition on the World of Living Things in the National Museum of Natural History is presented in the special programs section of this budget request.

UNITED STATES NATIONAL MUSEUM
OFFICE OF EXHIBITS

1970 Actual $2,354,000
1971 Estimate $2,361,000
1972 Estimate $2,428,000

The Office of Exhibits, in collaboration with museum scientists and historians, designs, prepares, and installs exhibitions in Smithsonian museums, and occasionally for the Smithsonian Institution Traveling Exhibition Service. Since its establishment in 1955, the Office has prepared over 3,500 permanent exhibit units primarily in the National Museum of Natural History and the National Museum of History and Technology, and has produced hundreds of special exhibits in art, history, and science. New techniques such as freeze-drying of animal and plant specimens and new methods of presentation, including audio-visual and visitor participation devices, are developed to enhance the visitor's learning experience. Many staff innovations have been copied around the world. By counseling visiting professionals and by training museum technicians from all points of the world, the Office has had a significant effect on museum installations in many countries.

No program fund increase is sought for fiscal year 1972 for the Office of Exhibits. The base appropriation is largely absorbed by maintenance and upgrading of existing exhibits, design of new exhibits, and a modest program of changing special exhibits. New permanent exhibits, space for which exists in present Smithsonian museums, will require new nonrecurring funds for construction and installation. A request for these funds is included in the special programs section of this budget request. An increase of $67,000 is requested for necessary pay for the Office of Exhibits staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CONSERVATION ANALYTICAL LABORATORY

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	11	3	14
11 Personnel Compensation.....	$ 113,000	$ 26,000	$ 139,000
12 Personnel Benefits.....	9,000	2,000	11,000
21 Travel & Transp. of Persons	5,000	0	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction	1,000	0	1,000
25 Other Services	7,000	0	7,000
26 Supplies & Materials	6,000	3,000	9,000
31 Equipment	12,000	24,000	36,000
41 Grants			
TOTAL.....	$ 154,000	$ 55,000	$ 209,000
Analysis of Total			
Pay Increase	$ 6,000	$ 5,000	$ 11,000
Program	$148,000	$50,000	$198,000

Specification of Increase (Program):

Protection, Conservation, and Analysis of the Collections (3 positions, $50,000)

Activities of the Laboratory fall into two broad areas: conservation, including preventive and remedial measures, and analysis of the composition of objects in support of research. Increased funding is required for a small fumatorium chamber and a technician to cope with serious insect infestations in the History and Technology collections ($24,000). Two additional conservators at a cost of $14,000 are required to care for some 13 million non-biological objects (for instance, coins) in the collections. An Ebert spectrograph ($12,000) for analysis purposes will double current output of existing staff.

UNITED STATES NATIONAL MUSEUM
CONSERVATION ANALYTICAL LABORATORY

1970 Actual.....$134,000
1971 Estimate.....$154,000
1972 Estimate.....$209,000

The Conservation Analytical Laboratory was established in 1963 to serve the museums of the Smithsonian Institution. It ascertains and advises on the suitability of environmental conditions found in the buildings for objects displayed or in storage, and suggests remedial action if necessary. Advice is given to the curatorial units on conservation procedures for specific objects. Objects which present special problems or require more specialized equipment than is available in these units are treated in the laboratory.

Analysis of objects or their materials (e.g., pigments, fibers, alloys, or corrosion products) is done by advanced instrumentation to determine appropriate conservation procedures or to provide museum archaeologists and historians with basic research data concerned with dates, attribution, and ancient production methods.

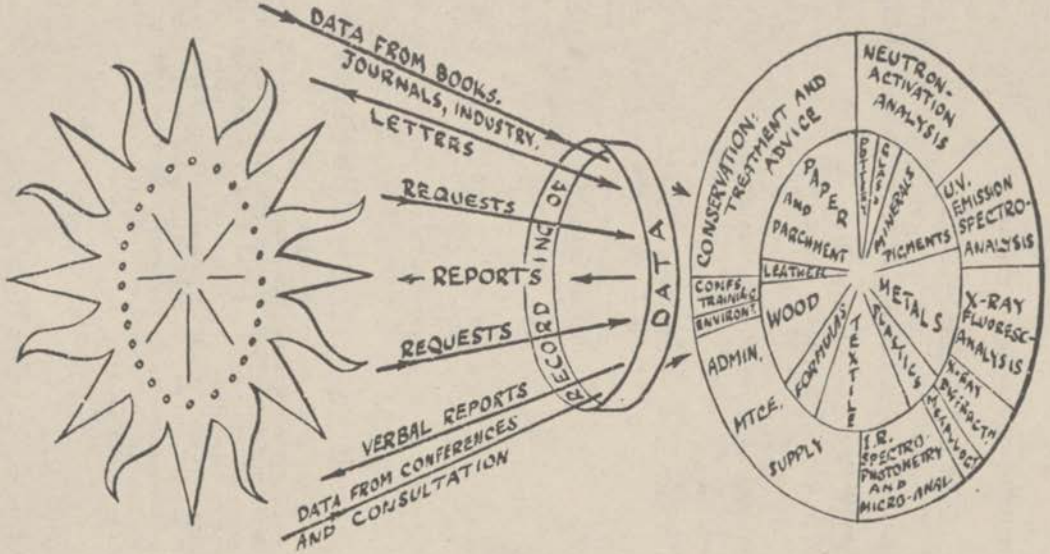
Current program shortages include the following for which a program increase of $50,000 is requested. An additional $5,000 are requested for necessary pay for current staff members.

Need for Increase--The lack of a fumatorium to sterilize all objects on entry into the History and Technology Building allows development of insect colonies within storage areas with consequent risk of serious and wide-spread loss of the collections. Over 30 reports of insect finds have been made in this one building in one year. Emergency actions taken on site to counter this risk are expensive in manpower, less than wholly effective, and inevitably add to the level of poison in the human environment. Funds are requested for a small fumatorium chamber ($12,000) plus one technician to operate it ($9,000) and to assist in sampling for analysis and supplies and materials ($3,000).

Conservation activity falls ludicrously short of the need. With thirteen million non-biological objects in the Smithsonian collections, if only one percent of these is in need of attention, then it would require 32 man-years in order to devote 30 minutes to each. Thirty minutes is barely sufficient time to carry an object to and from this laboratory, without allowing time for any useful treatment. CAL at present has only three positions for conservators. Two additional conservators are requested ($14,000).

Conservation activity requires supporting specialized analytical facilities. Some increase in output without increase in analytical staff or floor space can be achieved by introducing newly-available instrumentation. An Ebert spectrograph to supersede the laboratory's present instrumentation (obtained on surplus) will literally double output and will help to remove a bottleneck that is slowing conservation activity by existing staff ($12,000).

The resources available to CAL in the fiscal year 1970 were used as shown in the accompanying diagram. This division of effort reflects needs expressed by curators that were satisfied to the maximum permitted by the available apparatus, funds, staff abilities, and space. In that year 148 requisitions (395 objects or samples) were accepted from 28 sources within the Smithsonian bureaus, and 140 requisitions (144 samples or objects) were completed, the balance being in progress at the end of the year (60 percent requisitioned treatment or advice, 40 percent analysis). In addition, training of CAL and other Smithsonian Institution personnel proceeded, national and international professional contacts were maintained, research papers published, and practical assistance given to other museums and local archaeological societies.



28 SOURCES WITHIN 11 SMITHSONIAN BUREAUS

PHOTOGRAPHY, DOCUMENTS. OPTICAL COINCIDENCE INDEX

DISTRIBUTION OF ACTIVITIES

ACTIVITIES OF THE CONSERVATION-ANALYTICAL LABORATORY, 1969-70

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE REGISTRAR

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..		29	1	30
11	Personnel Compensation.....	$ 223,000	$ 12,000	$ 235,000
12	Personnel Benefits.....	17,000	1,000	18,000
21	Travel & Transp. of Persons			
22	Transportation of Things	59,000	26,000	85,000
23	Rent, Comm. & Utilities			
24	Printing & Reproduction			
25	Other Services	0	16,000	16,000
26	Supplies & Materials	1,000	1,000	2,000
31	Equipment	1,000	1,000	2,000
41	Grants			
	TOTAL.....	$ 301,000	$ 57,000	$ 358,000
Analysis of Total				
Pay Increase		$ 8,000	$ 7,000	$ 15,000
Program		$293,000	$50,000	$343,000

Specification of Increase (Program):

Protection of Accession Records and Shipping and Mail Room Requirements (1 position, $50,000)

Additional funding is requested for three important areas of the Registrar's operations. A records technician and funds for contractual microfilming services ($22,000) are required to begin the job of duplicating and protecting some 1,800,000 documents dating from 1842 which record accessions to the National Museum of Natural History and the National Museum of History and Technology. An additional $26,000 are required to bring the level of shipping funds closer to identified requirements for the transportation of exhibits, specimens, and field equipment. An amount of $2,000 is needed for mail room supplies and equipment to meet a growing volume of mail.

UNITED STATES NATIONAL MUSEUM
OFFICE OF THE REGISTRAR

1970 Actual	$327,000
1971 Estimate	$301,000
1972 Estimate	$358,000

The Office of the Registrar was established officially in 1881. It has responsibility for recording and safeguarding the documents pertaining to the receipt and legal ownership of the objects accessioned into the National Collections of the National Museum of Natural History and the National Museum of History and Technology. In addition, the office provides essential service to support all units of the Smithsonian through the management of the central mail and messenger service, the Smithsonian shipping office, U. S. Customs clearances, public inquiries for the museums, and official foreign travel documents such as passports, visas, and work permits.

Current program shortages occur in the preservation of records, shipping, and mail service for which an additional $50,000 are requested. Also requested are $7,000 for necessary pay purposes.

Need for Increase--A critical area requiring prompt attention is the microfilming of the valuable accession records which consist of original papers that basically document objects in the National Collections. These unique papers date from before the establishment of the Smithsonian, the earliest dated 1842, and have never been duplicated. Their loss by fire or other disaster would seriously affect the research value of the collections. A long-term project is proposed: first, to place the estimated 1,800,000 pieces on microfilm as a precautionary measure against loss, and second, to deacidify and restore selected early papers that are brittle, torn, and badly faded. A records technician is required to separate, coordinate, and safeguard the papers during microfilming and to reassemble them for refiling ($6,000). Support in contractual services to commence the microfilming and complete one-fourth to one-third of the filming is estimated at $16,000.

A primary responsibility of the Registrar's Office is the transportation of exhibits, specimens, and related research items for the museums, galleries, and laboratories. The requests for this service have been growing rapidly in light of expanding activities of program units. A recent analysis indicates that approximately $102,000 are necessary to meet expected transportation costs, but only about $59,000 are currently available. This deficit situation has been brought about over a period of years by continued growth in requests for services, the necessity of absorbing part of salary increases, and inflationary cost increases in other areas. An increase of $26,000 is requested to meet a higher portion of identified requirements and offset inflationary pressures in the budget year.

Mail volume continues to grow as the public becomes more aware of the Institution's activities and services. An increase of $2,000 for mail room supplies and equipment is requested.

PUBLIC SERVICE

The Institution has not allowed itself to rest with static presentations and exhibits of collections directed at only those persons with sufficient motivation, time, or money to visit its centrally located galleries and museums. In order to be successful in conveying the richness of the nation's heritage to a wider public, and to offer additional opportunities for appreciation of its growth and development, the Institution has sought to expand its public reach. It has achieved this in a variety of ways over the last several years.

The experimental development of a neighborhood museum in Anacostia has shown that museum operations may be carried out in the crucible of the inner city, that children may learn with delight and advantage, and that the residents of the area will treat with respect what they regard as their own center for learning and recreation. The story of the Anacostia Neighborhood Museum and its usefulness stands as one of the outstanding achievements of the Institution in recent years.

The activities of some of the other public service units have been no less important. There is the popular Folklife Festival on the Mall, sponsored annually by the Division of Performing Arts. The services of the Office of Public Affairs, which range through activities in the fields of information and public education, such as radio, television, documentary films, news releases, and guide pamphlets are especially valuable. The world-wide character of the programs of the Office of International Activities and the International Exchange Service serve to bring this nation closer to the ideal of a world community through research and the dissemination of knowledge.

The increase requested for the Public Service Activities amounts to $118,000, or one percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ANACOSTIA NEIGHBORHOOD MUSEUM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	11	4	15
11 Personnel Compensation.....	$ 106,000	$ 36,000	$ 142,000
12 Personnel Benefits.....	8,000	3,000	11,000
21 Travel & Transp. of Persons	3,000	1,000	4,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	4,000	0	4,000
26 Supplies & Materials	4,000	6,000	10,000
31 Equipment	0	6,000	6,000
41 Grants			
TOTAL.....	$ 125,000	$ 52,000	$ 177,000
Analysis of Total			
Pay Increase	$ 6,000	$ 7,000	$ 13,000
Program	$119,000	$45,000	$164,000

Specification of Increase (Program):

Classroom and Workshop Activity and General Operations (4 positions, $45,000)

In the three years of its operations the Anacostia Neighborhood Museum has entertained and instructed over 150,000 visitors and has offered a wide array of exhibits, classes, and youth programs. Although private gifts, donations, and grants for special programs and projects are coming to the Museum, such support for regular, ongoing operations and administration has virtually dried-up. Yet community demands for museum-related education services are increasing steadily. Although part-time and volunteer help from the community is used, two full-time instructors ($13,000) are required to put class and workshop activities on a more regular basis. An assistant to the director ($14,000) is needed to work with the community and other groups interested in setting up similar museums. A custodian ($5,000) also is needed to help maintain the public and work areas of the Museum. Funds in the amount of $13,000 are required for custodial, exhibit, and workshop supplies and equipment and for program related travel.

ANACOSTIA NEIGHBORHOOD MUSEUM

1970 Actual	$124,000
1971 Estimate	$125,000
1972 Estimate	$177,000

The Anacostia Neighborhood Museum was established to reach out to new audiences who are unaware of museum resources, physically too far from them, or as inhabitants of low-income population density centers do not see the interest or relevance of museums. Starting in 1966, the Smithsonian sought out community reaction to the concept of a permanent neighborhood museum in the inner city. Reaction was most favorable and the desire for community involvement appeared strongest in Anacostia. The Museum was founded entirely by private donations and was opened in September 1967. Exhibits concentrated on visitor involvement and classes in sculpture, leathercraft, clay modeling, drawing, and painting have been held. A photograph of such a class appears on a following page. In subsequent months, the Museum, in close collaboration with its Neighborhood Advisory Council, began to present exhibits which the community requested, primarily in the field of Negro history. In each case, the exhibit served as a backdrop for school programs, lectures, and concerts. Three years later, the Museum has entertained and instructed over 150,000 visitors and offers a widening array of classes and youth programs. Anacostia has linked its activities directly to the needs of the community and has assured a fresh, nontraditional approach to the role of the museum.

In exhibits and related education programs, Anacostia is now concentrating on urban problems. A recent substantial combined grant from the Carnegie Corporation, the Cafritz Foundation, and the Department of Housing and Urban Development will permit the Museum to identify Anacostia's most pressing social and economic problems through community participation and translate these problems into exhibits with related educational activities. This effort should have a wide impact since to a large degree the problems of Anacostia are shared widely by other urban centers across the nation.

A program increase of $45,000 is requested for classroom and workshop activity, overall program administration, and general costs of operation. An additional funding of $7,000 is requested for necessary pay for current staff.

Need for Increase--Although private gifts, donations, and grants for special programs and projects continue to be made available to the Museum, no such funds are now being provided for regular on-going programs and administration. To illustrate this point, over $100,000 in general purpose funds were received during 1967, 1968, and 1969; virtually none the past year. The increase provided in the fiscal year 1971 appropriation ($35,000 of $75,000 requested) met part of these costs. For instance, rental of the Museum building can now be paid with federal funds. This increase, however, could not fund the additional staff required for basic activities.

Community demands on the Museum for classes, workshops, and other museum-related education services have increased steadily since the Museum opened. Part-time and volunteer help from the community has been used, but two full-time instructors ($13,000) are required to put the class and workshop activities on a more regular basis. An assistant to the director ($ 14,000) is needed to work with the community and other groups interested in setting up similar museums. A custodian ($5,000) also is needed to help maintain the public and work areas of the Museum. Funds in the amount of $13,000 are required for custodial, exhibit, and workshop supplies and equipment and for program related travel.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF INTERNATIONAL ACTIVITIES

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	8	1	9
11 Personnel Compensation	$ 112,000	$ 12,000	$ 124,000
12 Personnel Benefits	8,000	2,000	10,000
21 Travel & Transp. of Persons	4,000	9,000	13,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	0	1,000	1,000
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	1,000	1,000	2,000
31 Equipment			
41 Grants			
TOTAL	$ 125,000	$ 25,000	$ 150,000
Analysis of Total			
Pay Increase	$ 6,000	$ 9,000	$ 15,000
Program	$119,000	$16,000	$135,000

Specification of Increase (Program):

Foreign Currency Program Administration (1 position, $16,000)

A major role of the Office of International Activities is to administer the Foreign Currency Program which awards grants for research abroad to American institutions of higher learning. The program is now supporting 97 grants in biology, archeology, earth and space sciences, and museum programs in ten excess currency countries. Additional clerical help is imperative to help administer a growing number of grants. One clerk-typist is requested ($5,000). An additional $11,000 are requested, primarily for travel and related expenses of the Foreign Currency Program Advisory Councils that meet to select proposals for funding and review performance of work underway.

OFFICE OF INTERNATIONAL ACTIVITIES

1970 Actual $118,000
1971 Estimate $125,000
1972 Estimate $150,000

The Office of International Activities was established in 1965 to initiate, coordinate, and oversee Smithsonian interests abroad. In this capacity, it assists the Institution's scientific staff planning research overseas, briefs American diplomats on Smithsonian activities abroad, and maintains close contact with the foreign diplomatic missions in Washington. In addition, it briefs pertinent foreign visitors and administers training programs for foreign museum technicians at the Institution. The Office also serves as the Executive Agent of the Iran-U.S. Agreement signed in 1968 to foster scientific cooperation between the two countries.

Recently the Office has become increasingly involved in the worldwide environmental and conservation interests of the Institution. It has been concerned with conservation efforts on Dominica, Aldabra, and in Honduras as well as at the Smithsonian's own Chesapeake Bay Center. It was instrumental in bringing about a symposium on the endangered species of Hawaii. An environmental symposium to be held in India is now in the planning stage.

A major role of the Office is to administer the Smithsonian Foreign Currency Program which awards grants for research abroad to American institutions of higher learning as well as to Smithsonian scientists. Since 1965, over $10.5 million worth of PL-480 "excess" currencies have been obligated to scientists working in the four basic fields of Smithsonian scientific competence: systematic and environmental biology, archaeology and related disciplines, earth and space sciences, and museum programs. The program is now supporting 97 projects operating in Ceylon, Egypt, Guinea, India, Israel, Morocco, Pakistan, Poland, Tunisia, and Yugoslavia. A symposium on Smithsonian projects in Ceylon was held there, and a follow-up meeting is planned for the present year.

An increase of $16,000 is requested primarily for Foreign Currency Program administration. $9,000 are required for necessary pay increases.

Need for Increase--In fiscal year 1972 the Office of International Activities will face a critical shortage of clerical personnel. With the continual growth of the responsibilities of the OIA and an ever increasing number of grants handled by the Foreign Currency Program, additional clerical help is imperative. Since the Office's establishment in 1965, its administrative staff has grown, but clerical positions have not increased. At present, six persons are employed in an administrative capacity while there are only two clerical positions. An additional clerk-typist is requested ($5,000).

An additional $11,000 are requested for travel and office maintenance expenses. Of this amount, $7,000 are required for transportation and per diem expenses for members of the Foreign Currency Program Advisory Councils. Composed of prominent American scientists, these councils meet twice yearly to review proposals submitted to the Foreign Currency Program for possible funding. The remaining $4,000 are needed for domestic travel and overseas travel-related expenses of the OIA staff and for office supplies and equipment.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

INTERNATIONAL EXCHANGE SERVICE

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	9	0	9
11 Personnel Compensation	$ 73,000	$ 3,000	$ 76,000
12 Personnel Benefits	5,000	0	5,000
21 Travel & Transp. of Persons			
22 Transportation of Things	38,000	13,000	51,000
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	4,000	2,000	6,000
31 Equipment			
41 Grants			
TOTAL	$120,000	$18,000	$138,000
Analysis of Total			
Pay Increase	$ 2,000	$ 3,000	$ 5,000
Program	$118,000	$15,000	$133,000

Specification of Increase (Program):

Restoration of Exchange Services ($15,000)

Official publications, such as the Federal Register and the Congressional Record, continue to be exchanged as required by law. A static appropriation and higher costs, however, have forced the Exchange Service to reduce substantialy the exchange of library, university, and college publications. Additional funds in the amount of $15,000 for shipping and supplies are requested to help restore the previous level of these important exchanges.

INTERNATIONAL EXCHANGE SERVICE

1970 Actual.....$118,000
1971 Estimate.....$120,000
1972 Estimate.....$138,000

Through the International Exchange Service, public and private institutions in the United States transmit their publications to other countries and receive publications from foreign institutions. Begun in 1849 as a exchange service between the Smithsonian and learned societies in foreign countries, the program was so successful that five years later it was expanded to other American libraries, scientific societies, and educational institutions. As a result of the Brussels Convention of 1886 and some 50 bilateral treaties, the Smithsonian was designated as the exchange bureau for official United States publications. Today many libraries in the United States are dependent upon the exchange program for their foreign publications.

An appropriation increase of $15,000 is requested to help restore the level of exchange services. Funding of $3,000 for necessary pay also is sought.

Need for Increase--In fiscal year 1967 over 1.5 million packages of publications were received from organizations in the United States for exchange with foreign libraries. By fiscal year 1971, as a result of a static appropriation, higher salary costs, and inflation in the costs of shipping and packaging supplies and equipment, the volume that could be shipped had dropped by about one-third. At present, the exchange of offical publications (Federal Register, Congressional Record, etc.) is current as required by law. The exchange programs of colleges, universities, scientific societies, libraries, and medical and dental schools however, have had to be severely limited. Much of these materials are of great benefit to foreign libraries especially in the developing countries. Funds are requested for shipping ($13,000) and packaging supplies ($2,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DIVISION OF PERFORMING ARTS

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	7	0	7
11 Personnel Compensation	$ 110,000	$ 6,000	$ 116,000
12 Personnel Benefits	9,000	0	9,000
21 Travel & Transp. of Persons	21,000	0	21,000
22 Transportation of Things	6,000	0	6,000
23 Rent, Comm. & Utilities	7,000	0	7,000
24 Printing & Reproduction	4,000	0	4,000
25 Other Services	12,000	0	12,000
26 Supplies & Materials	14,000	0	14,000
31 Equipment	13,000	0	13,000
41 Grants			
TOTAL	$ 196,000	$ 6,000	$ 202,000
Analysis of Total			
Pay Increase	$ 8,000	$6,000	$ 14,000
Program	$188,000	0	$188,000

Specification of Increase (Program):

Programs in American Cultural History

The Division of Performing Arts is responsible for programs dealing with America's cultural heritage particularly as it shows itself in theater, music, dance, and craft skills. Notable among its programs are the annual Festival of American Folklife and its participation in the annual American College Theater Festival. A program fund increase is not being sought for fiscal year 1972.

DIVISION OF PERFORMING ARTS

1970 Actual $226,000
1971 Estimate $196,000
1972 Estimate $202,000

The Division of Performing Arts is responsible for programs dealing with our national aesthetic expressions, particularly as they evidence themselves in oral, music, or dance forms. By staging such events as the annual Festival of American Folklife, which in 1970 drew more than 750,000 persons to the Mall over a five-day period, this Division undertakes to extend and further enliven the Smithsonian's educational services to the public.

At the Festival, more than 350 Indians, cheesemakers, barrelmakers, jellymakers, distillers, wood carvers, basketmakers, jazz musicians, folk singers, gospel groups, and musicians from many regions of the United States demonstrated the survival of American folklife in performances which reminded visitors of their still-flourishing cultural heritage.

Programs in jazz and modern dance reflect contributions to world culture which are widely recognized as particularly American in origin and style. Programs in contemporary and period music, theatre, and dance provide understanding of the creative view of the present and past.

The Division offers a variety of Touring Performances such as theatre, musical concerts, puppet theatre, the American Folklife Company, and lectures which are available to other museums, universities, and cultural centers throughout the United States. It also sponsors, with the American Educational Theater Association and the John F. Kennedy Center for the Performing Arts, the annual American College Theater Festival.

No program fund increase is sought for fiscal year 1972. An additional amount of $6,000 is requested for necessary pay for current staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF PUBLIC AFFAIRS

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		12	0	12
11	Personnel Compensation	$ 206,000	$ 16,000	$ 222,000
12	Personnel Benefits	17,000	1,000	18,000
21	Travel & Transp. of Persons			
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction	10,000	0	10,000
25	Other Services	2,000	0	2,000
26	Supplies & Materials	6,000	0	6,000
31	Equipment			
41	Grants			
	TOTAL	$ 241,000	$ 17,000	$ 258,000
Analysis of Total				
Pay Increase		$ 12,000	$17,000	$ 29,000
Program		$229,000	0	$229,000

Specification of Increase (Program):

Orientation, Information and Public Education

This Office provides visitor and public orientation, information, and education services. No program fund increase is requested for fiscal year 1972.

OFFICE OF PUBLIC AFFAIRS

1970 Actual $277,000
1971 Estimate $241,000
1972 Estimate $258,000

This Office is responsible for serving visitors to the Smithsonian and the public at large through a range of activities in the fields of orientation, information, and public education--radio, television, documentary films, news releases, guide pamphlets, tours, automatic telephone information services, publications, and other programs. Included in its presentations are the Free Film Theater, the Torch newspaper, the Smithsonian Calendar of Events, and "Radio Smithsonian" now being heard over 60 stations.

No program fund increase is sought for fiscal year 1972. An amount of $17,000 for necessary pay for the current staff is requested.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

This group of activities is considered to be of particular importance in implementing desired growth in the Institution's activities over the next several years. Some supplement program activities of the museums and galleries. For instance, opportunities are provided for outstanding pre-and post-doctoral investigators from across the nation to be selected for work under the supervision of the Institution's professional staff. Education services are provided by means of popular museum tours for school children and other education services. Other special programs provide the basis on which the Institution affects dramatic changes in its exhibits and research efforts. The exhibits program request is geared to produce one major exhibit on the World of Living Things in the Natural History Museum, while the Bicentennial of the American Revolution request will continue the Institution's efforts to celebrate and portray the first two-hundred years of American history and what they may mean for the future. The environmental science program request speaks to the second year of a coordinated Institutional effort to shed light on ecological problems in the nation, and the research awards request will enhance the Institution's ability to fund especially meritorious work of its professionals. The National Museum Act request is directed at strengthening the nation's museums by means of training and improved conservation, cataloging, and exhibits techniques. The increase being requested for these programs is $1,926,000 and constitutes 22 percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

BICENTENNIAL OF THE AMERICAN REVOLUTION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	2	0	2
11 Personnel Compensation.....	$ 21,000	$ 0	$ 21,000
12 Personnel Benefits.....	2,000	0	2,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....	377,000	0	377,000
25 Other Services			
26 Supplies & Materials			
31 Equipment			
41 Grants			
TOTAL.....	$ 400,000	$ 0	$ 400,000
Analysis of Total			
Pay Increase	0	0	0
Program	$400,000	0	$400,000

Specification of Increase (Program):

Smithsonian Bicentennial Activities

The Bicentennial of the American Revolution offers the Smithsonian Institution a unique opportunity and an urgent duty. We must use our vast resources, and enlist the resources of others, to help rediscover and illuminate our national achievements. The theme of the Smithsonian's Bicentennial celebration is the American Experience; its purpose will be, in President Nixon's words, "...a new understanding of our heritage."

The Smithsonian program of Bicentennial activities is in addition to, and beyond, the Institution's normal level of day-to-day operation. It is designed to be complete in itself, to be terminal in nature, and to avoid permanent commitment of personnel and other additions to the appropriations base.

During the next several years, the greater part of the Institution's Bicentennial efforts will necessarily be devoted to the research, collection, and planning which are called for to arrive at the Institution-wide, coordinated events surrounding 1976. Preliminary work will result in some visible results such as individual exhibitions, seminars, and publications. But in general, the nature of the entire undertaking is such that the budget projection shows a steady progress from "behind the scenes" activities toward translation into public exhibitions, performances, and a series of major publications, as we approach 1976.

No program increase is requested for fiscal year 1972.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

1970 Actual	$ 0
1971 Estimate.....	$400,000
1972 Estimate.....	$400,000

The Bicentennial of the American Revolution offers the Smithsonian Institution a unique opportunity and an urgent duty. We must use our vast resources, and enlist the resources of others, to help rediscover and illuminate our national achievements. The theme of the Smithsonian's Bicentennial celebration is the American Experience; its purpose will be, in President Nixon's words, "...a new understanding of our heritage."

For this effort, the Smithsonian Institution is providentially well prepared. It is a remarkably comprehensive group of enterprises surveying every aspect of man's life and work--his social, political, and military institutions; his fine arts, his applied arts, his performing arts; his use of natural resources; and his adventures of exploration on this planet and into outer space. The Smithsonian Institution has a long and rich tradition of free interchange of ideas with the world of learning. It has been a center for the study of resources, natural and human, of the whole continent. The Smithsonian, as the repository for myriad objects sacred to our history and illustrative of the American Experience since the beginning, is preeminent among the museums of the world and second to none in the number of its visitors.

The Smithsonian program of Bicentennial activities is in addition to, and beyond, the Institution's normal level of day-to-day operation. It is designed to be complete in itself, to be terminal in nature, and to avoid permanent commitment of personnel and other additions to the appropriations base. The request for fiscal year 1972, $400,000, and projected future funding is shown in Table I.

During the next several years, the greater part of the Institution's Bicentennial efforts will necessarily be devoted to the research, collecting, and planning which are called for to arrive at the Institution-wide, coordinated events surrounding 1976. Preliminary work will result in some visible results such as individual exhibitions, seminars, and publications. But in general, the nature of the entire undertaking is such that the budget projection shows a steady progress from "behind the scenes" activities toward translation into public exhibitions, performances, and a series of major publications, as we approach 1976.

The Smithsonian's Bicentennial activities are designed to be interrelated and mutually reinforcing, but for budgetary purposes they can be viewed under three headings: Exhibitions and Performances; Research and Publications; and National Programs.

Exhibitions and Performances

In the Nation's Capital, the Smithsonian offers a uniquely effective and appropriate site for dramatizing and interpreting the American Experience. Now some 13 million people each year visit the Smithsonian museums in Washington. By 1976 this figure is likely to reach 20 million, and interest in the Bicentennial may well bring the number to 30 million. The Smithsonian will provide these visitors with an appropriate and dramatic exposition. In January 1976 each of the Smithsonian's ten museums plans to open a major exhibiton commemorating the Bicentennial, the first occasion when so many of the Institution's resources will be devoted to a single theme. At the same time, a guide will be published showing the coherence of the Smithsonian's many activities in exploring and illustrating the American Experience.

The visitor to the Mall will have an unparalleled opportunity to participate in a sequence of varied and informative experiences. He will explore American history and see the expression of the American spirit through two centuries and across a wide range of subject matter.

At the National Museum of Natural History, he will see the look and sense the feeling of the land and its original inhabitants at the time the first Europeans arrived, and he will see what happened to these people and the effects wrought upon the land over the centuries.

At the Arts and Industries Building, he will see the way Americans saw themselves, their past and future, at the time of the 1876 Philadelphia Centennial. In this building, constructed originally to house materials that had been assembled and displayed at the Philadelphia Centennial, the same objects will be used to recapture the optimistic mood in which Americans celebrated this midpoint in our history.

In the National Air and Space Museum, the visitor will see an exhibition of what is perhaps America's greatest technological achievement, the conquest of outer space, and of the nation's future in the Space Age.

Special exhibitions at the National Museum of History and Technology will present the cultural, industrial, and political development of the United States. Examples of these are the Corridors of American Experience, a series of "time corridors" designed to enable the visitor to experience daily living at specific times in America's past. A "time machine", to be developed in the current year and tested on the public in fiscal year 1972, will transport the visitor by novel means of surveying the intervening experience.

The Price of Independence will present the risks and the opportunities of independence for the American colonists: the risks of sea trade, of potential civil war, the fear of defeat and the human and fiscal costs of war, supplemented by the problems which would result from the loss of trade with England. The second part will depict the new opportunities--political, economic, intellectual--to be found in independence. A newly designed computerized game will allow the museum visitor to select one of several roles (such as that of a Boston merchant, a Philadelphia laborer, or a Southern planter) and test his decisions against the actual facts of history in the period 1770-1820. In this way, he can relive the risks and opportunities of the Revolutionary Era. (A significant number of innovative display techniques, using new technology, will be developed. These technical advances will be made available to museums and display designers throughout the country.)

Other major activities will include an unprecedentedly comprehensive exhibit of portraits and associated objects of Americans of the Revolutionary Era, and a year-long festival of American traditional and ethnic performing arts and handcrafts (the "Grassroots American Culture Program").

Research and Publications

We believe that the commemorative activities associated with the Bicentennial should improve our understanding of ourselves and make a lasting contribution to human knowledge. When the performances have ended and the exhibitions have closed, something of use to Americans during the third century of our national life should remain.

As an important part of the Bicentennial program of the Smithsonian, we propose to undertake a number of inventories of national cultural resources. These will range from an Inventory of American Paintings, to a Survey of Ethnic and Regional Cultural Forms. During fiscal year 1971, the scope and techniques

of these surveys will be specified and refined, with a particular view to coordinating the activities of the scholars, students, conservationists, and photographers who will participate in them. Every effort will be made to enlist the support and cooperation of regional and local groups in this enterprise. We expect that the actual compiling of the inventories will begin in fiscal year 1972.

The first result of these inventories will be apparent in our own Bicentennial exhibits and performances, as for the first time we will be able to draw upon the entire range of America's cultural resources. The same will hold true at the regional and local level, as our efforts make people more aware of the richness and importance of their own traditions.

Equally important, however, is our plan to preserve this information in permanent form for scholars and for the public. We intend to sponsor, or to arrange for the publication of, scholarly catalogues, documentary histories, recordings and films; other data not appropriate for such publications will be retained in archival form or in computer banks for the use of future generations. We believe that these Smithsonian Bicentennial Inventories will reveal as never before the full scope of our cultural achievements during the first two centuries of our history.

During the years between now and 1976, we will also be engaged in research of a narrower kind, focused directly upon the topics of our special Bicentennial exhibits. Projects of this sort will include research on all the portraits of George Washington, on the life of a New England seaport in the mid-18th century, on the life of a midwestern town in the mid-19th century, and on the contributions of various ethnic groups to American civilization. Here, too, we intend that the fruits of this research shall be made available to the public in permanent form, drawing upon our exhibits for illustrative material.

National Programs

We share the conviction of President Nixon and the American Revolution Bicentennial Commission that "the commemoration be national in scope, seeking to involve every state, city and community." For our part, we are determined that each of our Bicentennial activities, in addition to drawing upon and reflecting the entire nation, shall also bring benefits to as many areas and people as possible.

Concretely, this means that in the conception and design of all our Bicentennial exhibits and performances, we will bear in mind the need to create counterparts that can travel throughout the country during the Bicentennial Era. Drawing upon the experience and capabilities of our Traveling Exhibition Service, and upon the talents and imagination of our Office of Exhibits, we intend to offer to American museums, schools, historical societies, and other organizations a rich selection of exhibitions and performances related to our general theme, The American Experience.

Table I
Bicentennial Activities and Budget Forecast
(in thousands of dollars)

	1971	1972	1973	1974	1975	1976	1977	1978
Exhibitions and performances	$130	$130	$350	$ 425	$ 525	$ 825	$ 400	$ 50
Research and publications	200	200	250	350	400	200	75	50
National programs	50	50	100	200	300	400	700	100
Administration	20	20	25	25	25	25	25	25
Total	$400	$400	$725	$1,000	$1,250	$1,450	$1,200	$225

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ENVIRONMENTAL SCIENCE PROGRAM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	3	5	8
11 Personnel Compensation	$ 27,000	$ 69,000	$ 96,000
12 Personnel Benefits	2,000	6,000	8,000
21 Travel & Transp. of Persons	10,000	30,000	40,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	61,000	70,000	131,000
26 Supplies & Materials	10,000	20,000	30,000
31 Equipment	40,000	30,000	70,000
41 Grants			
TOTAL	$ 150,000	$ 225,000	$ 375,000
Analysis of Total			
Pay Increase			
Program	$150,000	$225,000	$375,000

Specification of Increase (Program):

Continued Development of Institutional Program (5 positions, $225,000)

In fiscal year 1971, Congress authorized $150,000 to enable the Institution to muster its varied resources and expertise in basic ecological research toward the objective of developing biological and physical data which will permit the Nation to evaluate and ultimately predict the consequences of changes to the environment. This approach is essential to making the best decisions possible for rational and productive management of the environment. In the past many ecological changes have been attributed to man's influence because of ignorance of fluctuations in natural cycles; an ignorance which has often led to counterproductive measures in dealing with environmental problems. The fiscal year 1971 amount is being directed toward three activities: (1) the organization of an interdisciplinary program and establishment of a continuing mechanism for its operation; (2) the selection of sites of highest priority for study; and (3) the implementation of interrelated studies at these sites.

In fiscal year 1972 the Smithsonian Institution is requesting an additional $225,000 to carry out its environmental program. This consists of a long term study of a marine shallow-water system and that of a tropical forest. A study of these two systems is given a high priority by the Smithsonian and is consistent with the recommendations of the International Biological Program. In so doing, the Institution is following the intent of Congress as expressed in Public Law 91-438. A total of five scientific specialists will be appointed on a short term basis to provide specialized expertise as required ($75,000) and provide related support funding of $150,000.

ENVIRONMENTAL SCIENCES PROGRAM

1970 Actual	0
1971 Estimate	$150,000
1972 Estimate	$375,000

The Smithsonian Institution has unique capabilities including experienced personnel, the largest collections of plants and animals in the world, with detailed distribution and abundance data required, as a basis for any effective global environmental monitoring system. The Smithsonian has the capability to measure natural and man-induced variation in the characteristics of solar radiation reaching the earth and the causes of such variations. The Institution is studying, as a function of time, various biological correlates. These studies are facilitated because it has permanent and protected field-research sites in both temperate and tropical zones. In addition the Smithsonian enjoys particularly favorable relations with its scientific colleagues and institutions in virtually every country of the world.

Environmental Science Program activity during fiscal year 1971 is limited to such priority items as monitoring rates of biological and physical change and using plants and animals as benchmarks and bioindicators in the establishment of environmental standards. The major objectives of the fiscal year 1972 program, for which a funding of $375,000 is requested, are to study selected tropical and temperate areas to understand all the factors contributing to the fluctuations in populations. This will be done in the following manner:

a. by monitoring and evaluating the physical and chemical environments of selected study sites.

b. by studying the biology and quantitative distribution of principal organisms at these sites.

c. by studying the inter-relationships of the environment with these organisms and man.

Need for Increase--With its commitments to: 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, the Institution will concentrate on two subprograms during fiscal year 1972.

-- A long term comparative study of shallow water marine environments at those sites selected for continuing study $155,000

-- Establishment of benchmarks in terrestrial environments at the selected sites. $70,000

This plan of work is given high priority by the Smithsonian and is consistent with the recommendations of the International Biological Program and with Public Law 91-438.

1. Shallow Water Marine Environments (3 positions, $155,000)

Drastic, ecological changes are occuring in many tropical and temperate shallow water areas throughout the world. Some scientists attribute these changes to man's interference with the natural environment but others caution that they may be wholly natural. Should the changes be natural, efforts to reverse or halt their effects may do more harm to the world's biological systems than permitting them to proceed without alteration. An evaluation of the origin of these changes cannot be made without a thorough understanding of the fluctuations and ecology of the organisms involved.

Although many scientists throughout the world are studying the animals and plants in the near-shore, marine environment, these studies are fragmented and are made independently of each other. A coordinated study in selected areas susceptible to detailed examination is essential for an understanding of the immense biological complexity and structual variety involved. The information and methodology developed from such studies will have application to more extensive environments, leading eventually to an understanding of the problems as broad as whole continental regions. All researchers will apply their particular expertise to the primary site(s), but some investigators will need to make complementary studies elsewhere to validate their primary-site data.

The development of this baseline information and its correlation with data already available in the National Collections, accumulated over many years, will enable the scientific community to identify and design solutions for the environmental problems that grow increasingly critical.

The professional staff of the several Smithsonian science bureaus (National Museum of Natural History, Smithsonian Tropical Research Institute, Radiation Biology Laboratory, Chesapeake Bay Center for Environmental Studies, National Zoological Park, and Smithsonian Astrophysical Observatory) will perform the bulk of these studies, in collaboration with highly qualified scientists drawn from other institutions on short-term appointments to provide specialized expertise as required. The populations of marine species and their ecology will be determined and monitored for long periods.

For this portion of the program, an additional $155,000 is requested to fill on a term basis, three positions ($39,000) and to provide necessary supplies, equipment, and materials to undertake the studies ($116,000).

2. Terrestrial Environments (2 positions, $70,000)

The last large land area available for occupation and development by man lies in the tropical zones of the world. In the New World tropics, destruction of the land is rampant and ecological data that would permit intelligent management is non-existent. It is important that these problems be attacked now, before rapidly expanding populations, industrialization, and urbanization remove all options presently available. Therefore, the first phase in this necessarily long term research project will be directed to a study of the New World tropics, with comparative studies being made in temperate zones and in tropical areas of the Old World to validate the conclusions drawn. This approach will greatly expand the value and increase the usefulness of the environmental data acquired in each of the phases of the project.

58-287 O—71—pt. 4——44

Historically, there has been a long-standing scientific interest in the Smithsonian Institution concerning tropical plants and animals and their interrelationships. The millions of documented specimens in the National Collections, the resources of the Smithsonian Tropical Research Institute, and the associated scientific expertise that has been developed in the Smithsonian Institution constitute a unique national resource. It will be used fully in this integrated environmental subprogram to obtain information essential to the development of plans for the most effective long-term utilization of the land.

Studies of variations in physical factors such as solar radiation, rainfall, temperature, and nutrients will be correlated with fluctuation in biological systems such as primary productivity (plant growth), secondary productivity (amount and rates of consumption of plants by animals), and nutrient cycling (decomposition of organic matter and soil production).

Studies of soil organisms, of vertebrate animals, insects, and of plant life will be conducted in coordination with monitoring of natural light quantitatively and qualitatively, of rainfall, temperature, animal behavior, and seasonal fluctuations in populations of both plants and animals. What will be sought is a number of reliable biological indicators that will provide a maximum amount of information about the structure and function of the terrestrial environments.

For this portion of the program an additional $70,000 is requested to fill on a term basis, two positions ($36,000) and to provide necessary supplies, equipment and materials to undertake the investigations ($34,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

MAJOR EXHIBITIONS PROGRAM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	0	0	0
11 Personnel Compensation	$	$	$
12 Personnel Benefits			
21 Travel & Transp. of Persons	0	5,000	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction	0	30,000	30,000
25 Other Services	0	300,000	300,000
26 Supplies & Materials	0	60,000	60,000
31 Equipment	0	130,000	130,000
41 Grants			
TOTAL	$ 0	$ 525,000	$ 525,000
Analysis of Total			
Pay Increase	0	0	0
Program	0	$525,000	$525,000

Specification of Increase (Program):

World of Living Things ($525,000)

The Smithsonian has designed a major exhibition on the interrelated laws of nature. The purpose of this exhibition, called the World of Living Things, is to educate and stimulate the public on the balance of the natural environment, and action that must be taken to insure a livable environment on earth. Space for this exhibition now exists in the Natural History Building which will have some 4 million visitors a year. Plans for this exhibition have been completed. The Institution however, does not have the funds for its production and installation. An amount of $775,000 will be required, of which $525,000 are requested in fiscal year 1972. The exhibition will be completed in 18 months after the initial appropriation of funds.

MAJOR EXHIBITIONS PROGRAM
WORLD OF LIVING THINGS

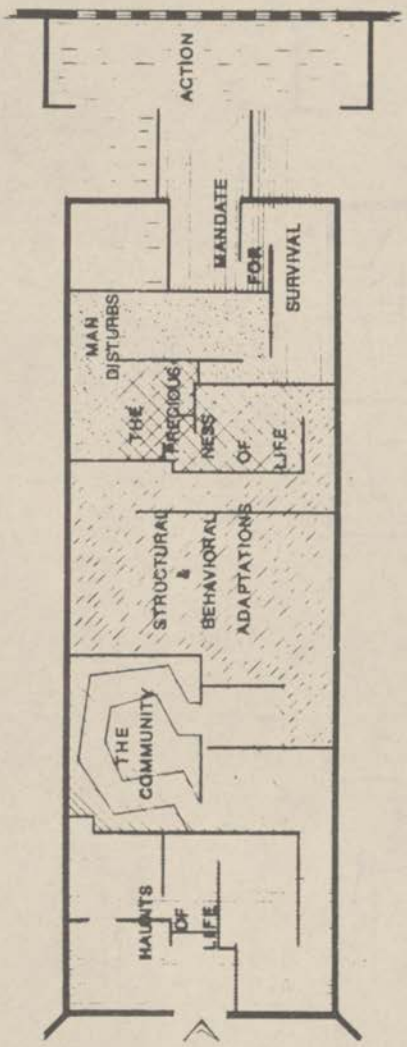
1970 Actual.....$0
1971 Estimate.....$0
1972 Estimate.....$525,000

A major exhibition on the interrelated "laws of nature" is designed which will include both an introduction to ecology and the exposition of worldwide environmental balances and imbalances. Issues and options will be presented to the visitor with the opportunity for him to react to them and to see and consider the consequences of his choices. Plans and sketches of this exhibition are shown on following pages.

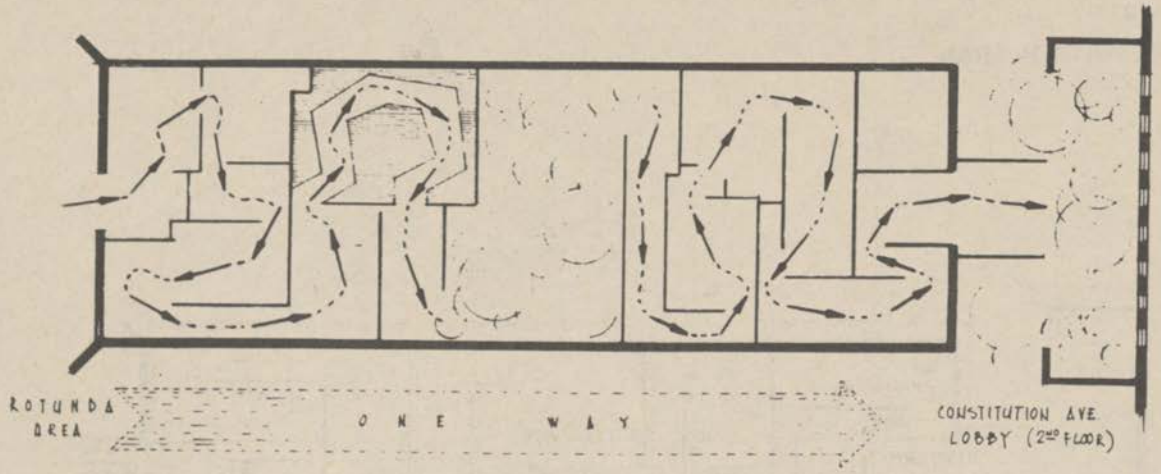
Three years of development have been devoted to the planning of this exhibition. Science writer Peter Farb, working with Smithsonian scientists and exhibition and communication specialists, has produced the specifications for a significant educational exhibition. The objective is to stimulate the hundreds of thousands of visitors to the Museum of Natural History to participate in conservation programs and to inform them how to express and act upon their concern. About 4,000,000 visitors a year will view this exhibition. It will continue with changes for years of current usefulness.

The exhibit will combine modern methods of communication through exhibits and the authority of the Museum's scholarly scientists. It will be designed for experimentation, testing, and development of its effectiveness as its use is observed. It will have the flexibility to be up-dated as environmental sciences evolve. It will have both present and future values in the critical effort to insure a livable environment on earth. It will put the most significant of the Museum's vast collection resources in the service of ideas explaining a vital problem of our times.

Space for this exhibition now is available in the Natural History Building in a central location immediately off the Rotunda and extending to the Constitution Avenue side of the building. For the production of the exhibition $525,000 will be required in fiscal year 1972 and $250,000 in fiscal year 1973. The exhibition will be completed in 18 months after the initial appropriation of funds. The $525,000 required in fiscal year 1972 will be used as follows: travel ($5,000), printing and reproduction including descriptive labels and related educational materials associated with the exhibition ($30,000), other services ($300,000), supplies ($60,000), and equipment ($130,000).



World of Living Things
HALL 10



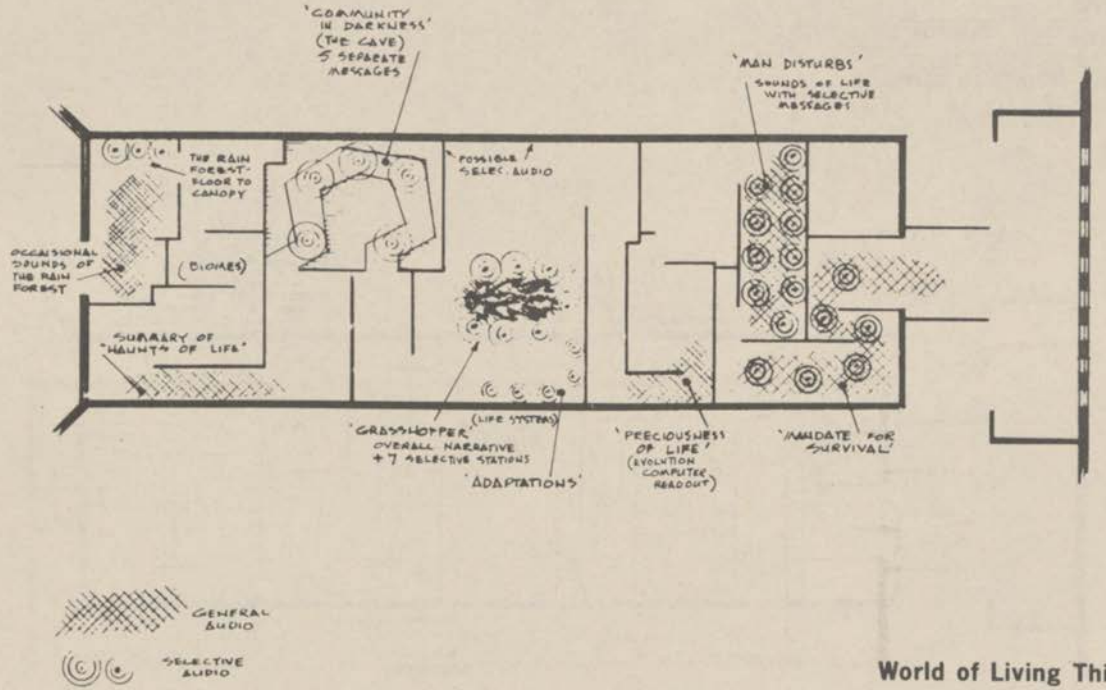
CONTROLLED CIRCULATION

FREE CIRCULATION

World of Living Things

FLOW PATTERN

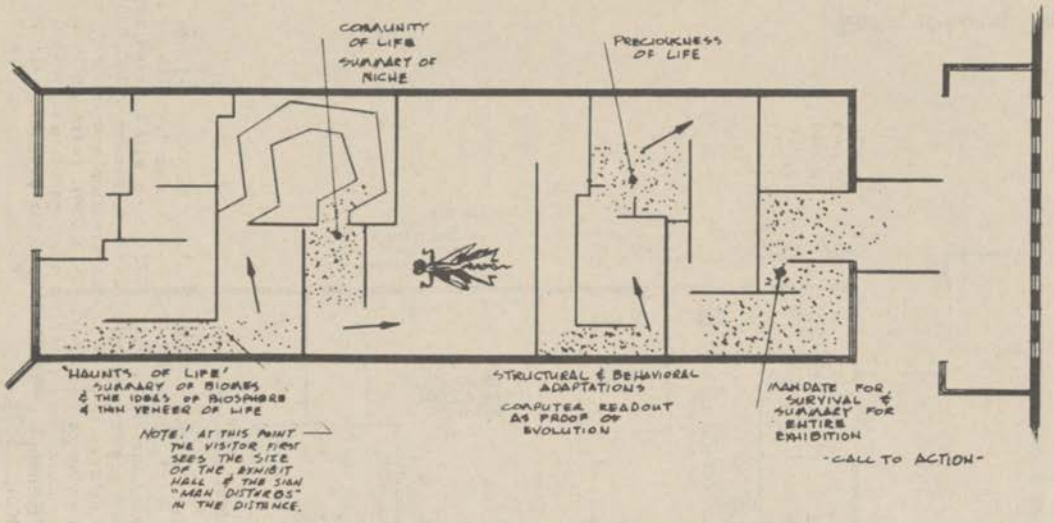
HALL 10



World of Living Things

AUDIO

HALL 10



World of Living Things

SUMMARY AREAS

HALL 10

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM ACT PROGRAM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	0	3	3
11 Personnel Compensation.....	$0	$ 25,000	$ 25,000
12 Personnel Benefits.....	0	2,000	2,000
21 Travel & Transp. of Persons	0	20,000	20,000
22 Transportation of Things	0	18,000	18,000
23 Rent, Comm. & Utilities	0	15,000	15,000
24 Printing & Reproduction	0	75,000	75,000
25 Other Services	0	820,000	820,000
26 Supplies & Materials	0	10,000	10,000
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL.....	$0	$1,000,000	$1,000,000
Analysis of Total			
Pay Increase	0	0	0
Program	0	$1,000,000	$1,000,000

Specification of Increase (Program):

Support of the Educational and Cultural Resources of the Nation's Museums (3 positions, $1,000,000)

The Nation's museums are in trouble. Thirty years ago their attendance totaled 50 million annual visits. Today it probably approaches 300 million visitors. Their financial resources have been strained to the breaking point. Many of these museums no longer can preserve and exhibit their national treasurers of works of art, historic objects, and scientific collections without substantial national aid. Yet times call for a sharp increase in the educational and cultural opportunities which these museums are uniquely equipped to provide. Public Law 91-629 approved December 31, 1970, reauthorized appropriations for the National Museum Act through fiscal year 1974 and funding of $1,000,000 to the Smithsonian Institution each year. This funding is requested for fiscal year 1972 which will be used approximately as follows: studies of museum cataloging and data access ($240,000); studies of museum laboratory centers to provide conservation and other services ($130,000); training of museum personnel ($300,000); research in museum exhibits and other communications ($150,000); preparation of manuals and other materials on museum techniques ($75,000); and for program planning and administration ($105,000).

NATIONAL MUSEUM ACT

1970 Actual.....$0 1/
1971 Estimate.....$0 1/
1972 Estimate.....$1,000,000

Public Law 91-629 approved December 31, 1970, reauthorized appropriations for the National Museum Act through fiscal year 1974 and funding of $1,000,000 each year to the Smithsonian Institution of which $100,000 each would be provided to the National Endowment for the Arts and to the National Endowment for the Humanities to assist their related museum assistance activities.

An appropriation of $1,000,000 is requested for the purposes of the National Museum Act in support of the Nation's museums.

Need for Increase--The justification for the programs authorized by the National Museum Act is found in the following extracts from America's Museums: The Belmont Report:[2]

> This is a report on a priceless national treasure--the works of art, the historic objects and the scientific collections in the custody of America's museums. In scope and magnitude this treasure is unmatched by that of any other nation, and it has enriched the minds and lives of countless Americans. Once lost, it can never be replaced.
>
> Today the institutions which have this treasure in their custody are in serious trouble. The totally unpredicted popular success of American museums has strained their financial resources to the breaking-point, has compelled them to deny service to much of the public and will require many of them, unless help comes, to close their doors. Museums have arrived at the point where they can no longer preserve and exhibit the national treasure without substantial national aid.
>
> * * * * * * * * * *
>
> Thirty years ago America's museums reported that their attendance totaled 50 million visits a year. Today the total is known to be in excess of 200 million and probably approaches 300 million. Museum attendance has increased much faster than has the population of the United States. The increase has been so rapid, and has reached such a level, that museums now have to turn down requests for service. Yet the times call for a sharp increase in the educational and cultural opportunities which museums are uniquely equipped to provide.
>
> * * * * * * * * * *
>
> Museums base their request to the Federal Government for support on the following grounds:
>
> (1) Museums provide educational and cultural services which no other institutions in the nation either do or can provide.

1/ Approximately $70,000 over the two year period was appropriated to the Office of the Director General of Museums for activities related to the National Museum Act.

2/ America's Museums: The Belmont Report; a report to the Federal Council on the Arts and Humanities by a special committee of the American Association of Museums: published by the American Association of Museums, Washington, 1969.

(2) A number of museums provide nationwide service on funds which are disproportionately local in origin.

(3) Though museums cooperate in anti-poverty and other Federal programs, they have not received appropriate reimbursement for this service from the Federal Government.

(4) Though the resources of museums are made available to schools, colleges, universities and individual scholars for research that is financed by the Federal Government, the Government has not helped museums meet the costs incidental to such service.

(5) The collections, facilities and staffs of museums produce research which the Government uses and the value of which is recognized by Federal departments and agencies. Increased Federal support for such research is in the national interest.

(6) The Federal Government has an obligation, as yet unmet, to assist in preserving, maintaining and wisely utilizing the national treasure in museums on behalf of all the American people. This report does not suggest that the Federal Government assume dominant responsibility for the financial support of America's museums, but it does suggest that the time has come for the Government to assume a partnership role.

The report lists ten major needs of museums as deserving priority, and divides them into two groups.

The first group includes needs which bear on the ability of museums to reach more people. These needs concern:

Nationwide services financed largely out of local funds;

Services provided by museums for the Federal Government without appropriate reimbursement;

Rehabilitation, expansion, modernization of museum buildings, equipment and exhibits to meet present and future public demands;

The training of professional and technical personnel required by museums;

Research by museums on ways of improving the quality and usefulness of museum services for the educational system and for the general public;

Expansion of traveling exhibits to reach people who do not have ready access to museums;

Increased use of mass media, including television, to make the resources of museums available to more people.

The second group of needs relates more particularly to essential internal functions of museums. These needs concern:

The financing of basic research in museums and the share of the responsibility to be borne by the museums and by the Government;

Special research into methods of conserving for posterity the art, history and science collections in museums, and provision for laboratory facilities, equipment and staff for such research;

An inquiry to determine the specifications of a computer network which would provide a modern method of storing and retrieving information on museum collections, which now are vast.

To meet these ten priority needs, museums are already devoting as much of their financial resources as they possibly can. They cannot begin to make a dent in these needs, however, without the help of the Federal Government.

While it is not possible at this time to state with precision how large a Federal contribution is required, preliminary estimates put it somewhere between $35 million and $60 million for the first year. At present, Federal grants of all kinds to museums (apart from the appropriations to The Smithsonian Institution) total only a fraction of $35 million, and most are limited to scientific research of special interest to government departments and agencies.

The Committee on Museum Needs believes that the existing machinery of the Federal Government can go a considerable distance in meeting the priority needs of museums, if funds are appropriated and if certain amendments to statutes already on the books are made. Accordingly, the Committee submits the following recommendations:

That the National Museum Act be funded with an appropriation of at least $1 million for the first year;

That grants to museums from Federal Departments and agencies already concerned with museums be sharply increased;

That the Federal Government, as a matter of basic policy, recognize museums as educational institutions, working in formal affiliation with elementary, secondary, undergraduate and graduate level institutions;

That the Federal Council on the Arts and the Humanities, in furtherance of the above basic policy, be asked to study the problems of museums further and to make recommendations with reference to existing legislation to the end that the Federal Government may meet its obligations to museums;

That this report be published for the information and use of all those concerned about the future of museums.

* * * * * * * * * * *

Once the Federal Government decides as a matter of policy to provide financial support for museums as it does for other educational institutions, what government machinery does it use? What agency or agencies can most logically and efficiently implement the policy?

For years museums naturally have had a close working relationship with the Smithsonian Institution. The Smithsonian, however, has not been a channel for massive Federal funds. Such Federal grants as have been made have come mainly from the National Science Foundation and from certain other discipline-oriented departments or agencies. The Office of Education also has been involved through its support of schools and other educational institutions. Increasingly the National Endowments for the Arts and Humanities have become concerned with the problems and needs of museums, but they have yet to receive funds commensurate with the needs.

While it is true that museums are mentioned along with other educational institutions in some existing legislation, the mention has gone almost unnoticed. As a practical matter it is extraordinarily difficult for a museum to obtain any of the benefits of Federal legislation enacted in the interests of educational institutions.

* * * * * * * * * * *

For the present this report suggests that the existing machinery of the Federal Government be employed to meet the urgent needs of museums. There is already on the books a National Museum Act. There are several Federal Departments and agencies which can allocate funds to museums. There are other departments and agencies which could make funds available to museums if existing legislation were amended.

* * * * * * * * * * *

Consider first the Smithsonian and the National Museum Act. Within the Smithsonian the United States National Museum is the unit entirely oriented towards cooperation with other museums and their associations. Its purpose is to work 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.

The Smithsonian has not, however, had massive funds or grants to distribute to museums for facilities or acquisitions or for the support of continuing museum programs. Whether or not it might be assigned such responsibilities in the future, it is clear that a number of the needs relating to museums, as museums, can be addressed immediately under the National Museum Act.

This is said because there are other services to museums which the Smithsonian has long performed and which might well be expanded. Long before there was a National Museum Act the Smithsonian was supporting service programs responsive to wide museum needs. Joseph Henry, the first Secretary, organized the international exchange of information and publications between institutions and museum professionals. He gave grants for field work to non-Smithsonian anthropologists and published the works of others. Successive administrations have continued the Smithsonian's concern with broad museum problems.

* * * * * * * * * * *

The National Museum Act confirms the tradition of museum services performed by the Smithsonian and names the National Museum to carry them on with the cooperation of the museums of the country. To date the Congress has not made appropriations to implement the Act. An appropriation of at least $1 million for the first year is essential. When an appropriation is made available, as the authors of this report

urge, the American Association of Museums and its member institutions can make more rapid progress in establishing museum standards and methods of accreditation, can aid experiments with museum consortiums and mutual assistance projects, and can help museums evaluate and improve the educational value of their programs.

* * * * * * * * * * *

In conclusion, the Committee on Museum Needs submits the following recommendations:

That the National Museum Act be funded with an appropriation of at least $1 million for the first year;

That grants to museums from Federal departments and agencies already concerned with museums be sharply increased, specifically the National Endowment for the Arts, the National Endowment for the Humanities, the U. S. Office of Education, and the National Science Foundation;

That the Federal Government, as a matter of basic policy, recognize museums as educational institutions, working in formal affiliation with elementary, secondary, graduate and undergraduate level institutions;

That the Federal Council on the Arts and the Humanities, in furtherance of the above basic policy, be asked to study the problems of museums further and to make recommendations with reference to existing legislation to the end that the Federal Government may meet its obligations to museums;

That this report be published for the information and use of all those concerned about the future of museums.

The funds requested for Museum Act programs are to meet the demonstrated needs of America's museums--not those of the Smithsonian Institution. The urgency of the needs is known by the Smithsonian from daily experience in responding to requests for aid and advice. The urgency has been repeatedly confirmed in discussions with the Director of the American Association of Museums representing the museum profession. An advisory committee of museum professionals selected in collaboration with the American Association of Museums will recommend procedures and policy for carrying out the high priority programs to which these estimates are addressed. Examples of the needs are suggested by the following program areas.

Studies have begun on the development of programs and technology to catalog museum holdings in science, history, and art on a national level. All require more funds to continue the studies and to start the cataloging in coordinated and compatible systems. Museum professionals and the scientists, historians, and other scholars who use museum collections in their research are

much concerned with the need to make the museum collections more accessible through more comprehensive cataloging. All are concerned that the systems determined upon will be adaptable to computer storage compatible with systems used in all parts of the United States and other countries and that the computer program will be responsive to the needs of students, scholars, writers, and administrators, and be equally usable for those concerned with the circulation of collections and the production of traveling exhibitions.

To provide support for studies of computer cataloging and data access conducted by consortiums of museums and museum associations there will be required in fiscal year 1972, in other services..... $240,000

To meet a number of the described needs of museums for conservation, for exhibitions, for museum-school materials, for television and radio productions based on collections and activities, it has been proposed that museum laboratory centers be established in various locations throughout the United States. These laboratory centers would be supervised and supported in part by groups of museums or by regional conferences of museums to provide services and work on a cost-sharing basis. To determine the feasibility of such laboratory centers including the volume and nature of the support available and the volume and kinds of services museums would require from them, a study would be organized and supervised by the American Association of Museums. To support the study and to conduct pilot tests of services to museums there is required in other services $30,000 for the study and $100,000 for pilot tests..... $130,000

The most frequently expressed need of America's museums is for trained personnel at both the professional curatorial level and the museum technician grade. Three categories of training require funding. One includes the several varieties of combined museum-university courses for graduate students preparing to enter museum work in curatorial positions in science, art, or history. Another category of training is required for upgrading the skills of museum career personnel already serving in curatorial positions in smaller museums who would be brought up-to-date on the latest doctrines and techniques of museum work through work training in more advanced museums. The third category is for the work training of museum technicians in science, history, or art, and in conservation, exhibition, museum education, and in the management of museum collections and library and archival resources.

Training in these categories and subjects will vary in time from 3 to 12 months with an estimated average cost of $6,000 a trainee including the support of the trainee and the expenses of the museums and universities providing the training. To train in fiscal year 1972, 50 trainees will require in other services.....$300,000

Systematic and imaginative research is required to improve the performance of museums. Inquiry is needed into means to improve the public visitors' museum experience, to make exhibits more effective in communicating with the viewer, to enable museums to be of greater use to schools, colleges, and universities, to make museum resources available to disadvantaged people and communities, and to experiment, develop, test, and evaluate all of the museum's varied functions. To support and accelerate research in museum opportunities and practices in cooperation with museums, and their associations, there is required $150,000 for other services for five research programs.....$150,000

A great need exists for manuals of instruction on the design and preparation of exhibits, on conservation of museum objects, on museum lighting, on museum education, on museum security, and on museum administration. The opportunity to publish manuals will stimulate experts in the field to contribute manuscripts based on their experience and knowledge. The research and surveys proposed will produce much of value for printing and distribution. For the printing and reproduction of manuals, photo essays, film strips, and other materials requires in fiscal year 1972 ..... $75,000

For the administration of the program, a program manager, a secretary-stenographer, and a clerk-typist are required, estimated to cost in salaries and benefits $27,000

An advisory committee will be formed with the advice of museum directors and museum associations to advise on the programs to be funded.

To support the staff and the advisory committee, it is estimated that there will be required in fiscal year 1972, for travel $20,000; for transportation of goods $18,000; for communications and data processing $15,000; for supplies $10,000; and for equipment $15,000 ..... $78,000

Total $1,000,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ACADEMIC AND EDUCATIONAL PROGRAMS

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	20	3	23
11 Personnel Compensation	$ 181,000	$ 26,000	$ 207,000
12 Personnel Benefits	14,000	1,000	15,000
21 Travel & Transp. of Persons	10,000	4,000	14,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	387,000	88,000	475,000
26 Supplies & Materials	3,000	2,000	5,000
31 Equipment	4,000	5,000	9,000
41 Grants			
TOTAL	$ 599,000	$ 126,000	$ 725,000
Analysis of Total			
Pay Increase	$12,000	$11,000	$23,000
Program	$587,000	$115,000	$702,000

Specification of Increase (Program):

Graduate Studies ($55,000)

Federal facilities developed for reference and research should serve the universities as auxiliary resources for the advanced training of students and faculty. To strengthen the Institution's graduate studies program, an increase of $24,000 is requested to support one postdoctoral appointment in environmental sciences, and one in systematic biology; $11,000 are requested for two pre-doctoral stipends in American history and art; and $20,000 are sought for the purpose of creating internship appointments for graduate students to work in specialties recommended by their faculty advisors.

Elementary and Secondary Education (3 positions, $60,000)

Within the present funding levels, the Institution is able to fill only a small fraction of the existing demand for elementary and secondary educational services. The Institution is currently scheduling tours for serving about 100,000 school children in grades 1-12; or one tour per child for about one seventh of the metropolitan area enrollment. This is less than adequate. A planned expansion in this activity has been developed, and to achieve the projected levels, an additional $60,000 are being requested this year. By 1974, the Institution hopes to be able to accommodate the equivalent of about 250,000 children per school year with at least one scheduled tour. The requested increase would allow extending the services now provided to two new areas, the American Indian, and Technology (2 positions, $17,000), one additional tour scheduler ($6,000), three new museum educational traineeships ($16,000), and additional support costs associated with this expansion ($21,000).

ACADEMIC AND EDUCATIONAL PROGRAMS

1970 Actual $572,000
1971 Estimate $599,000
1972 Estimate $725,000

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 develops and coordinates fellowship programs through a variety of cooperative agreements with the nation's universities. The program 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 this program. 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.

A program increase of $126,000 is requested, including $55,000 for higher education and research training in four areas, and $60,000 for expansion of the elementary and secondary educational program. Also requested are $11,000 for necessary pay increases.

Need for Increase

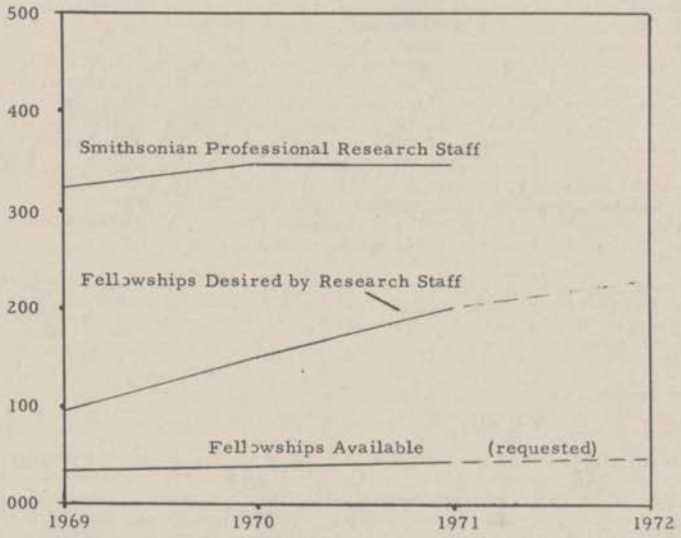
1. Graduate Studies ($55,000)

The Institution's capacity to supervise visiting investigators has greatly increased since 1967, but the number of stipends available has remained about the same (see Figure 1). With present funds, only 20 Ph.D. candidates can be supported each year, so that the average staff member can expect to supervise a dissertation only once in 17 years. Only 19 postdoctoral appointeees can now be supported each year. Stipends for these appointments are allocated in accordance with scholarly discipline. There are only five for 98 Institutional systematic biologists, only two for 28 Institutional specialists in the environmental sciences, and similar shortages through nine areas of study. A list of investigators currently at the Institution is shown on a following page.

Since 1967 the Smithsonian has perfected the administrative procedures necessary for this program and demonstrated that visitors may receive worthwhile training as they complete research projects of high intrinsic worth. As a guarantee of cooperation between the Smithsonian and other research establishments and a contribution to quality training in scarce specialities, the higher education program should be expanded to serve at least twice as many Ph.D. candidates and postdoctoral investigators for a professional staff of the present size (345) and be expanded proportionately with each increase in number of professional staff thereafter. A survey of staff interest has established a willingness to accomodate many more investigators than present funding allows. Consistently more highly meritorious applications for stipends have been received than could be awarded. The Institution has determined that the deficiency to be corrected is $300,000 per year. This shortage, which has come into existence over the past four years, should be eliminated as rapidly as possible. The first installment on this shortage is sought for fiscal year 1972 in the amount of $55,000 for stipends; $24,000 are requested to support one additional postdoctoral investigator in environmental sciences and one in systematic biology; $11,000 are requested for two additional predoctoral stipends in American history and art. The sum of $20,000 is requested for internship appointments for graduate students to become associated with the activities and resources of the Smithsonian in

Figure 1

SMITHSONIAN INSTITUTION
Growth in Fellowships Desired By and Available To
Professional Research Staff
Fiscal Years 1969-71, and Estimated Fiscal Year 1972



specialties recommended by faculty advisors in their home institutions. Summer appointments, once supported by private funds, have been discontinued in recent years, and the lack of opportunities for students at earlier stages of their graduate training is keenly felt. The Institution receives many requests to cooperate with university departments which share its interests. It is proposed to develop a system of "cooperative fellowships" whereby each participating university contributes to the student's expenses while at the Smithsonian. The George Washington University has created a "Smithsonian Fellowship" in American Studies, and other universities have indicated a desire to follow suit in this and other fields. The annual cost per student is estimated to be $2,000. The introduction of a principal of cost-sharing will be a further guarantee of the cooperative character of Smithsonian programs in higher education.

2. Elementary and Secondary Education (3 positions, $60,000)

Against a background of deepening public concern about the quality of classroom experience, the Institution acknowledges a heavy obligation to draw upon its unconventional information resources to enrich education. As a result of a concentrated effort to increase the use of its exhibit spaces, the number of visits by school classes and teachers escorted by volunteer docents has more than doubled in the two years since 1968. This required the addition of a scheduling

staff and a three-fold increase in the number of volunteer docents. A number of different arrangements are being tried to associate intermediate-level education staff with curators in the bureaus to draw upon the Institution's resources of subject matter in the preparation of tours.

In areas where educational staff and interested curators are lacking, tours cannot be offered. This is the case in technology in the National Museum of History and Technology, biological topics at the National Zoological Park, and oceanography at the National Museum of Natural History. Based upon existing subject matter competence, using tour subjects already developed, the Institution expects in fiscal year 1971 to accomodate a total of 100,000 visits by school children.[1] However, the Institution is capable of serving a much larger children's audience, and the demand is present. The capacity of major exhibit spaces would be over 400 class visits per week (330,000 school children annually) if new subject matter tours could be developed. With the addition of three schedulers, and six staff associates in education over the next three years, the Institution could move from the 1970 actual level of 80 tours per week (about 65,000 annual visits) to over 300 per week (250,000 annual visits) by 1973-74.[2] Figures 2, 3, and 4 present some historical information on these tours.

---

[1] Figures are based on an approximate twenty-eight week Smithsonian school tour schedule.

[2] In terms of the Institution's current funding capability, for every child (grade 1 - 12) taking only one of the scheduled tours during the school year, there are five or six that are not being accommodated at all. Elementary and secondary enrollment in the metropolitan area for the current year is about 650,000. Even if the Institution were presently operating its school tours at the projected 1973-74 level of 300 tours per week, only about 38 percent of the area's youthful audience would be served--with but one visit.

Figure 2 -- Growth of subject matter tours and trained volunteers

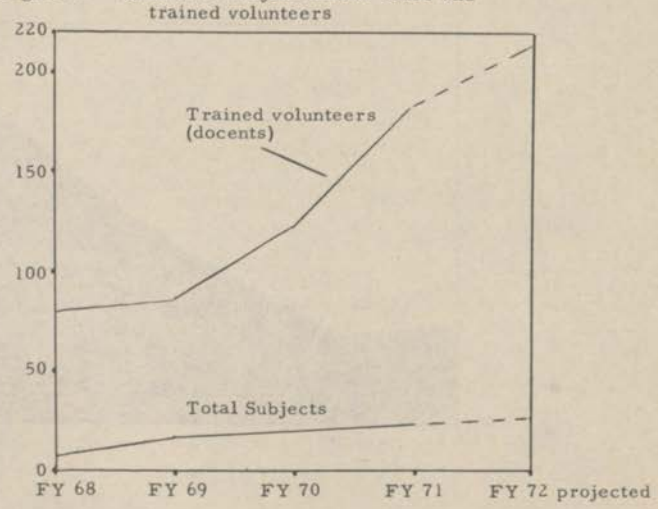


Figure 3 --Number of students serviced by elementary and secondary school tours.

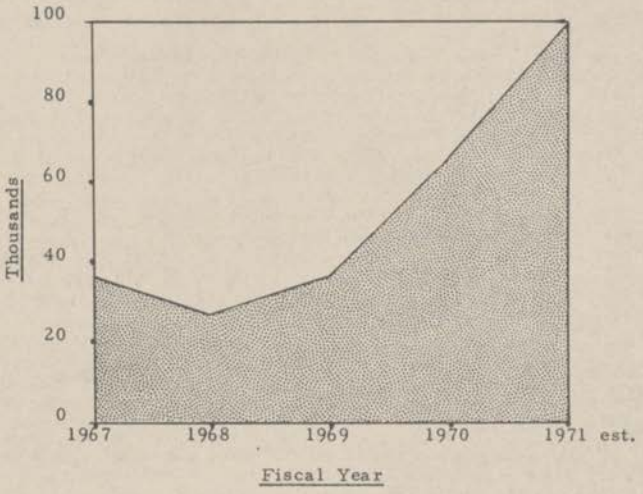
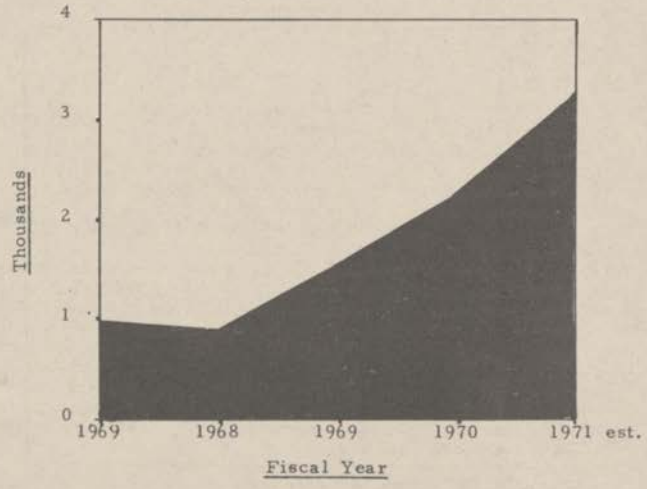


Figure 4 --Number of elementary and secondary school tours provided.



To implement this plan, the Institution requests an increase of $60,000 in fiscal year 1972 and an approximate like amount in each of the following two years in order to add one scheduler each year, and broaden the range of education staff subject matter by two fields per year (for fiscal year 1972, the new fields would be the American Indian, and Technology). This amount would also support three additional traineeships in museum education and provide funds for direct program costs other than salaries.

It would be difficult to establish an accurate dollar value for the efficient paraprofessional museum teaching services rendered by a corps of some 150 volunteer docents who conducted school tours for 67,650 boys and girls in grades kindergarten through 12 during school year 1969-1970. However, the influence of the professionally competent staff associate whose duties include (1) development of teaching curricula in pertinent subject areas, (2) establishing useful relationships with curators for the purpose of utilizing the Institution's research and collections resources (3) supporting pre-service and in-service training of docents, and (4) continual monitoring of these volunteers to ensure quality control is directly responsible for a personnel miltiplier effect which makes the program possible over such a broad range. Each new staff associate would have responsibility for a projected dozen additional docents in new content areas.

The additional tour scheduler will be necessary to accomodate the steadily increasing workload handled by the School Tours Unit as it manages the logistics of matching requests by the nation's schools with appropriate personnel and material resources in the Smithsonian's several museums. The burden of this unit often extends well beyond requests for tours into inquiries for other educational services to school children.

Funds requested for direct program costs are necessary to provide funds for a total operational force of 170 professional and volunteer staff, all of whom have duties which place them in a direct service relationship with the public. Increased demand for external educational services require additional money to support the program of teacher education, docent training, dissemination of information to schools and other museums, and development of audio-visual materials and other teaching aids for enrichment of tours. The Smithsonian considers the utilization of the full range and depth of potential subjects by schools and by visiting classes as being of even greater importance than the attainment of a numerical goal.

The potential importance of museums and other community resources for education in the arts has long been established. The Smithsonian recently completed for the National Science Foundation an assessment of a similar potential in the sciences. Thus, the attainment of full capacity in the use of such a major community resource is a matter of national interest. The attainment of full capacity for class visits within the Smithsonian complex would be a landmark for other efforts underway everywhere in the Nation to draw upon community resources outside the schools for educational purposes. Both the National Portrait Gallery and the National Collection of Fine Arts have undertaken very worthwhile experimental programs in elementary and secondary education. Other new efforts are being planned for the National Museum of Natural History, the National Museum of History and Technology, National Air and Space Museum, and the National Zoological Park. If the novel subject matter of these museums and their non-didactic open qualities finds counterparts in the classroom, museums such as those of the Smithsonian will have performed a distinctive service to education. The Smithsonian program could serve as a benchmark for reference by other metropolitan school systems and museums, a welcome contribution in a frontier area of educational program development where standards for measurement have not yet come widely into use.

The requested $60,000 would be distributed as follows: two new staff associate positions in anthropology and technology ($17,000); one additional scheduler ($6,000); three new traineeships in museum education ($16,000); and other program support costs ($21,000).

SMITHSONIAN VISITING RESEARCH ASSOCIATES, *1970-1971

Name & University	Research Title
PROGRAM IN EVOLUTIONARY AND SYSTEMATIC BIOLOGY:	
O. Sylvester Adegoke U. of Calif., Berkeley	Tertiary paleontology of southern Nigeria and ecology and distribution of living Foraminifera in the Gulf of Guinea
Arnfried Antonius U. of Vienna, Austria	Occurrence and distribution of stony corals in Venezuelan waters
James A. Doyle Harvard U.	Studies on angiosperm pollen and megafossils of the Potomac Group (Cretaceous) of Maryland and Virginia
Miloslav Kovanda Charles U., Prague	Preparation of a monographic electronic data bank of Campanula section Heterophylla
Jerry A. Powell (partial support) U. of Calif., Berkeley	Biosystematic study of Neotropical Sparganothidini (Lepidoptera: Tortricidae)
Kenneth A. Beem U. of Cincinnati	Choctawmatchee Formation of northwestern Florida
David R. Budge U. of Calif., Berkeley	Study of late Ordovician and Silurian rocks and contained coral fauna in eastern Great Basin
Theodore Gary Gautier U. of Kansas	Cryptsome Bryoza from Permian (Leonardian) of the Glass Mountains, Texas
Eckart Hakansson U. of Copenhagen	The free-living Cheilostomata from the White Chalk of Denmark
Catherine Jane Kerby George Washington U.	A life history study of the polychaetous annelid, Sabella microphthalma
PROGRAM IN ENVIRONMENTAL SCIENCES:	
Clarke Brooks U. of Chicago	Analysis of algal biliproteins
Jack H. Burk New Mexico State U.	Production and energy status of deciduous tree species with regard to annual cycle of energy utilization and standing crop
Stephen I. Rothstein Yale U.	An experimental investigation of host preference in the brown-headed cowbird
Robin Doughty U. of Calif., Berkeley	The feather trade; its cultural and biogeographical significance in England and America
Christen E. Wemmer U. of Maryland	Behavioral concomitants of morphology and the relationship of the form-function complex to social organization and habitat utilization
PROGRAM IN EVOLUTIONARY AND BEHAVIORAL BIOLOGY, TROPICAL ZONES:	
Alicia Breymeyer U. of Warsaw	Ecology of grasslands environments in tropical zones
Jeffrey B. Graham Scripps Inst. of Oceanography	Studies on the adaptive radiation of tropical marine fishes
Ian H. Healey U. of Wales	The role of animals in decomposition processes in the tropical forest
James R. Karr U. of Chicago	Comparisons of structure of avian communities in selected tropical areas

*Postdoctoral Associates underlined

David L. Meyer Yale U.	Studies in the functional morphology of living and fossil crinoids
Eugene Morton Yale U.	Ecological aspects of communication in birds
A. Ross Kiester (partial support) Harvard U.	Studies on the ecology and social behavior of Panmania Gecko Gonatodes albogularis
John E. McCosker Scripps Inst. of Oceanography	Substrate preferences and comparative functional morphology of eels, family Ophichthidae
William B. Ramirez U. of Kansas	Ecological relationships and specificity between wasps (Agaonidae) and Ficus

PROGRAM IN PHYSICAL SCIENCES:

John J. Gurney Capetown U.	Electron microprobe studies of kimberlite and and its associated ultrabasic xenoliths
Douglas D. Nelson U. of South Carolina	Clay mineralogy and sedimentation of the Outer Banks, North Carolina

PROGRAM IN ANTHROPOLOGY:

James H. Rauh Tulane U.	An investigation of the structure of the Borgia group of manuscripts
Mario Jose Sanoja U. Cent. Venezuela	Ecology and cultural areas in pre-Columbian Venezuela
D. Gentry Steele U. of Kansas	A re-evaluation of the within-group variation of the family Tupaiidae
Rayna D. Green Indiana U.	The image of the Indian in the popular imagination
Iraida Vargas (partial support) U. Cent. Venezuela	Aboriginal cultural development in eastern Venezuela and their relationships with the Lesser Antilles

PROGRAM IN HISTORY OF ART AND MUSIC:

Robert E. Eliason U. of Missouri, K. C.	Early American wind instruments and their makers
Francis V. O'Connor Johns Hopkins U.	Historical studies of American art
Shelley Fletcher New York U.	Pigment analysis of the American painting collection at NCFA
William D. Morgan (6 mo. appt.) U. of Delaware	Henry Vaughan, 1845-1917, Gothic revival architect
Richard N. Murray U. of Chicago	A study of figurative mural painting, public and private, in the U. S. 1890-1920
Phylis North (6 mo. appt.)	Max Weber paintings, 1905-1920

PROGRAM IN AMERICAN HISTORY:

Leonard P. Curry U. of Kentucky	Roots of American urbanism, 1800-1850
William B. Floyd (7 mo. appt.) George Washington U.	An historical study of Thomas Sully
Yvonne Marie Lange U. of Pennsylvania	Santos, the household wooden saints of Puerto Rico
Peter H. Smith George Washington U.	The Great American Wheel Conspiracy: Hoopes Bros. and Darlington, 1890-1920

PROGRAM IN HISTORY OF SCIENCE AND TECHNOLOGY:

Sandra S. Herbert (partial support) Brandeis U.	Erasmus Darwin's materialistic physiology and its importance for his grandson Charles' discovery of evolution through natural selection
Stephen Cooper Princeton U.	History of American science and technology with emphasis on interrelationships between science and government
Barbara Ann Kaplan U. of Maryland	The relevance of alchemical and hermetic ideas to 13th and 14th century medicine in western Europe
Sally G. Kohlstedt of U. of Illinois	The American Association for the Advancement of Science, 1840-1860; the formation of a national scientific community

PROGRAM IN MUSEUM STUDIES:

Joan W. Mishara NYU Inst. of Fine Arts	Conservation studies of metals, particularly metallic objects of art

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

RESEARCH AWARDS PROGRAM

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	0	0	0
11 Personnel Compensation	$	$	$
12 Personnel Benefits			
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	400,000	50,000	450,000
26 Supplies & Materials			
31 Equipment			
41 Grants			
TOTAL	$400,000	$50,000	$450,000
Analysis of Total			
Pay Increase	0	0	0
Program	$400,000	$50,000	$450,000

Specification of Increase (Program):

Funding Multiyear Awards ($50,000)

The Research Awards Program funds worthy, intramural research projects not funded either by the regular plans of operation of the Smithsonian's science bureaus or by outside agencies. Since its inception in fiscal year 1966, 234 proposals have been funded and there have been more than 200 publications in the fields of biology and anthropology directly attributable to this support. The program also has enabled Smithsonian scientists to engage in productive field research with colleagues from other institutions. An additional $50,000 is requested to help fund multiyear awards for better stability, continuity, and planning of research. This additional sum will also help to combat the higher costs of basic research brought about by inflation in the costs of laboratory supplies, equipment and services.

RESEARCH AWARDS PROGRAM

1970 Actual	$400,000
1971 Estimate	$400,000
1972 Estimate	$450,000

The purpose of the Smithsonian Research Awards Program is to support worthy, intramural research projects not funded either by outside agencies or through the regular plans of operations of the science bureaus.

Prior to fiscal year 1966, the Smithsonian Institution received funds from the National Science Foundation for research projects of individual staff members. In the fiscal year 1966 appropriation, the Congress prohibited the NSF from making grants for scientific research to other Government agencies. The NSF instituted a further limitation that it would no longer make grants to any agency or institution receiving direct federal appropriations. The Research Awards Program was begun in fiscal year 1966 by an appropriation of $350,000 to the Smithsonian Institution for the purpose of financing new or continuing research projects formerly eligible for support from the NSF. Funding for the program increased to $400,000 in fiscal year 1967 where it has remained level.

Proposals are submitted each year by members of the Smithsonian Institution staff only and cover all phases of research in the scientific bureaus. All proposals have undergone a careful scientific or scholarly review in their respective bureaus before they are reviewed by members of the Research Awards Advisory Committee. The members of the Committee are selected on the basis of their broad experience in scientific research, their understanding of scholarship, and their ability to discern basic values in almost any field.

An increase of $50,000 is requested to help fund multiyear awards and offset inflation in the cost of basic research.

Need for Increase--From its inception in fiscal year 1966 through fiscal year 1971, 234 proposals were funded through the Research Awards Program. There have been more than 200 publications in the fields of biology and anthropology directly related to the research accomplished from this support. Also, an initial research effort activated by a research award, in many cases has been continued through funding by other federal granting agencies, and research and development foundations.

In fiscal year 1971, members of the Smithsonian staff were allowed for the first time to submit proposals for funding up to three years in order to provide for better stability, continuity, and planning of research. There were 72 proposals received for fiscal year 1971 amounting to $1,654,771, of which 40 were funded in the amount of $400,000. Amounts of $224,000 are committed to second-year funding and $71,000 to third-year funding. Thirty-two proposals had to be rejected for lack of funds. The salary of the principal investigator is never included in the budget of the proposal; it is borne by the Smithsonian Institution.

Following pages show a comparison of proposals funded for fiscal year 1970 and fiscal year 1971 (Table I), a comparison of proposals by dollar volume (Table II), and a comparison of proposals by bureau (Table III).

The Research Awards Program is intended to cope with a serious problem confronting many scientists who wish to undertake non-routine fundamental research of the kind normally undertaken by university research scientists but which cannot be supported from the federal "Salaries and Expenses" appropriation. The large number of proposals that were not funded in fiscal year 1971 and in previous years is of grave concern to the Institution. This concern is based on the fact that the work supported by the Research Awards Program is often the

best of the Institution's productivity and the reason for acquiring scientists of the highest competence and imagination. If the Smithsonian cannot provide this kind of support, it might not attract a high caliber of scientists nor retain them thereafter. Further, it serves as an important means whereby scientists of the Smithsonian Institution may engage in collaborative field research with colleagues located in other institutions. Many opportunities for participation in expeditions and other field projects would be lost were it not for the Research Awards Program providing modest, but essential, research assistance. The problem affects all the research bureaus, but is especially acute in the National Museum of Natural History where most of the operational funding must go to the maintenance of the National Collections.

TABLE I

RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS FUNDED
FY 1970 and FY 1971

	FY - 1970				FY - 1971			
	Total Number of Proposals Received	Amount of Proposals Received	Total Amount Funded	Number of Proposals Funded	Total Number of Proposals Received	Amount of Proposals Received	Total Amount Funded	Number of Proposals Funded
SUMMARY - RESEARCH AWARDS PROGRAM:								
NATIONAL MUSEUM OF NATURAL HISTORY	45	594,886	295,785	31	43	1,067,557	281,915	27
RADIATION BIOLOGY LABORATORY	3	25,643	11,000	1	4	147,957	33,000	3
NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY	3	7,799	910	1	3	5,856	5,785	3
SMITHSONIAN TROPICAL RESEARCH INSTITUTE	2	61,610	45,000	2	4	105,584	43,400	4
SMITHSONIAN ASTROPHYSICAL OBSERVATORY	5	173,741	34,960	3	17	317,780	26,000	2
NCFA/NPG CONSERVATION LABORATORY	1	16,050	-0-	-0-	-0-	-0-	-0-	-0-
INFORMATION SYSTEMS DIVISION	1	16,716	-0-	-0-	1	10,037	9,900	1
NATIONAL ZOOLOGICAL PARK	1	20,851	12,345	1	-0-	-0-	-0-	-0-
TOTAL	61	917,296	400,000	39	72	1,654,771	400,000	40

TABLE II

FY 1971 RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS BY DOLLAR VOLUME
FY 1967 - FY 1971

		NUMBER OF PROPOSALS				
MORE THAN	LESS THAN	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
-0-	5,000	16	19	6	13	7
5,000	10,000	19	21	22	14	17
10,000	15,000	19	18	12	12	6
15,000	20,000	4	6	7	7	10
20,000	25,000	3	2	5	5	10
25,000	30,000	1	3	6	3	6
30,000	35,000	3	3	1	4	4
35,000	---	1	2	1	3	12
	TOTAL	66	74	60	61	72

TABLE III

FY 1971 RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS BY BUREAU
FY 1967 - FY 1971

	NUMBER OF PROPOSALS					AMOUNT REQUESTED				
	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
OFFICE OF THE SECRETARY	1	1	-0-	-0-	-0-	10,000	9,351	-0-	-0-	-0-
MUSEUM OF NATURAL HISTORY	52	62	45	45	43	545,902	699,819	538,933	594,886	1,067,557
RADIATION BIOLOGY LABORATORY	2	5	4	3	4	23,523	59,296	41,759	25,643	147,957
MUSEUM OF HISTORY AND TECHNOLOGY	3	2	3	3	3	17,158	23,420	33,266	7,799	5,856
SMITHSONIAN TROPICAL RESEARCH INSTITUTE	3	1	2	2	4	45,274	22,645	57,763	61,610	105,584
SMITHSONIAN ASTROPHYSICAL OBSERVATORY	1	2	5	5	17	163,000	39,800	118,780	173,741	317,780
NATIONA AIR AND SPACE MUSEUM	1	-0-	-0-	-0-	-0-	14,500	-0-	-0-	-0-	-0-
OFFICE OF OCEANOGRAPHY AND LIMNOLOGY	2	-0-	-0-	-0-	-0-	14,984	-0-	-0-	-0-	-0-
OFFICE OF ECOLOGY	1	1	-0-	-0-	-0-	9,251	8,956	-0-	-0-	-0-
NCFA/NPG CONSERVATION LABORATORY	-0-	-0-	1	1	-0-	-0-	-0-	12,300	16,050	-0-
INFORMATION SYSTEMS DIVISION	-0-	-0-	-0-	1	1	-0-	-0-	-0-	16,716	10,037
NATIONAL ZOOLOGICAL PARK	-0-	-0-	-0-	1	-0-	-0-	-0-	-0-	20,851	-0-
TOTAL	66	74	60	61	72	843,592	863,287	802,801	917,296	1,654,771

ADMINISTRATIVE AND CENTRAL SUPPORT

Increases being requested in this section cover primarily the central administrative and technical services which operate in support of the program units. Included are the Office of the Secretary, Office of the General Counsel, Office of the Treasurer, Office of Personnel Administration, Libraries, Press, Smithsonian Archives, Photographic Services Division, Supply Division, Administrative Systems Division, Travel Services Office, Duplicating Section, and the Information Systems Division. As a group, the requested increases for fiscal year 1972 amount to $602,000 or about 7 percent of the total requested Institutional increases.

For the last several years, actual operations indicate that the costs of administering and supporting the diverse program activities have amounted to 15 percent to 18 percent of total obligations. The Smithsonian desires to keep the actual costs of the support function in this range, and the requests presented reflect what is necessary to strengthen certain areas. The expenditures of these units are viewed as necessary to cover general administrative and technical activities, in the manner of an operating overhead account, with the exception of the amounts requested for physical plant operations, maintenance, and protection by the Buildings Management Department which are presented separately. These are an increase of $807,000 or 9 percent.

Since the needs of the support group follow rather closely the developmental pattern of the program units, in future years' budget presentations an effort will be made to consolidate the number of organizational requests and reduce the complexity of several separate budget submissions. For fiscal year 1972, however, in order to promote an understanding of the overall operations, individual descriptions and requests are submitted for the administrative support units.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE SECRETARY

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	38	2	40
11 Personnel Compensation	$534,000	$49,000	$583,000
12 Personnel Benefits	43,000	3,000	46,000
21 Travel & Transp. of Persons	10,000	1,000	11,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction			
25 Other Services	4,000	3,000	7,000
26 Supplies & Materials	3,000	1,000	4,000
31 Equipment	3,000	1,000	4,000
41 Grants			
TOTAL	$598,000	$58,000	$656,000
Analysis of Total			
Pay Increase	$22,000	$12,000	$34,000
Program	$576,000	$46,000	$622,000

Specification of Increase (Program):

Operations Officer and Public Service Assistant and Program Funds (2 positions $46,000)

An operations officer at a cost of $20,000 is needed to assist the Under Secretary in the planning, direction, coordination, and development of the administrative and central support activities in order that they will be of maximum service to the requirements of our museums, galleries, and laboratories. An assistant to the Assistant Secretary (Public Service) also is required to help plan and produce a range of educational materials such as books, kits, and recording cassettes drawing upon the Institution's resources. This position would cost $20,000. And, lastly, an additional $6,000 is required for office support costs.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE SECRETARY

1970 Actual.....$462,000
1971 Estimate.....$598,000
1972 Estimate.....$656,000

The Office of the Secretary is composed of the immediate offices of the Secretary, the Under Secretary, the Assistant Secretary (Science), the Assistant Secretary (History and Art), the Assistant Secretary (Public Service), and the Office of Audits.

For fiscal year 1972, a program increase of $46,000 is requested to employ an operations officer for the Office of the Under Secretary and an assistant to the Assistant Secretary (Public Service) and to provide funds for general operations. An additional $12,000 are required for necessary pay.

Need for Increase--At the May 1970 meeting of the Board of Regents, the former Assistant Secretary was named to the post of Under Secretary. This was in recognition of the very substantial responsibilities of this office. In order to meet an increasing workload involving Regents matters, construction, legislation, and program and policy matters concerning the entire Institution, additional staff for his office is required. An operations officer is needed to serve in an advisory capacity to the Under Secretary, and be responsible for the direction, coordination, long-range planning, and development of certain of the administrative and central support activities of the Institution, particularly in their service relationships to the museums, galleries, and laboratories. These services include personnel administration, management analysis, procurement, contract administration, property management, buildings management, buildings security, photographic services, and other administrative and technical support units. A position for the operations officer is requested ($20,000).

An assistant to the Assistant Secretary for Public Service to help plan and produce a range of educational materials is requested also. The Smithsonian has many opportunities to cooperate with private industry and organizations in developing educational materials for the public. These materials include such items as pamphlets and books, construction kits, television programs, recording cassettes for home instruction and mini exhibits. Smithsonian activities that would be involved in these efforts include the Press, the Office of Exhibits, the Elementary and Secondary Education Office, and others, drawing upon the vast subject matter resources of our museums, art galleries, laboratories, and the Zoo. This position would cost $20,000.

Although the Office of the Secretary has developed a management group responsive to the broad and complex nature of the Smithsonian, it currently has a serious deficiency of funding in other objects of expense to enable it to perform in an effective way. This is a request for essential funds for travel, advisory services, supplies and materials, and basic office equipment and furniture ($6,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE GENERAL COUNSEL

1970 Actual	$110,000
1971 Estimate	$135,000
1972 Estimate	$158,000

In 1964 the Office of the General Counsel was established, some 118 years after the Institution was founded. Prior to 1964, outside counsel was retained from time to time to handle significant legal matters for the Institution's private side affairs; the Department of Justice handled a few legal suits on the Federal side; and other questions were decided by Smithsonian administrative personnel. However, such a system was inadequate; it failed to provide the continuous legal counsel necessary for consistency in the day-to-day operations of the Institution.

An increase of $18,000 is requested for staff and other support. A further increase of $5,000 is requested for necessary pay.

Need for Increase--As a non-Governmental establishment which nevertheless operates in substantial part with appropriated funds, the legal problems of the Institution include those arising from the operations of a private, university-like, charitable corporation, as well as those common to Government organizations. Many otherwise routine matters are complicated by the pervasive necessity to maintain a rational, effective, and legal relationship between these two capacities in which the Institution functions. In addition, the OGC is responsible for the continuous analysis of Congressional activities and legislation and their impact on the Institution, and has a major role in the furtherance of the Smithsonian's own legislative program.

The Institution has grown considerably since 1964. There have been added to its already numerous responsibilities the Renwick Gallery, the Hirshhorn Museum and Sculpture Garden, the Cooper-Hewitt Museum, the Archives of American Art, the Chesapeake Bay Center for Environmental Studies, and the Woodrow Wilson International Center for Scholars. It has taken on such programs as the National Museum Act and the Foreign Currency Program. Each of these required OGC staff participation in its establishment and each places demands on the staff for its continued development and operation within the framework of applicable laws.

The Office of the General Counsel has grown from three attorneys in 1964 to four full-time attorneys and two part-time in 1971. During this same period, the Institution's appropriations for salaries and expenses have more than doubled, with a concommitant increase in the workload of this office. This limitation of staff has made it increasingly difficult to meet the rising needs of the Institution and has created a growing backlog of matters on which action has had to be deferred.

At the same time, funds for other objects, which averaged about 4 1/2 percent of salaries in fiscal years 1966 through 1969, have been curtailed to three percent during the last two fiscal years. This has been achieved by funding some necessary travel from sources which will not be available in fiscal year 1972, and by deferring the replacement of essential office equipment, which can no longer be postponed without impairing the quality and efficiency of the services provided by the office.

To help overcome these deficiencies, an increase of $18,000 is requested: $17,000 for an additional part-time attorney and a secretary, and $1,000 for other expenses of the office.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE TREASURER

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		31	2	33
11	Personnel Compensation	$331,000	$ 28,000	$359,000
12	Personnel Benefits	26,000	3,000	29,000
21	Travel & Transp. of Persons	2,000	0	2,000
22	Transportation of Things			
23	Rent, Comm. & Utilities	192,000	20,000	212,000
24	Printing & Reproduction			
25	Other Services	37,000	10,000	47,000
26	Supplies & Materials	14,000	7,000	21,000
31	Equipment	2,000	0	2,000
41	Grants			
	TOTAL	$604,000	$ 68,000	$672,000
	Analysis of Total			
	Pay Increase	$22,000	$13,000	$35,000
	Program	$582,000	$55,000	$637,000

Specification of Increase (Program):

Accounting, Budgeting, Financial Reporting, and Postage Requirements (2 positions, $55,000)

The Office of the Treasurer provides comprehensive financial management assistance and technical services to the Smithsonian. This includes financial planning, budgeting, accounting, contracts administration, and reporting. An increase of two employees and funds to meet Institutional needs are requested. A systems accountant is required to continually review and improve the Institution's accounting procedures and records to keep them responsive to needs. A budget technician is required to assist the three budget analysts in a wide variety of data gathering and summarizing assignments. These two positions would cost $18,000. An additional $17,000 are needed for forms and computer services used in financial reporting to the museums, galleries, research laboratories, and other units. Under recent postal reform legislation, a near future substantial increase in postal rates is anticipated. An additional $20,000 are requested for postage indicia.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE TREASURER

1970 Actual.....$573,000
1971 Estimate.....$604,000
1972 Estimate.....$672,000

This office provides financial management assistance and technical services to the Smithsonian. It is composed of the Treasurer's immediate office, the Office of Programming and Budget, and the Accounting Division. Financial planning, budgeting , accounting, contracts administration, and reporting are the responsibilities of these several units.

An increase of $55, 000 is requested to strengthen the budgeting and accounting functions, to provide forms and computer services required in financial reporting, and to meet anticipated higher postage indicia costs. Funding of $13,000 is required also for necessary pay.

Need for Increase--Selective staff increases and funds for program improvement are required in order that the Office of the Treasurer can provide responsive services to the Smithsonian's museums, galleries, research laboratories, and to the other organization units that are themselves providing similar technical support in the way of personnel management, buildings management, and other services. The diversity of the Smithsonian's operations and geographic distribution, and the variety of funding sources for its programs pose unusual demands of financial management services. The effectiveness and efficiency with which the program offices carry out their assigned research, curation, exhibit, and other public services depend in large measure on the accuracy and timeliness of good financial information.

Two additional employees are required: a systems accountant and a budget technician. The systems accountant would assist in the design, adaptation, installation, evaluation, and updating of the Institution's accounting systems, including reports, records control devices, and related procedures. There are at present three budget analysts responsible for agency-level budget planning, formulation and execution including the year-round job of review and monitoring of obligations and outlays for some 40 budget line items as well as foreign currency and construction accounts. A budget technician (no such position now exists) is required to assist in a wide variety of data gathering and summarizing assignments. Funding of $18,000 is requested for these two positions.

Additional funds for forms and computer services are requested for financial reporting to the heads of the Institution's museums, galleries, research laboratories, and the other administrative and central support activities including the Buildings Management Department ($17,000).

Funding of the Institution's postage indicia requirements is provided centrally from the Office of the Treasurer. Approximately $165,000 will be spent for this purpose in fiscal year 1971 primarily for first class mail. The U.S. Post Office Department indicates substantially higher postage rates late this fiscal year or early next. Under the recent postal reform legislation, the board of govenors are empowered to make an emergency increase in postage rates. An eight-cent first class rate is likely as well as other increases. An additional $20,000 are requested for postage indicia.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF PERSONNEL ADMINISTRATION AND HEALTH UNITS

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	28	1	29
11 Personnel Compensation.....	$368,000	$16,000	$ 384,000
12 Personnel Benefits	29,000	2,000	31,000
21 Travel & Transp. of Persons	2,000	0	2,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	32,000	10,000	42,000
26 Supplies & Materials	1,000	4,000	5,000
31 Equipment			
41 Grants			
TOTAL.....	$432,000	$32,000	$ 464,000
Analysis of Total			
Pay Increase	$20,000	$10,000	$30,000
Program	$412,000	$22,000	$434,000

Specification of Increase (Program):

Health Services and Employee Training (1 position, $22,000)

This Office has responsibility for personnel administration and the operation of health services for visitors and staff. On an annual basis the health units provide about 14,000 treatments. An additional $12,000 are requested to provide one more nurse position and necessary supplies and equipment to augment the health services provided in the History and Technology Building, the Natural History Building, and the buildings on the south side of the Mall. Similarly, the Smithsonian needs to provide more employee training especially of supervisors and of low-level, low-skill employees. The Office of Personnel Administration has only about $10,000 available to it for training expenses. An additional $10,000 are requested.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF PERSONNEL ADMINISTRATION AND HEALTH UNITS

1970 Actual.....$388,000
1971 Estimate.....$432,000
1972 Estimate.....$464,000

This Office has responsibility for personnel administration and the operation of health services. It helps to formulate policy over a wide range of activities from manpower planning and managerial development, through employee training, performance evaluation, and labor relations. These programs generally fall into six broad categories; the table below indicates the nature of these endeavors with estimated man-years and expenditures for fiscal year 1970.

Activity	Effort and Dollars FY 1970	
Manpower and Organization	.75 man years	$ 12,000
Career Development	2.75 "	40,000
Management and Personnel Consulting	9.00 "	153,000
Technical and Administrative Support	5.00 "	34,000
Health Services	3.50 "	51,000
Recruitment and Placement	2.00 "	29,000
Admin. and Direction	3.50 "	69,000
	26.50 man years	$388,000

Annual reports indicate that over the last few years the number of actions handled on a yearly basis by the staff has grown to 72,000. This is a sizable workload. The ratio of staffing for carrying out personnel office functions is one personnel employee per 125 employees serviced. While no fixed standard has been developed, this is considerably higher than comparable government agencies which average approximately one personnel employee per 80 employees serviced.

The requested program increase of $22,000 will be used to correct shortages in the areas of health services and employee training. An additional $10,000 are required for necessary pay purposes.

Need for Increase--The health units provide services to Smithsonian Institution employees as well as to visitors and tourists. On an annual basis, these units provide about 14,000 treatments to tourists and staff. This figure has been steadily increasing over the years. There is a critical need to improve and increase the availability of these services in the History and Technology Building, the Natural History Building, and the buildings on the south side of the Mall. An amount of $12,000 is requested for an additional nursing position plus necessary supplies and equipment.

The Smithsonian has been administering an austere program of employee training. In fiscal year 1970, the amount spent by the Office on training was approximately $10,000, yet the needs for training have been steadily mounting. Additional funding is required just to meet programs of special emphasis with the Administration. For example, the Civil Service Commission recently has required specially tailored training for first-level supervisors. In the near future, the CSC will issue strong recommendations that equivalent training be provided for all supervisors. There are more than 400 supervisors currently in the Institution. A second area of emphasis is training for supervisors and

and managers in labor-management relations. A third area is "upward mobility". The present Administration is putting much emphasis on the Public Service Careers Program and other programs to provide training for low-level, low-skill individuals who are currently Federal employees. The Institution has at present more than 600 employees in the latter category, i.e., GS-5 and below and WG-5 and below. The Institution has at present no programs in the second and third areas, and only minimal programs in supervisory training. For these reasons an additional $10,000 are being requested to strengthen training programs.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN INSTITUTION LIBRARIES

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		54	9	63
11	Personnel Compensation	$ 600,000	$ 74,000	$ 674,000
12	Personnel Benefits	47,000	6,000	53,000
21	Travel & Transp. of Persons	6,000	2,000	8,000
22	Transportation of Things	1,000	1,000	2,000
23	Rent, Comm. & Utilities	2,000	2,000	4,000
24	Printing & Reproduction	10,000	20,000	30,000
25	Other Services	15,000	23,000	38,000
26	Supplies & Materials	51,000	33,000	84,000
31	Equipment	7,000	50,000	57,000
41	Grants			
	TOTAL	$ 739,000	$ 211,000	$ 950,000
	Analysis of Total			
	Pay Increase	$ 24,000	$ 21,000	$ 45,000
	Program	$715,000	$190,000	$905,000

Specification of Increase (Program):

Correction of Shortages and Continued Modernization (9 positions, $190,000)

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 several staff needs. The request for fiscal year 1972 is meant to partially offset a variety of deficiencies such as in purchase funds ($65,000), development of automated library techniques ($20,000), materials preservation ($22,000), and supplies and equipment ($24,000). Nine additional positions are requested. A librarian and two clerks will provide service to museums and galleries that are unserved by the General Library ($20,000). One cataloger and one technician will be used to create a core speed cataloging team to reduce the time of processing new materials ($15,000). A cataloger and a technician will also be utilized to organize and inventory the collections housed at the Lamont Street center ($14,000). In addition, one technician and one aid are necessary to begin to edit the holdings of the Institution's union catalog ($10,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN INSTITUTION LIBRARIES

1970 Actual $659,000
1971 Estimate $739,000
1972 Estimate $950,000

The Smithsonian Institution Libraries provide reference and information services in support of the research and educational programs of the professional staff of the Institution. Basic library resources consist of about 750,000 volumes in the working collections of the Institution. The Smithsonian Institution's library program has the following basic purposes: (a) to have at hand carefully selected documentary materials containing the best and most pertinent data and results from research done elsewhere that has a direct bearing on our own investigations; (b) to arrange and index the information in ways that make it readily accessible; and (c) to provide reference and information services based on this material and related material in other libraries' collections, under terms and conditions that advance research in the Smithsonian. It is logical and prudent to have an information capability such as this as an adjunct to our research effort. In this manner we speed up our own research effort and make it more efficient by avoiding costly and unnecessary duplication of research.

An increase of $190,000 is requested to correct shortages in the Libraries' basic program of support to the research efforts of the Smithsonian, and to continue to modernize operations and services to the scientific and curatorial staff of the various museums and galleries. In addition, $21,000 are being sought to help meet necessary pay increases.

Need for Increase--The Smithsonian has embarked on a program of modernization of its library services. The following table contains information covering the requested additional amount of $190,000 for 1972 to implement the current phase of this program. The Libraries are being changed from a congeries of

Table 1: Indicates Needs for FY 1972

	1971 Base	1972 Need	Requested Increase
Positions	54	63	9
Personnel costs, including salaries, benefits, training, and travel	$647,000	$727,000[a]	$ 80,000[a]
Information resources (e.g., books, journals, documents, microfilm)	52,000	117,000	65,000
Communications equipment and services (e.g., facsimile, special mail, and transportation)	5,000	8,000	3,000
Materials preservation (current input)	7,000	29,000	22,000
Supplies, equipment, and maintenance	16,000	37,000	21,000
Automation and data processing	12,000	32,000	20,000
Total	$739,000	$950,000[a]	$211,000[a]

[a] Includes $21,000 for necessary pay increases.

widely dispersed collections in a vast array of subjects in art, the sciences, and the social sciences, into an integrated resource. Integration will be achieved through improved indexing, search and retrieval mechanisms, involving both improved manual and new computer methods, and through consolidation of several

related smaller collections into more serviceable units. Information services are to be upgraded, based on recently developed methods of information science. Further, the collections that hitherto chiefly served discipline-based curatorial and related research are being broadened to provide a base for information services for research in the newer interdisciplinary aspects of science, sociology, and culture.

Of the more than 385,000 books and uncounted tens of thousands of reports and research documents produced throughout the world each year, it is estimated that the Institution must purchase about 18,000 titles in order to maintain information services that are sufficiently well founded to be useful. This is a modest rate of acquisition. Currently, the Libraries are about $125,000 short of funds for the purchase of library materials. The effects of inflation over the last few years have severely eroded the ability of the Libraries to purchase new materials particularly in subject areas of most concern to the Institution. While selected price indices, using 1957-59 as base years are presented in Table 2, much of the recorded increase has occurred in the last five years.

Table 2

Recent Price Indices: Periodicals in Subject Areas of Institutional Interest, and Selected Hardcover Books

	1970 Index (1957-59 = 100)
Subject Areas	
Chemistry and Physics	265
Fine and Applied Arts	154
History	143
Mathematics, Botany, Geology, and General Science	267
Sociology and Anthropology	156
Zoology	176
	1969 Index (1957-59 = 100)
Selected Hardcover Books	177

Source: "Price Indexes for 1970," Library Journal (July 1970), 2427, 2428, and Publishers Weekly (February 9, 1970), 49.

The Libraries also are $200,000 short in funds for the application of modern indexing and retrieval techniques to operate this essential service. Also required are about $50,000 per year for binding and filming of materials for preservation. As indicated in Table 1, the requested increase will be applied to partially offset these and other pressing needs. The requested staff increase of nine positions would be utilized as follows:

To create a team of information service people to provide reference and collection management services at least ten hours a week in each of the unstaffed bureau branches that are now unserved by the General Library (principally the National Air and Space Museum, Radiation Biology Laboratory, Museum of Natural History, Armed Forces Museum Advisory Board, and Museum Services); one professional librarian, two library clerks $20,000

To organize a speed cataloging team for rapid processing of priority materials. This is a move to reduce the average time of processing of new materials in cataloging, aiming at a goal of six weeks' lapsed time; one cataloger and one library technician $15,000

To organize and inventory those parts of the consolidated collections now housed at the Smithsonian Institution Libraries Center at Lamont Street (estimated to be a three-year project); one cataloger and one library technician 14,000

To edit the Institution's union catalog of its holdings, particularly to rationalize conflicts in entry and to provided entries for new subject interests among research projects; one library technician and one library aid 10,000

In 1970 the Libraries acquired 3,974 titles (books, journals, and documents) by purchase, and 12,194 titles through gifts and exchanges. The Libraries cataloged 8,158 of these for addition to the collections. This record of accomplishment is offset by severe shortages in every category of service. One quarter of the titles ciruclated to the professional staff of the Institution in 1969 were not in the Smithsonian's collections and had to be borrowed from other libraries, principally the over-burdened Library of Congress. The 8,010 uncataloged and unindexed items considered pertinent to the work of the Smithsonian acquired in 1969 were added to the existing backlog of 59,000 uncataloged titles remaining from other years. The delays in organizing this material for use have grown to several man-years. Of nineteen major bureaus and offices of the Smithsonian, eight are completely without local service, except as provided by the Libraries' small Central Reference and Circulation staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN INSTITUTION PRESS

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		25	0	25
11	Personnel Compensation	$319,000	$10,000	$329,000
12	Personnel Benefits	24,000	1,000	25,000
21	Travel & Transp. of Persons	3,000	0	3,000
22	Transportation of Things			
23	Rent, Comm. & Utilities			
24	Printing & Reproduction	352,000	40,000	392,000
25	Other Services	5,000	0	5,000
26	Supplies & Materials	2,000	0	2,000
31	Equipment	2,000	0	2,000
41	Grants			
	TOTAL	$707,000	$51,000	$758,000
	Analysis of Total			
	Pay Increase	$ 18,000	$11,000	$ 29,000
	Program	$689,000	$40,000	$729,000

Specification of Increase (Program):

Research Manuscript Printing ($40,000)

An additional $40,000 of printing funds are required to reduce a growing backlog of research manuscripts in science and history ready for printing. At the close of fiscal year 1970, 19 major manuscripts could not be printed for lack of funds. Investments in research are wasted unless the results are published on a timely basis.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN INSTITUTION PRESS

1970 Actual	$700,000
1971 Estimate	$707,000
1972 Estimate	$758,000

For a century and a quarter, the Institution has achieved the diffusion of research knowledge principally through the Smithsonian Press. Most of the Press publication activity is considered as a fundamental extension of the basic research programs of the Smithsonian's museums and research laboratories. The Smithsonian Press also produces and distributes museum guides, exhibit catalogs, and information leaflets. This is an extension of another basic Smithsonian program, public education. Finally, the Press also furnishes the Institution with a variety of internal manuals, reports, specimen labels, and directories. A recent analysis of Press operations reveals that about 70 percent of Press efforts are spent directly on research publications, 20 percent on public education, and the balance on administrative support.

Additional funding of $40,000 is requested for research publication printing. Funding of $11,000 for necessary pay also is required.

Need for Increase--Currently, about one hundred research publications a year appear in eight active series in the fields of anthropology, astrophysics, biology, geology, history, and technology. This represents the extent of the Press' current funding capacity for this portion of overall activity and not what could have been published. There has accumulated over the last few years a substantial backlog of research publications generated by Smithsonian scientists and historians. At the close of fiscal year 1970, 19 major manuscripts ready for publication, with estimated printing costs of $32,000, were withheld from the Government Printing Office because funds were not available. The situation will only worsen in fiscal years 1971 and 1972 since it is virtually certain that the research output of the professional staff will exceed the ability of the Press to fund the publishable reports. The Smithsonian is basically a research institution and support of that research is wasted unless reported on a timely basis to national users. An additional $40,000 are requested for research publication printing.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

INFORMATION SYSTEMS DIVISION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	14	2	16
11 Personnel Compensation.....	$ 175,000	$ 37,000	$ 212,000
12 Personnel Benefits.....	14,000	2,000	16,000
21 Travel & Transp. of Persons	4,000	1,000	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	10,000	0	10,000
24 Printing & Reproduction			
25 Other Services	11,000	18,000	29,000
26 Supplies & Materials	2,000	0	2,000
31 Equipment	3,000	0	3,000
41 Grants			
TOTAL.....	$ 219,000	$ 58,000	$ 277,000
Analysis of Total			
Pay Increase	$ 12,000	$ 8,000	$ 20,000
Program	$207,000	$50,000	$257,000

Specification of Increase (Program):

Application of Electronic Data Processing to Smithsonian Requirements (2 positions, $50,000)

The Smithsonian, through the work of its museums and research laboratories, is basically an information producer and distributor. Throughout the Institution firm requirements have been identified for the application of electronic data processing to the task of storing, arranging, and reporting data associated with collections and other research. This requirement is especially acute in the National Museum of Natural History but virtually all of our science, history, and art activities have such needs. An illustration in our budget request shows how data related to the collections can be reported for medical research use. For fiscal year 1972, two additional computer specialists are required ($31,000) with funds for computer services and other support ($19,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
INFORMATION SYSTEMS DIVISION

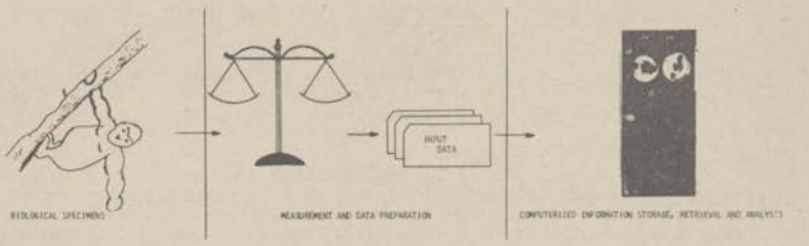
1970 Actual.....$217,000
1971 Estimate.....$219,000
1972 Estimate.....$277,000

The Information Systems Division was established in 1966 in response to a growing awareness that the Institution had to take advantage of computer technology not only in its management areas but to gain access to masses of research data and information associated with its collections. Currently, the Division is comprised of an information retrieval section, a mathematical computation section, a software and maintenance section, and a management systems section. While much of the Division's efforts are currently devoted to administrative and management support functions, in future years attention will be concentrated increasingly on research support and the retrieval of information from the National Collections. Some 350 specific and 50 general computer programs have been developed and much of the time of current staff must go to maintenance and updating. An illustration of the Division's output in support of research and collections management is shown on a following page. Current program shortages include the following, for which a program increase of $50,000 is requested. An additional $8,000 are required for necessary pay.

Need for Increase--The Division is not yet able to meet Institution needs in the management systems area. It is utilizing its present capacity in this area developing and installing new systems for library acquisitions and search, fiscal accounting, personnel administration, buildings management work planning and control, and for property management. These systems are only in initial or intermediate stages of development, and a particularly large increase in actual systems implementation and programming time is required to meet the anticipated workload in fiscal year 1972.

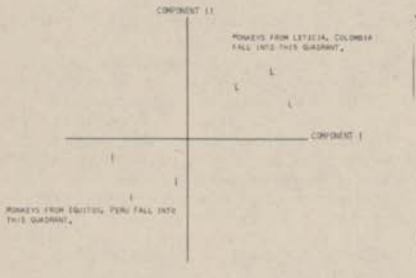
For several years (largely with grant funds which are no longer available) the Institution has been exploring and developing automated methods for capturing natural history collection information in order to make measurements of long term environmental change associated with artifact and specimen characteristics useful for controlled research purposes. The Institution is considered the pioneer in this area by concerned scientists around the nation. One objective, for example, is to recreate environmental conditions for selected animal species which prevailed during specified periods in history, and then through various analyses to speculate about changes which have occurred or will occur and result in contemporary population, distribution, and survival characteristics. The feasibility and usefulness of automation has been demonstrated to the scientific community by the joint efforts which have taken place to date between the National Museum of Natural History and the Information Systems Division. These pilot projects have concentrated on birds, crustacea, rocks, and minerals. The system must now be gradually extended and implemented through the Museum. Collection information systems are needed elsewhere in the Smithsonian. For instance, in the National Portrait Gallery, the Division is helping to develop a program to permit retrieval of a great variety of research data concerning portraits of distinguished Americans. In the Museum of History and Technology similar systems are needed to assist the curators in cataloging, retrieving, and maintaining their collections.

To accommodate these and related needs, two additional computer specialists will be required ($31,000) along with necessary travel and computer services to support the entire Division ($19,000).



GROUP Saimiri sciureus from Leticia, Colombia

VARIABLE	MEAN	VARIANCE	STANDARD DEVIATION	STANDARD ERROR	VARIATION COEFF
1	63.5875	2.3657	1.5381	.2432	2.4189
2	35.8900	2.1143	1.4540	.2299	4.0514
3	38.9100	6.6102	2.5710	.4065	6.6076
4	33.7425	1.9343	1.3908	.2199	4.1218
5	29.4675	.5546	.7447	.1177	2.5271
6	18.7925	.5299	.7280	.1151	3.8737
7	15.7050	.4174	.6461	.1022	4.1138
8	18.8300	.6473	.8045	.1272	4.2726
9	19.8675	3.4735	1.8637	.2947	9.3809
10	17.6050	1.0666	1.0328	.1633	5.8664
11	43.7525	2.3744	1.5409	.2436	3.5218
12	63.2225	2.8054	1.6749	.2648	2.6493
13	40.0475	1.3436	1.1591	.1833	2.8944
14	40.3675	.8776	.9368	.1481	2.3207
15	32.5325	.8971	.9472	.1498	2.9114
16	53.4950	2.2251	1.4917	.2359	2.7884
17	28.2350	2.6269	1.6208	.2563	5.7403
18	34.5475	2.5549	1.5984	.2527	4.6267
19	27.5475	3.7508	1.9367	.3062	7.0304



SQUIRREL MONKEYS (SAIMIRI SCIUREUS) FROM IQUITOS, PERU MAY BE DIFFERENTIATED FROM SQUIRREL MONKEYS FROM LETICIA, COLOMBIA BY THE ABOVE GRAPH. COMPONENT I IS BASED ON SKULL LENGTH, OCCIPITAL LENGTH, AND LENGTH OF TOOTH ROW. COMPONENT II IS DETERMINED BY SKULL HEIGHT AND NASION-OPISTHION LENGTH.



GEOGRAPHIC DISTRIBUTION OF THE SQUIRREL MONKEY (SAIMIRI SCIUREUS) IN SOUTH AMERICA.

The above illustrates how computerization allows Smithsonian scientists to identify animals used in biomedical research more precisely. Retrieved data on external morphology and skull morphology may be subjected to canonical analysis and discriminate function analysis often resulting in a discrimination among groups of animals which yields a better definition of taxonomy and geographic variation. Investigators are concerned about a variety of physiologic and biochemical differences among squirrel monkeys (Saimiri sciureus) used in medical research. An analysis of 19 variables has identified those characteristics most useful in discriminating between groups and has demonstrated that squirrel monkeys differ according to the place obtained: Iquitos, Peru or Leticia, Columbia. This task could not readily be accomplished without benefit of the computer system as manifold computations must be made on each of the 19 variables.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN ARCHIVES

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions ..	6	0	6
11 Personnel Compensation.....	$ 50,000	$ 3,000	$ 53,000
12 Personnel Benefits.....	4,000	0	4,000
21 Travel & Transp. of Persons	1,000	0	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	3,000	5,000	8,000
26 Supplies & Materials	2,000	0	2,000
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL.....	$ 61,000	$ 8,000	$ 69,000
Analysis of Total			
Pay Increase	$3,000	$ 3,000	$6,000
Program	$58,000	$ 5,000	$63,000

Specification of Increase (Program):

Microfilming Archival Records ($5,000)

The Archives maintains records dating from the 1830's on the Smithsonian's history, and makes these available for administrative purposes as well as to scholars studying the history of American science. The requested increase of $5,000 is aimed at microfilming deteriorating documents for preservation and to make them more accessible to researchers.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN ARCHIVES

1970 Actual.....$33,000
1971 Estimate.....$61,000
1972 Estimate.....$69,000

The Smithsonian Archives is both the official memory of the Smithsonian Institution and a valuable research resource for scholars in the history of American science in the 19th century. Exclusive of materials located in the research and curatorial areas of the Smithsonian (which also should be identified and protected), the Archives' current holdings amount to over one million documents from the 1830's to the present. Within available resources, the Archives' staff identifies permanently valuable records throughout the Institution, preserves them for administrative, legal, and fiscal value, and provides service on these records to Smithsonian staff. This constitutes the Archives' management or service function. The Archives also makes available and interprets its holdings to the scholarly community, an activity which makes the greatest demands upon the professional capacity of the staff.

Current resources of staff and funds are distributed approximately equally among the following activities: identifying, selecting, and preserving valuable records; preparing finding aids; and providing reference services. In fiscal year 1970, about one-half of the reference service effort went to student, scholar, and federal agency users.

An increase of $5,000 is requested for microfilming valuable records. An additional amount of $3,000 is requested for necessary pay.

Need for Increase--A major current program shortage is the lack of sufficient funds for contract microfilming and supplies. Only about $3,000 is currently available for this purpose. This requested increase of $5,000 for fiscal year 1972 is aimed at microfilming deteriorating documents as a preservation function, and to increase the availability of these records to staff and visitors through microfilm medium.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

PHOTOGRAPHIC SERVICES DIVISION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	20	0	20
11 Personnel Compensation	$211,000	$ 8,000	$ 219,000
12 Personnel Benefits	17,000		17,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction	10,000	15,000	23,000
25 Other Services	1,000	0	1,000
26 Supplies & Materials	13,000	4,000	17,000
31 Equipment	0	3,000	3,000
41 Grants			
TOTAL	$252,000	$ 28,000	$ 280,000
Analysis of Total			
Fair Increases	12,000	8,000	20,000
Program	$240,000	$20,000	$260,000

Specification of Increase (Program):

General Photographic Support ($20,000)

As a result of a virtually level allotment and some pay cost absorption, funds available for other object classes have decreased over the past several years. Yet the price of films, chemicals, and outside processing has increased 10-15 percent. In addition, many pieces of equipment are 10-12 years old and obsolete or frequently in need of repair. An amount of $20,000 is requested to purchase supplies, replacement equipment, and specialized processing services.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
PHOTOGRAPHIC SERVICES DIVISION

1970 Actual.....$265,000
1971 Estimate.....$252,000
1972 Estimate.....$280,000

The Smithsonian photographic services are unique in that the Institution's activities require more quality and custom work as compared to the photographic needs of most government agencies. The photographic work is under public scrutiny almost entirely. In view of the importance of photographic services to the entire Institution, the centralized Photographic Services Division was formed to exercise a more stable and positive control over the application of procedures and techniques. It maintains laboratories in three museum buildings.

This Division is charged with supplying all types of photographic and related services that the Smithsonian's museums and research activities may require. This involves filling photographic requests, obtaining outside contractual services, and providing technical assistance and training to Smithsonian staff members. The Division supports programs of research, documentation, and conservation of collections, exhibitions, education, training, publication, and public service.

An increase of $20,000 is requested to provide for general photographic support. An additional $8,000 are required for necessary pay.

In the past several years, there have been several Government-wide increases in salaries, resulting in funds being directed from other object classes and used for the payment of salaries and benefits. In fact, funds available for other object classes have decreased from $52,000 in fiscal year 1968 to $25,000 in fiscal year 1970. This situation is further aggravated by the fact that the prices of films, chemicals, and processing have increased 10-15 percent during this period. Equipment replacement needs have had to be deferred in order to purchase necessary supplies and materials. Many pieces of equipment are now 10 to 12 years old and obsolete or frequently in need of repair. Outside processing (color work) has been held below minimum needs to compensate for the shift of funds for salaries and benefits. Additional funds in the amount of $20,000 are urgently needed to pruchase supplies, equipment, and specialized processing services.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SUPPLY DIVISION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	21	0	21
11 Personnel Compensation	$236,000	$ 7,000	$243,000
12 Personnel Benefits	17,000	1,000	18,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	8,000	0	8,000
24 Printing & Reproduction			
25 Other Services	6,000	3,000	9,000
26 Supplies & Materials	59,000	15,000	74,000
31 Equipment	1,000	2,000	3,000
41 Grants			
TOTAL	$327,000	$28,000	$355,000
Analysis of Total			
Pay Increase	$ 10,000	$ 8,000	$ 18,000
Program	$317,000	$20,000	$337,000

Specification of Increase (Program):

Stockroom Operations ($20,000)

The growth in research, exhibit, and educational programs has increased demands for stockroom supplies. These commonly used items are centrally bought, stocked, and issued for economy and efficiency. Reserves of many needed items have been depleted, however, and prices continue to rise. An additional $20,000 are required for stockroom supplies, equipment, and office machine repair services.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SUPPLY DIVISION

1970 Actual	$318,000
1971 Estimate	$327,000
1972 Estimate	$355,000

The Supply Division procures supplies, materials, contractual services, and equipment for research, curatorial, exhibition preparation, and other Smithsonian activities. It stocks and issues office, laboratory, and other supplies required in daily operations. It operates a property management program, obtaining excess property in lieu of new procurement wherever possible. The Division maintains property records and takes periodic inventories to insure adequate control and utilization of equipment items.

An increase of $20,000 is required primarily for stockroom operations. An additional $8,000 are requested for necessary pay.

Need for Increase--The growth in research, exhibit, and educational programs has increased demands for stockroom supplies. For economy and efficiency of purchasing, general supply items are bought centrally and stocked by the Division for issue. The Division has had to reduce its expenditures for supplies in order to absorb part of higher pay costs. About $76,000 are available in fiscal year 1971 of which about $18,000 will be used for duplicating supplies. Because of limited funds, the Division has been unable to conduct an orderly planned procurement and stocking program. It has been forced to buy often in small lots, making for uneconomical procurement. To save funds, the inventory has been purged of slow-moving items and specialized items used by only one or a few units. The reserves of many necessary items, however, have been reduced to dangerous levels. Stock prices are rising. An additional $20,000 are requested for stockroom supplies, equipment, and office machine repair services.

The Division's workload of purchase orders, contracts, imprest fund uses, and other transactions associated with operating funds, foreign currency matters, and construction projects continues to increase. This increase is the result of general expansion and the assignment of major procurements for the National Zoological Park. Although improved methods and techniques (a new procurement manual has been issued recently) will continue to increase productivity, it is anticipated that the procurement workload will outpace available manpower in fiscal year 1972. There is also the problem of adequate control of receiving and prompt delivery services to additional building facilities (for instance, the Renwick Gallery and the new laboratory building for the Radiation Biology Laboratory in Rockville, Maryland). Notwithstanding the foregoing, an increase in personnel is not being requested at this time. Further expansion will require additional personnel.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ADMINISTRATIVE SYSTEMS DIVISION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	9	0	9
11 Personnel Compensation	$ 117,000	$ 4,000	$ 121,000
12 Personnel Benefits	9,000	0	9,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. & Utilities	0	0	0
24 Printing & Reproduction	25,000	7,000	32,000
25 Other Services	1,000	0	1,000
26 Supplies & Materials	4,000	3,000	7,000
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL	$ 157,000	$ 14,000	$ 171,000
Analysis of Total			
Pay Increase	$8,000	$4,000	$12,000
Program	$149,000	$10,000	$159,000

Specification of Increase (Program):

Forms Management Program ($10,000)

An additional $10,000 (on a base of approximately $25,000) is required to purchase a variety of forms for management purposes.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
ADMINISTRATIVE SYSTEMS DIVISION

1970 Actual.....$140,000
1971 Estimate.....$157,000
1972 Estimate.....$171,000

The Administrative Systems Division provides management analysis and system and procedures work in the development of sound business administration and management improvement programs within the Institution. This unit develops organizational, functional, staffing and flow charts, procedural manuals and other administrative issuances, makes studies and special surveys, provides management advisory services, and maintains a forms management program.

A program increase of $10,000 is requested in order to provide supplies for the forms management program. An additional $4,000 are required for necessary pay.

Need for Increase--As the complexity of the Institution has increased, the use of forms has increased also. Formerly, the Institution could utilize a relatively small number of simple forms for management and reporting purposes. However, the increase in the number of bureaus and programs of the Smithsonian requires that sophisticated reporting systems, including computer reports, be developed to insure that heads of bureaus and offices as well as other Smithsonian officials receive the information essential for effective management. These new reporting systems use many types of forms in relatively large quantities. Unfortunately, in spite of inflationary increase in the cost of forms, the funds available for their purchases have remained constant at about $25,000. This has now reached a point where the printing or purchase of many required forms has been deferred due to the lack of funds. An additional $10,000 are urgently needed for the purchase of forms.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DUPLICATING SECTION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	7	0	7
11 Personnel Compensation	$ 54,000	$ 3,000	$ 57,000
12 Personnel Benefits	4,000		4,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	7,000		7,000
24 Printing & Reproduction			
25 Other Services	5,000	0	5,000
26 Supplies & Materials			
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL	$ 70,000	$ 18,000	$ 88,000
Analysis of Total			
Pay Increase	$3,000	$3,000	$6,000
Program	$67,000	$15,000	$82,000

Specification of Increase (Program):

Replacement of Old Equipment ($15,000)

The Duplicating Section produces a wide range of high quality printed materials for Smithsonian research, curatorial, exhibits, and administrative needs. Much of its current equipment is old and, while well maintained, frequently breaks down. No funds are available for replacements. An amount of $15,000 is requested to replace a 13-year-old offset press and a platemaker to reproduce materials with greater fidelity.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
DUPLICATING SECTION

1970 Actual $83,000
1971 Estimate $70,000
1972 Estimate $88,000

The Duplicating Section is responsible for producing a wide range of printed materials for the Smithsonian Institution. Included are administrative issuances, news releases and reports, and informational materials produced by the research, curatorial, and exhibits activities.

A program increase of $15,000 is requested to replace old and obsolete equipment. An additional funding of $3,000 for necessary pay is required.

Need for Increase--The current budget meets the costs of essential personnel (no staff reductions can be made and meet the workload), some supplies, and essential repairs to existing equipment. No funds are available to purchase replacement equipment. Much of the current equipment is old and while well maintained frequently breaks down. One of the four offset presses is thirteen years old. When out of operation there is a loss of production as well as costly repairs. Funds are requested for a replacement offset press and for a new itek platemaker in order to reproduce photographs and other originals with greater fidelity.

The service furnished by this unit is essential to many of the overall programs of the Smithsonian Institution. The personnel are well qualified to handle this type of work and do an excellent job. Work must be kept at a current level to be of any value to those requiring the work.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ADMINISTRATIVE SYSTEMS DIVISION

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		9	0	9
11	Personnel Compensation	$ 117,000	$ 4,000	$ 121,000
12	Personnel Benefits	9,000	0	9,000
21	Travel & Transp. of Persons	0	0	0
22	Transportation of Things	0	0	0
23	Rent, Comm. & Utilities	0	0	0
24	Printing & Reproduction	25,000	7,000	32,000
25	Other Services	1,000	0	1,000
26	Supplies & Materials	4,000	3,000	7,000
31	Equipment	1,000	0	1,000
41	Grants			
	TOTAL	$ 157,000	$ 14,000	$ 171,000
Analysis of Total				
	Pay Increase	$8,000	$4,000	$12,000
	Program	$149,000	$10,000	$159,000

Specification of Increase (Program):

Forms Management Program ($10,000)

An additional $10,000 (on a base of approximately $25,000) is required to purchase a variety of forms for management purposes.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
ADMINISTRATIVE SYSTEMS DIVISION

1970 Actual.....$140,000
1971 Estimate.....$157,000
1972 Estimate.....$171,000

The Administrative Systems Division provides management analysis and system and procedures work in the development of sound business administration and management improvement programs within the Institution. This unit develops organizational, functional, staffing and flow charts, procedural manuals and other administrative issuances, makes studies and special surveys, provides management advisory services, and maintains a forms management program.

A program increase of $10,000 is requested in order to provide supplies for the forms management program. An additional $4,000 are required for necessary pay.

Need for Increase--As the complexity of the Institution has increased, the use of forms has increased also. Formerly, the Institution could utilize a relatively small number of simple forms for management and reporting purposes. However, the increase in the number of bureaus and programs of the Smithsonian requires that sophisticated reporting systems, including computer reports, be developed to insure that heads of bureaus and offices as well as other Smithsonian officials receive the information essential for effective management. These new reporting systems use many types of forms in relatively large quantities. Unfortunately, in spite of inflationary increase in the cost of forms, the funds available for their purchases have remained constant at about $25,000. This has now reached a point where the printing or purchase of many required forms has been deferred due to the lack of funds. An additional $10,000 are urgently needed for the purchase of forms.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DUPLICATING SECTION

Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions	7	0	7
11 Personnel Compensation	$ 54,000	$ 3,000	$ 57,000
12 Personnel Benefits	4,000		4,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	7,000		7,000
24 Printing & Reproduction			
25 Other Services	5,000	0	5,000
26 Supplies & Materials			
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL	$ 70,000	$ 18,000	$ 88,000
Analysis of Total			
Pay Increase	$3,000	$3,000	$6,000
Program	$67,000	$15,000	$82,000

Specification of Increase (Program):

Replacement of Old Equipment ($15,000)

The Duplicating Section produces a wide range of high quality printed materials for Smithsonian research, curatorial, exhibits, and administrative needs. Much of its current equipment is old and, while well maintained, frequently breaks down. No funds are available for replacements. An amount of $15,000 is requested to replace a 13-year-old offset press and a platemaker to reproduce materials with greater fidelity.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
DUPLICATING SECTION

1970 Actual $83,000
1971 Estimate $70,000
1972 Estimate $88,000

The Duplicating Section is responsible for producing a wide range of printed materials for the Smithsonian Institution. Included are administrative issuances, news releases and reports, and informational materials produced by the research, curatorial, and exhibits activities.

A program increase of $15,000 is requested to replace old and obsolete equipment. An additional funding of $3,000 for necessary pay is required.

Need for Increase--The current budget meets the costs of essential personnel (no staff reductions can be made and meet the workload), some supplies, and essential repairs to existing equipment. No funds are available to purchase replacement equipment. Much of the current equipment is old and while well maintained frequently breaks down. One of the four offset presses is thirteen years old. When out of operation there is a loss of production as well as costly repairs. Funds are requested for a replacement offset press and for a new itek platemaker in order to reproduce photographs and other originals with greater fidelity.

The service furnished by this unit is essential to many of the overall programs of the Smithsonian Institution. The personnel are well qualified to handle this type of work and do an excellent job. Work must be kept at a current level to be of any value to those requiring the work.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OTHER CENTRAL SUPPORT

Object Class		1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		13	0	13
11	Personnel Compensation	$155,000	$ 5,000	$ 160,000
12	Personnel Benefits	14,000		14,000
21	Travel & Transp. of Persons			
22	Transportation of Things			
23	Rent, Comm. & Utilities	5,000	0	5,000
24	Printing & Reproduction			
25	Other Services	2,000	0	2,000
26	Supplies & Materials			
31	Equipment	1,000	0	1,000
41	Grants			
	TOTAL	$177,000	$ 5,000	$ 182,000
Analysis of Total				
Pay Increase		$8,000	$5,000	$13,000
Program		$169,000	0	$169,000

Specification of Increase (Program):

No program increase is sought for fiscal year 1972.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OTHER CENTRAL SUPPORT

1970 Actual.....$168,000
1971 Estimate.....$177,000
1972 Estimate.....$182,000

Included are the activities of the Equal Employment Opportunity Office, the special project involving writing and research efforts associated with producing the Joseph Henry Papers, the Travel Services Office, and the record keeping duties of the Secretary's Files. No increases are being sought for these activities other than necessary pay ($5,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

BUILDINGS MANAGEMENT DEPARTMENT

	Object Class	1971 Base	Increase Requested	1972 Estimate
Number of Permanent Positions		768	25	793
11	Personnel Compensation	$6,032,000	$504,000	$6,536,000
12	Personnel Benefits	453,000	40,000	493,000
21	Travel & Transp. of Persons	3,000	0	3,000
22	Transportation of Things			
23	Rent, Comm. & Utilities	1,425,000	168,000	1,593,000
24	Printing & Reproduction			
25	Other Services	1,033,000	45,000	1,078,000
26	Supplies & Materials	275,000	40,000	315,000
31	Equipment	50,000	10,000	60,000
41	Grants			
	TOTAL	$9,271,000	$807,000	$10,078,000
	Analysis of Total			
	Pay Increase	$606,000	$382,000	$988,000
	Program	$8,665,000	$425,000	$9,090,000

Specification of Increase (Program):

Renwick Gallery (25 positions, $195,000)

The Gallery will be undergoing exhibit preparation in early fiscal year 1972, and is now scheduled for public opening in the fall of 1971. Additional security and maintenance personnel are needed for the Gallery operations. Twenty-five positions (17 guards, five custodial employees, and three mechanics) and personnel funding ($162,000) are requested. Support funding for related maintenance expenses such as supplies, communications, materials, and equipment are also requested ($33,000).

Other Institutional Maintenance ($230,000)

Because of inflationary costs and greater utilization of facilities, an additional $230,000 are sought for utility and related expenses in all other buildings of the Institution.

BUILDINGS MANAGEMENT DEPARTMENT

1970 Actual.....$ 8,067,000
1971 Estimate.....$ 9,271,000
1972 Estimate.....$10,078,000

The Buildings Management Department provides essential services to the program units and helps them accomplish the Institution's important goals. These responsibilities include the protection, operation, and maintenance of eight major buildings. These include the original Smithsonian Institution Building, the History and Technology Building, the Natural History Building, the Arts and Industries Building, the Freer Gallery of Art, the National Air and Space Building, the Fine Arts and Portrait Galleries Building (housing the National Portrait Gallery and the National Collection of Fine Arts), and the Renwick Gallery. The Department performs various combinations of these functions for nine other research, collection, special purpose, and support facilities, including the Chesapeake Bay Center for Environmental Studies, the Oceanographic Sorting Center, the Belmont Conference Center, and the Silver Hill facility (which provides for the restoration and preservation activities of the National Air and Space Museum, and houses reference collections of aircraft, and other objects of science, technology, art, and natural history). The total floor space of all the Smithsonian buildings is 3,300,000 square feet, and includes exhibition and public areas, research laboratories, reference collection areas, libraries, offices, and supporting facilities located at 17 different sites in the Metropolitan Area.

This Department provides utilities (electricity, steam, gas, water, and compressed air), including servicing, repairing, and operating the refrigeration, heating, temperature and humidity control systems, and related machinery and accessories. It furnishes transportation and communications, performs repairs, improvements, and alterations to the buildings. Among the Department's responsibilities are the safety, physical security, and disaster programs, as well as engineering and architectural services, construction management, space management, feasibility studies, and professional services.

A program increase of 25 positions and $425,000 are required in fiscal year 1972 to provide basic services to the Renwick Gallery; and to meet increased costs of utilities, communications, contract work, supplies and materials, and equipment for all of the buildings. An additional $382,000 are requested for mandatory increases in pay and benefits.

Need for Increase

1. The Renwick Gallery. Located at 17th Street and Pennsylvania Avenue, the Renwick was turned over to the Smithsonian Institution in February 1969, and extensive and essential restoration and renovation work remained to be done in succeeding fiscal years. The Buildings Management Department has been providing basic protection to the building and its contents, and other services such as heating, air conditioning, and the humidity control systems. This is done on a 24-hour basis, seven days a week. Fiscal year 1971 costs will be approximately $125,000.

The Gallery will be undergoing exhibit preparation beginning in early fiscal 1972, and is now scheduled for opening to the public in the fall of 1971. The additional positions required to provide adequate staffing for fiscal 1972 include 17 guards, five custodial employees, and three mechanics (electrician, painter, and carpenter). In addition to $162,000 for personnel costs, funds are also requested for related expenses such as communications, supplies, materials, and equipment to support these necessary functions ($33,000). This is a requested total increase of $195,000 for building operation costs of this significant additional Institutional facility.

2. Other Institutional Maintenance. An increase of $230,000 is required to meet the following known additional utility and related expenses:

--$138,000 to meet an approximate 11.5 percent increase in the cost of electricity over the last two fiscal years.

--$35,000 for contract services ($20,000 for contract services for the removal of trash and debris resulting from higher labor costs; $15,000 to fund the increased cost of miscellaneous contract work for such items as laundry, cleaning and repair of uniforms, and rodent control).

--$30,000 to meet the increasing costs of supplies and materials (this estimate is based on an average increase of 12 percent to 15 percent for essential supplies and materials for the maintenance, operation, and protection of all the Smithsonian buildings).

--$20,000 to meet the increasing costs for communications (of this amount $16,000 are needed for the Federal Telecommunications System intercity telephone services as projected by the General Services Administration).

--$7,000 to meet the increasing costs for equipment (cost increases averaged 12 percent to 15 percent during the past fiscal year).

The cost of electricity, steam, and communications for all Smithsonian buildings and activities continues to increase along with an upward trend in consumption as indicated in the following table.

Type of Expense	1969	1970	1971 Est.	1972 Est.
Electricity	$595,000	$650,000	$685,000	$823,000
Communications	235,000	268,000	288,000	318,000
Steam	322,000	372,000	425,000	425,000
Gas	31,000	25,000	29,000	29,000
	1,183,000	1,315,000	1,427,000	1,595,000

In a four-year period, the cost of Institutional utilities has increased by approximately 35 percent (or an average rate of 12 percent per year) with no prospect of this trend diminishing. For example, the General Services Administration has increased the price of steam about 19 percent this fiscal year.

Although higher consumption and increased costs reflect some growth in building areas, to a substantial degree they result from the fact that Smithsonian buildings and museum operations are not normal office-type activities. Air conditioning, heating, and lighting must be provided for the comfort of approximately 14,000,000 visitors during day and evening hours. Many activities are continuous, such as operating engineers being available seven days a week, 24-hours a day, for maintaining enviromental control systems. Continuous operations are absolutely essential in many phases of the Department for the conservation and preservation of the National Collections. Supporting services must be provided not only during the normal hours, but also for Institutional activities in the evenings, weekends, and holidays. Peak workload periods are during the spring and summer months when the museum and gallery exhibitions are open until 9:00 p.m.

The mechanical services employees are also responsible for inspecting, servicing, repairing, and operating the 9,850-ton capacity environmental control equipment. This is a complex and intricate system of machinery used for air conditioning, refrigeration, heating, and humidity control purposes. In addition to price increases, the capacity of this machinery has increased five percent in

the last year. The volume and complexity of work orders for mechanical trades assistance continue to grow and to place heavy demands on this Department as indicated below:

Fiscal Year	Work Orders
1969	8,180
1970	9,500
1971	10,500 est.
1972	11,000 est.

These work orders represent a broad range of assistance and support to such activities as exhibitions in history, science and the arts, educational and research programs, and increased use of all buildings, grounds, and facilities by the visiting public.

Building services employees give support to the many programs of the Smithsonian including moving collections and objects, and cleaning exhibit areas, research laboratories, offices, shops, and several public lounges. Employees are also responsible for motor vehicle services, switchboard operation, checkroom services, office moves, and operation of the Institution's 55 elevators.

Over the past several years adequate protection of the visitors to our museums and art galleries has become increasingly complex. The design of exhibit halls and configuration of space requires effective protection. Many more exhibits are being designed to permit the public to view the objects without the intrusion of protective devices such as enclosures and cases. The National Collections must be given maximum protection against loss through arson, theft or vandalism. There has been no significant decrease in the number of such incidents (211 in fiscal 1969; 205 in fiscal 1970). The recently established special salary rate for guard positions will aid in recruiting and retaining qualified guards. The rates are more commensurate with the responsibilities of these positions.

The scope and complexity of the activities of the Buildings Management Department require continuing management improvement efforts and cost reduction programs to ensure that a maximum quality of service is provided with available funds. In recognition of this need, a study by a reputable management consultant firm has been made regarding the organizational structure, financial management, and work control systems of the Department. Several of the recommendations in this study are in the process of implementation. For example, work standards are being developed and implemented, and an inventory control unit has been established. A work control unit has been initiated to plan, estimate, and schedule all major work requests. This will ensure that the preventive maintenance program for plant equipment and buildings is conducted effectively and at minimum cost.

VACANCIES IN PERMANENT POSITIONS

Mrs. HANSEN. You have 2,373 permanent positions authorized in 1971. How many vacancies existed as of your last reporting date?

Mr. BRADLEY. Under "Salaries and Expenses", Madam Chairman, we had an actual employment of 2,165 as of February 28, 1971, which gives us a lapse of 208 positions or about 9 percent of the amount authorized.

Mrs. HANSEN. What do you attribute the lapse of 208 positions to? Attrition, part time?

Mr. BRADLEY. A very large amount of it is under our Buildings Management Department where the salaries are relatively low and the turnover is relatively high. In our endeavors to get good guards, mechanics, laborers, and cleaners our personnel office is hard pressed to find good people who will stay with us.

Mrs. HANSEN. There are many charges that there isn't equal opportunity for minority groups in Federal agencies. Is this true in the Smithsonian Institution?

Mr. BRADLEY. That is not true.

Dr. RIPLEY. We have personnel of minority groups as high as bureau director in the Institution. So I think we can hardly be accused of practicing discrimination.

Mrs. HANSEN. What is your average percentage rate of personnel turnover?

Mr. BRADLEY. About 8.5 percent, Madam Chairman, annually.

Mrs. HANSEN. Is this relatively high?

Mr. BRADLEY. I would think it is comparable, let's say, to the General Services Administration, but it would not be comparable to a stable, professional organization such as the Geological Survey, for example. It depends upon the type of employment.

Mrs. HANSEN. In the Smithsonian Institution you actually have a wide range of positions.

Mr. RIPLEY. That is right. The guard services and janitorial services are essential for maintaining, cleaning, and guarding our buildings. We have a mix of more rapid turnover with these employees and the more stable technical and professional employment.

COST OF PROMOTIONS

Mrs. HANSEN. You have budgeted $185,000 to finance the cost of promotions. When you replace employees usually it is at a lower salary step. To what extent have you included these savings in your computations of "necessary pay increases?"

Mr. BRADLEY. Madam Chairman, we have estimated our pay increases after taking into consideration savings by reason of employees separating and being replaced by new employees coming in at a lower rate. In other words, the so-called apparent cost is estimated first. From that we deduct the savings and we ask here only for the net difference.

MUSEUM OF NATURAL HISTORY SUPPORT DEFICIENCIES

Mrs. HANSEN. Justify your requested increase of $576,000 and 34 positions for museum support deficiencies.

Dr. COWAN. Madam Chairman, this request is the beginning of an effort to eliminate an accumulation of needs which have occurred over a number of years of less than adequate support for the Museum of Natural History. We anticipate that this is the first of 3 years' support deficiencies.

The 34 positions are exclusively for technical assistance by which we mean museum technicians, museum aides, and people of that sort which will permit the scientific people to do the thoroughly scientific job they have been trained for and indeed employed for. The $171,000 for all other objects includes the kinds of things that will raise the per scientist support in terms of materials, equipment, and so forth, up to a reasonable level but still well below the national average for this kind of support for individual scientists. It will change from the present $900 per year per scientist to about $2,000. The third item is a request for $200,000 for nonrecurring equipment. It is a nonrecurring item which will help make up part of our deficit in equipment and supplies.

Now, there is a general outline of this first section of our budget. I can go into more detail, if you like.

Mrs. HANSEN. In your justification you use the unflattering word "menial" to describe some of the work.

Dr. COWAN. If it is not in a quotation, then it is my fault.

Mrs. HANSEN. I don't think you should describe any type of work as menial just because it doesn't require a lot of training or skill.

Dr. COWAN. May I add something? We have for that reason in the Museum of Natural History for several years now refused to use the term subprofessional because it has a negative connotation. Supportive staff can be very professional technicians, secretaries, and research assistants.

Mrs. HANSEN. "Menial" is a very ugly word.

Dr. COWAN. Yes, it is.

Dr. RIPLEY. I was interested, Madam Chairman, in that connection, to hear that in Germany until recently maids were referred to as Haus Doktor, and this activity of being a maid was considered so highly professional and skilled that they were given the honorific title of Haus Doktor, and they made many of the decisions about how people got married and who they married in contrast to the parents, and they ran the house.

ENVIRONMENTAL STUDIES IN THE NATURAL HISTORY MUSEUM

Mrs. HANSEN. Justify your requested increase of $532,000 and 28 positions for environmental sciences.

Dr. COWAN. Here I would like to say first of all something about the kind of environmental studies we do in the museum and perhaps it will be easier if I say ecological studies since ecology is the study of environmental matters.

Our people in the museum are concerned with basic ecological data. Baseline information forms the foundation for more esoteric, more applied kinds of solutions to our environmental problems in the country.

The people in the museum are concerned first of all with descriptive biology, describing what is in the environment, what are the living

and physical parts of the environment, what grows where, when, and with what. The descriptive function, if it ended at that point, might not be the most satisfying result, but it goes on to what we call monographic work which is the synthesis, the drawing together, of all information about major groups of organisms, including ecology.

In recent times, within the last 5 years our people have become increasingly interested in community studies, how organisms interact with each other. In the present period we are deeply involved in what I would call basic ecological studies. Most of these interdisciplinary studies involve people in various museum departments. So, what we have asked for in our budget statement is a minimum number of professionals, because in fact we are not keen on developing a greatly larger scientific staff, certainly not until we support those that we have in a much better fashion. We are asking for only nine professional positions and 19 technicians and technical support positions.

GENERAL PUBLIC ENLIGHTENMENT

Mrs. HANSEN. You are requesting $337,000 for the education of the public. What is involved in this request?

Mr. JAMESON. Madam Chairman, the 1972 estimate for education of the public of $337,000 is an estimate of staff time largely of the museum professional and supporting people in planning exhibits, preparing scripts for those exhibits, which set out what is going to go into the exhibit, what kind of story should it tell, and then assistance to our museum exhibit designer staff in the Office of Exhibits by actually writing out good descriptive labels of the items that will be on display. I believe this figure that we have is an estimate of the amount of staff time which goes into this and related activity.

Mrs. HANSEN. This is not a public relations activity?

Mr. JAMESON. Not that, Madam Chairman. In addition, we do get a large volume of public inquiries, such as, "Please tell me what this rock is I found or what kind of spider is this." This estimate also includes the time that is spent answering these kinds of public inquiries.

STUDY OF DETERIORATING FRESHWATER HABITATS

Mrs. HANSEN. I understand. Justify your requested increase of three positions and $50,000 for study of deteriorating fresh water habitats.

Dr. COWAN. We are anticipating the employment of a single professional aquatic investigator to study aquatic flies and aquatic insects. The aquatic insects are very important because they show something about the quality of the water by their presence or absence. They are also a vital part of the freshwater food-chain, leading up to fish and ultimately to man. The other two positions are for research assistance to go along with this program and to expand what we are doing already.

We are working with crayfishes now. I might point out to you the title of one of the publications recently released—"Water Quality Indicative Organisms." This is by one of our senior scientists. Crayfishes likewise are very good indicators of the quality of water.

(Discussion off the record.)

Mrs. HANSEN. What is the justification for the other two positions?

Dr. COWAN. The other two are research assistants. These will be highly-skilled, well trained people to work right in the research process.

ANIMALS OF THE SEA

Mrs. HANSEN. You are requesting an increase of $121,000 and seven positions for animals of the sea.

Justify this request.

Dr. COWAN. Right. This is a cluster of related projects and again there is only a single professional in the whole list. That one is a cetologist, a specialist on marine mammals: whales, seals, sea elephants, and walruses. The other positions are illustrators, museum technicians, and one clerk-typist. This program involves working up the Indian Ocean materials, one of the richest areas of the world, and in the early 1960's, the U.S. Government backed the U.S. portion of a 4-year international program, in understanding the biology of the Indian Ocean. Much of this material is still unstudied. It is still in bottles and jars unworked. So part of this program is to get the material worked up scientifically so it is useful for the many purposes that we need to have information these days. That is one example.

BALANCE OF NATURE

Mrs. HANSEN. In your justifications I notice you mention marine mammals. I think you know that there has been a bill introduced in Congress to prevent the killing of seals.

Dr. COWAN. Yes.

Mrs. HANSEN. I want to ask you something as a scientist. What happens to a seal herd when it expands tremendously and has not enough feeding grounds?

Dr. COWAN. I will make an attempt at an answer and Mr. Ripley may like to supplement it.

I think that with any organism, including man, when the population grows beyond its ability to sustain itself, you begin getting psychological changes and a lot of physical death, too. There was an article about this in the paper just last week, with mice.

Mrs. HANSEN. I talked to a scientist not too long ago about the Pribilof Islands. On one island all the vegetation is gone because it has just been completely used by the seal herds. Suppose that all nations agreed that no seals would be killed. They are a rather rapidly reproducing breed. Then you are going to have the inevitable problem of starvation, are you not, for these herds?

Dr. COWAN. Yes. The whole thing is that if you had the balance of nature that we started out with, we wouldn't have to worry, because there is an inherent balance in nature which is controlling.

Mrs. HANSEN. What do you consider as, "the inherent balance of nature?"

Dr. COWAN. Well the balance of nature, as nearly as we can come to it, would require a survey, and we would have to go back to our own National Collections as a means of establishing what was "natural" at a point in time. But even then man, at the time our collection began to develop, had already begun to affect this balance of nature.

So, now that we have affected it and changed it so markedly, it is inevitable that we have to talk about "management" of the environment. We have to begin inserting man as a manager, as with deer for example. I can describe it better with deer. Right here in Virginia, if you left the deer alone and said you mustn't kill deer, there soon would be major economic problems in the State of Virginia in that area. We have to manage by resorting to a hunting season.

Mrs. HANSEN. I do think we have to understand the basic background of the sea mammals because there can be no sadder destruction than to have starvation of a species.

Dr. COWAN. Yes. If I can add a word about another danger, the fact that you can deplete the population to the point that it's no longer reproductively sound. That is, males and females just don't get together frequently enough, so you get reduced numbers.

Dr. CHALLINOR. Madam Chairman, I might mention that one of the results if you do stop killing or controlling is that the population builds up and you get animals reintroduced to places where they formerly existed. On the Channel Islands off Santa Barbara two years ago there were one male and about five dozen females of the Pribilof herd that established a breeding colony on San Miguel Island. The first time they had been found breeding there. We can conceivably get them to return in the same way we did the sea otter. The Guadeloupe seal herd had been declared extinct off Mexico several times, and now the Guadeloupe seals also are being found again in the Channel Islands because of protection or because of controlling the hunting. This does not mean, however, that you can't maintain a sustained yield if it's carefully managed.

Mrs. HANSEN. I think the legislation that is pending provides that there shall be no killing.

Dr. RIPLEY. I think it is subject to review, Madam Chairman. The question of the balance of nature is in effect a philosophical myth. There is no such thing as a balance of nature because all natural balances are continually in a state of flux, and it is impossible to say at any one date or any one moment in time that in that moment there is a stable balance between various kinds of competing organisms competing for food or space habitat, environmental living space. This is constantly changing. We can say that the prairies which previously produced marvelous buffalo grasses, most of which are extinct today, were in a balance, but we have no real way of knowing what the prairies in the preceding cycle were producing in the way of foods in contrast to the grasses. So it's very difficult to say at any moment that nature is in balance.

Mrs. HANSEN. Nature is ever-changing.

Dr. RIPLEY. Ever-changing, and the one thing we do know is the presence of man with advanced technology is accelerating the rate of change and we do think that most of the changes are not beneficial.

Mrs. HANSEN. What do you suggest, rid the planet of man?

Dr. RIPLEY. Well certainly the easiest thing would be to work out some kind of population control, and I was fascinated to note that one of my assumptions of many years back is beginning to be of an indication that there is something to it, and that is the presence of DDT in

the atmosphere may have some effect on human fertility. So there again a new kind of balance can be imposed.

Really it's a strange phenomenon. Everybody wants to cut the population, and every doctor on Earth is embarked in the program to keep people alive.

(Discussion off the record.)

CROWN OF THORNS STARFISH

Mrs. HANSEN. How are you participating in the crown of thorns starfish control program?

Dr. RIPLEY. Madam Chairman, I have spoken recently to Mr. Rogers Morton, Secretary of the Interior, our new colleague, and asked him about this, and I am told that funding for this program is not in Interior's 1972 budget. The agreement made when the legislation was passed was that the Smithsonian would not request the funds, but would work with the Department of the Interior and receive the appropriate portion for our basic research out of the funds appropriated to the Interior Department. There are no funds in Interior's budget this year, because they seem to be doing very well out there with just paying a bounty on the starfish.

Mrs. HANSEN. I see. There are no scientific aspects to the control program.

Dr. RIPLEY. The legislation called for a budget and the budget has not been asked for by the Department of the Interior.

Mrs. HANSEN. Did the Department of the Interior ask the OMB for funds for this activity? We find a great deal of difference between the two budgets.

Dr. RIPLEY. I am afraid we do not know at this stage.

Mrs. HANSEN. I hope you will find out.

Dr. RIPLEY. I asked Mr. Morton if we were going to have a commitment from them this year and we found out that we would not because they had not asked for the money under that legislation. As you know, Madam Chairman, the Smithsonian has discovered that the crown of thorns exists off the Panama coast.

Mrs. HANSEN. The thing that the committee was concerned about was a sudden rise in the number of the starfish.

Dr. RIPLEY. This is basic research which we were willing to undertake and perform, but for which we agreed we would not ask for the funds.

Mrs. HANSEN. You may be able, for example, to get rid of the starfish in the trust territories by the bounty system, but you might not be able to get rid of them in some other areas of the world where some particular situation might arise that brings them back into existence.

Dr. RIPLEY. Animals may reenter an area where they have been wiped out temporarily if they continue to exist in adjacent areas.

Mrs. HANSEN. This is why I asked my question.

Dr. RIPLEY. We were very much interested in this discovery in Panama because, as you know, of the discussion of a sea level canal. If the starfish are waiting on the Panama side to seed itself through the canal into the Caribbean where it has never been known to occur even in fossil history, this would provide an interesting problem.

Mrs. HANSEN. Isn't this a matter scientists should be having discussions about to see what will be introduced into the Caribbean from the Pacific and vice versa?

Dr. RIPLEY. Yes; my own feeling has been that the rigorous conditions of life in the marine environment on the Pacific side are such as to adjust the average kind of animals to overcoming competition on the Atlantic side, and we may look for an invasion of specific species. This includes several species. We mentioned the crown of thorns, sea snakes are another, which are currently unknown in warm Atlantic waters. We look for an interesting change in real estate values along the Florida coast.

ORIGINS OF OCEANIC ECOLOGICAL SYSTEMS

Mrs. HANSEN. Please justify your requested increase of $104,200 and nine positions for origins of oceanic ecological systems.

Dr. COWAN. There are three professionals requested in the budget. The whole point of this program is to look deeper than the surface of the floor of the sea along the Atlantic coast. This includes two fossil mollusk specialists. The mollusks were chosen for special attention, because they are very sensitive to the changes in environment. By looking through the fossil record, we will be able to tell a lot about what happened to the environment in the last hundreds of thousands of years.

Mrs. HANSEN. Do you work or consult with the Department of Agriculture? I notice in your justification that insects and plants sensitive to insecticides and herbicides can be used as indicators of soil pollution.

Dr. COWAN. We have the Department of Agriculture systematic entomologists who work with us. In fact, they are housed in the same building with us and work closely with us.

We do not attempt to fill positions that they have and they do not attempt to fill positions we have. We work cooperatively so that we have staffs which complement each other.

STUDIES IN TERRESTRIAL BIOLOGY

Mrs. HANSEN. You are requesting an increase of six positions and $74,400 for studies in terrestrial biology. What is involved in this request?

Dr. COWAN. One of the major parts of this program concerns probably the least known part of the animal kingdom, that which is in the soil. There are literally millions of organisms in an acre of rich soil. These are terribly important as part of the biology of the soil because of the fact they circulate dead material and break it down so it can be reabsorbed.

So we have requested positions for a soil biologist (an entomologist) and three support people.

The systematic ecological research on tropical birds and mammals is an attempt to study communities less affected by man, by looking at those in the tropics.

CHANGING CLIMATES AND MAN'S ADAPTATIONS

Mrs. HANSEN. Justify your requested increase of $124,000 and three positions for changing climates and man's adaptations.

Dr. COWAN. This is another of our inter-disciplinary attempts to add to the basic information for assaulting environmental problems. By joining paleobotany, in the form of fossil pollens, and paleo-Indian artifacts, one can learn a great deal about the changing of climates and man's ways of meeting these changes in the environment.

Mrs. HANSEN. Who else is doing this same type of research?

Dr. COWAN. The University of Arizona has some programs going, also the University of Michigan, Harvard, and Pennsylvania.

Mrs. HANSEN. Do you exchange information?

Dr. COWAN. Indeed, yes.

CRYSTALLOGRAPHY LABORATORY

Mrs. HANSEN. Justify your requested increase of $58,000 for a crystallography laboratory?

Dr. COWAN. This item really should be considered a new program rather than part of the environmental program. The structure of the presentation makes it look like an environmental project. Actually, it initiates the development of a museum-wide facility in the form of a special piece of equipment, which will be a major part of a crystallography laboratory. It can be applied to anything from archaeology to mineral sciences because wherever there is crystalline structure, this piece of equipment in the laboratory can be critical.

EDP APPLICATIONS TO COLLECTIONS MANAGEMENT

Mrs. HANSEN. An increase of 16 positions and $200,000 is requested for improvement in collection management and availability of data through electronic processing. May we have your comments in this regard?

Dr. COWAN. This is one where you may have to stop me because of my enthusiasm. We mentioned earlier the increasing need for scientific information and of scientists coming to use our collections. I might say this in passing because I had the figure a moment ago, of all of the scientific visitors in all of the natural history museums in this country, 20 percent of all those visitors come to the National Museum of Natural History. Of all the loans sent out by museums of this sort in this country, about half are made by our museum. I would like to call your attention to the publication which is the source of these statistics. This I point out was done by the museum community of the country and not ourselves.

The data processing applications that we have made this year, I think are very interesting in light of the funds we have had to work with. With $55,000, we undertook four projects from which we could anticipate a product by the end of the fiscal year.

You may remember at the end of the volume of photographs we provided to illustrate our budget requests, there are letters—one from an oil company, another from Indiana University, The American Museum of Natural History, and the Department of Interior, speak-

ing about the value of one of these products from our data processing efforts this year.

This was a file of our specimens of conodonts, which are tooth like fossils. Nobody is quite sure what animal group they belong to. They do help in exploration for oil and for other practical applications.

That is just one example from last year. This year we would expect to go on further with some of the same applications because of the initial success.

We will be able to provide not only more scientific information but in more forms than ever before. This is a very long project. We are only barely starting. We are approaching the threshhold, as it were.

In this next year, we want to extend the successes of last year and pick up about five or six more areas of the National Collections to make the information available on them as well.

We are working with the museum community of this country and, to a certain extent internationally, to set up a data network that will provide a means by which people in the university community and in other museums can link with our information and we can literally interchange information by means of economical data-terminals in our respective research spaces.

INCREASE IN COSTS OF LIBRARY MATERIALS

Mrs. HANSEN. I notice a very interesting paragraph in a report you have given me entitled, "The Systematic Biology Collections of the United States: and Essential Resources." With a decade rise of 46 percent in the average cost of hard-cover books, (from $8.14 in 1957–1959 to $11.69 in 1969), the doubling of U.S. periodicals subscription costs in biological science (176 percent in Zoology and 266 percent in Botany from 1957–1959 to 1969), and the near sixfold boost in costs of subscriptions to serial services in science and technology for the same period, (from $13.50 in 1957–1959 to $79.05 in 1969), it is clear that these libraries can't function responsibly on their present essentially static financial base.

Doesn't this also affect your library work?

Dr. COWAN. Yes, indeed. It certainly does. All libraries are affected by these problems of information generation and distribution to the extent that I think not only do we have to do something with the libraries but probably figure out other ways of making the information available. Computer technology is one of these ways because computers can produce a lot of information in what you might call soft-cover copy that does not need to be preserved because it can be updated and regenerated at a moment's notice from the data bank.

DEVELOPMENT OF A LARGE OPTICAL TELESCOPE

Mrs. HANSEN. Justify your requested increase of $533,000 to continue the development of a large telescope.

Dr. WHIPPLE. Madam Chairman, the astronomical advances in the last few years have pointed to the extreme scientific value of the infrared part of the spectrum, because of new sensing devices which are enormously more sensitive than we used to have.

Mrs. HANSEN. Give the committee some practical applications of this.

Dr. WHIPPLE. I will be as practical as I can be. For example, we cannot see the center of our galaxy. We get some evidence from radio. But in between us and the center there is a layer of extremely fine dust, a few millionths of an inch in diameter.

In the longer wave-lengths of infrared, however, the radiation can come through and we find very exciting things happening, which we do not understand very well. In our galaxy and other galaxies, including the quasars, which are very distant at the "edge" of the known universe, these activities represent—well, we are not sure whether they represent material that is being made there or material that is falling in and releasing enormous energy. It is a great puzzle. By infrared radiation we can see through this absorbing layer of dust. You may have read recently about the new galaxy that has been discovered in the local system of galaxies.

And also we find that there are regions of gas and dust where we know that stars are forming and we believe solar systems are in the process of being formed. Some of these infrared objects or cool clouds are like our idea of the solar system before the planets developed.

These are the types of studies that are opened up by this greater sensitivity in infrared. But the large telescopes are not well-suited for the infrared. We have the opportunity of working with scientists at the University of Arizona who have had the advantage of some help from the Air Force in designing a new type of mirror structure and a new system of mirrors. In cooporation with them we can build a large infrared telescope at a very much reduced cost. I took the liberty of bringing along an example of what we call an egg-crate mirror. Instead of being solid, the supporting structure is mostly hollow so that the upper surface—we are only interested in that upper millionth of an inch—is held in precise position. By using this type of design we can reduce the weight of a large mirror by about a factor of 4 to 5.

The Air Force actually had made, in an experimental program, six of these large mirrors, each six feet in diameter. They are now available, belonging to the University of Arizona. We can obtain effectively a 175-inch diameter telescope, which we now can build for about two and a half to three million dollars; whereas if we started out to build a classical solid one, it would cost some five times as much. It would have to be some three feet thick weighing some 70,000 pounds whereas these mirrors only weigh say 6,000 or 7,000 pounds in all.

Because all the costs are now scaled down, we can build it for around a fifth of the cost of a comparable large classical telescope and design it so it will work at optimum in the infrared, but also be effective in the usual optical regions of the spectrum.

We are working with the University of Arizona, their Optical Service Center, their Lunar and Planetary Laboratory, and their Department of Astronomy. Our hope is that we could contribute about half of the cost and they would contribute the remainder. They have the mirrors already. The cooperative effort would then give us jointly a large infrared telescope at a very low cost.

INFORMATION RESULTING FROM SPACE MISSIONS

Mrs. HANSEN. Does NASA contribute sizable amounts of information for your use as a result of their space missions?

Dr. WHIPPLE. This is a most interesting question. I am glad you asked it because when they go into the ultraviolet and X-ray regions, they obtain information that can only be gotten outside of the atmosphere. At the same time, we discovered that many active regions observed from space are also contributing light in the infrared, which just recently we were able to measure from the ground. So the two observational programs are completely complementary in scope. They both add to the solution of new problems that have developed.

Mrs. HANSEN. Then outer space is directly related to many aspects of our life on earth and the understanding of it. At this particular time in our history, many people are saying, "We don't need any more scientific knowledge."

Dr. WHIPPLE. I know that criticism.

Mrs. HANSEN. So NASA is not only developing information about outer space, they are developing information that can in the future be extremely relevant to life on earth. Is that not correct?

Dr. WHIPPLE. I am certain that that is true. And galaxies are most exciting to us. Recently we have discovered a form of matter which is not possible to make in a confined environment; namely, the neutron stars. If you took all of the automobiles in the world and stuffed them into a thimble, you would come out with just about the density of this material. Now, you cannot make anything like that on earth, but here we find stars of it. The centers of galaxies, where infrared will penetrate, may even contain more exotic material. I have the feeling that there are new physical laws governing these processes which we do not understand.

I think we can not only determine something about the evolution of stars and the evolution of galaxies going back 10 billion or so years ago, but also find out new laws that may play a tremendous role in our practical lives. I cannot prove that. It is just a confidence that I have in this type of research that——

USE OF KNOWLEDGE FOR MAN'S PROGRESS

Mrs. HANSEN. Is it not true the total sum of knowledge has always been used conventionally for man's progress?

Dr. WHIPPLE. I maintain that thesis strongly. I always have, and I am glad to see you express it.

Mrs. HANSEN. That is what I thought was the purpose of education, but I am somewhat dismayed that now we seem to be returning to a know-nothing philosophy. Some people apparently have no desire to try and conquer some of our problems. I cannot believe that that is the purpose of man, and I cannot believe that that is the purpose of education and science.

Dr. WHIPPLE. If I can reassure you a little bit. In our universities, and I have been connected with Harvard University since 1931, the students do not in general take this attitude. There are just a very few who are very vocal and negative.

Mrs. HANSEN. The danger is not from the students. The danger is from vocal elements glad to grab a slogan to serve a momentary purpose. Is this not true?

Dr. WHIPPLE. That is the size of it.

Mrs. HANSEN. I think science and education are going to have a better decade when some people realize it is important to explore, understand, and relate.

Dr. WHIPPLE. I may say, if I may express a generality, that I think there has been no time in the history of the world when we needed to study science more than we do today.

NEED TO STUDY SCIENCE AND THE HUMANITIES

Mrs. HANSEN. But you have to study science together with the humanities. Your scientific development will not be successful unless your humanities are able to interpret those developments.

Dr. WHIPPLE. And to apply the scientific method to the humanities, to human relationships. This is so vital because we have a tool in the sense of a methodology that is vitally important, I think, to the world.

Mrs. HANSEN. What to do with science should be the province of humanity.

Dr. WHIPPLE. Exactly.

(Discussion off the record.)

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Mrs. HANSEN. Justify your requested increase of three positions and $34,000 for research support.

Dr. RIPLEY. I would like to have Dr. Challinor speak to that.

Dr. CHALLINOR. Three positions and $34,000 for support of professional research efforts. The pressure on the Smithsonian Tropical Research Institute has increased tremendously mainly because of requests for information we receive from all sorts of universities and agencies of the government.

Mrs. HANSEN. Such as?

Dr. CHALLINOR. Such as, for example, the Inter-Oceanic Sea-Level Canal Commission which has asked us for information on the biological consequences of the proposed sea-level canal. This has been part of our research that has been ongoing for many years, although we had to reassign people and change priorities very slightly within our own research efforts to try and furnish some of these answers. In other words, we sought to learn what were the dangers of fish migrating across the sea-level canal, or how effective has been the existing fresh water lake that ultimately filled up in about 1914. For example, in this particular case it was found that the fresh water lake was an extremely effective barrier for organisms going from the Pacific to the Atlantic. Fish have transited it. Tarpon, for example, are now found in the Pacific. This is not crucial unless they start to breed in the Pacific. The technical term is propagule; in other words, enough fish coming across the Isthmus and finding conditions ideal enough to proliferate.

The only fish that has ever gotten across, we have found from our research, is a small fish, the gobi, about 2 or 3 inches long that now

inhabits the third locks, which were started during World War II. This project was abandoned toward the end of the war. It is a rather artificial niche because the locks are connected with the Bay of Panama by a large culvert. The culvert only allows the tide in the locks to change 2 or 3 feet, which approximates the very low tidal range on the Atlantic side. The Pacific side has normally about an 18 foot tidal range; the Atlantic side has a 1 or 2 foot tidal range. This artificial niche that was created by building the third lock has been occupied now, all the evidence shows, by a fish that has come all the way through the canal. This is the only case so far where we have actually found fish that travelled through the canal and set up a breeding population on the other side.

What we are finding now in this sort of research is that the existing canal is an effective barrier. We are requesting a launch operator, field aides, and related support to carry on our existing research of this nature.

FACILITIES OPERATION SUPPORT

Mrs. HANSEN. You are requesting an increase of five positions and $64,000 for facilities operation support. May we have your comments in this regard?

Dr. CHALLINOR. This is primarily concerned with our facilities on Barro Colorado, a 3,600 acre island in the middle of the canal which the Smithsonian has administered for 25 years. The pressure there has been immense for research in tropical biology. To maintain these facilities and the two marine stations that we now operate, we are asking for a marine station manager and a janitor, an electrician, a messenger to get word back and forth and carry materials from these three research facilities, and a maintenance laborer so that we can respond better to requests for information and research that we are continually getting.

Now, for example, on page A–27, the graph shows some indication of the enormous increase in visitor use. We have many visiting scientists who come to the Smithsonian Tropical Research Institute. This request is necessary to fulfill our share of the burden, furnishing them the services they need.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE AS A NATIONAL FACILITY

Dr. RIPLEY. I am sure you are aware, Madam Chairman, if I may interject, that this is the U.S. sole-supported tropical biological facility.

Mrs. HANSEN. I was going to ask if there were any other facilities with the information available to the United States in such an area.

Dr. CHALLINOR. There is one small experimental station at the Luquillo Experimental Forest in Puerto Rico, on a much smaller scale. They are there primarily concerned with some of the tasks of the Atomic Energy Commission on radiation biology. This is more applied research in this case on such questions, for example, as whether the tropical sea-level canal should be dug with nuclear devices, and what effect such activity would have on the tropical environment. This

is quite different from the sort of basic research we do on Barro Colorado, where we have been keeping records now for the last 25 years.

Dr. RIPLEY. And as a national facility our laboratories are open and accessible to people from all over the United States. There is a great demand and this is what we try to supply as well as we can.

USE OF STRI BY INTERNATIONAL SCIENTISTS

Dr. CHALLINOR. Not only the United States, but we have had scientists from Poland, Madagascar and other countries from all over the world who come to the Smithsonian Tropical Research Institute because of the facilities. The few other Federal tropical research stations are much more restricted in their activities and accessibility.

Mrs. HANSEN. Can you explain to me why Poland would be interested in this program?

Dr. CHALLINOR. The Poles? Yes, we have had for about 5 years foreign currency available in Poland where we have supported some rather small projects in biology. The people who have worked with us in Poland are now very interested in a comparison between what happens in a fir forest in Poland, for example, where the needles fall off the trees, the mice live in the ground, the owls eat the mice, thus creating a whole energy cycle and to see how this, in turn, compares with what happens in a tropical forest where the whole nutrient turnover is a great deal more rapid than it is in a temperate forest in Poland.

I just mention this. We have had two scientists from Poland down there. We have had scientists from France. We have had them from both sides of the Iron Curtain.

Dr. RIPLEY. One of the principal prides that we have in this is the number of Latin American students who come and work with us when we are in this Nation so desperately short of ways of appealing to Latin America.

Mrs. HANSEN. The United States is short of friends, period.

Dr. CHALLINOR. We have a very good relationship with the University of Panama, joint seminars and such things as this. We give it a high priority.

ENVIRONMENT AND BEHAVIOR RESEARCH

Mrs. HANSEN. Justify your requested increase of $44,000 and two positions for environment and behavior.

Dr. CHALLINOR. This particular request is for a marine ecologist and a forest ecologist, two scientists in total. We are now trying to understand the tropical environment as it relates to the whole cycle of life, and the two main areas in which the Smithsonian Tropical Research Institute is concerned is the marine environment on either side of the canal, on the one hand, and Barro Colorado and its terrestrial environment on the other.

We are looking now for ecologists in each discipline, terrestrial and marine, to help us start to understand some of the enormous problems in trying to cope with the life cycle in the tropical world.

ADMINISTRATIVE SUPPORT AND INTERAGENCY RESEARCH

Mrs. HANSEN. You are requesting an increase of two positions and $34,000 for administrative support and interagency research. Justify this request.

Dr. CHALLINOR. Madam Chairman, we have been requested by the Federal Water Pollution Control Administration to work on marine pollution in tropical oceans. In 1969, for example, at our station at Galeta on the Atlantic end of the canal, and under a recent contract with the Federal Water Pollution Control Administration, we have been conducting research on how quickly the oil particles which reached the shore from a wrecked tanker will break down in a tropical environment.

Mrs. HANSEN. How quickly will oil particles break down in a tropical environment?

Dr. CHALLINOR. We found that they break down considerably faster than they do if they are in cold water off the coast of Maine.

At the end of a year after the tanker acident not much was left of the oil that washed up ashore. We were, incidentally, able to get rid of a great deal of this oil because of the fortunate circumstance of the wind concentrating the oil in a narrow cove, where the water was warm enough and shallow enough so that the oil could actually be ignited on the surface of the water, which would be much more difficult if the water temperature had been low. So not as much actually got on the beach as it would have under other circumstances.

Thus after a year, say between 12 and 14 months, on the surface of the beach you would virtually see no oil at all left. You would have to dig under the sand surface to find globules of oil.

We did find that at the end of 12 to 14 months the natural oil-decomposing bacteria had been extraordinarily effective in breaking this down.

Now what we are trying to study is what effect did this spillage have on the fish and on the coral. We have been working on this now for two years. We have a good idea what was there before the oil spill, and we are trying to concentrate our efforts to see what did really happen with this oil on the surface of the water. It will take several more years.

Mrs. HANSEN. The Bureau of Sport Fisheries and Wildlife made a comment in a report that to date no one had good answers on what the total results of oil spills were on fish.

Dr. CHALLINOR. This was because we have not accumulated enough basic data to know how many fish and how many kinds were there before the oil spill.

Mrs. HANSEN. There were no answers available.

Dr. RIPLEY. This is the only tropical study of its kind that I know of, and, of course, tropical waters are going to be just as vulnerable to oil spills as the temperate are.

SEA SNAKES

Mrs. HANSEN. Congressman Obey had several questions about the sea snakes. If you have any further comments, I am sure he would be very happy to have them.

Dr. CHALLINOR. Dr. Rubinoff at the station has published a journal article on the sea snakes, which I think would probably answer most of his questions. I will be happy to send him a reprint of the journal article.

Mrs. HANSEN. Please do.

Dr. CHALLINOR. We certainly will.

Mrs. HANSEN. There are quite a number of people interested in the sea snakes.

Dr. RIPLEY. This has crept into the literature; there is something rather fascinating about the idea of sea snakes coming into the Carribean.

RADIATION BIOLOGY LABORATORY

Mrs. HANSEN. Please justify your requested increase of $369,000 for the Radiation Biology Laboratory.

Dr. RIPLEY. Dr. Challinor, would you speak to this?

Dr. CHALLINOR. Madam Chairman, the Radiation Biology Laboratory is requesting an additional six positions and $369,000. They have at the present time a base of 40 positions and 37 of these are filled. They are now negotiating for three more people and expect to have these three people on board shortly so that they will soon be at full authorized strength.

In this case, we are primarily interested in putting into full operation our new laboratory facility at Rockville, Maryland. We are in the status of relocation there. It is about 65 percent fully operational, equipment is being installed in another 25 percent of the area, and it should be completed by about now, that is around the first of April.

In making this move, we had to shut down the old facilities that were built in the early sixties on the Mall and we are now requesting new environmentally controlled growing rooms. What we would primarily do with these units is study the effect of solar radiation on plants by isolating the various wave lengths from the light of the sun, to see what effect these wave lengths have on the growth of plants; that is, when they blossom and how long they grow. To do this we have developed controlled growing areas so we can block off different portions of the spectrum.

DECREASE IN LIGHT REACHING THE MALL

Now, this is useful, for example, because we started an experiment about 1907, I believe it was, on the Mall where we began measuring solar radiation hitting the grass. This was started by Dr. Abbott, who is still alive and well at 98, a Smithsonian physicist who later became its fifth secretary. We concluded this experiment in 1969, with at least one of the same scientists still around to see that we did not have an individual bias in the taking of the measurements.

In any case, we discovered that since about 1949, there was a 16 percent decrease in the amount of light at the ultraviolet end of the spectrum hitting the grass in front of the Smithsonian Building on the Mall.

Now, we have various theories. This result applies only here in Washington, and we attribute this decline in the ultraviolet end of the

spectrum to various particles in the stratosphere interferring with the solar energy coming through.

The question, of course, immediately comes up, how worried should we be about a 16 percent decline in the ultraviolet end of the spectrum. The grass is still green, the tourists still walk by, and everything looks fine.

This is what we are attempting to look into now. We know that the ultraviolet end of the spectrum has a direct relation to the vitamin A synthesis in plants. We are not growing crops on the Mall for food, so, consequently, the decline there does not yet seem to be crucial.

We are setting up another facility out at Rockville, Md., to see if there is any difference in the light quality between the suburbs and downtown Washington. We have also gone up to Alaska to find an isolated part of the globe for further comparison, where there should be relatively little carbon dioxide pollution from automobiles.

We will help set up a similar monitoring station in Israel in cooperation with the universities there, and financed under a Public Law 480 currency project. We hope to set up another one in Panama.

This is in the future.

In answer to your question, part of the increase we are requesting now is needed to try to get a broader idea of what is affecting the sun's energy in the upper atmosphere.

DIMINUTION IN SUN'S ENERGY

Mrs. HANSEN. Is there any diminution in the sun's energy itself? We talk about the intervening layer of pollution.

Dr. CHALLINOR. Not that we have been able to measure, Madam Chairman. To the best of my knowledge, there is no measurable diminution in the sun's energy that we have been able to detect.

Dr. RIPLEY. The question of wave lengths, of course, is crucial in terms of the effect on certain kinds of plants and animals. The synthesis of certain vitamins, if it is lowered in a particular area because of smog, would increase, let us say, rickets in children without the addition of vitamins.

Mrs. HANSEN. If calcium deposits decrease due to the use of DDT, I would think, a serious nutrition problem would occur. And if you have a diminution of calcium and an increase in radiation, then you have another problem.

Dr. RIPLEY. The ultraviolet is very critical for plant growth especially, and it may be one reason why in cities certain kinds of trees and plants do not grow well anymore.

In connection with the international biological program we are interested in monitoring around the world, as you know, using certain tender plants which are particularly susceptible to the changes in light absorption due to smog and due to pollution.

USE OF SMITHSONIAN BY OTHER AGENCIES

Mrs. HANSEN. This committee appropriated funds to the Forest Service for an urban forests project to see what effect urban tree growth could have on decreasing pollution. Do you work with the Forest Service in this connection?

Dr. CHALLINOR. Yes, Madam Chairman. For example, the ESSA has come to us to learn what we are finding. They have now been charged with studying atmospheric pollution and the administration has established the Environmental Protection Agency. Some of the newer agencies now realize that some of these monitoring efforts have been going on for several years. They have come to us for just exactly this sort of information.

The Forest Service and particularly the Department of Agriculture at Beltsville have been working on some of the very same kinds of projects. For instance, on plants, what makes them blossom, and how this knowledge could be applied for commercial use such as how to keep sugar cane from blossoming. The longer you keep it from blossoming, the longer it will grow vegetatively. They have found from the basic research that we and other agencies are doing that by breaking the darkness at night the cane can grow twice as tall by keeping it from blossoming. The sort of work we are doing may or may not always have economic benefits, but they might be expected in the same manner from the results of experiments using the control rooms that we hope to install.

By controlling the light, we can allow different portions of the spectrum to hit on particularly photosensitive plants to see how they react. We can then try to predict what might happen if this situation gets worse; for example, instead of a 16-percent decline it might get down to 25 percent. What can we anticipate?

Mrs. HANSEN. The Forest Service is working with universities in the Northeast, particularly with the University of Massachusetts on urban forestry. The committee had hoped they would be able to develop some answers that would be useful for planning future cities.

COOPERATION WITH THE ATOMIC ENERGY COMMISSION

I was going to ask you on the Radiation Biology Laboratory. Do you work with the AEC in connection with your Radiation Biological Laboratory?

Dr. CHALLINOR. Yes, we do, Madam Chairman. We have close working relations with them. Probably more of our work has been done with the Department of Agriculture in Beltsville. And they are studying solar radiation. When we use the term "radiation biology," is is primarily concerned with solar radiation as opposed to nuclear radiation.

We also have in the radiation biology laboratory our Carbon–14 dating apparatus, working on the dating of various artifacts discovered by archeologists by the breakdown of radioactive carbon in these items.

OFFICE OF ENVIRONMENTAL SCIENCE

Mrs. HANSEN. You are requesting an increase of $243,000 for Office of Environmental Sciences. Would you give us the history of this activity?

Dr. CHALLINOR. Yes; first, we are asking for six positions and $81,000 for the Smithsonian Oceanographic Sorting Center. This now has 18 people working there.

Mrs. HANSEN. Where is this facility located?

Dr. CHALLINOR. This is located now at the Washington Navy Yard down by the South Capitol Street Bridge, where we have been operating the sorting center now for at least 8 years.

Here, because of the increasing demand from such international programs as the cooperative investigations in the Mediterranean and the International Decade of Ocean Exploration, the demands for sorting marine specimens is getting out of hand with the existing resources that we have.

This is rather specialized work. We have been able to train people to make initial sorts and we have a training program in these operations. With the increasing interest in fresh water pollution, we are now equipped, or we hope to be equipped, to start sorting fresh water samples of indicator species so that we can judge how fresh or how good the water is based on the animals that live in it.

Mrs. HANSEN. What is involved in your Chesapeake Bay Center for Environmental Studies?

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

Dr. CHALLINOR. Now for the Chesapeake Bay Center for Environmental Studies, as you may know, we have accumulated about 1,300 acres. We are in the process of negotiating for about 800 more.

This is located, as you know, 7 miles below Annapolis on an estuary of the Rhode River.

What we are primarily interested in doing is accumulating enough contiguous land to cover the Muddy Creek watershed, which flows into the Rhode River. This will then give us a base for understanding how land-use effects the watershed and what is happening in the estuary, such as the condition of the fish that live there, the clams, the oysters, et cetera.

Mrs. HANSEN. Are you participating in the estuarine study?

Dr. CHALLINOR. Yes, we are, Madam Chairman. Not only that, but we are doing this through a consortium arrangement with Johns Hopkins University and the University of Maryland. We are requesting two positions here. One is for a security officer, which we need very badly.

NEED FOR SECURITY OFFICERS

Mrs. HANSEN. Security officers are needed badly in several of your facilities.

Dr. CHALLINOR. As you know, the farm that we initially got in 1965 had been abandoned from 1946. This had become a very well-known area for people to come in and use it to strip automobiles. We spent the first year trying to get rid of the junk that had accumulated there. Word gets around slowly and we have to be sure that our neighbors and other people know that this area is now occupied and used for research.

Mrs. HANSEN. The people in this country have to realize how important their own environment is.

Dr. CHALLINOR. Indeed, Madam Chairman. This is sometimes one of the most frustrating aspects of what we are trying to do down there. We are really trying to protect them from themselves.

We have run studies on the waterfowl there, or the small mice that live in the forest floors to see how many of them are there and what sort of things they eat and what eats them. We have to set snap traps out there, for example. Now, if children should start roaming around and a child should catch his toe in a snap trap, you can imagine the uproar. We need the guard really to protect the visitors—what is the term? An "attractive nuisance" I believe is the legal term. The Center has nice woods and normally you could say, "Let's go walking in the woods." Well, this is all right if you do not have such hazards to the layman as snap traps.

The scientist knows where they are because he has them plotted, but the child who wants to go fishing does not. We really need badly a guard to protect the—I hesitate to use the word trespassers—but that is in effect what they are, from themselves. And we get considerable poaching, that is, people coming in and shooting woodchucks or even deer and other animals. We have to keep some sort of roving patrol. That is one of the two positions that we need badly at the Chesapeake Bay Center. The other is for a botanist to carry on long-term studies.

COOPERATIVE RESEARCH ON THE CHESAPEAKE BAY

Mrs. HANSEN. You say in your justifications, "Guidelines are being developed to identify the ecological consequences of river basin development . . ." The Department of the Interior participates in many river basin studies. Are you working with the Department of the Interior in this connection?

Dr. CHALINOR. Yes, we are, Madam Chairman. In fact, the Division of Water Resources of the U.S. Geological Survey now has stationed at the Chesapeake Bay Center two full-time scientists for the continuous work of water quality monitoring. These monitoring instruments are now being set up in the Rhode River estuary.

Not only that, we have plotted out in quadrants about one-half of the Bay Center so that at any one time a researcher can see and know where he is at the Bay Center by referring to the quadrant map. The NASA, for instance, is very interested in infrared photography to see if they can determine by flying over, or from a satellite even, what the vegetation is below.

If you know exactly which tree is growing where on a given plot, and you then take an infrared photograph of it and interpret the different shades of red or pink or blue that infrared photography produces you can identify exactly what types of tress these are, at least here in the Temperate Zone. The experience gained would be extremly valuable for vegetation mapping all over the world. As you develop this technique, one could identify trees along the Chesapeake shore, for example, by knowing specifically that a pine tree produced a certain shade of pink in the infrared photograph. We are doing this with NASA now.

Professor Seliger at the Johns Hopkins University has a grant from the AEC. He has seven full-time people working for him at the Bay Center.

His work is concerned with the siting of nuclear powerplants and what effect those might have on aquatic organisms if the temperature

of the water is raised. This is the sort of research we are doing at the Bay Center.

Mrs. HANSEN. How long has that research been going on?

Dr. CHALLINOR. That has been going on for about a year and a half.

MODEL COMMUNITY ACTION PROGRAM

Mrs. HANSEN. In your justifications you discuss a model community action program. What does this involve?

Dr. CHALLINOR. We have found at the Bay Center quite unexpectedly that adjacent to our land there was a 19-acre tract that a local group funded by the Office of Economic Opportunity, I believe, assembled from small parcels to put in low-cost public housing. There is a small black community there adjacent to us. This is not a very prosperous community. The residents mostly work on the tobacco farms and some work in Annapolis.

There is an urgent need for low-cost housing in this area.

The State and the Federal Government agreed to support this, but a secondary sewer treatment plant was all this housing project could afford. The discharge from it would empty into Muddy Creek, on which we have been working since 1965. We said that we must have tertiary treatment. In other words, the discharge coming into the creek must be at least as pure as it would be if it drained off somebody's hayfield.

As a result of some rather long negotiations, we have now been able to work out, I believe it is now in the final stages, a system whereby the extra outside money can be raised to build the tertiary treatment plant.

But what interests the Housing and Urban Development people here is a perfect local example, 40 minutes from where we are sitting, of exactly what is happening as areas are developed, adjacent to a completely undeveloped one such as we have accumulated at the Chesapeake Bay Center.

How do you resolve these conflicts that are going to come up perpetually as land is being developed?

This is certainly happening in Anne Arundel County, particularly along the shore.

We have been extremely fortunate in assembling almost 2,000 acres of undeveloped land which is very accessible to Baltimore and Washington. Such land is very scarce along the shore.

This is why Housing and Urban Development and other relevant Government departments have come to saying that this is a perfect place to do some of the studies about which we are all now becoming increasingly concerned.

We are working very closely with the Federal Water Pollution Control Administration and the Environmental Protection Agency, and other new agencies of the Government.

Mrs. HANSEN. Thank you very much for a very interesting presentation.

NATIONAL AIR AND SPACE MUSEUM

Justify your requested increase of $105,000 for the National Air and Space Museum.

Dr. RIPLEY. Madam Chairman, we are concerned with trying to pave the way with what we hope will be a phased program to open this vital new link in our chain of public museums on the Mall; namely, the National Air and Space Museum, by the bicentennial year 1976. In order to do that, we are requesting an increase of three persons and $105,000. This includes related funding in the form of pay increases and program increases.

VISITORS TO AIR AND SPACE EXHIBITS

Mrs. HANSEN. How many visitors do you have per year in the National Air and Space Museum? Also, which other museum is this comparable to?

Dr. RIPLEY. The only other museum which is comparable, I think, is the Museum of History and Technology.

These two museums have approximately the same visitation each year, with the Museum of National History a very close third.

In the last year, for example, the Air and Space Building, and the Arts and Industries Building which also has important air and space exhibits, had a total of about 4,400,000 visitors. The problem is how to segregate those people who entered both buildings.

We cannot tell whether they are coming to see the moon rock or to see other non-air and space exhibits. But the number was well over 4 million people. The Museum of History and Technology had well over 5 million.

Mrs. HANSEN. The public would not have been able to see the moon rock if we had not had a space program.

Dr. RIPLEY. No; they would not have.

And the Museum of Natural History ranks third with about 3,300,000. So it is one of the two principal activities for our visitors, I think I can say without any hesitation.

KITTY HAWK COMMAND MODULE

Mrs. HANSEN. Mr. Galifianakis wants to ask a question about the Kitty Hawk command module.

Mr. GALIFIANAKIS. I have written a letter about the Kitty Hawk command module. There has been much interest in North Carolina. It has gotten right much coverage. It was proposed that since Kitty Hawk is in the State of North Carolina, this was the perfect place for it to be. I was trying to devise a scheme of maneuvers so as not to cause the Smithsonian any special circumstances that might create a precedent. I was trying to devise a way whereby you waived your right to receive the Kitty Hawk, which is coming to you in July, and thereby direct it to North Carolina to remain there as a permanent monument.

I think because you have other craft of that similar type you could well afford to do this. I was wondering about the likelihood of spreading out the Smithsonian to the banks of North Carolina.

Dr. RIPLEY. Well, we are constantly being asked to develop regional centers and regional branches for the Smithsonian, and we are some-

what reserved about this by request of our Board of Regents and by our own natural inclinations because of our limited budgetary resources.

Mr. GALIFIANAKIS. This would eliminate the expense of housing. I would like to request that you give it—I take it you have not acted on it.

Dr. RIPLEY. No, we have not. We have your letter, don't we, Dr. Challinor?

Dr. CHALLINOR. The Kitty Hawk command module has not yet come to us from NASA.

Mr. GALIFIANAKIS. Should I try to preclude it from coming to your jurisdiction? Would that make you happy?

Dr. CHALLINOR. When it comes to us, then we can have a say about where it can go. At this time, in all honesty, I think I should say, "Let's get it first instead of getting it sidetracked." And then we can send it around, perhaps to the museum in North Carolina.

Mr. GALIFIANAKIS. Actually, we prefer it under the auspices of the Smithsonian. This is why I said "scheme of maneuver" the gentleman who was head of the space program for public relations is a North Carolinian and I just thought of getting assistance moving in that direction. But I would really like the attendant prestige of getting it from the Smithsonian. It would give it that something extra, something added. You get my point.

Dr. CHALLINOR. Under the Space Artifacts Agreement that we have with the National Aeronautics and Space Administration all the objects which we send up into space, once they have come back down again, and NASA has debriefed them or seen whatever they want to see, after they have come back to the laboratory in Houston, and they have finished working with them or gotten all the information they need, then they come to the Smithsonian.

Mr. GALIFIANAKIS. It depends on your classification. If it is an artifact—you have different classifications on receiving things, and artifacts are easier to get rid of than something else.

Dr. CHALLINOR. We do send space objects around.

Mr. GALIFIANAKIS. You have got a picture in here of a lot of artifacts that you cannot use, and they are stored somewhere because you neither have the experts nor the space to put them. That is in your budget justification.

Dr. CHALLINOR. Exactly, Mr. Congressman. One of our problems is we often have to hang onto these objects long enough so that they do not get lost for later public use.

Mr. GALIFIANAKIS. Well, this one would be exposed publicly with an appropriate plaque, recognizing coordination with the NASA program and the Smithsonian Institution. I would earnestly urge that you give it your serious consideration. If you need me to help you draft the method and means by which I think we can legally accomplish it, I will just cease and desist from going the other route. Is that fair?

Dr. CHALLINOR. That is fair.

Mr. GALIFIANAKIS. Thank you very much, Madam Chairman. You were very kind to anticipate my request.

PACIFIC SCIENCE CENTER

Mrs. HANSEN. What is the status of the Pacific Science Center in Seattle?

Dr. RIPLEY. Mr. Bradley has just returned from the Center.

Mr. BRADLEY. Madam Chairman, we found a most exemplary museum program going on at the Pacific Science Center in Seattle. The physical plant is good. The staff is small, but very good and enthusiastic. They have something like 350,000 visitors a year. They put on programs of learning in the sciences. They would like, I believe, to affiliate with the Smithsonian. The Center has been in operation for 9 years and they are still solvent.

Mrs. HANSEN. Which is remarkable considering the present economic conditions in Seattle.

Mr. BRADLEY. Total revenues for their fiscal year 1971 operation; for example, are expected to be about $420,000. This will provide for an operating budget of about $330,000 and about $90,000 for various restricted uses. About 45 percent of these revenues arise from admission charges and memberships. The remainder comes from donations, business support, and from State, county, and district school support. School support amounts to about 30 percent of total revenues.

The Smithsonian Board of Regents has been considering this matter, just as we are asked to consider other requests.

Mrs. HANSEN. For example the Kitty Hawk module?

Mr. BRADLEY. Yes, as an example. Or the San Francisco Mint.

Dr. RIPLEY. The St. Louis Post Office is another example.

Mr. BRADLEY. And the Mid-America project in Arkansas.

The Regents, I think, wanted additional information, and, of course, it gets down to financial responsibility sooner or later.

(Discussion off the record.)

CENTER FOR THE STUDY OF MAN

Mrs. HANSEN. You are requesting an increase of $68,000 for the Center for the Study of Man. What is involved in this request?

Dr. RIPLEY. We are involved here with a major project, Madam Chairman, to prepare a comprehensive updated set of encyclopedias on the Indians of North America.

Mrs. HANSEN. When are you going to be able to complete this project?

Dr. RIPLEY. We estimate we will publish it in 1976. That is the magic date, Madam Chairman. We think publication date by 1976 is valid provided we can get the project firmly on the road with the funds that we are requesting.

Mrs. HANSEN. How much has been completed to date? I am very interested in this project.

Dr. RIPLEY. I know you are.

Mrs. HANSEN. I am waiting for you to complete this project to do some further research on Indians.

Dr. RIPLEY. Over the last year we have laid out the exact time schedule which would bring us to this date of publication of the planned 17 volumes. Now, I happen to know something about projects

such as this because I have worked on similar projects myself. I am doing a 10-volume publication at the moment, on which I hope my basic manuscript work will be finished this year.

If we can get all the collaborators signed up, which we think we now have, about 850 of them across the Nation, and if we can further develop a small working staff, clerical, editing, and supervisory personnel with those people we already have aboard, we can produce and we can deliver this encyclopedia on American Indians. This is tremendously important to us too.

IMPORTANCE OF THE INDIAN ENCYCLOPEDIA

Mrs. HANSEN. It is important to the Nation because your legal and historical studies on North American land base are very important especially now.

But, more than that, some of the material that should be in the encyclopedia on North American Indians is vanishing as the older members of the tribes die.

Dr. RIPLEY. We know that there are some 32 dialects which are still not spoken by anybody outside of the small tribal entities, and in some cases, are spoken only by people over 70. So that each year we delay documenting some of these dialects, we lose a chance of ever doing so.

Mrs. HANSEN. One of the reservations in my district has many tribes, all with different dialects. But these dialects are vanishing as the older people pass away.

Dr. RIPLEY. There is a difficulty in all of this and that is that some of these dialects which remain with people who would prefer to have the language go out.

Mrs. HANSEN. There was one woman I happened to talk to on this reservation who was trying to teach her great grandson the language. She was giving him directions in a particular dialect on how to make baskets, and he was not particularly enthused about learning the language nor making the baskets. She wanted someone to have the language and to understand the language.

Dr. RIPLEY. This is a vital part of this project. This spring we will have the writing assignments parcelled out. The main contributors will be expanded by over 800 ancillary contributors. There is going to be a tremendous job of coordinating these people's contributions.

We expect to start getting in manuscripts in August of this year. We believe that all manuscripts will be received and revised by May, 1974. This gives us a publication date of mid-1976.

Mrs. HANSEN. I understand. I have five shorthand books filled with legends told to me, for instance by one Indian woman who passed away over 25 years ago. I am waiting for the day when I can have time to transcribe them. Their legends, customs, medicines, burial places are all very fascinating.

Dr. RIPLEY. Have you got any of that transcribed?

Mrs. HANSEN. I will eventually.

Dr. RIPLEY. Well, we are optimistic at the moment. We have had a great deal of progress in the basic organization during the past year. We are optimistic that we can hit this target date.

CENTER FOR SHORT-LIVED PHENOMENA

Mrs. HANSEN. Justify your requested increase of $90,000 for the Center for Short-Lived Phenomena.

Dr. RIPLEY. Dr. Challinor, would you like to speak on that?

Dr. CHALLINOR. Madam Chairman, we now have one person from federally appropriated funds and we are asking for three more people and additional support funding of $90,000. This Center has grown tremendously. We now have 2,600 reporting scientists all over the world.

Mrs. HANSEN. This is where you report meteorites and other natural events.

Dr. CHALLINOR. Yes; meteorites, oil spills, earthquakes. As you recall, this program was initially instigated because we had a world-wide communications network connected with the activities of the Smithsonian Astrophysical Observatory, especially their satellite tracking program. As a result of this network, we realized the enormous value of being able to inform scientists of natural phenomena as they were actually occurring.

We have set up this network which operates from Cambridge, Mass. Publications have resulted directly from these network reports because scientists have actually been able to get on location while a volcano was erupting, for example, or very shortly after an earthquake was going on.

Mrs. HANSEN. Was the earthquake in Los Angeles such an event?

Dr. CHALLINOR. There were very many people in Los Angeles at the time of the earthquake, including scientists. I was going to give, as an example, a volcano in the Philippines. There were plenty of people in the area, but there were no scientists. Notification by this network allowed a Smithsonian scientist to observe a phenomenon called nuees ardentes, which is a glowing cloud of gases that comes down the mountain at a very, very rapid rate. Evidently people have known about these, but very few scientists had ever seen them. This phenomenon has often caused large numbers of fatalities from volcanic eruptions and it is important that we understand it.

For this service we have initiated a subscription fee system to various governmental agencies and to scientists all over the world, or to government science offices, I should say. For individual scientists who cooperate by furnishing us the service of making these reports, we in turn, do not charge them a subscription fee but give them the world-wide information back for their service to us.

We have been trying as hard as we can to get from such agencies as the U.S. Geological Survey, for example, which is primarily concerned with earthquake reports, a stipend to help support this program.

We have been successful in some cases.

Mrs. HANSON. The Geological Survey is as short of funds as you are.

Mr. CHALLINOR. We have gotten some support from the AEC. They realize the value of the service enough that they have been able to put up some of their hard-earned funds as well as a few others.

GLOBAL MONITORING

This service is now monitoring part of the global environment, a task which has been charged to new agencies of the government, such as the Environmental Protection Agency. The Department of Commerce has been asked to prepare a report on what the United States is doing to monitor the environment for the Stockholm 1972 Conference on World Environment. This is a United Nation sponsored meeting.

What they are finding is that there are already existing monitoring systems so that we don't really have to build large numbers of new ones. The Smithsonian's system is one that has been operating on a relative shoestring, whose very existence now is dependent somewhat on the support we can get from actual Federal dollars. We have squeezed out from other agencies and from our own budget about all we can to keep the Center going.

I have here a letter which emphasizes that this is a global operation.

This is a letter from Professor Silkin of the Soviet Geophysical Committee, which tells how he uses the information and shows an article he published. I do not read Russian so I am not sure what he said, but here is reproduced one of our event notification cards.

Mrs. HANSEN. Who does your Russian translations for you?

Dr. CHALLINOR. We would have to get this done through Poland. We have lots of friends in Poland who speak Russian. I just mention this letter to stress the global aspect. This is not just benefitting the United States. We have a network now in 148 countries and territories, with about 2,600 scientists feeding information to us continually on oil spills, sudden explosions of natural populations, whether these are in Africa, or, for example, there was one report of an enormous population explosion of squirrels in eastern Tennessee and North Carolina about 2 years ago. Some tried to swim across reservoirs and everything else. This was a case of interest to scientists at the University of Maryland. Why was this sudden population explosion? How often does it happen? This has happened all the way back to the time of Audubon, who reported a similar event.

We have received and reported data on fish kills. And this information is now all recorded. We use a computer to mail this information out. However, it does take money to run this system.

The schools are using this information for conservation courses. And we think that with the money we are requesting here, an increase of three people, and $90,000 in new funds, a total of $127,000, we can really get this system going since it is already in existence, rather than spend many times that much in one of the bigger agencies for the start of a new system.

Mrs. HANSEN. Do you know what your problem is? You somehow do not get this point across to the people who make these decisions.

Mr. McDade and I spent an endless amount of time talking to the Department of Interior about doing something about mine fires. When I tried to get some information from the EPA on mine fires they did not have one bit of information on these fires that have been burning for 70 years. Two hundred seventy-nine of them are still burning!

Mr. GALIFIANAKIS. What did you do after you got the report on multiplying squirrels?

Dr. CHALLINOR. When we got the report we sent the information to Professor Flyger of the University of Maryland, who sent down a team of graduate students. He was interested in finding out, for example, the direction the squirrels were moving. In this case, they drove along several roads. When squirrels migrate like this there are a great many that get hit by cars and the team could count the number of squirrels per mile of highway. Then they went on another road, perhaps 3 miles west, to see if the squirrels had gotten that far.

The squirrels that were not too mangled could be dissected to see whether this migration was due to the reproductive cycle, or were they hungry or were they fat. Well, it turned out, as well as we can tell, that there was a combination of weather conditions that had produced a very low yield of acorns. Migrations generally take place in a low acorn crop year after a very high acorn crop. The population of squirrels was way up. All of a sudden, the squirrels started to move out of the hills and came down to the cornfields in a great massive migration. This was a chance to monitor this event as it went on.

Mr. GALIFIANAKIS. Where did those squirrel refugees come from?

Dr. CHALLINOR. They come from up in the hills. Now they are coming down to the gardens.

Mr. GALIFIANAKIS. Do you all have a pat speech on Smithsonian?

Mrs. HANSEN. It's all right here in their justifications.

NATIONAL ZOOLOGICAL PARK

You are requesting an increase of $655,000 and 48 positions for the National Zoological Park. This activity was formerly funded by the District of Columbia.

Mr. JAMESON. Yes, Ma'am.

Mrs. HANSEN. How much was the budget of the National Zoological Park when it was funded by the District of Columbia?

Dr. RIPLEY. I would like to ask Dr. Reed to reply to this, if I may. He is right here, Madam Chairman. He has, as you know, been testifying for some years before the District committees.

Mrs. HANSEN. The District of Columbia has shifted many of their functions to the Federal budgets.

Dr. REED. We have done this with the concurrence of the Office of Management and Budget.

Mrs. HANSEN. I understand.

(Discussion off the record.)

Dr. RIPLEY. The fiscal year 1970 budget, which was the last under the District Subcommittee, was $2.8 million. The current year's budget was the first before this committee and it has $3,150,000 as a base, including pay supplemental.

SIZE OF ZOO, NUMBER OF ANIMALS, AND VISITORS

Mrs. HANSEN. How many acres of land do you have in the National Zoological Park?

Dr. REED. We are estimating that it is 167 acres at the present time.

Mrs. HANSEN. How many animals do you have?

Dr. REED. As of our last inventory, we had 811 different species and 2,527 individual animals. These figures fluctuate.

Mrs. HANSEN. Does that include snakes?

Dr. REED. Absolutely, Madam Chairman.

Mrs. HANSEN. How many visitors per year do you have?

Dr. REED. We estimate that we had 5,200,000 as of last year. It remains at about 5 million a year.

Mrs. HANSEN. How many of those visitors come from the metropolitan area of Washington, D.C., and how many are from outside the metropolitan area?

Dr. REED. We ran a survey some years ago which showed that 20 percent of the visitors are District residents, 30 percent are from the metropolitan area outside of the District, and 50 percent are from outside the metropolitan area.

Mrs. HANSEN. Then visitors from the metropolitan area are about 50 percent of the total visitors?

Dr. REED. Yes.

Mrs. HANSEN. Of this 50 percent, about 20 percent come from the District of Columbia? Is this correct?

Dr. RIPLEY. Approximately. This was a surprise to us because we had not realized prior to this that we are indeed a national zoo because we have such a visitation from all other States.

Mrs. HANSEN. This is a national zoo. The visitors to the zoo come from all over the Nation.

Dr. RIPLEY. Absolutely. This is, in fact, the only national zoo.

Mrs. HANSEN. Is this the only national zoo in the world?

Dr. RIPLEY. Well, it is the only national zoo in the United States.

Mrs. HANSEN. How many other nations maintain national zoos?

Dr. REED. That is a little difficult to answer. There is a national zoo, I believe, in Delhi. New Delhi would be a national zoo. Some of the zoos in capital cities assume the role of the national zoo.

Dr. RIPLEY. Also in Buenos Aires, Argentina. Rome is a national zoo in Italy. And in Paris, the National Zoological Branch of the Museum of Natural History. These are such examples.

MAINTENANCE AND PROTECTION STATISTICS ON THE ZOO

Mrs. HANSEN. How many miles of road do you have in the zoo?

Dr. REED. We have 3 miles of automobile road and 8 miles of sidewalks.

Mrs. HANSEN. How many trails do you have?

Dr. REED. We have no trails as utilizable trails. I suppose there is a mile or so of paths, informal paths that visitors have developed, but which we do not encourage.

Mrs. HANSEN. How much space do you have alloted for parking?

Dr. REED. The parking lot space at the present time will accommodate about 1,200 cars. Our parking lots at the present time have 30,000 square yards.

COST OF SECURITY

Mrs. HANSEN. How much of your funds are spent for security personnel? Increasing amounts of funds are having to be spent for

law and order and in the security of the installations themselves. I think the public should understand what the costs are for this activity. Please insert the information in the record.

(The information follows:)

COST OF SECURITY

The National Zoological Park has an authorized police force of 29 men. The cost of this service is estimated for fiscal year 1971 at $307,000. This includes vehicles, radios, uniforms, supplies, and equipment as well as salaries and related benefits.

COST OF TRASH CLEANUP AND WASHROOM CLEANUP

How much are you spending for trash clean-up per year?

Dr. REED. It is a sizable sum. We can supply that for the record.

Mrs. HANSEN. Also insert in the record what you have spent for washroom cleanup.

Dr. RIPLEY. I will say we will get those figures. We do not have enough people to keep the washrooms as clean as they should be.

Mrs. HANSEN. I understand.

(The information follows:)

COST OF TRASH CLEANUP

The collection and disposal of visitor trash on the public grounds will cost an estimated $40,000 for the fiscal year 1971. Sweeping the streets, sidewalks, and steps, which account for 50 percent of the visitor trash, will cost approximately another $40,000. Sweeping and cleaning the public spaces in the animal buildings, much of which is visitor engendered trash, is estimated to cost an additional $60,000 per year. This is a total of $140,000.

If the public disposed of their waste in the trash baskets, these figures could be reduced by one third; however, the zoo would still have to empty the trash baskets, sweep the streets, and scrub and clean the buildings. Nevertheless, it is a fact of life that picking up after visitors and trying to keep the zoo presentable is an extremely expensive and time-consuming operation.

COST OF WASHROOM CLEANUP

For the care and maintenance of washrooms the zoo spends about $52,000. This includes salaries and related benefits as well as supplies. This, of course, is a 365-day operation and our heaviest demands are on weekends and holidays. The zoo is badly under-staffed in this area.

COST OF FIRST AID

Mrs. HANSEN. How much do you spend on first aid?

Dr. REED. First aid is part of the police function. I can break that out.

Mrs. HANSEN. That is fine.

(The information follows:)

COST OF FIRST AID

First aid for zoo visitors is taken care of by the police. Each man has taken an advance first-aid course. The annual cost is estimated at $10,000. This includes service to the general public as well as to employees.

CORRELATION BETWEEN COSTS AND TAXES

Dr. RIPLEY. The correlation is very, very exact between a country like the United States and a country like the Iron Curtain countries

where these objects are not wrapped up in such expensive wrappings, where in contrast with half the labor supply, the zoo looks much neater on the morning after the weekend because the whole effort of cleaning up is a project.

Dr. REED. This morning after going through the zoo after a Sunday, I had very similar thoughts. It was terrible.

Mrs. HANSEN. All you have to do is go down any street in Washington, D.C., to find litter.

JUSTIFICATION OF ZOO BUDGET INCREASE

Please justify your requested increase of $655,000 and 48 positions for the National Zoological Park.

Dr. REED. The 48 positions are scattered pretty well throughout the zoo. As mentioned before, this is the first budget we have placed from the Smithsonian Institution. Last year's budget was started under the auspices of the District of Columbia, and was later transferred. The purpose of this request is to try to bring our zoo up to the level of operating efficiency which we feel it should maintain.

In the Office of the Director, we are asking for eight positions. These are secretaries, a technician for the pathologist, and other necessary staff.

ANIMAL HEALTH

Mrs. HANSEN. How many of your personnel are associated with the health activities of the animals?

Dr. REED. At the present time there are five engaged in animal health. These are a veterinarian, a secretary, a medical technician, a zookeeper, and a biological technician. We have a pathologist, a hystotechnician and his secretary; that would make eight. In addition to these, we have a pathologist assigned to us from the George Washington Medical School, and we have eight pathologists who are working with our pathologist from the Armed Forces Institute of Pathology. So our staff is augmented by visiting scientists.

POLLUTION CONTROL

Mrs. HANSEN. In your justifications you say, "Construction of a trunk sewer to eliminate most of the pollution discharged into Rock Creek." Where does the rest of the pollution go?

Dr. REED. I would say that all pollution has been eliminated as of the present moment. That is, the materials that were considered pollution sources have been corrected. The runoffs from the parking lots, et cetera, are not considered pollutants. All pollutants of animal origin have been corrected at the present time.

COOPERATION IN RESEARCH

Mrs. HANSEN. You are requesting an increase of 3 positions and $34,000 for the Hospital Research Building. What is involved in this request?

Dr. REED. The Hospital Research Building is devoted to veterinarian medicine. Dr. Gray, our veterinarian, and his staff are cooperating

with many groups throughout the country and throughout the city in particular problems of animal health as they relate to zoo animals.

The pathologist is doing the same. He is involved in studies of effects of lead poisoning. Of course, this is a human as well as an animal problem.

We told you last year about our studies on the gorilla with rheumatoid arthritis. We are cooperating with the medical schools on this particular problem. We are continuing to make progress with our one patient.

There are a number of groups with which we are cooperating. I can give you a complete rundown or breakdown if you wish.

Mrs. HANSEN. Please insert the information in the record.

(The information follows:)

COLLABORATIVE RESEARCH PROJECTS

Institution:	*Project*
Marquette School of Medicine	Hemoglobin study in the feline.
Dartmouth Medical School	Chromosome composition studies.
Cornell University	Neurology of the white tiger.
Northern Virginia Arthritis Institute	Rheumatoid-like illness in the gorilla.
Duke University	Camel physiology.
Veterans' Administration Hospital Minneapolis, Minn.	Polar bear rearing regimen, Milk analysis in exotic animals, Physiological norms, Reindeer reproduction.
George Washington University School of Medicine	Reindeer blood studies, SMA blood chemistries, Protein electrophoresis blood.
National Institute of Health	Aging studies and bone degeneration.
National Institute of Health	Blood parasite studies.
National Institute of Health	Urinary estrogens and gonadatropin in the pregnant great apes.
University of Minnesota	Physiology and metabolism in ursidae.
Patuxent Wildlife Research Center	Epidemiology of avian malaria in zoological parks.
Johns Hopkins University	Hemoglobin studies.
Norden Laboratories	Antibody responses to feline panleucopenia vaccination in exotic felidae.
Veterans Administration Hospital Bronx, N.Y.	Feline blood studies.
University of Ceylon	Elephant reproductive physiology.
Mayo Clinic	Tuberculosis typing.
National Institute of Health	Primate neurological studies.
Long Island Duck Research Laboratory	Diet deficiency studies in waterfowl and other exotics.
George Washington University Medical Center	Tuberculosis in the great apes.

BENEFITS OF ZOO ANIMAL RESEARCH

Dr. REED. In the behavorial research we are again cooperating with other universities. We have a professor from the University of Maryland and we have graduate students who are doing work at the zoo in the behavorial sciences. We are cooperating with other universities and professional groups.

Mr. GALIFIANAKIS. Is this in the interest of the animals that you are doing this research?

Dr. REED. Yes, this is an important point. The work that we do at the zoo is based primarily on the needs and requirements of the

animals, the behavior and health of the animals. There is a spinoff relationship, of course, sometimes, such as the arthritis project in relation to humans. But we are concerned with the problems of the animals.

Mr. GALIFIANAKIS. Would you permit, say, a pathologist who was not primarily interested in animals to come in for general research, do you make the animals available for that purpose?

Dr. REED. Not unless it ties into a problem which the animal has itself. For instance, there are very few instances of cancer in animals. In animals, cancer is not an extensive problem. It is an individual problem.

Mrs. HANSEN. Why?

Dr. REED. Well, I wish I knew the answer to that. Perhaps the animals live a little cleaner than people do; they certainly do not smoke as I do. They do not eat the same type of foods that we do. Perhaps it is the genetic makeup that makes them more resistant. So, in general, we would not be particularly interested in a cancer problem. This is NIH's bailiwick.

However, the problem of calcium metabolism is a serious problem with animals. In the zoo we are actively studying this particular problem. There might be some spin-off, but we are studying it from the animal's standpoint.

Dr. RIPLEY. We do, Madam Chairman, maintain a registry of tumors in animals for the use of NIH. We have found tumors in animals like oysters and mollusks. It is a phenomenon not just confined to humans or higher animals.

ANIMALS REQUIRING MOST CARE

Mr. GALIFIANAKIS. Which animals require the most intensive care?

Dr. REED. I think probably the most intense care has to be given to the reptiles. They seem to respond a little more to their environmental conditions that they are so close to. However, we give a lot of care to just about all animals we have.

Mr. GALIFIANAKIS. Which is the most expensive operation?

Dr. REED. That is a very hard question. At the risk of being facetious, I would say taking care of the human beings. But I do not believe we have ever broken down which group requires the most care or is the most expensive to take care of.

Mr. GALIFIANAKIS. I was just wondering whether the giraffe is.

Mrs. HANSEN. Do you have to lavish more attention on the animals who are out of their own environment?

Mr. GALIFIANAKIS. Like the polar bear?

Mrs. HANSEN. Well, any animal that is moved from one zone of extreme temperature to a zone like we have in Washington, D.C.

Dr. REED. Probably the most intense care that any zoo must give would be to the penguins, where you have taken them from the Antarctic conditions which you must then duplicate in the zoo. We do not have them at the present time, but we will have them in the future. We have had them in the past.

Dr. RIPLEY. There, again, you have the condition in the Antarctic where they are subjected to less kinds of infection. They are adapted

to a somewhat insulated environment, without the presence of viral infections that would produce a lot of lung diseases and so on.

Mr. GALIFIANAKIS. What do you do with the animals when they expire?

Dr. REED. There is a post mortem examination made of the animals to determine the cause of death. Tissue is collected and distributed to those people who are interested in particular specimens. The skins, skulls, and skeletons frequently go to the National Museum of Natural History depending on their study and exhibit needs. So the maximum utilization is made wherever it is possible.

Mr. GALIFIANAKIS. Is taxidermy part of your function?

Dr. REED. That would be a museum function for a particular mounted specimen.

Mr. GALIFIANAKIS. Thank you very much.

OPERATIONS AND MAINTENANCE OF THE ZOO

Mrs. HANSEN. Justify your requested increase of $293,000 and 30 positions for operations and maintenance.

Dr. REED. This is the unit that takes care of the physical plant that services the entire zoo. We are trying to build up a sufficient corps of mechanics, laborers, and skilled trades persons to meet the needs of taking care of the zoo. Included in this request is some equipment that is needed, such as replacement of our sky-worker to take care of the trees.

As you will notice, the spread of the request is through all the departments. In the maintenance and construction department we need asphalt workers, pipefitters, carpenters, and general maintenance helpers.

The addition of new buildings has increased the number of sewer lines, pipes, and pumping facilities which now must be serviced. We are also requesting additional grounds workers and a clerk-typist in the Garden and Tree Maintenance division to take care of our grounds. Some 12,000 trees are scattered all over the zoo and we must take care of them and service for appearance and public safety.

LABELING OF TREES

Mrs. HANSEN. Do you label your tree species on your grounds? I have found more people, particularly from other sections of the country, who are interested in trees as I myself am.

Dr. REED. We have long wanted to do that, and we have looked into this particular problem. However, our labeling problem throughout the zoo is a serious one not yet resolved. We are devoting our first effort to labeling animals within the cages, but we have long wanted to label all the trees also. It is our plan that in the redevelopment of the zoo we will have more different kinds of trees, including specimen trees from different parts of the country, and we will have them labeled as an exhibit.

Mrs. HANSEN. When you have animals from all over the world, it would seem to me reasonable and sensible to provide some of the same type of environment from which they came.

Dr. REED. I could not agree with you more, as our master plan now envisions. We do intend to complement the animals wherever possible.

Dr. RIPLEY. May I say, Madam Chairman, that in this connection Joseph Henry in 1848 suggested that the Smithsonian label the trees in Smithsonian Park. And we still have not done it. The reason is not that we lack motivation but we no sooner develop a new kind of labeling then someone takes it away. It is a souvenir for a visitor.

Just last year we put up a memorial tree, for example, for the wife of one of our longest term associates, Mrs. Frank Taylor. She had been on our Women's Committee for Smithsonian since it was founded. And overnight that label was gone.

We have not been able to work out a plan by which we can successfully label a tree and have the label remain.

Mrs. HANSEN. I think it is necessary to make people conscious that when they destroy something they are destroying their own investment.

Dr. RIPLEY. Exactly. I could not agree with you more.

Mrs. HANSEN. The committee will recess until tomorrow morning at 10 o'clock.

Dr. RIPLEY. May I say that tomorrow there is an exhibition opening on music machines in the National Museum of History and Technology. I hope it may be possible for some of the members of the committee to come and see it. It is very exciting and very well done. It is tomorrow evening.

TUESDAY, APRIL 6, 1971.

DEPARTMENT OF LIVING VERTEBRATES

Mrs. HANSEN. The committee will come to order.

Please justify your requested increase of $72,000 and five positions for the Department of Living Vertebrates.

Dr. REED. Yes, Madam Chairman, this is for one position on the professional level, a wildlife biologist, to take care of the hoof stock and one stenotypist to assist the curators and head keepers.

Mrs. HANSEN. I'll bet that is an interesting job.

Dr. REED. The girls seem to like it, because it is a very stimulating job particularly when they get vicariously involved in the love life of various and sundry animals. We also are asking for three keeper specialists. These are, as Dr. Cowan was stating, technicians, special keepers, to assist the curators in some of their very specialized problems. There is also a request for an increase in animal food, which is a cost-of-living increase, some money for sundries and travel, and an additional $5,000 for the purchase of animals.

Mrs. HANSEN. What does your travel costs consist of?

Mr. REED. The travel consists of each curator attending his professional meeting, such as the Curator of Mammals should attend the meeting of the American Society of Mammalogists; the Curator of Reptiles should attend the meeting of the American Society of Ichthyologists and Herpetologists; and the Curator of Birds should attend the

American Ornithological Union's meeting. Several of the keepers should attend the annual regional workshops that are designed specifically for training and upgrading their skills. It may be of interest to you to know that funds for the purchase of animals at our zoo are a relatively small amount as compared to those of some other major zoos in this country.

Mrs. HANSEN. Is this because you receive so many gifts?

VALUABLE GIFT ANIMALS

Dr. REED. We did a study that showed that the value of gift animals and the descendants of gift animals now on exhibition amounts to about $750,000. These animals were given to the U.S. Government.

Mrs. HANSEN. Please insert a list of some of the gift animals you have received and whom they were donated by.

Dr. RIPLEY. Yes. We are in the midst of a very complicated negotiation through American Ambassador Kenneth Keating. We sent out to India a young male bison, because their male bison had died, and the Indian Government was so thrilled, except for the fact that it was a bit young and therefore when it was released in the same pen with the lady bison it went over and nuzzled her, hoping to get a drink of milk. However, aside from that, it will soon grow up. They are going to give us a lesser panda which we have wanted very, very much for a long time. This kind of thing is enormously helpful and the Indian Government takes a great interest in this. I may say the Prime Minister herself is an animal lover and this is the kind of thing that makes for improved international relations.

(The information follows:)

GIFT ANIMALS

The National Zoological Park has always been the repository for gifts of animals to the Presidents. These Presidential gifts have played a major role in building the Zoo's collection to the place of pre-eminence that it enjoys today. In addition, the National Zoological Park receives many gifts of animals from foreign governments and from private citizens just because it is the National Zoo of the United States and a gift of an animal to the Zoo is a gift to all the citizens.

In fact, many of the prized animals in the Zoo's collection today are the result of gifts and were not purchased with federally appropriated funds.

The following list gives some of the important animals and their progeny which are presently on exhibition. This does not include animals born of these non-federally purchased gifts and subsequently exchanged for other animals.

ANIMALS AND DONORS

2 Komodo Dragons, Indonesian Government.
2 Kiwis, New Zealand Government.
3 Red Birds of Paradise, Private citizen.
4 Sugar Gliders, Australian Government.
3 Wallabies, Private citizen.
3 Kangaroos, Australian Government.
3 Tree Kangaroos, Private citizen.
6 Fruit Bats, Private citizen.
30 Barbary Apes, British Government (Originally 2 pairs).
2 Gorillas, Private citizen.
2 Grizzly Bears, National Park Service.
2 Black Bears, U.S. Forestry Service.
3 Polar Bears, Private citizen.

3 Sloth Bears, Private citizen.
1 Fossa, Madagascan Government.
2 Spotted Hyenas, South African Government.
3 Leopards, Liberian Government.
1 Lion, Lion's Club International.
5 Tigers (White 3), Private citizen (originally 1 white and 1 yellow).
2 Indian Elephants, Indian Government.
1 African Elephant, Congo Government.
2 Indian Rhinos, Indian Government.
7 Pygmy Hippos, Liberian Government (originally 2).
6 Reindeer, Alaskan Government.
2 Pronghorn Antelope, Private citizen.
9 Dorcas Gazelle, Tunisian Government (originally 1 pair).
2 Big Horn Sheep, National Park Service.

Combining these currently exhibited major gift animals with those of lesser value, we estimate a total private investment in the Zoo's collection today of nearly one-half million dollars or approximately two-thirds of the collection's total value. This includes the numerous specimens donated each year which considerably adds to the $25,000 of the appropriated funds for the purchase of animals.

SCIENTIFIC RESEARCH DEPARTMENT

Mrs. HANSEN. Justify your requested increase of $31,000 and one position for scientific research.

Dr. REED. This position that we are requesting is for a reproduction physiologist, who would study the whole reproductive physiology and processes in some of the very rare and endangered animals. This study concerns itself with the entire scope of the problem; that is the breeding, inbreeding, diet, the conditions of the cages, the photoperiodicity, and nutrition, particularly vitamins and minerals. We would be able to approach our problems of the reproductive cycle of these animals in a logical and scientific manner.

There is no other zoo in the country that is doing this. All zoos are faced with animals being harder and harder to get, so we cannot replenish our collections from the wild. We must do this breeding ourselves to replenish and maintain our zoo stock. We have some rather interesting problems.

For instance, with the rhinoceros, we have got to get the male and the female rhinoceroses synchronized in their cycles of breeding, before we can have babies born. It is not just the female that governs whether there are going to be babies. The male is involved in this, too, and these problems have not been worked out. We know about them. We know it is a problem, but we don't know the answer. This is one of the things we want to find out. This would not only be a service to science, but a service to other zoos throughout the Nation.

ANIMAL HEALTH DEPARTMENT

Mrs. HANSEN. You are requesting an increase of $54,000 and four positions for the Animal Health Department. May we have your comments in this connection?

Dr. REED. Yes, ma'am. We are requesting an associate veterinarian as an assistant to our clinical veterinarian. We have only one veterinarian taking care of all of the animals on a 24-hour call basis 7 days a week, 365 days of the year. The problems are getting more and more involved regarding the animals in the collection. The more we know,

the more we know that we don't know. We need an additional veterinarian, not only for just the physical time that is required to take care of the animals, but to increase the quality of the care we now give our animals.

We are also requesting a position for a medical technician to assist the veterinarian in his diagnostic work.

Mrs. HANSEN. This is the zoo's medical program.

Dr. REED. That is right; such work as blood studies and parasitelogical studies. One of the things we are involved in is a rather detailed study of Asian malaria. There is a lot of this type malaria in the birds. This is not infective in human beings; but many of the birds, like sea birds, penguins, birds of the coast, the murres from out in your country where they live on the rocks are highly susceptible. The wind is constantly blowing. There are no mosquitoes there, but they are extremely susceptible to malaria. They are brought into captivity in Seattle, Portland, or Washington, D.C., and they are faced with this malarian infection. We know a great deal about the mode of transmission, but we don't know anything about the treatment and cure. There is an indication that drugs that work on humans do not work on birds because you have an entirely different type of physiology. The temperature on a bird runs about 107 degrees, whereas the normal body temperature of human and other animals is lower so this malarian parasite responds differently to drugs that are effective on mammalian malaria.

We are also requesting an animal keeper for the veterinarian. There are new developments in X-ray equipment. They have X-ray equipment now that works on ordinary household electricity, so that we can take the X-ray machine to any place in the zoo. Formerly we had to bring the animal to a 220-volt electrical outlet. This machine gives us clearer X-rays, not only of bones, but of soft tissues to aid treatment and diagnosis.

COST OF FEEDING ANIMALS

Mrs. HANSEN. Please insert in the record what you spend per year on food for a representative selection of animals.

Dr. REED. The total this year is $137,000. We will put that in the record.

(The information follows:)

COST OF FEEDING REPRESENTATIVE ANIMALS

The cost of feeding the animals for 1970 has risen since 1969. It now costs $3.04 a day on an average to feed a single leopard.

The Jaguar, which receives slightly less, costs $2.66 for meat on a daily basis.

The tigers vary, depending upon the amount of meat eaten. This year the cost is slightly less because there are no tigers pregnant. The average for the three tigers is 15 pounds a day at 38¢ per pound or $5.70 per day. In 1969 they consumed more on a daily basis.

The cost for the gorillas has risen dramatically from $1.98 to $3.12.

The orangutan's cost has gone from $1.77 to $2.88.

The elephant's cost has risen from $3.97 to $5.54.

And so on down the line with general increases bearing from slight to dramatic, with a few instances of of decreases in the cost for the individual.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Mrs. HANSEN. Justify your requested increase of $298,000 for the National Museum of History and Technology.

Dr. RIPLEY. I would like to introduce Professor Boorstin, Director of the Museum of History and Technology, who I am sure would like to speak to some of the issues involved in the museum's request.

Dr. BOORSTIN. You will note that we are not increasing the number of positions. We are decreasing the number of positions from 158 to 157. The increase consists of $68,000 of pay increases required by Congress and the balance of $230,000 for program, mostly for essential supplies, items which are itemized which are generally listed on this page, and then itemized on page A–62. These are mostly rather prosaic objects to help us keep operating.

Mrs. HANSEN. That is why we didn't ask you any stimulating questions.

Dr. BOORSTIN. They are not very stimulating objects I am afraid, but we need them certainly, in order to keep operating.

Mrs. HANSEN. What type of position did you lose?

ALEXANDRIA SALVAGE ARCHEOLOGY PROJECT

Mr. BLITZER. The one employee was a salvage archeology technician on the staff.

Mrs. HANSEN. Did that employee assist the city of Alexandria in their archeology project?

Mr. BLITZER. Yes. It reflected a decision by the staff of the museum that this is essentially a local activity and it has been supported enough at Smithsonian expense.

Mrs. HANSEN. Is this archeological salvage project still continuing?

Mr. BLITZER. I am happy to say I went to the city manager of Alexandria and everyone is happy with this arrangement. They recognize the justice of what we have done. We intend to help them in other ways.

Mrs. HANSEN. In what way do you intend to assist them?

Mr. BLITZER. We are making equipment and space available. We are also making available technical and professional staff to look at what gets dug up and to give them advice, but we are not giving them a full-time employee any longer.

Dr. RIPLEY. And we are helping with restoration of objects.

Mr. BLITZER. And we intend to publish information on what is found there.

NATIONAL COLLECTION OF FINE ARTS

Mrs. HANSEN. You are requesting an increase of $62,000 for the National Collection of Fine Arts. Please give the committee the current status of your activities in this connection.

Dr. RIPLEY. Mr. Blitzer, I think would like to respond to that, Madam Chairman.

Mrs. HANSEN. Also how many visitors per year do you have at the Renwick Gallery and the Fine Arts and Portrait Galleries?

Dr. RIPLEY. The Renwick is not open but we will give you the others.

Mr. BLITZER. We have a total figure of 216,000 visitors, I believe, for the National Collection of Fine Arts and National Portrait Gallery Building. We discovered it is really impossible for us to keep track of the two museums separately especially now with the subway construction. The main entrance of the National Collection of Fine Arts is blocked and people come in almost any way they can get in and wander between the two museums.

Dr. RIPLEY. The whole G Street side of the museum is blocked off so it is impossible for people to get in there. This is very debilitating to our visitor count.

Mrs. HANSEN. I imagine you are distressed about this situation.

EFFECTS OF THE SUBWAY

Dr. RIPLEY. We are, and we are distressed about the subway vibrations, which are a very serious threat to us.

Mrs. HANSEN. What is going to happen when the subway is in operation?

Dr. RIPLEY. I think it is fair to say that we have been given assurance that the rubber tires and so on will minimize the vibrations, but all of us who are concerned with the conservation of objects are seriously worried about the continual vibrations over many years caused by the subway.

We are in favor of the subway completely in terms of getting people around. We are disturbed about our own precious objects, and about conservation techniques, because the conservation laboratories have to operate with special machines which require very careful emplacement, so that there is no vibration while delicate measurements are being made. Technology in the 20th century has many ramifications and some of them are certainly not very helpful.

Mrs. HANSEN. Since this is rather unique soil for subway construction, isn't it going to have an effect on other buildings also?

Dr. RIPLEY. Yes. I am sure it will have an effect on any building which was built in the 19th century. I was able to persuade the subway authority to move the subway out into G Street, by pointing out to them that the Fine Arts and Portrait Galleries Building, the original Patent Office Building, is built on rubble. The 19th century technology of its construction, architecturally speaking, was quite different from the technology of the 20th century.

It is difficult to conceive that they can marry these two technologies together, and have a successful marriage on this basis, because the vibration continually against that rubble will make the settlement rate increase, and the building itself will begin to settle.

We did get a compromise from the subway people, but, on the other hand, the blasting and the construction work has produced minor cracks in the building. It has produced a great deal of dust, and this is potentially damaging to the art objects.

Mrs. HANSEN. How much longer is the subway construction going to continue in that area?

Dr. RIPLEY. We believe it will be another 18 months to 2 years.

Mr. BLITZER. To look at the brighter side of this, there is to be a station called Gallery Place which will be right at that building. This will help attendance at the museums very much, but I don't recall the date for completion of that station.

Dr. RIPLEY. Dr. Boorstin, Madam Chairman, reminds me that the corner of the Museum of History and Technology, his museum, is being invaded by the subway in the Mall area. Unless we can guarantee that the wheels are going to be rubber, for which at the moment there is not an absolute written certainty, this is simply their estimate, we are going to have extremely hazardous conditions for our objects. The assumption on which we accepted the invasion on G Street of the subway next to the Patent Office Building was that the wheels would be rubber tired. Now we find they are also invading our History and Technology Building on the Mall. Unless those wheel also are rubber tired, the vibration will affect such objects as our priceless documents of American history.

Mrs. HANSEN. Have you conferred with the people who are involved in making this decision?

Dr. RIPLEY. We keep in touch with General Graham, I occasionally write him a hortatory letter, but I think the question of proper wheels is absolutely vital for us.

Mrs. HANSEN. I think you had better get this problem settled before you have any damage done.

Dr. RIPLEY. Can we do that, Mr. Bradley?

Mr. BRADLEY. Certainly, sir. Let me be in touch frequently.

Dr. RIPLEY. This is an enterprise which, as I say, we are emotionally highly in favor of for the public and our visitors, but we are deeply concerned about possible physical damage to our buildings and collections.

Mrs. HANSEN. There are a lot things in the city of Washington, D.C. that people are for emotionally until they realize what the consequence will be. I think it would be well to get the matter settled before you have to request funds for major repairs.

Dr. RIPLEY. And major loss of objects.

Mr. MCDADE. What kind of objects?

Dr. RIPLEY. Fragile papers, documents, we are talking about textiles, paintings, soft paintings. We are talking about the great increase in dust, which is generated by vibration, and we are talking about the sensitivity of the conservation machines which are testing some of our objects for things like bronze disease and other conditions.

Mrs. HANSEN. Is the subway route directly under one of your buildings?

Dr. RIPLEY. The route on G Street is next to the Patent Office Building, parallel, and then curving around at 7th Street. Under the northeast corner of the Museum of History and Technology there is a spur of the subway which goes across the Mall.

Mr. BRADLEY. Running north and south.

Dr. RIPLEY. It takes a curve and goes under the corner of the building. Dr. Boorstin might add a word about these objects.

Dr. BOORSTIN. The sorts of objects would run the whole range from objects of art, ceramics, and glass, to objects which we preserve in order to help us understand the history of science, such as microscopes, time

pieces, very delicate pieces of machinery and instruments, which when in use are protected in various ways. Our exhibiting of them would be a travesty if the building was shaking, as it is likely to do with a subway running under it. If it were conceivably possible at least to move that route so it won't go right under our building, it would be a help to us. Failing that, the use of rubber wheels is a minimum thing, but in any case our national collections will surely suffer from the proximity.

Mr. McDade. Has there been a refusal to move the route from coming under your building?

Mr. Bradley. I should say in the case of G Street the construction is in. It is a question now of trying to clean it up, complete the job, and get out. In the case of the Museum of History and Technology, construction is only in the stage where they are laying out where the fence is going to go for the property yard or for the contractor's operations, so there are some few months ahead before actual dirt begins to fly.

Dr. Ripley. Couldn't we, Mr. Bradley, get in touch with General Graham, and say that we are very much concerned about this.

PERCENTAGE OF YOUNG PEOPLE VISITING THE MUSEUM OF HISTORY AND TECHNOLOGY

Mrs. Hansen. Tell him the Appropriations Committee is also deeply concerned, because we have the problem of paying for the damage that might be done.

What portion of your visitors is shared between the Museum of History and Technology and the air and space exhibits? Also what portion of this total are young people?

Dr. Ripley. Of the 5,300,000 that visit your museum.

Dr. Boorstin. I don't know that we have the visitor figure broken down in that manner.

Mrs. Hansen. Can you give us an estimate?

Mr. Bradley. An educated guess by our senior museum man, Mr. Frank Taylor, was that about half of our visitors are young people.

It depends on the age cut off, for instance, if it is 16 or thereabouts. We did have what amounted to a sampling during one summer, and perhaps we could get from that some approximate conclusions on a sampling basis.

USE OF THE MUSEUM TO SHOW AMERICA'S HERITAGE

Mrs. Hansen. Isn't it true that through your museum you help to make young people aware of our Nation's history. It is probably one of the best museums to learn about our national heritage.

Dr. Boorstin. I would certainly hope so. This, I think, is one of the missions of the National Museum and one of the things that persuaded me to leave the university and come here. It certainly is a responsibility that we are charged with by the Congress, and something that is our duty to perform for the Nation. We can do this because we have the material with which we can show people the sorts of things that this country has been able to accomplish.

Mrs. HANSEN. I notice in your justifications that some of the purposes of the National Museum of History and Technology are toward a more effective connecting with holiday and festive occasions; celebration of national anniversaries, and to emphasize the greatness of individual man by interpreting, dramatizing, and explaining the careers of history-making Americans; the discovery and rediscovery of American heroes. I think we badly need to do this, and to explore and remind Americans of their institutions, and how they came into being. I think we tend in America in the 20th century to look only at our failures. It did take a great deal of courage to build this country, and I think this museum is one place in which you can emphasize it. As you know, the committee has always been very enthusiastic about this particular activity.

NEW EXHIBITS

Dr. BOORSTIN. We are trying to find new ways to do this. We have lately opened on the foyer going in from the Mall side an area which we call Holiday Hall, in which we display exhibits and have musical accompaniment, show slides, pictures and objects, dramatizing the role of individual Americans and relating them to holidays. For example, we have a Washington and Lincoln exhibit which goes up together with the tunes of happy birthday in February. We have a Labor Day exhibit there which celebrates leading figures in the development of labor organizations in America. We have developed the technology of a scheme for projecting on the outside of the building portraits of American heroes from all walks of life. That is something that we have tested, and we hope to have that ready within the next few weeks.

UNIFICATION OF ALL AMERICANS

Mrs. HANSEN. A former colleague who worked with us so long on this committee has asked about the amount of funds requested by the Smithsonian this year to be used in connection with the Bicentennial in 1976, and how much of this is allocated to be used for minority programs such as blacks and Indians. I think you have to make all people in America feel that they are Americans.

Dr. RIPLEY. We have been deeply concerned with this, Madam Chairman. You may recall several years ago we got into the papers, when certain people accused us of trying to illustrate a slum in the Museum of History and Technology complete with smells, rats and so on.

This was thought to be very funny, by the people who discovered this and made fun of us. They poked fun at us, because somehow or other there is an American myth along with other American myths, that all of our ancestors landed here in beautiful silks, lovely laces, textiles, gentlemen in silk breeches, beautiful lace in the 18th century, and that we all stepped off onto Plymouth Rock or onto Ellis Island just impeccable, and that museums should show only the finest examples of chivalry, courtesy and distinction.

Mrs. HANSEN. It was anything but that. This is what makes this country so great.

Dr. RIPLEY. That the Smithsonian Institution, which is known familiarly as the Nation's attic, should have the temerity to attempt to tell it like it was, somehow was thought to be an object of ridicule by these people. But we do have the Growth of America Hall, which I hope we will continue to complete under Dr. Boorstin's able direction, which will tell it like it was and is. This is part of our social planetarium. This is part of our objective as responsible keepers of the American dream, to be able to tell about all the things that happen in America.

Mrs. HANSEN. Most of the young people who I talk to make the comment that the Smithsonian Institution is one of their favorite places to visit in Washington, D.C. Going through the White House is kind of an adventure in logistics and space. But they like the exhibits in the Smithsonian that they can identify with.

Dr. RIPLEY. I think it is a sobering and inspiring experience and, of course, what we hope when they come through our buildings is that they think more about their heritage.

NEED TO MAKE EXHIBITS MORE TOTAL

Dr. BOORSTIN. If I may add a word, it is the feeling that we do want our exhibits to be more total. That really motivates the development of this museum now. We want to reach out in the areas in which Dr. Ripley has suggested, to emphasize the way Americans have lived in the past, Americans of all classes, races and conditions, and also to be a more total museum, which is the purpose of our requested Bicentennial facilities. I don't want to anticipate that item in our request, but that project is to be our principal Bicentennial enterprise, to try to include a more dramatic and vivid and effective presentation of the role of all kinds of Americans in the building of the country.

Mrs. HANSEN. I wish it were posssible for every school in America to have one of your catalogs, for instance, or something that would tell the young people what they would be able to see if they visited the Smithsonian Institution. I think it is a rather tragic thing that persons travel perhaps a couple of thousand miles to see their Nation's Capital, and in many instances they are not aware of the many things to see. This is no different than the children who visit State Legislatures for five minutes and maybe the members are all immersed in private conversations, and then they go away with a completely erroneous idea of government.

Dr. RIPLEY. I still remember coming here when I was 16, and the thrill I had when Fiorello LaGuardia stood up and made a speech. That was absolutely the most exciting moment.

(Discussion off the record.)

Mrs. HANSEN. Many teachers are not aware of the processes of government. I was at Mount Vernon one day and there was a teacher from Alabama with a group of teenagers, and she said, "Don't smoke in here. You can set the building on fire, and it belongs to somebody great." She was far more concerned with discipline than with what Mount Vernon meant to this Nation.

ORIENTATION FILM AND PUBLICATIONS

Mr. BLITZER. I might say that we are now engaged in preparation of an orientation film about the Smithsonian and its resources.

Mrs. HANSEN. I wish more people could see the film before they come to visit Washington, D.C.

Dr. BOORSTIN. We are also preparing publications which will go out to high school groups. These groups are organized in advance.

Mrs. HANSEN. I think there is nothing more important today than to make young people aware of our history, because it isn't something to be taken for granted. It wasn't an easy process.

Dr. BOORSTIN. Of course our museum has a major responsibility in that. That is one reason why we need more resources.

NATIONAL COLLECTION OF FINE ARTS

Mrs. HANSEN. Please discuss for us your request of an increase of $62,000 for the National Collection of Fine Arts.

Mr. BLITZER. Precisely along the lines that you have been following, the National Collection of Fine Arts is the National Museum about the history of American art.

Mrs. HANSEN. Is there any other gallery in the area that has this same goal?

Mr. BLITZER. There are certainly no other national museums that do. The Corcoran has a very fine collection of American paintings.

Dr. RIPLEY. But they don't develop the historical studies which we hope to do. There is no other gallery of this kind.

Mr. BLITZER. This is in the history of American art, really the equivalent of the Museum of History and Technology.

RESEARCH SCHOLAR PROGRAM

Mrs. HANSEN. You are requesting $15,000 to provide for the continuation of the program for research scholars on a significant scale. You say the funds should be directed toward the research scholars program in American art for both graduate and post-doctoral scholars to encourage sound scholarship in this much neglected field. Do you want to amplify on that statement for us please.

Mr. BLITZER. If I might, Madam Chairman, just make a few general remarks before that.

The National Collection of Fine Arts in a sense has existed as long as the Smithsonian has. The Smithsonian began in 1846 with a gallery of art. The National Collection of Fine Arts has existed in a more precise sense for 35 years since legislation establishing the National Gallery and redefining the National Collection of Fine Arts, but in a very real sense it is only in the last few years that the NCFA has had a home of its own and a very clear notion of what it is there for and what it should accomplish. It is in the last year I would say, under its present director, a very distinguished American art-historian and educator, that it has begun paying primary attention to the funda-

mental operations of the gallery. By that I mean specifically to its scholarly programs and to the care and use of its own permanent collection. The request this year really goes to those two purposes and to the Renwick Gallery, which is the new responsibility that has been added to the National Collection.

RENWICK GALLERY

Mrs. HANSEN. What will be the purpose of the Renwick Gallery?

Mr. BLITZER. The Renwick we hope will open in the fall of 1971, in November. In operating terms that gallery will be a branch of the National Collection of Fine Arts. The $15,000 about which you have asked, as you say, is intended to bring research scholars to the National Collection of Fine Arts. The hope is that not only will they study the collection and use the archival materials that now exist in that building, but also that they will contribute to publications and to exhibitions of the gallery.

EXHIBITION PROGRAM AT THE NCFA

If I may, Madam Chairman, I would like to show you this collection of catalogs of recent exhibitions at the National Collection of Fine Arts. These, I might say, are simply the major kinds of exhibitions that resulted in major scholarly catalogs. There has also been a very welcome tendency in the last year to have small, more informal, less expensive exhibitions of the gallery's own collection. This, I think, is exactly the direction in which the galleries will be going. In fact I can quote one brief passage from an article in the Wall Street Journal last month:

> . . . The National Collection of Fine Arts seems to be doing things about right. There is a good sprinkling of contemporary work combined with a genuine concern for the permanent collection demonstrated by such modest but telling triumphs as the two gray-walled rooms in which such American impressionist works as J. Alden Weir's enjoyable "Upland Pasture" are mercifully freed from gold frames and tastefully trimmed with gray stripes lined with white.

There is this combined attention, but not at the expense of larger exhibitions, which produce scholarly catalogs. The hope is that the scholars brought in with this $15,000 plus the $8,000 we already have will be very helpful.

NATIONAL PORTRAIT GALLERY

Mrs. HANSEN. You are requesting an increase of $50,000 for the National Portrait Gallery. Please give the committee a résumé of the status of the Portrait Gallery.

Mr. BLITZER. As you know, the National Portrait Gallery is a new and unique institution in this country. There has never been a National Portrait Gallery before. In summary, I would say that in the 8 years that the gallery has existed, and in the 2 years that it has had a home of its own, it has made really remarkable progress. It is gradually accumulating a collection of portraits of distinguished Americans. It has always been thought of as a history museum, at least as much, perhaps more, than as an art museum. Part of the request this year is to strengthen the history department. This, as you can see, I think, from the justification, is part of a deliberate

effort by the new Director to strengthen the parts of his museum that need strengthening. The justification states on page 68:

Prior to fiscal year 1971 the primary goal was establishment and management of the collection. With stress on developing exhibits staff in the past year, and then plans for history and education departments in fiscal 1972, the gallery is now focusing on relating and exhibiting the collections to the public.

STRENGTHENING THE HISTORY DEPARTMENT

Specifically, the request for the history department is primarily to enable the gallery to employ a chief historian. They have a candidate, a very distinguished professor from the University of Wisconsin, Lillian Miller, who hopes to come to the gallery at the beginning of the next fiscal year. This is an attempt to fund that position.

These are recent catalogs from the National Portrait Gallery. You will notice that the top two, the ones that are thin brochures rather than thick catalogs, were designed explicitly for teaching purposes. They are for distribution to schools and to children who will be visiting the museum. One about James Weldon Johnson, the Negro composer, and one about John Muir, the conservationist. The other part of the gallery's request this year is for some strengthening of the education department, which is responsible for putting out publications like that, and for arranging school visits and educational materials.

Dr. RIPLEY. I wish you had seen that Cropsey show. It was simply beautiful. There had never been a show to bring out this man's work in history.

Mrs. HANSEN. You always invite me to those white tie affairs.

Dr. RIPLEY. We hardly ever wear a white tie anymore, Madam Chairman, except for Presidential inauguarations.

POLICY REGARDING PURCHASE, SALE, OR EXCHANGE OF PAINTINGS IN THE PORTRAIT GALLERY

Mrs. HANSEN. Please define for the record, your current policies with regard to the purchase, sale, and exchange of paintings in the National Portrait Gallery.

Mr. RIPLEY. We will do that for the record.

(The information follows:)

RESOLUTION ON SALE OF PAINTINGS BY THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION

Resolved, That no object of art in the permanent collection of the National Portrait Gallery or the National Collection of Fine Arts valued at more than $1,000 shall be exchanged or sold without prior approval of the museum Director, the museum's Commission, the Smithsonian's Office of General Counsel, and of the Secretary;

That no object of art in the permanent collection of the National Portrait Gallery or the National Collection of Fine Arts valued at more than $50,000 shall be exchanged or sold without prior approval of the museum Director, the museum's Commission, the Smithsonian's Office of General Counsel, the Secretary, and the Board of Regents;

That the exchange or sale of any object of art in the National Portrait Gallery and the National Collection of Fine Arts shall be reported to the Board of Regents by the Secretary; and that the proceeds from any such sale shall be used solely for the acquisitions of works of art for the museum from which it came.

Mr. BLITZER. You will recall, Madam Chairman, there was a similar question last year.

Mrs. HANSEN. Yes.

Mr. BLITZER. It was about the National Collection of Fine Arts. This is a new matter that I am not quite aware of, but I may say that the policy in both cases is the same. I would say in the first place that the policy lies very much in the hands of the Director of the respective gallery and his professional staff. We now have a very explicit procedure which starts and can only start at the initiative of the Director and the staff of the museum, if they feel that there are compelling reasons to dispose of a work in the collection. They then take their recommendations to their advisory commission.

Mrs. HANSEN. What would be a compelling reason?

Dr. RIPLEY. I should say, perhaps, Madam Chairman, I am unaware that the Portrait Gallery has ever disposed of anything or has ever contemplated disposing of anything, but, for example, if the Portrait Gallery acquired a fairly good portrait of a person whose portrait belonged in the Portrait Gallery and then had an opportunity to get a really brilliant portrait of the same person, they might feel that the first one was superfluous and it could better be exchanged for a portrait of someone else. Just as in the case of the National Collection of Fine Arts a year ago, the feeling was that works not of American art could perhaps on occasion be translated or turned into works of American art that would serve better the purposes of the gallery. In any event, the next step would be the approval of the advisory commission.

MEMBERSHIP OF ADVISORY COMMISSIONS

Mrs. HANSEN. Who is on your advisory commission?

Dr. RIPLEY. I would have to give you a list.

Mrs. HANSEN. Please insert the information in the record.

Dr. RIPLEY. They are both very distinguished groups of people.

(The information follows:)

NATIONAL COLLECTION OF FINE ARTS COMMISSION

Mr. Thomas C. Howe, Chairman
Mr. H. Page Cross, Vice Chairman
Mr. S. Dillon Ripley, Secretary

	Term expires
Mr. S. Dillon Ripley, Smithsonian Institution, Washington, D.C	(1)
Mr. Leonard Baskin, Department of Art, Smith College, Northampton, Mass	1972
Mr. William A. M. Burden, New York, N.Y	1972
Mr. H. Page Cross, New York, N.Y	1972
Dr. David E. Finley, Washington, D.C	1972
Mr. Martin Friedman, Director, Walker Art Center, Minneapolis, Minn	1972
Mr. Lloyd Goodrich, Advisory Director, Whitney Museum of American Art, New York, N.Y	1971
Dr. Walker Hancock, Gloucester, Mass	1971
Mr. Bartlett H. Hayes, Jr., American Academy, Rome, Italy	1971
Mr. August Heckscher, New York, N.Y	1972
Mr. Thomas C. Howe, San Francisco, Calif	1972
Dr. Wilmarth S. Lewis, Farmington, Conn	1973
Mr. Henry P. McIlhenny, Philadelphia, Pa	1973
Mr. Ogden M. Pleissner, New York, N.Y	1973

[1] Ex officio.

Dr. Charles H. Sawyer, Director, University of Michigan Art Museum, Ann Arbor, Mich	1972
Mrs. Otto L. Spaeth, New York, N.Y	1972
Mr. George B. Tatum, Department of Art History, University of Delaware, Newark, Del	1975
Mr. Otto Wittmann, Director, Toledo Museum of Art, Toledo, Ohio	1975
Mr. Robert Motherwell, Marlborough-Gerson Galleries, New York, N.Y	1975

NATIONAL PORTRAIT GALLERY COMMISSION

Chairman, Mr. John Nicholas Brown

	Term expires
Mrs. Catherine Drinker Bowen, Haverford, Pa	1971
Mr. John Nicholas Brown, Providence, R.I	1972
Mr. Lewis Deschler, Bethesda, Md	1972
Mr. David E. Finley, Washington, D.C	1973
Mr. Wilmarth S. Lewis, Farmington, Conn	1973
Dr. E. P. Richardson, Philadelphia, Pa	1972
Dr. Whitfield J. Bell, Jr., Philadelphia, Pa	1974
Mr. Andrew Oliver, New York, N.Y	1974
Mr. Jules D. Prown, New Haven, Conn	1974
Hon. Warren Earl Burger, Chief Justice of the United States	(1)
Mr. J. Carter Brown, Director, National Gallery of Art, Washington, D.C	(1)
Mr. S. Dillon Ripley, Secretary, Smithsonian Institution, Washington, D.C	(1)

[1] Ex officio.

DISPOSAL OF ARTWORKS

Mr. BLITZER. If the staff, the Director, and the Commission all felt that this was a desirable thing to do, then the recommendation would go to the Secretary. Where small objects, involving small amounts of money are concerned, the Secretary has the authority to say yes or no to this and then to report it to the Board of Regents. Any transaction involving a substantial amount of money under our rules must be approved in advance also by the Board of Regents of the Smithsonian. I may say also that we look to the Commissions, if this should happen, which I doubt, to advise us about proper ways of disposing of these works.

MARKET VALUES OF WORKS OF ART

Mrs. HANSEN. Doesn't the value of any piece of art differ depending on which segment of the population you talk to?

Dr. RIPLEY. The value is essentially the value of the marketplace, and it is difficult to establish without testing the marketplace sometimes. What we do is get outside witnesses who are familiar with the marketplace, who are independent, to make evaluation.

Mrs. HANSEN. Please insert in the record a list of the firms consulted regarding value of works of art.

Dr. RIPLEY. Yes, we would be very glad to.

(The information follows:)

FIRMS CONSULTED REGARDING VALUE OF WORKS OF ART

In recent years, the National Collection of Fine Arts and the National Portrait Gallery have consulted the following firms, among others, concerning the market value of works of art. In almost every case, these consultations related to works that the museums hoped to acquire: Coe Kerr Gallery, James Graham & Sons, Hirchl & Adler, Kennedy Galleries, Parke-Bernet/Sotheby, and Victor Spark.

GAD REPORT ON SALE OF PAINTINGS

Mr. BLITZER. Could I add one other thing. It has occurred to me that since we met here last year there has been a General Accounting Office report on the question of the sale of paintings by the National Collection of Fine Arts and we did not have a chance to tell you about that.

Mrs. HANSEN. What does that report consist of?

Mr. BLITZER. I can summarize very briefly.

(Discussion off the record.)

Mr. BLITZER. The report shows that what we had said a year ago was correct, that the National Collection of Fine Arts has disposed of exactly four works of art.

Mrs. HANSEN. Please insert some excerpts from that GAO report in the record at this point.

Mr. BLITZER. Exactly four works of art have been disposed of, but all four were non-American works of art. The total proceeds of all the transactions were used by the NCFA to acquire American works of art which are now in the collection. This is really what it comes down to.

Dr. RIPLEY. I think we can satisfy that for the record.

Mrs. HANSEN. Please do.

(The information follows:)

EXCERPT FROM GENERAL ACCOUNTING OFFICE OBSERVATIONS ON THE SALE AND EXCHANGE OF PAINTINGS BY THE NATIONAL COLLECTION OF FINE ARTS OF THE SMITHSONIAN INSTITUTION—JULY 1970

Two of the four paintings which the National Collection disposed of during the last 6 years were sold at auction, another was sold through an art dealer, and the fourth was given to an art dealer in exchange for an American painting.

The paintings were disposed of as the result of plans by the National Collection's former director to provide a means of improving its collection of American art works by selling and trading the European and American paintings—whose dispositions were not restricted by the terms of the gifts and bequests—which it did not intend to exhibit and which it did not need as evidence of the National Collection's history. From the sales and the exchange, the National Collection has acquired a number of American art works and is planning to acquire others.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Mrs. HANSEN. You are requesting an increase of $587,000 for the Joseph H. Hirshhorn Museum and Sculpture Garden. How many employees do you now have working on this activity?

Mr. BRADLEY. We have 18 authorized positions, Madam Chairman in the 1971 base.

Mrs. HANSEN. What are their duties?

Mr. BRADLEY. They are running a museum in accordance with the act of 1966 that directed that the Smithsonian should create, staff, and get into operation the museum functions of the Hirshhorn Museum.

Mrs. HANSEN. In other words, these are the activities that are necessary prior to the opening of any museum.

Please insert in the record a list of those positions.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN, AUTHORIZED POSITIONS FOR FISCAL YEAR 1971

Director—responsible for overall direction of the Hirshhorn Museum.

Secretary to Director—stenographer, typist, handles telephone calls, initiates correspondence.

Administrative Officer—provides services to the director in the management of the museum, pertaining to personnel, budget preparation and execution, and procurement activities.

Curator—to supervise all curatorial, exhibit and educational programs.

Associate and Assistant Curator—responsible for the cataloging and exhibition of 7,000 paintings and sculpture; responsible for preparation of the catalog for the opening exhibit; develop cultural and educational programs.

Historian—Prepares historical documentation of works in the museum's collections. Answers research inquiries. Consults current auction and other art periodicals for items pertinent to museum collections. Maintains research file on all major modern artists.

Librarian—establish and maintain up to date research, photographic and microfilm library.

Museum assistant—to assist in researching data to document required background on various works in the collection.

Clerk typist—to assist in preparation of catalog for opening exhibit and other clerical duties.

Secretary to Administrative Officer—maintains control of obligations and invoices, typing, answering correspondence.

Museum assistants (6)—responsible for registration and inventory of all paintings and sculpture in collection. Coordinate conservation, photography, framing and other services relating to cataloging and preparing the collection for exhibition at the museum.

Contract clerk—Assisting in the preparation of pertinent data required for issuance of requisitions and contracts covering general procurement and particular items for building furnishings.

Mr. BRADLEY. May I summarize and then I can put it fully in the record. The duties of the staff begin, of course, with the Director who is responsible to the Secretary for the direction of the museum, the staff, and the funds. He has a secretary. Then we have curators who supervise curatorial, exhibit, and educational programs. We have a librarian who is busy with establishing and maintaining a research, photographic, and microfilm library.

Mrs. HANSEN. Is this so that every object is photographed or microfilmed?

Mr. BRADLEY. Yes, ma'am. The historian assists in researching and developing historical data and in the preparation of suitable provenances. Organization of reference material and displays are carried out. We answer research inquiries the same as the other museums do and we arrange loans.

PUBLIC INQUIRIES ON THE HIRSHHORN MUSEUM

Mrs. HANSEN. How many inquiries do you receive per year on the Hirshhorn Museum?

Mr. BRADLEY. I might ask Mr. Lerner if he has a figure on that. Mr. Abram Lerner is the director, Madam Chairman, of the Hirshhorn Museum.

Mr. LERNER. In fiscal year 1970 we had 98 requests for information on artists and/or on specific paintings and sculpture in the collection,

from scholars, students, publishers, and museum officials which were answered by our curatorial staff. We also had 106 requests for photographs and/or permission to reproduce specific works from the collections received from scholars, students, publishers, and museum officials. Although we have cut down the program of loans, we did lend 69 paintings and sculptures to various institutions.

Mrs. HANSEN. Such as?

Mr. LERNER. Such as the Metropolitan Museum of Art, the Whitney Museum of Art, the Guggenheim Museum of Art, the Los Angeles County Museum of Art, and numerous other museums of art.

NUMBER OF ITEMS IN THE COLLECTION AND TO BE EXHIBITED INITIALLY

Mrs. HANSEN. You say in your justifications that you have approximately 1,200 choice paintings and pieces of sculpture which are apparently in the process of being selected from more than 7,000 items in the collection for exhibit when the museum opens. Will you give us a specific estimate of how many paintings and pieces of sculpture you could accept. Did you arbitrarily set that figure of 1,200?

Dr. RIPLEY. The 1,200 items are for initial exhibition purposes, Madam Chairman, and not for acceptance purposes. These are within the total collection which were deemed especially worthy of being prepared for the opening exhibition in the spring of 1973.

Mrs. HANSEN. So beyond the 1,200 items there are other paintings or pieces of sculpture that are in the process of being prepared for future exhibits. Is this correct?

Dr. RIPLEY. Yes; and I think he could give you the number beyond the 1,200.

Mr. LERNER. There are a total of 7,000 pieces, 5,000 paintings and 2,000 sculptures.

CONSERVATION AND RESTORATION

Mrs. HANSEN. You say in your justifications, "Of these 1,200 items, 600 are paintings and 600 sculptures. Based on a survey of the restoration and framing requirements of these items . . . 100 large paintings will need restoration at an average cost of $1,000 and 50 will require work at $300 each." Why were the paintings in a poor condition? Is it because they had not been taken care of?

Mr. LERNER. As you know, paintings suffer from what the insurance people call innate vice, that is to say, that they have a life cycle and in order to conserve them properly they must be looked at with regularity. They must be examined carefully and restored from time to time. In a complex as large as this, 7,000 pieces, it was utterly impossible for Mr. Hirshhorn to look after the pictures the way one would look after them in a museum. He lacked the staff, he lacked the expertise.

In order to prepare these pictures for this great new museum and to prepare them properly for the public, it is necessary to look at everyone of these paintings. We have discovered, on looking at them and examining them carefully, that most of them require some sort of treatment, whether it is a light cleaning, or a conservation treatment which involves a relining, or a restoration of some sort. This is not quite the same with sculpture, but sculpture does suffer from a variety of illnesses, like bronze disease. They do break, they do need repatination.

Dr. RIPLEY. Might I add this is not to imply that because they need such work they are any the less invaluable.

Mrs. HANSEN. I understand. But I think the record should show that something more than just routine care is required when a painting or a piece of sculpture is going to be displayed in a museum.

Dr. RIPLEY. That is true.

Mrs. HANSEN. The paintings and pieces of sculpture are in varying states of disrepair.

Mr. LERNER. They are also in varying stages of aging.

Mrs. HANSEN. This preparation of works of art is known as your pre-exhibition preparation.

Mr. RIPLEY. Absolutely.

LENGTH OF EXHIBITIONS

Mrs. HANSEN. About how long does a particular exhibition last?

Dr. RIPLEY. This would be a permanent collection. Then there are areas for changing exhibitions.

Mrs. HANSEN. That is what I mean.

Dr. RIPLEY. There is a constant change. On the first floor of the museum there is an area for changing exhibitions which will be drawn not only from the collections but from other sources.

Mrs. HANSEN. This is the same type of thing you do in any other gallery.

Dr. RIPLEY. Right, and there will be, of course, gifts, there will be changing exhibitions of loan material that will tie in with the material already there. This will be a full-fledged gallery in its own right.

NUMBER OF ADDITIONAL PERSONNEL REQUESTED

Mrs. HANSEN. How many additional personnel are you requesting for 1972?

Mr. BRADLEY. For 1972, Madam Chairman, three additional personnel.

Mrs. HANSEN. Give me the specific locations as to where these 21 employees will be working in the fiscal year 1972. Please insert the information in the record.

Mr. BRADLEY. Yes, Madam Chairman. The essential answer is New York City, but we will be very precise.

(The information follows:)

LOCATION OF HIRSHHORN

All employees of the Hirshhorn Museum and Sculpture Garden will be based in New York City in the fiscal year 1972. This is true also of prior years. Over the course of the next year or so as the museum nears completion it may be desirable to station one or more of these employees in Washington to begin preparations for facilitating the transfer to Washington. Upon completion of the museum, scheduled in the fall of the calendar year 1972, the staff and the art collection will be transferred to Washington, D.C.

All duties performed are directly related to the establishment and planned operation of the Joseph H. Hirshhorn Museum and Sculpture Garden.

DUTIES OF THE POSITIONS

Mrs. HANSEN. Describe in full detail the scope of the activities of the three additional employees.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

NEW POSITIONS REQUESTED FOR FISCAL YEAR 1972

Registrar, GS–11—supervises activities at the warehouse, where there are six museum assistants involved in preparing collection for exhibition in the Museum.
Clerk-typist, GS–5—furnishes clerical and typing support to Registrar.
Administrative assistant, GS–9—responsible for maintaining budget allotment. Analyzes status of budget, assists in budget preparation.

LEGALITY OF SPENDING FEDERAL FUNDS ON PREPARING THE COLLECTIONS

Mrs. HANSEN. A question has been raised as to the legality of expending Federal funds in connection with properties that are not the possession of the U.S. Government. What is your legislative authorization for this work at this time?

Mr. BRADLEY. Madam Chairman, the 1966 act which authorized the creation of the Hirshhorn Museum and Sculpture Garden directed that we not only construct a building and a sculpture garden, but also directed the Board of Regents to establish a museum.

The matter of the title I have gone into very carefully. The General Counsel has prepared an opinion on this subject. As an administrator, let me say it would be unthinkable for us to preside over 7,000 works of art with a $16 million museum coming in about 18 months off ready to be opened. This museum will be utilized not by the Smithsonian but by American visitors. Therefore, we are proceeding in pursuance of the law to get ready for business. After all, the National Collection of Fine Arts was for years without a home of its own, but it conducted an art museum function in the Natural History Building.

Mrs. HANSEN. Please insert in the record the details of preopening expenditures of funds and the General Counsel's opinion in this connection.

Mr. BRADLEY. Yes, Madam Chairman.

(The information follows:)

EXPENDITURES PRIOR TO COMPLETION OF HIRSHHORN MUSEUM

Comparative figures for the preopening expenditures of other Smithsonian museums are instructive. The attached table shows the appropriated "Salaries and expenses" funds used by the National Portrait Gallery, the National Collection of Fine Arts, and the Museum of History and Technology in the fiscal years immediately preceding their moving into their buildings; in each case a period of several months elapsed between the move and the official opening to the public. It should be noted that during the period reflected in these figures the National Portrait Gallery used a small exhibition area in the Arts and Industries Building, and the National Collection of Fine Arts used a small exhibition area in the Natural History Museum.

Place and fiscal year	Positions	Amount
National Portrait Gallery, 1967	19	$610,000
National Collection of Fine Arts, 1967	45	739,000
Museum of History and Technology, 1963 [1] (average employment)	318	2,284,000
Joseph H. Hirshhorn Museum, 1972 requested [2]	21	1,017,000

[1] Includes about 160 exhibits personnel and $1,100,000 in associated "S. & E." costs.
[2] Includes $440,000 requested to cover nonrecurring costs in fiscal year 1972.

USE OF FEDERAL FUNDS IN PREPARING WORKS OF ART FOR THE OPENING OF THE JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Public Law 89–788, 20 U.S.C. sections 76aa–ee, established the Joseph H. Hirshhorn Museum and Sculpture Garden, effective November 7, 1966, under the basic authority of the Board of Regents for "the increase and diffusion of knowledge among men." 20 U.S.C. sections 41, 42. Appropriations were specifically authorized for the operation of the Museum, and the Regents were empowered to employ a director, an administrator, and two curators for the "efficient administration" of the Museum. 20 U.S.C. sections 76dd, 76ee.

Contemporaneously with the passage of Public Law 89–788, and pursuant to this express Congressional mandate to open and operate the Museum, the Smithsonian submitted to the Bureau of the Budget a request for the first increment of funds for the 5-year program necessary to staff the Museum and prepare for the opening. These funds, as well as those requested and appropriated for Fiscal Years 1969 and 1970, were clearly identified in the budget submissions to the Appropriations Committees, specifying the purposes, including cataloguing, research, and the selection, conservation, and restoration of about one-sixth of the collection for the initial opening to the public.

This interpretation and implementation of the requirements of Public Law 89–788 has been accepted by the Smithsonian from the outset and has been consistently reaffirmed by the Congress in the 3 years following the passage of the Act. Any other course of action would have required a finding that Congress intended the museum building, constructed at public expense, to remain closed to the public for as much as 5 years after its completion. Such a view is without any support whatever in the language of the act or in its legislative history.

On the narrower question of the legality of expending appropriated funds for preparing for exhibit a portion of the collection before legal title thereto is fully vested in the Smithsonian, such expenditures are proper where they "reasonably appear to be incident to and essential in the accomplishment of the authorized purposes of the appropriation." 42 Comp. Gen. 480 (1963) at page 485; See also 46 Comp. Gen. 25 (1966). Clearly the preparation of the works of art is essential to the opening of the Museum to the public.

In summary, there is no legal bar to the appropriation and expenditure of funds for the expeditious opening and operating of the Hirshhorn Museum and Sculpture Garden, including the preparation of selected works of art for exhibition.

PETER G. POWERS,
General Counsel, Smithsonian Institution.

NATIONAL COLLECTION OF FINE ARTS PRIOR HISTORY

The National Collection of Fine Arts was authorized by the act of March 24, 1937, and the act of May 17, 1938. It was housed for many years in the Museum of Natural History Building. The gallery was transferred to the Fine Arts and Portrait Galleries Building where it was opened on May 3, 1968.

TITLE TO THE HIRSHHORN COLLECTION

Mrs. HANSEN. Has the title to the Hirshhorn collection passed to the U.S. Government?

Mr. BRADLEY. It is in a transition state. The title is shared by the Smithsonian and Mr. Hirshhorn. The instrument was a conditional gift.

Mrs. HANSEN. Is the condition, the completion of the building?

Mr. BRADLEY. Yes, ma'am.

Mrs. HANSEN. Does this also include the completion of the sculpture garden?

Mr. BRADLEY. The agreement was for a museum and a sculpture garden, both.

Mrs. HANSEN. Then if for any reason prior to the opening of the museum, Mr. Hirshhorn doesn't like some of the work, he would not have to pass title of his collection to the U.S. Government?

Mr. BRADLEY. I would say, Madam Chairman, that Mr. Hirshhorn does not have a free option of any kind. Mr. Hirshhorn is a party to a legal agreement between Hirshhorn and Smithsonian. We have to do certain things and he has to complete his actions. Upon the consummation of those actions, which as you put it essentially means completion of the building and the sculpture garden, there is no choice. Title passes to the Smithsonian.

Mrs. HANSEN. Please insert the pertinent details of your contract with Mr. Hirshhorn in the record. I would like to have the details on the record to clarify the situation as completely as possible.

Mr. BRADLEY. We appreciate the opportunity, Madam Chairman.

(The information follows:)

AGREEMENT BETWEEN JOSEPH H. HIRSHHORN, THE JOSEPH H. HIRSHHORN FOUNDATION, INC., AND THE SMITHSONIAN INSTITUTION, MAY 17, 1966

Agreement dated the 17th day of May, 1966 by and between Joseph H. Hirshhorn (hereinafter sometimes referred to as the "Donor"); The Joseph H. Hirshhorn Foundation, Inc., a membership corporation organized under the laws of the State of New York (hereinafter sometimes referred to as the "Hirshhorn Foundation") and the Smithsonian Institution, an establishment created and existing under and by virtue of an Act of the Congress of the United States of America, approved August 10, 1846 (hereinafter referred to as the "Institution").

Whereas, the Donor has for many years been acquiring important paintings and sculpture, with particular emphasis upon the works of contemporary American artists, and is desirous of encouraging and developing greater understanding and appreciation of modern art; and

Whereas, the President of the United States and the Institution believe that the establishment of a sculpture garden and a museum in Washington, D.C., where modern art could be exhibited and studied, would enrich the culture of the Nation; and

Whereas, the Donor and the Trustees of the Hirshhorn Foundation have proposed to the President of the United States that the Donor and the Hirshhorn Foundation donate their collections of art to the Institution for the benefit of the people of the United States and the Donor has proposed to the President that the Donor contribute $1 million to the Institution for the purpose of acquiring additional works of art of contemporary artists; and

Whereas, the President of the United States has directed the Secretary of the Institution to make appropriate arrangements whereby the proposed gifts by the Donor and the Hirshhorn Foundation of their collections of works of art and the Donor's proposed gift of $1 million to the Institution, may be consummated; and

Whereas, agreement has now been reached between the Donor, the Institution and the Hirshhorn Foundation with respect to the terms and conditions upon which said gifts will be made by the Donor and the Hirshhorn Foundation, and accepted by the Institution;

Now, therefore, it is agreed by and between the undersigned as follows:

First. The Donor hereby agrees to transfer and deliver the collection of works of art listed in the inventory attached hereto and marked exhibits A and A–1, and to pay the sum of $1 million, to the Institution, and the Hirshhorn Foundation agrees to transfer and deliver to the Institution the collection of works of art listed in the inventory attached hereto and marked Exhibits B and B–1, and the Institution hereby agrees to accept said gifts from the Donor and the Hirshhorn Foundation, in trust, however, for the uses and purposes and subject to the provisions and conditions hereinafter expressed.

Second. It is a condition of the gifts by the Donor and the Hirshhorn Foundation:

A. That the Congress of the United States shall have enacted, and the President of the United States shall have approved, no later than 10 days after the close of the 90th Congress, legislation to the following effect:

(1) The area bounded by Seventh Street, Independence Avenue, Ninth Street and Madison Drive, in the District of Columbia, shall be appropriated to the Institution as the permanent site of a museum and sculpture garden to be used exclusively for the exhibition of works of art.

(2) The Board of Regents of the Institution shall be duly authorized to remove any existing structure, to prepare architectural and engineering designs, plans and specifications, and to construct a suitable museum and sculpture garden for the use of the Institution within the area designated in subparagraph "(1)" hereof.

(3) The museum and sculpture garden hereinbefore provided for shall be designated and known in perpetuity as the Joseph H. Hirshhorn Museum and Sculpture Garden, and shall be a free public museum and sculpture garden under the administration of the Board of Regents of the Institution.

(4) The faith of the United States shall be pledged that the United States shall provide such funds as may be necessary for the upkeep, operation and administration of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(5) The Joseph H. Hirshhorn Museum and Sculpture Garden shall be the permanent home of the collections of art of Joseph H. Hirshhorn and the Joseph H. Hirshhorn Foundation, and shall be used exclusively for the storage, exhibition and study of works of art, and for the administration of the affairs of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(6) There shall be established in the Institution a board of trustees to be known as the Board of Trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden, which shall provide advice and assistance to the Board of Regents of the Institution on all matters re ating to the administration, operation, maintenance and preservation of the Joseph H. Hirshhorn Museum and Sculpture Garden; and which shall have the sole authority (a) to purchase or otherwise acquire (whether by gift, exchange or other means) works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden; (b) to loan, exchange, sell or otherwise dispose of said works of art; and (c) to determine policy as to the method of display of the works of art contained in the Joseph H. Hirshhorn Museum and Sculpture Garden.

(7) The board of trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be composed of 10 members as follows: (a) The Chief Justice of the United States and the Secretary of the Institution, who shall serve as ex-officio members and (b) eight general members to be initially appointed by the President, four of whom shall be appointed from among nominations submitted by Joseph H. Hirshhorn and four of whom shall be appointed from among nominations submitted by the Board of Regents of the Institution. The general members so appointed by the President shall have terms expiring one each on July 1, 1968, 1969, 1970, 1971, 1972, 1973, 1974, and 1975, as designated by the President. Successor general members (who may be elected from among members whose terms have expired) shall serve for a term of six years, except that a successor chosen to fill a vacancy occurring prior to the expiration of the term of office of his predecessor, shall be chosen only for the remainder of such term. Vacancies occurring among general members of the board of trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be filled by a vote of not less than four-fifths of the then acting members of the board of trustees.

(8) The Board of Regents of the Institution may appoint and fix the compensation and duties of a director and, subject to his supervision, an administrator and two curators of the Joseph H. Hirshhorn Museum and Sculpture Garden, none of whose appointment, compensation or duties shall be subject to the civil service laws or the Classification Act of 1949, as amended. The Board of Regents may employ such other officers and employees as may be necessary for the efficient administration, operation and maintenance of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(9) There shall be authorized to be appropriated, and there shall be appropriated, such sums as may be necessary to carry out the purposes of such legislation, including all sums necessary for planning and constructing the Joseph H. Hirshhorn Museum and Sculpture Garden.

B. That the said Joseph H. Hirshhorn Museum and Sculpture Garden shall have been constructed and completed in accordance with the provisions of this agreement.

Third. Upon receipt of appropriate auhorization from the Congress and the appropriation of funds as provided in paragraph second hereof, the Institution

shall, with all due dispatch, construct the Joseph H. Hirshhorn Museum and Sculpture Garden on the site described in Subparagraph A(1) of Paragraph Second hereof, and landscape said site, in accordance with plans to be prepared by a firm of architects jointly chosen by the Donor and the Secretary of the Institution, which plans shall have been specifically approved by both the Donor and the Secretary of the Institution.

Fourth. Immediately following the construction and completion of the said museum and sculpture garden as herein provided, and the taking of such other steps as counsel for the Donor and counsel for the Institution shall deem necessary to give effect to the gifts contemplated hereunder, the Donor shall pay the sum of $1 million to the Institution and title to the collections of the works of art listed in exhibits A and A–1 and exhibits B and B–1 shall pass to and be vested in the Institution, and such collections shall be delivered to the Institution at the expense of the Donor and the Joseph H. Hirshhorn Foundation, respectively, and thereafter shall remain under the exclusive control of the Institution, subject to the provisions of this agreement.

During the period between the date of this agreement and the time when title to said collections of art shall pass to and be vested in the Institution, or when this agreement shall terminate, whichever shall be earlier, the Donor and the Hirshhorn Foundation shall respectively care for the said works of art and shall keep the same insured against loss or damage by fire, theft or burglary, in such amounts and with such parties as the Donor and the Hirshhorn Foundation in their discretion may determine, if and to the extent that such insurance may be obtainable; it being understood, however, that in no event nor under any circumstances, shall the Donor or the Hirshhorn Foundation be liable for any loss or damage to any of the works of art, however caused, which is not compensated for by such insurance. The Donor and the Hirshhorn Foundation shall respectively pay all costs, premiums, and other charges incidental to such care and insurance.

Fifth. The gift of $1 million by the Donor hereunder shall be used solely to acquire works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden. Pending the use of said funds for such purpose, the Institution may invest such funds in such manner as it may determine from time to time, provided that such funds and/or investments, and the income derived therefrom, shall be segregated and maintained as a trust fund for the benefit of the said Museum and Sculpture Garden, separate and apart from the other funds and investments of the Institution.

Sixth. The Institution may accept, hold and administer gifts, bequests or devises of money, securities, or other property for the benefit of the Joseph H. Hirshhorn Museum and Sculpture Garden, provided that no works of art shall be accepted for such Museum and Sculpture Garden without the prior consent and approval of the board of trustees of the Joseph H. Hirshhorn Musuem and Sculpture Garden.

Seventh. The Institution covenants and agrees that:

A. It will, at all times, properly maintain the Joseph H. Hirshhorn Museum and Sculpture Garden, protect and care for all works of art therein, and regularly exhibit works of art contained therein with dignity to the general public free of charge.

B. In no event shall any sculpture of the Joseph H. Hirshhorn Museum and Sculpture Garden be loaned for periods longer than 360 days.

C. The funds received from the sale of works of art of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be used solely for the purpose of acquiring works of art for said Museum and Sculpture Garden. Pending the use of said funds for such purpose, the Institution may invest such funds in such manner as it may determine from time to time, provided that such funds and/or investments, and the income derived therefrom, shall be segregated and maintained as a trust fund for the benefit of the said Museum and Sculpture Garden, separate and apart from the other funds and investments of the Institution.

D. The first director of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be designated by the Donor with the consent of the Secretary of the Institution.

E. The said sculpture garden and museum in the area bounded by Seventh Street, Independence Avenue, Ninth Street, and Madison Drive, in the District of Columbia, shall be known and designated in perpetuity as the Joseph H. Hirshhorn Museum and Sculpture Garden to which the entire public shall forever have access without charge, subject only to reasonable regulations from time to time established by the Institution.

Eighth. Anything herein contained to the contrary notwithstanding, from and after the date of this agreement and until title to the collections of works of art shall pass to and be vested in the Institution, (a) the Donor may transfer any of the works of art listed in exhibits A or A–1 to the Hirshhorn Foundation, and all works of art thus transferred shall remain subject to this agreement as if originally listed in exhibits B or B–1 instead of exhibits A or A–1 hereto; and (b) the Donor and the Hirshhorn Foundation may loan or sell (for such consideration as the Donor or the Hirshhorn Foundation, as the case may be, shall in his or its sole discretion deem appropriate) any of the works of art listed respectively in exhibits A, A–1, B and B–1 hereto and may also exchange the same for other works of art. No loan of such works of art shall be made for a period in excess of 180 days. The Donor and the Hirshhorn Foundation respectively may invest and reinvest the net proceeds arising from any such sale of his or its works of art by acquiring additional works of art and/or purchasing obligations of the United States Government. All works of art so acquired by purchase or exchange shall become subject to the terms of this agreement as if originally listed in exhibits A, A–1, B or B–1 in the place and stead of the works of art sold or exchanged as aforesaid. After title to the collections of works of art shall pass to and be vested in the Institution, any obligations of the United States Government acquired as aforesaid and the balance, if any, of net proceeds not used for the acquisition of works of art or obligations of the United States Government shall be transferred and paid over to the Institution to be used solely for the purchase of acquiring works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden, and pending such use, such funds and obligations shall be administered as provided in paragraph 5 hereof. Any insurance proceeds realized under policies carried by the Donor and the Hirshhorn Foundation in accordance with the provisions of paragraph 4 hereof shall be treated in the same manner as net proceeds arising from the sale of the works of art of the Donor and the Hirshhorn Foundation as provided in this paragraph 8.

Ninth. In the event that legislation containing provisions substantially as set forth in paragraph 2 hereof is not duly enacted by the Congress of the United States and duly approved by the President no later than ten (10) days after the close of the 90th Congress, or in the event that said Museum and Sculpture Garden shall not have been constructed and completed as provided in paragraph 3 hereof within 5 years after such legislation shall have been enacted and approved, this agreement shall be null and void and the proposed gifts by the Donor and the Hirshhorn Foundation shall not be consummated.

Tenth. This agreement shall be binding upon the heirs, executors and administrators of the Donor.

In witness whereof, Joseph H. Hirshhorn has caused this agreement to be executed by his hand and seal; The Smithsonian Institution, pursuant to a resolution duly adopted by its Board of Regents, has caused this agreement to be signed and its official seal to be hereunto affixed by its Secretary; and The Joseph H. Hirshhorn Foundation, Inc., pursuant to a resolution duly adopted by its Board of Directors, has caused this agreement to be signed and its official seal to be hereunto affixed by its Secretary, all as of the day and year first above written.

(s) JOSEPH H. HIRSHHORN.

THE SMITHSONIAN INSTITUTION,

[SEAL] By (s) S. DILLON RIPLEY, *Secretary*

THE JOSEPH H. HIRSHHORN FOUNDATION, INC.,

[SEAL] By (s) SAM HARRIS, *Secretary.*

VALUE OF THE COLLECTION

Mrs. HANSEN. Mr. McDade, do you have a question?

Mr. MCDADE. I wanted to inquire for purposes of the record, could we have a short statement, a concise statement of the value of this particular collection of art, what makes it unique, and if you have gotten any kind of a dollar figure, I would like to have that too.

Mr. BRADLEY. We have such, and we would be pleased to have the opportunity to put it in.

(The information follows:)

Why the Hirshhorn Collection Is Outstanding and What Makes It Unique

The Hirshhorn Museum collection consists of approximately 7,000 works of art; 5,000 paintings and 2,000 sculptures.

The sculpture collection has been widely acclaimed by specialists in the field for its comprehensive documentation of developments in American and European sculpture of the 19th and 20th centuries. In addition, it contains examples of sculpture from the 18th century as well as works from antiquity, African bronzes, and pre-Columbian artifacts.

The extent of the sculpture collection is seen by a listing of some of the names of artists and numbers of pieces. The collection contains 12 pieces by Thomas Eakins, 21 by Matisse, 18 by Rodin, 23 by Degas, 10 by Calder, 13 by Picasso, 43 by Daumier, 22 by David Smith. These examples serve to illustrate the unique concentration of quality in the collection, as well as its historical perspective.

The Hirshhorn Museum collection of paintings is focused on modern art of the 20th century. From the works of precursors such as Thomas Eakins and Winslow Homer to the art of our day, outstanding examples by significant contemporary artists trace the course of 20th century painting in America. American painting, for so long derided as provincial, its accomplishhments overlooked or relegated to a few paragraphs in books on art history, has in the past two decades produced a profoundly generative art which has deeply affected the style and philosophy of international modern art.

The comprehensive collection of American paintings in the Hirshhorn Museum illustrates these recent developments by examples from every major American painter of this century, many of whom are represented in the collection by several works, enabling the public an unusual opportunity to observe and study the development of individual artists against the panorama of American art history.

The fact that the painting collection includes the most important group by Thomas Eakins outside the Philadelphia museum, 13 paintings by William Merrit Chase, 24 works by Arthur B. Davies, 11 by Charles Demuth, 16 by Edwin Dickinson, 9 by John Sloan, 5 by Edward Hopper, 12 by Childe Hassam, 194 by Louis Eilshemius, 27 by Arshile Gorky, 42 by Willem De Kooning, 60 by Milton Avery, 12 by Walt Kuhn, 14 by Kenneth Noland, 9 by John Marin serves to convey the comprehensive nature of the painting collection.

Contemporary European painting is represented by artists of the past three decades, including Francis Bacon, Balthus, Salvador Dali, Nicholas De Stael, Giacometti, Miro, Max Ernst, Leger, Masson, Matta, and their younger contemporaries.

Selections from the collections have been widely reproduced and exhibited in virtually every important museum in the United States and abroad. Scholars and authors in the fields of modern painting and sculpture constantly make use of the unique resources of the Hirshhorn Collection.

Letter From H. Harvard Arnason

New York, N.Y., *July 18, 1970.*

Hon. Frank Thompson, Jr.,
Chairman, Subcommittee on Library and Memorials, Committee on House Administration, U.S. House of Representatives.

Dear Congressman Thompson: I have been asked by Mr. Ripley's office of the Smithsonian Institution to write you an objective opinion on the Hirshhorn collection of modern and American art. I have known this collection well for more than 15 years and have exhibited large selections of the sculpture on two separate occasions, as well as organizing a traveling exhibition of paintings from the collection.

May I indicate briefly some of my qualifications for expressing my opinion. I am an art historian with some 30 years of experience in the fields of modern and American art. Between 1947 and 1960 I was professor and chairman of the department of art at the University of Minnesota. Between 1951 and 1960 I was also director of the Walker Art Center in Minneapolis, one of the leading American museums of modern art. Between 1960 and 1970 I was vice president for art administration of the Solomon R. Guggenheim Foundation which administers the Guggenheim Museum in New York. I am the author of books, monographs, ex-

hibition catalogs, and periodical articles on modern art and artists. Recently I published a comprehensive "History of Modern Art" (New York, Harry N. Abrams, 1968), which is now used as a text book in colleges and universities throughout the United States.

As indicated, in the mid-fifties I exhibited a large selection of the Hirshhorn sculpture collection at the Walker Art Center. In 1962 I organized an even more comprehensive exhibiion of the sculpture at the Guggenheim Museum. This exhibition, including over 400 items, was accompanied by a book, "Modern Sculpture From the Joseph H. Hirshhorn Collection," for which I wrote the text. This text was, in effect, a brief history of modern sculpture, written entirely in terms of works from the Hirshhorn collection. When Mr. Hirshhorn began collection in the twenties and thirties he concentrated on American painting; and during the last 40 years he has built up the most comprehensive collection of American painting of the 20th century in existence. This includes representation of every major American painter of this century, frequently with many examples of each painter's works. The collection also includes a great number of examples by lesser artists, or by artists such as the social realists and regional painters of the thirties and forties who are now out of fashion. These artists, nevertheless, are an important part of the history of modern American art, and without them any picture of American art of this century would be incomplete.

Mr. Hirshhorn began collecting modern sculpture principally in the period after the Second World War, and almost from the beginning he bought European as well as American sculpture. The result, today, in my opinion and that of most other specialists in the field, is the most important collection of modern sculpture in existence. I think this is a fair statement, since I do not believe that any museum of modern art, including the Museum of Modern Art in New York, possesses as comprehensive and important a collection of modern sculpture as is now contained in the Hirshhorn collection.

During the 1960's Mr. Hirshhorn began to expand his painting collection to include examples of contemporary European painting, and some examples of the earlier masters of modern painting. While he entered the field of early 20th century European painting too late to be able to acquire great masterpieces, he has put together an important selection with some unique concentrations of works, such as those by the surrealist leader, Andre Masson. The American collection is also in process of expansion to include masters of the 19th-century, such as Thomas Eakins. The Hirshhorn Eakins collection is the most important in private hands, probably the most important outside of the Philadelphia Museum.

To recapitulate, it is difficult to evaluate the total importance of the Hirshhorn because of its vastness. There is no question in my mind that there are enough first-class works by modern American painters and by modern American and European sculptors to fill the exhibition halls of a large museum. The secondary works—sculptures, paintings (oils and watercolors), and drawings—will constitute a unique study collection for teachers and students of modern art. You are aware that major museums throughout the world have long been attempting to acquire the Hirshhorn collection. Different countries and leading art centers throughout the United States have offered to build and endow a major museum building to house the collection. I am delighted that it should have gone to Washington, not only because it belongs there, but, more important, because it will give the United States the foundation for a National Gallery of American and Modern Art, a modern museum such as most of the leading nations possess, and such as the United States should have possessed before this.

There are obviously gaps in the collection, particularly in the field of modern European painting, but this gift should attract many other gifts to fill these gaps; and I understand that Mrs. Hirshhorn will continue to buy and to donate further works to the collection.

I am pleased to be able to write this comment on the Hirshhorn collection, since I believe its donation to this Nation is a matter of such significance for the development of American art and for international modern art. If I can be of any further assistance in answering specific questions, please do not hesitate to call on me.

May I apologize for the typing of this letter. It is written at my country place where I do not have the services of a secretary.

Sincerely yours,

H. Harvard Arnason.

ESTIMATED PRESENT DOLLAR VALUE OF THE HIRSHHORN COLLECTION

The 1965–66 appraisal of the value of the Hirshhorn gift amounted to $25 million. In order to estimate more recent value, 10 paintings and 10 pieces of sculpture were appraised by Parke Bernet Galleries in 1970. The comparative results of the1966 and 1970 appraisals are shown below:

Artist	1966	1970	Artist	1966	1970
Bacon	$24,000	$85,000	Louis	$15,000	$50,000
Balthus	35,000	125,000	Marsh	10,000	50,000
Brancusi	85,000	200,000	Moore	350,000	400,000
Davis	30,000	90,000	Munch	60,000	90,000
De Kooning	40,000	70,000	Picasso	45,000	90,000
Eakins	125,000	200,000	Prendergast	36,000	100,000
Giacometti	35,000	150,000	Rodin	250,000	500,000
Gorky	30,000	60,000	Rothko	30,000	60,000
Hassam	30,000	95,000	Sloan	15,000	45,000
Hopper	27,500	100,000			
Kokoschka	80,000	100,000	Total	1,352,500	2,660,000

The total appraised value of these 20 works in 1970 was thus almost double that in 1966. This suggests that the value of the entire collection in 1970 would be on the order of $50 million.

LIST OF APPRAISERS

Mrs. HANSEN. You have also been criticized by, I think, one museum director in Cleveland on the value of the Hirshhorn collection. As I recall, I asked you to have the Hirshhorn collection appraised in the marketplace, which you did. Please insert in the record a list of the appraisers and their conclusions.

Dr. RIPLEY. Yes.

(The information follows:)

SOURCES FOR APPRAISAL OF THE JOSEPH H. HIRSHHORN COLLECTION AND THE JOSEPH H. HIRSHHORN FOUNDATION

Sidney L. Bergen, director, ACA Gallery, 63 East 57th Street, New York, N.Y.
Charles Alan, the Alan Gallery, 766 Madison Avenue, New York, N.Y.
Joan Ankrum, Ankrum Gallery, 910 N. La Cienega Boulevard, Los Angeles, Calif.
Michael St. Clair, director, Babcock Galleries, Inc., 805 Madison Avenue, New York, N.Y.
Mrs. William Baziotes, 90 La Salle Street, New York, N.Y.
Esther Bear, Esther Bear Gallery, 1125 High Road, Santa Barbara, Calif.
Claude Bernard Haim, Galerie Claude Bernard, 5–7 Rue Des Beaux-Arts, Paris, France.
E. Beyeler, director, Galerie Beyeler, 4001 Basel, Baumleigasse, Switzerland.
Bernard Black, Bernard Black Gallery, 1062 Madison Avenue, New York, N.Y.
Alfredo Bonino, Galeria Bonino Ltd., 7 West 57th Street, New York, N.Y.
Richard Sisson, assistant director, Grace Borgenicht Gallery Inc., 1018 Madison Avenue, New York, N.Y.

Eli Borowski, director, Archeologie Classique et du Proche-Orient, Argensteinertrasse 7, Basel, Switzerland.
Gandy Brodie, West Townshend, Vt.
Robert Lewin, director, Brook Street Gallery, Ltd., 24 Brook Street, London, England.
Charles A. Byron, Byron Gallery, Inc., 1018 Madison Avenue, New York, N.Y.
Dorothy Cameron Moes, president and director, Dorothy Cameron Gallery Ltd., 840 Yonge Street, Toronto, Canada.
Leo Castelli, president, Leo Castelli, Inc., 4 East 77th Street, New York, N.Y.
Mrs. Madeleine Chalette-Lejwa, director, Galerie Chalette, 9 East 88th Street, New York, N.Y.
Rochelle M. Wexler, director, Cober Gallery, 14 East 69th Street, New York, N.Y.
Cecil Victor Comara, director, Comara Gallery, 8475 Melrose Place, Los Angeles, Calif.

Karl Lunde, director, The Contemporaries, 992 Madison Avenue, New York, N.Y.
Arne H. Ekstrom, Cordier & Ekstrom, Inc., 978 Madison Avenue, New York, N.Y.
Mr. Roy Davis, director, the Davis Galleries, 231 East 60th Street, New York, N.Y.
Peter Deitsch, Peter Deitsch Gallery, 24 East 81st Street, New York, N.Y.
Mr. John Myers, director, Tibor De Nagy Gallery, 149 East 72d Street, New York, N.Y.
Harold Diamond, 300 Central Park West, New York, N.Y.
Terry Dintenfass, Terry Dintenfess, Inc., 18 East 67th Street, New York, N.Y.
Mrs. Edith Gregor Halport, director, The Downtown Gallery, 465 Park Avenue, New York, N.Y.
George E. Dix, director, Durlacher Bros., 538 Madison Avenue, New York, N.Y.
Mr. Charles Egan, Egan Gallery, 41 East 57th Street, New York, N.Y.
Mr. Robert Elkon, Elkon Gallery, 1063 Madison Avenue, New York, N.Y.
Andre Emmerich, Andre Emmerich Gallery, Inc., 41 East 57th Street, New York, N.Y.
Rex Evans, Rex Evans Gallery 748½ North La Cienega Boulevard, Los Angeles, Calif.
Irving Blum, director, Ferus Gallery, 723 North La Cienega Boulevard, Los Angeles, Calif.
Richard Feigen, Richard Feigen Gallery, 24 East 81st Street, New York, N.Y.
Charles Feingarten, Feingarten Galleries, Inc., 324 N. Camden Drive, Beverly Hills, Calif.
Donald Droll, director, Fischbach Gallery, 799 Madison Avenue, New York, N.Y.
Mrs. Bella Fishko, director, Forum Gallery, Inc., 1018 Madison Avenue, New York, N.Y.
Mr. Robert Fraser, Robert Fraser Gallery, Ltd., 69 Duke Street, London W1, England.
Mrs. Rose Fried, Rose Fried Gallery, 40 East 68th Street, New York, N.Y.
M. Prevot-Douatte, director, Galerie De France, 3 Faubourg St. Honore, Paris VIII, France.
Mr. Paul Haim, director, Galerie Europe, 22 Rue de Seine, Paris 6, France.
Beatrice Monti, director, Gallerie dell'Ariete, Via S. Andrea 5, Milano, Italy.
Alex Magdy, director, Galerie de L'Elysee, 69, Rue du Faulbourg St. Honore, Paris VIII, France.
Madame Denise Rene, Galerie Denise Rene, 124 Rue La Boetie, Paris, France.
B. Kernerman, director, Galerie Israel Ltd., 63 Ben Yehuda Road, Tel Aviv, Israel.
Mr. Lawrence Rubin, Galerie Lawrence, 13 Rue de Seine, Paris VI, France.
Otto Kallir, director, the Galerie St. Etienne, 24 West 57th Street, New York, N.Y.
Allen Frumkin, the Frumkin Gallery, 41 East 57th Street, New York, N.Y.
Mack Gilman, director, Gilman Galleries, 103 East Oak Street, Chicago, Ill.
Peter Gimpel, Gimpel Fils Ltd., 50 South Molton Street, London, W1. England.
Miss Anne Rotzler, director, Gimpel & Hanover Galerie, Zurich, Claridenstrasse 35, Zurich 8002, Switzerland.
Noah Goldowsky, 1078 Madison Avenue, New York, N.Y.
James Goodman, James Goodman Gallery, The Park Lane, 33 Gates Circle, Buffalo, N.Y.
Robert Graham, The Graham Gallery, 1014 Madison Avenue, New York, N.Y.
Richard Bellamy, director, the Green Gallery, 15 West 57th Street, New York, N.Y.
Miss Ann Ross, director, the Greenross Gallery, 41 East 57th Street, New York, N.Y.
Joseph Grippi, Grippi & Waddell Gallery, Inc., 15 East 57th Street, New York, N.Y.
Stephen Hahn, Stephen Hahn Gallery, 960 Madison Avenue, New York, N.Y.
Nathan Halper, Nat Halper Gallery, 90 La Salle Street, New York, N.Y.
Victor J. Hammer, Hammer Galleries, 51 East 57th Street, New York, N.Y.
David Hare, 34 Leroy Street, New York, N.Y.
Mrs. Lily Harmon, 151 Central Park West, New York, N.Y.
Norman Hirschl, Hirschl & Adler Galleries, Inc., 21 East 67th Street, New York, N.Y.
Miss Erica Brausen, director, the Hanover Gallery, 32A St. George Street, Hanover Square, London, W.1, England.
Miss Semiha Huber, Galerie Semiha Huber, Talstrasse 18, Zurich 1, Switzerland.

Leonard Hutton, Leonard Hutton Galleries, 787 Madison Avenue, New York, N.Y.
Brooks Jackson, director, Alexander Iolas Gallery, 15 East 55th Street, New York, N.Y.
A. Isaacs, the Isaacs Gallery, 832 Yonge Street, Toronto 5, Canada.
Martha Jackson, Martha Jackson Gallery, 32 East 69th Street, New York, N.Y.
Sidney Janis, Sidney Janis Gallery, 15 East 57th Street, New York, N.Y.
Paula Mailman, director, Paula Johnson Gallery, 11 East 78th Street, New York, N.Y.
Alan Brandt, director, Galerie Kamer, 965 Madison Avenue, New York, N.Y.
Paul Kantor, Paul Kantor Gallery, 348 North Camden Drive, Beverly Hills, Calif.
Mrs. Tirca Karlis, Tirca Karlis Gallery, 1 Bank Street, New York, N.Y.
Rudolf G. Wunderlich, director, Kennedy Galleries, Inc., 13 East 58th Street, New York, N.Y.
Dong Kingman, 21 West 58th Street, New York, N.Y.
Mr. J. J. Klejman, Klejman Gallery, 982 Madison Avenue, New York, N.Y.
Mr. E. Coe Kerr, president, Mr. W. F. Davidson, executive vice-president, M. Knoedler & Co., Inc., 14 East 57th Street, New York, N.Y.
Lionel Prejer, director, M. Knoedler & Co., 85 Rue Du Fg. St. Honore, Paris 8E, France.
Samuel M. Kootz, Samuel M. Kootz Gallery Inc., 655 Madison Avenue, New York, N.Y.
Jill Kornblee, Kornblee Gallery, 58 East 79th Street, New York, N.Y.
Oscar Krasner, director, Krasner Gallery, Inc., 1061 Madison Avenue, New York, N.Y.
Antoinette Krauschaar, Krauschaar Galleries, 1055 Madison Avenue, New York, N.Y.
G. Blair Laing, G. Blair Laing, Ltd., 194 Bloor St. West, Toronto 5, Canada.
Mr. Felix Landan, The Felix Landan Gallery, 702 North La Cienega, Los Angeles, Calif.
Richard K. Larcada, Richard K. Larcada Gallery, 23 East 67th Street, New York, N.Y.
Plinio De Martiis, director, La Tartaruga Galleria D'Arte, Plazza Del Popolo 3, Rome, Italy.
Eva Lee, Eva Lee Gallery, Inc., 450 Great Neck Road, Great Neck, Long Island, N.Y.
John Lefebre, Lefebre Gallery, 47 East 77th Street, New York, N.Y.
Nicholas E. Brown, director, the Leicester Galleries, 4 Audley Square, London W.1, England
Florence Lewison, Florence Lewison Gallery, 35 East 64th Street, New York, N.Y.
Albert Loeb, Albert Loeb Gallery, 12 East 57th Street, New York, N.Y.
Edward R. Lubin, Edward R. Lubin, Inc., 17 East 64th Street, New York, N.Y.
Francis K. Lloyd, president, Marlborough-Gerson Gallery, Inc., 41 East 57th Street, New York, N.Y.
Mrs. Carla Panicali, director, Marlborough Galleria d'Arte, Via Gregoriana 5, Rome, Italy.
Pierre Matisse, Pierre Matisse Gallery Corp., 41 East 57th Street, New York, N.Y.
Alan D. Gruskin, director, Midtown Galleries, 11 East 57th Street, New York, N.Y.
Harold C. Milch, the Milch Galleries, 21 East 67th Street, New York, N.Y.
Boris Mirski, Boris Mirski Gallery, 166 Newbury Street, Boston, Mass.
Miss Lilly T. Stern, director, Molton Galley, 44 South Molton Steet, London W. 1, England.
Gallery Moos, 169 Avenue Road, Toronto, Canada.
Jerrold Morris, Jerrold Morris International Gallery Ltd., 130 Bloor W., Toronto 5, Canada.
Lee Nordness, Lee Nordness Gallery, 831 Madison Avenue, New York, N.Y.
Federico Quadrani, director, Galleria Odyssia, 41 East 57th Street, New York, N.Y.
Arnold B. Glimcher, director, the Pace Gallery, 9 West 57th Street, New York, N.Y.
Betty Parsons, president Jock Truman, director, Betty Parsons Gallery, 24 West 57th Street, New York, N.Y.
Mr. Louis Pollack, director, Peridot Gallery, 820 Madison Avenue, New York, N.Y.
Mr. Klaus Perls, Perls Gallery, 1016 Madison Avenue, New York, N.Y.
Mr. Frank Perls, Frank Perls Gallery, 32 Avenue Matignon, Paris 8, France.

Elinor F. Poindexter, Poindexter Gallery, 21 West 56th Street, New York, N.Y.
Bernard Rabin, Rabin & Krueger, 47 Halsey Street, Newark, N.J.
Steven Radich, the Steven Radich Gallery, 818 Madison Avenue, New York, N.Y.
John Clancy, director, Frank Rehn Gallery, 36 East 61st Street, New York, N.Y.
Graham H. Reid, the Reid Gallery, Ltd., Mousehill House, Sandy Lane, Milford, Surrey, England.
L. J. Wildridge, director, Roberts Gallery, Ltd., 641 Yonge Street, Toronto 5, Canada.
Esther Robles, Esther Robles Gallery, 665 North La Cienega Boulevard, Los Angeles, Calif.
Madam C. Goldscheider, conservateur, Musee Rodin, 77 Rue de Varenne, Paris VII, France.
Michael Leon Freilich, director, Roko Gallery, 867 Madison Avenue, New York, N.Y.
Alexandre Rosenberg, director, Paul Rosenberg & Co., 20 East 79th Street, New York, N.Y.
Mrs. Eleanore Saidenberg, Saidenberg Gallery Inc., 1037 Madison Avenue, New York, N.Y.
Harry Salpeter, Salpeter Gallery, 42 East 57th Street, New York, N.Y.
Sarah H. Kendall, director, Bertha Schaefer Gallery, 41 East 57th Street, New York, N.Y.
Theodore Schempp, Ted Schempp Gallery, 50 East 58th Street, N.Y., 7 Rue Gauguet, Paris 14, France.
Robert Schoelkopf, Robert Schoelkopf Gallery, 825 Madison Avenue, New York, N.Y.
Dr. J. Schoneman, Schoneman Galleries, Inc., 64 East 57th Street, New York, N.Y.
Jane Wade, Jane Wade Gallery, 45 East 66th Street, New York, N.Y.
Maynard Walker, Maynard Walker Gallery, 117 East 57th Street, New York N.Y.
Mrs. Gertrude Weyhe Dennis, Corporation Secretary, Weyhe Gallery, 794 Lexington Avenue, New York, N.Y.
John Marin, Jr., director, Willard Gallery Inc., 29 East 72nd Street, New York N.Y.
A. Robert Whyte, director, World House Galleries, 98 Madison Avenue, New York, N.Y.
Virginia M. Zabriskie, Zabriskie Gallery, 36 East 61st Street, New York, N.Y.
Miss Dorothea Denslow, director, Sculpture Center, 167 East 69th Street, New York, N.Y.
Herbert A. Kende, director, Selected Artists Galleries, Inc., 903 Madison Avenue, New York, N.Y.
Mr. Abris Silberman, E. & A. Silberman Galleries, Inc., 1014 Madison Avenue, New York, N.Y.
Charles E. Slatkin, Charles E. Slatkin, Inc., Galleries, 115 East and 92nd Street, New York, N.Y.
Robert S. Sloan, Robert S. Sloan Gallery, 1078 Madison Avenue, New York, N.Y.
Mrs. Eleanor Ward, director, Stable Gallery, 33 East 74th Street, New York, N.Y.

The raw figures submitted by the appraisers totaled $22,268,240. Since over 1 year had elapsed during the period of this appraisal, it was necessary on professional advice to add an adjustment of 10 percent to reflect the rise in the market. In addition, art objects appraised in the amount of approximately $536,000 were added to the original inventory. The resulting total as used in the hearings and budget justifications was $25 million.

Mrs. HANSEN. Do any of the employees involved in the Hirshhorn Museum perform duties other than those directly related and intimately associated with official Smithsonian activities.

Mr. BRADLEY. No, ma'am.

EXPENDITURES FOR PREPARING COLLECTION

Mrs. HANSEN. As you are well aware, there has been considerable discussion regarding the construction of the Hirshhorn Museum. In-

cluding the 1971 appropriation, what is the total funding you have applied to date in connection with the work of getting the collection ready for exhibit?

Please insert the information in the record.

(The information follows:)

EXPENDITURES FOR PREPARING HIRSHHORN COLLECTION

For conservation, framing, and photographing the collection in preparing for exhibition, the following amounts of appropriated funds have been spent.

Fiscal year:		Fiscal year—continued	
1968	$0	1970	$131,838
1969	24,301	1971	156,000

POTENTIAL LOSS IF AGREEMENT TERMS CHANGED

Mrs. HANSEN. You are requesting an additional $1,017,000 for 1972. If future action, legislative or otherwise, should result in the terms of the agreement being materially changed, what would be your situation as far as the investment of these funds in preparing the collection is concerned?

Mr. BRADLEY. Madam Chairman, I may have to go off the record in order to protect the interests of the United States. The first thing we start with is that we have $2.5 million work in place on the site. This is a part of the $16 million total construction cost. We have $2.5 million built in. It is more than the foundation. We are above street level now. Work is going on pursuant to a number of acts of Congress: the authorization act, the appropriation for planning, the act that gave us the site, and the act that gave us construction funds and contract authorization to enter into the entire $14,197,000 obligation for construction.

We have had no congressional legislative directive to stop work. The first thing that would be of concern to us would be the amount of work and materials on the site right now. No pun is intended, but that is a concrete fact.

The next thing that we would be concerned with would be the agreement between the Smithsonian and Mr. Hirshhorn which certainly—and I had better be cautious and not say in breach—but would certainly have to be examined. We must do this pursuant to the applicable acts of Congress. I don't know the full consequences of not being able to follow through with construction. Certainly it would have to be examined in a legal review. We have to consider the rights of the contractor. We have the rights of the General Services Administration, the Smithsonian, Mr. Hirshhorn, and the Hirshhorn Foundation. We are agents really for the United States. We are proceeding properly and legally, and I might say with considerable caution.

ALTERNATIVE PLANS FOR THE SCULPTURE GARDEN

Responsive to your earlier good advice, we have been looking hard at the sculpture garden, and we have conducted studies with the architect to see what are the alternatives. We have presented a study to the National Capital Planning Commission. It is under consideration this very moment. There is the possibility of a sculpture garden that would

permit the development to be revised so as not to cross the Mall with a sunken garden. At present, this is planned to occupy three panels of the Mall from Jefferson Drive over to Madison Drive. That is three blocks.

The one that we now have under study would go only from Jefferson Drive to Adams Drive which is within the limits of what is called the tree panel, so that the garden would not be visible along the longitudinal vista of the Mall. It would be a sunken garden, partially screened by the tree plantings. Everyone that we have talked to so far seems to think that this is an attractive solution.

Mrs. HANSEN. When Mr. Walton, chairman of the Commission of Fine Arts, testified before the committee we asked him specifically about the sculpture garden and he gave some very interesting testimony:

Mrs. HANSEN. I would like to have you comment on that proposal.

Mr. WALTON. Well, all the cards should be on the table quickly. (A) The commission of which I am chairman has approved this project. (B) It was designed by a member of the Commission of Fine Arts. (C) I am going to express my frank opinion, anyway.

I do like the central design of the circular building on stilts. I do hope that maybe Congress will get up on its hind legs and prevent the creation of that ditch across the Mall. I don't think it is a proper way to display sculpture or use the Mall, frankly. I have just stuck a deep dagger into the back of one of my dear colleagues by saying this. If he reads the record I hope he will forgive me.

Mrs. HANSEN. There have been several practical questions raised, relative to this particular setting. Considering the sunken sculpture garden and the heat, it will not be very comfortable. This is not a city of cool summers.

Mr. WALTON. No.

Mrs. HANSEN. Mr. Walton continues.

Mr. WALTON. The longer I study it, the more I feel that the flat surface of the Mall should be inviolate. I really do. . . . A couple of people proposed other solutions of putting something along the side that wouldn't cut across. There are many other ways.

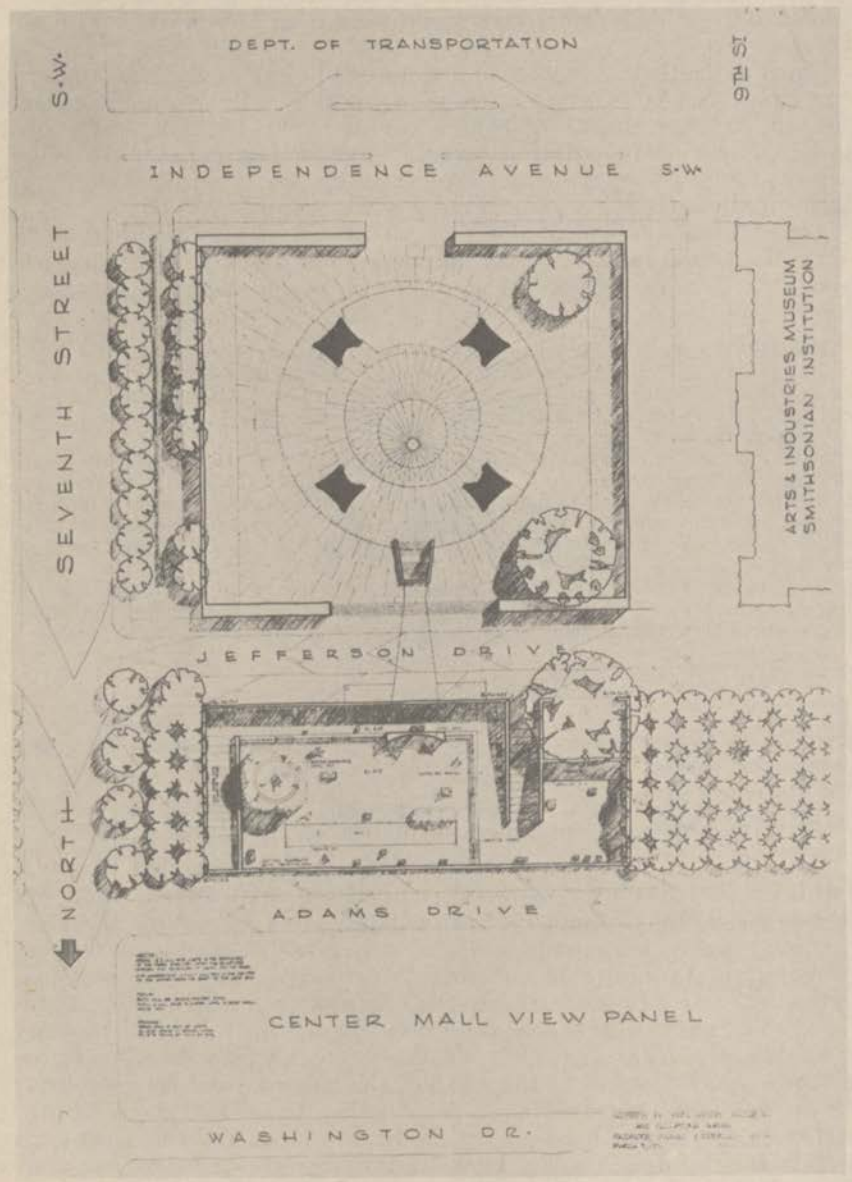
Mrs. HANSEN. Is it possible to secure a review of the design?

Mr. WALTON. Congress can achieve anything it wants to. I am serious.

Dr. RIPLEY. We are happy to say, Madam Chairman, that we have I think, effected a very splendid compromise in this connection by this redesign by the same architect, which will be within the tree line, and does not in any way violate the grassy vista strip. This is pleasing or appears to be pleasing to virtually everybody who has looked at it so far, and we are very happy to have the plan here today. You see in this sketch the grass where your left hand is, that is the grassy vista strip. We see the space between Independence Avenue, which lies just to the south of the museum, and then the first drive, Jefferson Drive, which is part of the Mall. That is one of the east-west drives which passes by the Smithsonian and the Arts and Industries Building, as you know. Adjoining is where the Air and Space Museum is projected.

Within this area [indicating] are the tree panels bordering the open grassy space, which are on either side of the vista panel of the Mall. There is a great line of trees. This is the area in which we could then enclose the sculpture garden without any change in the grassy vista strip of the Mall.

(The sketch follows:)


DEPT. OF TRANSPORTATION
S.W.
9TH ST
INDEPENDENCE AVENUE S.W.
SEVENTH STREET
ARTS & INDUSTRIES MUSEUM
SMITHSONIAN INSTITUTION
JEFFERSON DRIVE
NORTH
ADAMS DRIVE
CENTER MALL VIEW PANEL
WASHINGTON DR.

Mrs. HANSEN. Do you expect approval of this plan by the National Capital Planning Commission relatively quickly?

Dr. RIPLEY. There is a May meeting——

Mr. BRADLEY. May 6.

Dr. RIPLEY. Which they have called for the complete review of the design, so as to get the picture. We come before the Fine Arts Commission also, this month.

Mrs. HANSEN. Is the new design agreeable to Mr. Hirshhorn?

Dr. RIPLEY. Yes. It has even been praised editorially by the Washington Post and the Evening Star, which I would like to place in the record.

(Information follows:)

[From the Washington Post, March 22, 1971]

TRENCH OR GARDEN?

We admit to a sense of relief on reading last week that Dr. S. Dillon Ripley, the Secretary of the Smithsonian, is asking all concerned to reconsider the proposed and approved location of the Hirshhorn Museum Sculpture Gardens. Several members of the National Capital Planning Commission and of Congress were never quite happy with architect Gordon Bunshaft's idea of sinking the Hirshhorn sculpture collection in a sort of trench that was to cross the Mall, connecting the Hirshhorn Museum with the proposed National Sculpture Garden in front of the Archives Building. And we share a general uneasiness that 3 years ago, in the excitement of obtaining the marvelous Hirshhorn collection for Washington, Bunshaft's cross-axis idea was perhaps insufficiently discussed and too hastily approved and that many concerned citizens were thus confront with a *fait accompli*. What complicated the issue was that this uneasiness has been unfairly exploited on Capitol Hill and in the community by some people who surely don't give a hoot for sculpture, gardens, or the Mall, but who, for reasons of their own, indulged in imbecile attacks on Mr. Joseph Hirshhorn and his generous gift. Mr. Hirshhorn may not be a perfect angel, but neither were the Medici.

There is a genuine issue here. The green carpet the Macmillan Commission rolled down from the Capitol to the Lincoln Memorial and the river may not be sacred, but it should remain inviolate as a symbol of permanent splendor in a much too fast changing and not always splendid Capital. We want more life, more attractions, more amenities on the Mall and we are deeply appreciative of the prospect of seeing superb, modern works of sculpture there. But we just as soon see it displayed alongside the Hirshhorn Museum, parallel to the green-swath, rather than furrowed across it. We are grateful to Dr. Ripley for initiating this "absolutely splendid alternative," as he called it. And we trust Mr. Bunshaft to make it just as noble and imposing as he intended his trench to be.

[From the Washington Star, March 30, 1971]

HIRSHHORN HARMONY

S. Dillion Ripley, Secretary of the Smithsonian Institution, has come up with a solution to the controversy that has somewhat murkily swirled between the Smithsonian and the Congress over the new Joseph H. Hirshhorn Museum.

Representative Frank Thompson introduced a bill recently to forbid the proposed sunken sculpture garden, an adjunct of the museum which was designed to stretch across the Mall and struck some observers in Congress and out as a "trench" violating the sweep of the Mall from the Capitol to the Lincoln Memorial.

The landscape argument was unfortunately obscured by an array of irrelavant attacks on Hirshhorn and his gift of art to the Nation, a gift actively solicited by the Johnson administration and accepted, with proper gratitude, by Congress.

On February 24, The Star's Benjamin Forgey made a penetrating analysis of the landscape problem. He concluded that the Thompson objection had little real merit, since the Mall is already interrupted by no fewer than six streets. Forgey went on, however, to show that the "trench" would in fact be a very poor place to look at sculpture, hot and airless in summer, exposed to rain and snow in winter. Forgey then sketched out a plan whereby nothing would be lost, congressional opposition placated, and the circumstances of looking at the sculpture vastly improved by making the sunken garden parallel with Independence Avenue, alongside and partly under the museum.

This is essentially the plan that Dr. Ripley has now announced as an "absolutely splendid alternative." It is indeed. We congratulate the architect, Gordon Bunshaft, for his openness to suggestion, and urge the adoption of the new plan by the Fine Arts Commission and the National Capital Planning Commission.

PROPOSED HIRSHHORN LEGISLATION

Mrs. HANSEN. What is the substance of any legislation concerning the Hirshhorn Museum that is now proposed?

Mr. BRADLEY. There are two bills. The one in the Senate is more far reaching than the one in the House. Senator Allen introduced a Senate joint resolution that would have the effect, if enacted, of stopping the project and calling for redesign of the museum. It would stop both the garden and the museum proper. It would call for redesign of the museum. It is silent on what to do about the garden, but it would stop the garden, and the museum.

Mrs. HANSEN. Then the objective of this legislation is to change the design of the building?

Mr. BRADLEY. It goes further, Mrs. Hansen, in that it would terminate the agreement. It would declare null and void the agreement between Mr. Hirshhorn and the Smithsonian, so I must say it goes beyond the building.

LIABILITY IF PROJECT TERMINATED

Mrs. HANSEN. If this legislation were enacted, what becomes the liability of the U.S. Government?

Mr. BRADLEY. We have asked the General Services Administration that very difficult question. I suppose we will have quite a few conferences and we must make assumptions. For example, you have to put a time frame on it. Does the legislation mean to stop the project or does it mean to defer work on the project, and if so for 1 month, 3 months, or 6 months? I have spent long evenings trying to figure out how to answer this very question.

Mrs. HANSEN. Your contractor is at work right now?

Mr. BRADLEY. He is 17 percent completed, with $2.5 million in place.

Mrs. HANSEN. What is the essence of the House bill?

Mr. BRADLEY. The House bill is directed to the sculpture garden.

Mrs. HANSEN. Who introduced that bill?

Mr. BRADLEY. Frank Thompson's subcommittee joined in the introduction of that.

Dr. RIPLEY. Not quite the entire subcommittee.

Mr. BRADLEY. All but one or two, I believe. Mr. Nedzi and Mr. Schwengel cosponsored, but not Mr. Gray.

Dr. RIPLEY. Mr. Gray and Mr. Bingham didn't sign.

Mr. BRADLEY. They did not join in. Anyway, this is directed at the sculpture garden, if enacted.

Dr. RIPLEY. Only.

Mr. BRADLEY. This would stop it. In a press release, Mr. Thompson said he was entirely focusing his criticism on the crossing of the Mall with the sculpture garden. It does not relate to anything else.

Dr. RIPLEY. That bill has been referred to the Public Works Committee and we have shown Mr. Thompson this redesign.

Mrs. HANSEN. What does Congressman Thompson think about the new design?

Mr. RIPLEY. He thought it was splendid.

Mrs. HANSEN. So you have one bill that would completely stop the construction of the museum until it was redesigned. Do you have enough funds to accomplish the redesign?

Mr. BRADLEY. No, ma'am.

Mrs. HANSEN. I am correct in assuming that this would absolutely abrogate all contract obligations with Mr. Hirshhorn, unless he agreed to the redesign. What would the redesign cost?

Mr. BRADLEY. Madam Chairman, the record shows that escalation ran as high as 20 percent in the 1968 calendar year. It is projected to rise about 12 to 14 percent in the year we are now in. We face the very strong probability of extreme escalation of costs compared to the contract that we got into in December of 1969.

SENATE JOINT RESOLUTION

Dr. RIPLEY. Madam Chairman, I might point out that the joint resolution introduced in the Senate has a section saying that the agreement between Mr. Hirshhorn and ourselves shall be declared null and void.

Mrs. HANSEN. Who introduced this legislation?

Dr. RIPLEY. Senator Allen from Alabama. Section 2 of the recommendations of the resolution recommends that the agreement entered into between Mr. Hirshhorn and the Smithsonian be declared null and void and contrary to public policy.

Mrs. HANSEN. Why was this legislation introduced?

Mr. BRADLEY. I suppose, Madam Chairman, the motive as far as we know could only be derived from a recital of the whereas clauses, of which there are a little more than a half dozen.

Dr. RIPLEY. This refers to the doctrine of mortmain, the dead hand.

(Discussion off the record.)

Dr. RIPLEY. All the legislation involving our archival functions which are authorized by the Government would be declared null and void under this doctrine.

Mrs. HANSEN. Would this also effect the archival functions of the National Park Service?

Dr. RIPLEY. The Park Service would also be. The preservation of our great monuments would also be involved.

Mrs. HANSEN. I will be interested in the opinion of the Justice Department concerning this matter.

Dr. RIPLEY. If we can produce the letter we will be glad to send it to you.

BUDGET REQUEST FOR NONRECURRING EQUIPMENT

Mrs. HANSEN. In your justifications you have a list of your operating costs and your nonrecurring costs. Are all of the non-recurring items you have listed for the Hirshhorn Museum?

Mr. BRADLEY. Yes, Madam Chairman. If I could just briefly volunteer a little background on that.

Mrs. HANSEN. Please do.

Mr. BRADLEY. In other projects we have sought for a turn-key construction appropriation which included furnishings. Last summer the General Accounting Office opined in their report that equipment or furnishings or furniture not affixed, screwed down, or built in, should not be included in the construction appropriation. We disputed that, and so far as we know, there has been no agreement on it. But their endeavor was to keep such items out of the construction account. We thought that was wrong, that the building should be complete when it is ready for occupancy, and so we contested before the Thompson committee.

In the meantime, however, what makes it all academic is the escalation of costs. The escalation of construction costs has engulfed us.

Mr. RIPLEY. As always.

Mr. BRADLEY. At any rate we had $13.8 million to $14 million estimated in September of 1966 as the total cost. Then we took another look at it and we still had a half million dollars in our construction estimate for furniture and equipment in February of 1967. However, when we came out for bids in May of 1969, we got a $17.6 million bid, $3.6 million more than we were looking for. That was when the crunch came. We had to trim down the building, particularly underground, and we did without the cafeteria, and reduced on the finish costs. We were able to go back for bids in December of 1969 when it came in at $13.8 million down from $17.6 million. We took out almost $4 million, but the cost rise, of course, had taken away the amount that had been in the original estimate for furnishings and equipment.

DONATION OF $1 MILLION BY MR. HIRSHHORN FOR CONSTRUCTION

We still have a contingency item which prudence demands that we have in order to complete the building if we run into construction difficulties, claims, and anything else. But we did have an estimated $800,000 deficit. We went to Mr. Hirshhorn and asked him if he would please donate $1 million. The way this was arranged was, and it has been, I am afraid, rather unfairly interpreted that Mr. Hirshhorn had agreed in the 1966 agreement that he would give $1 million when the building was completed for the purchase of art.

Dr. RIPLEY. For endowment for purchase.

Mr. BRADLEY. We needed the $1 million for construction or there wouldn't be any occasion to have a collection. We needed the $1 million desperately. He agreed to make that $1 million available for construction with the understanding that he would, from his collection which he continues to add to, give us at least $1 million in art works at the time of completion of construction. This is additional to the original 1966 gift. In that way we were able to go into construction with a $16 million total cost amount in lieu of a $15 million amount.

Dr. RIPLEY. In effect he is adding another $1 million in terms of works of art to the original agreement.

Mrs. HANSEN. I suppose you couldn't have run into any more difficulties in any project. Please insert in the record the letter you received from Mr. Hirshhorn concerning the additional $1 million.

(The information follows:)

THE JOSEPH H. HIRSHHORN FOUNDATION, INC.
New York, March 23, 1970.

Hon. S. DILLON RIPLEY,
Secretary, Smithsonian Institution,
Washington, D.C.

DEAR MR. SECRETARY: We refer to your letter of March 9, 1970 in which you request, on behalf of The Smithsonian Institution, that the Agreement between it, Joseph H. Hirshhorn and The Joseph H. Hirshhorn Foundation, Inc., dated May 17, 1966, be modified so as to permit the $1,000,000 cash gift which was to be used as an art acquisition fund to be used instead, to the extent necessary, to meet costs of completing the building.

The proposal as set forth in your letter of March 9, 1970 is acceptable to the undersigned; and the above-mentioned Agreement of May 17, 1966 shall be deemed amended accordingly.

Under the agreed amendment to the basic agreement of May 17, 1966, the Joseph H. Hirshhorn Museum and Sculpture Garden will no longer begin its operations with an art acquisition fund of $1 million. The purpose of that fund was to augment the collection as described in the inventory of works of art which was set forth in the agreement of May 17, 1966. It is our hope that this purpose may be served by the contribution of additional works of art and to that end we wish to inform you of our intention to transfer to the Joseph H. Hirshhorn Museum and Sculpture Garden, upon its construction and completion, additional works of art having a total value of approximately $1 million.

We appreciate that the institution has been doing its utmost to meet the letter and spirit of our agreement and we are pleased to cooperate in a kindred manner to bring the project to fruition.

Sincerely yours,

JOSEPH H. HIRSHHORN.

(Discussion off the record.)

CLARK MOLLENHOFF ARTICLE

Mrs. HANSEN. Please insert in the record an article by Clark Mollenhoff concerning the Hirshhorn Museum.

Also insert in the record at this point a letter to Mr. Mollenhoff from Mr. Kunzig.

Dr. RIPLEY. May we have permission from Mr. Kunzig, because I hadn't asked him.

Mrs. HANSEN. Would you please because I think this is important and pertinent to the subject.

Dr. RIPLEY. I am sure he will give it, but I would like to get his permission.

(The information follows:)

WATCH ON WASHINGTON

(By Clark Mollenhoff)

Washington, D.C.—The government's dealing with the Piracci Construction Co. is a classic case of how far the General Service Administration (GSA) can bend the rules if it wants to do business with a firm involved in violation of the law.

Ordinarily, a firm can be suspended from doing business with the government for up to 18 months if fraud is suspected. If found guilty, the firm can be "debarred" from dealing with the government for up to 3 years.

The basic thesis is that firms and individuals who cheat the government through frauds and payoffs shouldn't be regarded as "responsible bidders."

However, Robert Kunzig, the administrator of GSA, has made it possible for the Piracci Co., of Baltimore, Md., to continue to do business with the government despite repeated law violations. The GSA has minimized the fact that Dominic A. Piracci, Sr., the sole owner of the construction firm, has a record of fraud convictions and involvements in fraud.

Piracci has simply stepped out of his role as president and director, and has turned the management over to some other business men "for a period time which will extend 6 months beyond the completion of The Hirshhorn Museum and Sculpture Gardens."

Piracci's firm holds the $15 million general contract for the controversial Hirshhorn project in Washington, D.C. and is to receive more than $1 million in profit.

Looking at the law and the background of Piracci, there would have been ample reason to debar the Piracci firm from ever bidding on the Hirshhorn project. In fact, the counsel for the GSA Region Three office had recommended debarement of the Piracci firm. The law authorizes suspension of "all known affiliates of a concern or individual" who has been convicted.

The law further states:

"The criminal, fraudulent or seriously improper conduct of one individual, may be imputed when the impropriety involved was performed within the course of his official duty, or with the knowledge or approval of the business firm."

Not only has Piracci been permitted to do business with the government, but in the face of a record of proven bribery, perjury, and falsification of records, Piracci has been permitted to increase his bid on the Hirshhorn project by $754,375. The GSA accepted Piracci's explanation that a "clerical error" had resulted in a lower bid than he intended. Piracci was still the low bidder, but by a narrow margin.

The GSA informed Representative Joel Broyhill (Rep., Va.) that it has "insufficient justification" for debarring Piracci's firm.

Here is the Piracci record.

In 1954, Piracci was convicted of fraud and obstructing justice in connection with an off-street parking scandal in Baltimore. Piracci paid a $4,000 fine on that conviction and was later pardoned by former Governor Theodore R. McKeldin.

In 1969, Piracci was convicted in the U.S. District Court in Baltimore on charges of having made a payoff to Guido Iozzi, Jr., president of the Baltimore Building Trades Council, AFL–CIO. Piracci was sentenced to pay a $5,000 fine and to serve 183 days in Federal prison.

Another indictment has been returned against Joseph P. Doherty, executive assistant to the assistant postmaster general in charge of post office bureau facilities. Piracci was not a defendant in this case, but the indictment charged that Doherty took large sums of cash from Piracci to provide influence for Piracci Construction Co. in dealing with the Post Office Department.

Doherty entered a "no contest" plea to the ninth count of the indictment on "conflicts of interest" that charged he "did knowingly act as agent" of Piracci and the firm "in connection with applications, contracts, and other particular matters involving the leasing of various post office facilities." Action on the other counts in the indictment against Doherty is still pending.

In dealing with Piracci's record, the GSA, in its letter to Broyhill, dismissed the 1954 conviction as being far enough back that "it cannot ordinarily be used to support a current debarment."

The GSA also noted the federal judge did not impose the maximum prison term and fine on the 1969 conviction and that "the 6 months sentence presumably recognized the fact that Piracci had cooperated with the government."

But, the GSA overlooked the comments of United States District Judge Alexander Harvey II, who said as he sentenced Piracci:

"You lied to the FBI, the United States attorney and the Federal grand jury: A man who has a prior criminal involvement and who has lied * * * can hardly expect leniency from the court."

The GSA also told Broyhill, "Finally, to the best of our knowledge, it has not been legally established whether Mr. Piracci or the firm made any illegal payments to a former employee of the Post Office Department."

Apparently GSA did not ask the prosecutor who could have told them Piracci

admitted making payments of at least $3,000 to Doherty and a total payoff of $20,000 was discussed.

A final argument on behalf of doing business with Piracci Construction Company was that Piracci had "resigned both as president and a member of the firm's board of directors, the fact that he is divorced from all control over the firm; and the fact that the firm itself has satisfactorily performed several construction contracts for GSA."

The GSA and other government agencies aren't often so tolerant of fraud, or so understanding of the lines between control of a firm and the actual ownership of the firm. Apparently, Piracci is receiving some unusual understanding at a high level in Washington.

Piracci's penalty for his problems with the previous convictions will be that he won't be permitted to pick up the profits on the Hirshhorn project until at least 6 months after it is completed.

UNITED STATES OF AMERICA,
GENERAL SERVICES ADMINISTRATION,
Washington, D.C., March 30, 1971.

CLARK MOLLENHOFF,
Chief, Washington Bureau, Des Moines Register and Tribune, National Press Building, Room 952, Washington, D.C.

DEAR CLARK: I am most distressed to learn that you have written a syndicated article concerning the award by the General Services Administration (GSA) of the contract to the Piracci Construction Company. The article, at best, is undeservedly critical of GSA and, at worst, implies a conscious twisting of procurement laws and regulations to the benefit of a particular company.

Clark, you are well aware of the circumstances surrounding the Piracci award for the Hirshhorn Museum and Sculpture Garden based on various discussions and reports which we furnished you at your request when you were at the White House. I find your article distressing because of its omissions—omissions which would present the entire story and show that the award was correct and required under the law.

Nowhere in the article do you mention that the Federal Procurement Regulations, which have the force and effect of law, provide specifically for an increase in a low bid by virtue of a proven mistake.

Nowhere in your article do you state that the increase in the bid of Piracci Construction Company was authorized by the Comptroller General of the United States, as required by these same regulations, and of which you were well aware.

Nowhere do you state that the eligibility of the Piracci Construction Company to receive awards of Government contracts had been upheld by the Comptroller General of the United States. Then and then only did GSA award the contract. Of this, too, you were well aware.

Nowhere in your article do you state that, under the applicable law and regulations, GSA had no basis on which not to make an award to the Piracci Construction Company, and no authority to award at a price less than their bid price as corrected. This, too, was discussed with you when you were at the White House.

In other words, Clark, a correct award under the law was made to the Piracci Construction Company and was approved in every facet by the Comptroller General, the watchdog of the Federal Government. The GSA could not have acted otherwise without violating the law. An award to a higher bidder, besides being illegal, would have cost the taxpayers almost 2 million dollars.

I'm very disappointed, Clark.

Sincerely,

ROBERT L. KUNZIG,
Administrator.

DETAILS OF CONSTRUCTION HANDLED BY GSA

Dr. RIPLEY. This is the letter of GSA, not ours.

Mrs. HANSEN. Does the GSA handle all details of your construction contracts?

Dr. RIPLEY. This is their contract.

Mr. BRADLEY. Yes.

Mrs. HANSEN. The moment that this committee recommended the appropriation for the Hirshhorn Museum and Congress appropriated the funds the entire details of the transaction relative to construction were handled by GSA.

Mr. BRADLEY. Correct, including a review by the General Accounting Office.

(Discussion off the record.)

NAMING OF THE MUSEUM

Mrs. HANSEN. Dr. Ripley, would you state for the record the comparability of the Hirshhorn Museum's naming in comparison with other galleries such as the Freer Gallery and the Phillips Gallery. These facilities are not memorial shrines but merely the names of the galleries. Is this correct?

Dr. RIPLEY. Madam Chairman, there are two concepts involved here. One is a well known and worldwide concept that a building which houses an art collection may have the name of the donor. This is not a memorial in the sense that a memorial to a national hero is. Within the area of the Smithsonian Park, deeded to the Smithsonian by the Congress in 1846, there are buildings named after the donor, such as the Smithsonian Building named for Mr. Smithson and the Freer Gallery of Art named for Mr. Freer. These buildings are in no sense comparable to national memorials for national heroes.

Mrs. HANSEN. The Hirshhorn Museum is not a national shrine?

Dr. RIPLEY. It is not a shrine and such buildings are never interpreted as being shrines. The equivalents in any large city, such as the Corcoran Gallery of Art here, the Guggenheim and the Whitney Gallery in New York, are found all over the land. In no sense does the public in its wisdom deduce that these are memorials to national heroes. Seattle has a named gallery. There are many of these in major cities. The anomaly appears to be in the minds of those who have attacked this concept. That the Mall is a sacred sward and it is reserved for heroes. But the fact remains that galleries exist by acts of Congress, such as the Mellon Gallery, known as the National Gallery of Art.

Under the legislation at the time, it was recommended by some Members of Congress to be called the Mellon Gallery. The Freer Gallery of Art and the Smithsonian Building are other examples of the fact that already, on the Mall, under legislation so incorporated after months of debate, there are buildings which are for public purposes with people's names attached to them.

Mrs. HANSEN. Dr. Ripley have you had any other charges made about the inappropriateness of the Hirshhorn Museum?

Dr. RIPLEY. There is another statement, Madam Chairman. That is, that this decision was originally arrived at hastily by the Congress.

It is worth pointing out, I think, the legislation which resulted from the request which came from the President of the time to accept this gift. The legislation involved the declassification, as it were, of that area from the Armed Forces Institute of Pathology, the taking down of that building, and appropriation of funds to relocate the Armed Forces Institute at Walter Reed Medical Center. All of this had to be

undertaken by the Smithsonian, working with the congressional committees. Then, of course, hearings were held before the Public Works Committee and Rules Committee in the Senate, the Public Works Committee in the House, which consumed 5 months. The committees went into all of the characteristics of the agreement. Then there is the subsequent appropriation process which is still going on every year.

Mrs. HANSEN. I think you will remember when the authorization for the Hirshhorn Museum was under consideration, a large number of distinguished Members spoke on that occasion on behalf of the Hirshhorn Museum. Mr. Bradley, please insert any relative comments about the Hirshhorn Museum in the record.

Mr. BRADLEY. I appreciate the opportunity to do so.

(Information follows:)

[From the Congressional Record, Oct. 19, 1966]

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Extension of remarks of Hon. Frank Thompson, Jr., of New Jersey, in the House of Representatives, Monday, Oct. 17, 1966)

Mr. THOMPSON of New Jersey. Mr. Speaker, I support S. 3389, to authorize the construction of the Hirshhorn Museum, and make meaningful the great gift of 1,500 pieces of sculpture and 4,000 paintings and drawings, valued conservatively at $25 million, being donated by Mr. Joseph Hirshhorn.

It will implement and make meaningful the dedication to culture on the part of President and Mrs. Johnson, without which this great art treasure might very well have gone to a government other than that of the United States.

The enactment of this legislation gives to the United States, in its Capital City, a complex of cultural facilities and beautiful park on the Mall that will rival, if not surpass, the great Paris complex of the Louvre, the Carousel, and the Tuileries.

When the Hirshhorn Gallery and Sculpture Garden is built, the Mall area will be one of the great art centers of the world, if not the very greatest. This splendid collection will fully complement the great collection housed in the National Gallery of Art and the equally great collection of oriental art and "Whistleriana" in the Freer Gallery.

On a north-south axis—for the development of the Mall and the proposed location of this new gallery are both coordinated with the plans of the Pennsylvania Avenue Commission—the Hirshhorn collection will fully complement the National Portrait Gallery and the National Collection of Fine Arts, to be housed in the old Patent Office Building. I had something to do with preserving the Patent Office Building for these purposes, and I find that the creation of separate facilities for the Hirshhorn collection fully complements my earlier interest.

Now envisage the plans of the Park Service for the Mall; underground parking; underground traffic; landscaping. Add to that the other existing and future technical and natural history galleries of the Smithsonian, together with an upgraded medical museum.

We shall have a tremendous cultural complex, set in an area of exquisite beauty, with unobstructed views of the Capitol to the east and the Washington Monument to the west.

I doubt if any other world capital will have any similar complex which shall be more complete, or located in more esthetic surroundings.

This legislation stands on its own merely to provide facilities to exhibit the Hirshhorn collection. This is a great collection. It did not just come to the U.S. Government because no one else wanted it. Britain desired it. Israel desired it. Baltimore wanted it. Governor Rockefeller wanted it for the State of New York. Beverly Hills, Calif., wanted it. Zurich wanted it. Each offered to provide a building to house it.

The Government of the United States is indeed fortunate to be able to acquire this collection for all the people of the United States.

Critics from all over the world have praised the Hirshhorn collection for its completeness and its quality.

I am proud and pleased that S. 3389 has passed this body unanimously. It is a great step forward for the overall cultural development of our Nation.

[From the Congressional Record, Oct. 14, 1966]

AN ART CRITIC PRAISES THE HIRSHHORN COLLECTION

(Extension of remarks of Hon. Thomas M. Rees of California, in the House of Representatives, Friday, Oct. 14, 1966)

Mr. REES. Mr. Speaker, this House now has under consideration H.R. 15121, which would establish the Hirshhorn Museum and Sculpture Garden in Washington, D.C. This is an extremely important bill. The Hirshhorn collection is one of the great privately owned collections in the world today—a collection which has been given to our country by Mr. Joseph H. Hirshhorn of New York, and Greenwich, Conn., a gentleman I have been acquainted with for several years.

Recently there was some criticism of the collection, and I would like to read a letter from the very distinguished art critic of the Los Angeles Times, Mr. Henry J. Seldis, replying to this criticism.

TEXT OF LETTER FROM MR. SELDIS

As one who spent a great deal of time unsuccessfully persuading the powers that be in Southern California to accommodate Mr. Hirshhorn's matchless collection in this area, I might be expected to let my disappointment in this campaign stand in the way of fully endorsing the magnificent gift to the nation that Mr. Hirshhorn has offered to the Capital on the President's invitation.

On the contrary, I believe that the Hirshhorn Museum will be a major step in having the seat of our national power become the hub of cultural activities that distinguish the capital cities of other great nations. Both Americans and visitors from abroad will benefit from its establishment, which must not be allowed to be undermined by delaying congressional approval of the project as outlined in H.R. 15121 and related bills.

I am particularly surprised and dismayed by the objections brought forward by the distinguished director of the Cleveland Museum of Art, Mr. Sherman E. Lee, who seems to be the only notable figure in the American art world to oppose this much needed project.

Knowing Mr. Hirshhorn and understanding the content of his collection, I consider it to be "a truly catholic and articulated" collection assembled by a man who not only knows but loves art. Any collection, including that of The Cleveland Museum, has variations in quality. But to call Mr. Hirshhorn's gift of a living and growing collection "quixotic" smacks of ingratitude and sour grapes. Perhaps Mr. Lee is unhappy that this collection was formed by a layman rather than by a professional, but it is more likely that his protest was written before the collection's amazing inventory was published.

I think that I speak for the majority of professionals in the art world, including those who lost the chance to have the Hirshhorn Museum in their own community, when I respectfully urge . . . early passage of H.R. 15121.

THE HIRSHHORN COLLECTION

Mr. SALTONSTALL. Mr. President, the greatness that is America today is the result of the achievements and contributions of its citizens. Joseph H. Hirshhorn's gift to his countrymen of his magnificent collection of paintings and sculpture is truly a manifestation of great achievement and great generosity. He has made it clear to all that he is giving away his entire collection because he felt it should belong to all of the American people, not just to one man.

Valued at $25 million, the collection of some 6,000 paintings and sculpture includes a vivid cross-section of man's artistic genius. It encompasses the works of Eakins, Hassam, Munch, Bellows, Sloan, Kuhn, Hopper, Soyer, Wyeth, Picasso, Beckmann, Marin, Weber, Ben Shahn, Jack Levine, Maurice Prendergast,

Dali, Francis Bacon, Larry Rivers, Eilshemius, Kline, de Kooning, Jackson Pollock, Kuniyoshi, Milton Avery, Philip Evergood, Stuart Davis, Feininger, and Hans Hofmann. The unrivaled collection of sculpture includes creations of Rodin, Bourdelle, Maillol, Manzu, Degas, Daumier, Sir Henry Moore, Lipchitz, Brancusi, Sir Jacob Epstein, Renoir, Picasso, Calder, Giacometti, Marini, Matisse, and others.

As another expression of his benefaction, Mr. Hirshhorn is giving $1 million for the purchase of additions to the collection. The collection will be a worthy complement to the complex of museums and galleries now under the administration of the Smithsonian Institution, which has established itself as one of the Nation's centers for learning and the arts.

History will record that Joseph Hirshhorn has joined the select company of James Smithson, Charles Freer, and Andrew Mellon, whose private contributions have enriched the cultural life of the Nation and its Capital City.

James Smithson's bequest "for the increase of knowledge" led to the establishment of the Smithsonian in 1846. Early in this century, Charles Lang Freer donated to the Institution his splendid collection of oriental art that now serves as the nucleus of the Freer Gallery of Art. And in 1937 Andrew Mellon's magnificent gift, accepted by the Congress, established the National Gallery of Art.

In accepting the Hirshhorn gift for the Nation, Congress would authorize legislation which will—

Provide a site on the Mall, a gallery building, and a garden of sculpture.

Designate the gallery and garden as the Joseph H. Hirshhorn Museum and Sculpture Garden.

Pledge the faith of the United States to assist in providing funds for the operation and administration of the museum and garden.

And establish a Board of Trustees in the Smithsonian Institution to advise the Board of Regents on matters relating to the museum and gallery, and to be responsible for the acquisition and disposition of works of art.

That the Joseph H. Hirshhorn Museum and Sculpture Garden will serve as a vivid reflection of man's artistic achievements and as an inspiration for future generations is in large measure a tribute to the affection of a man for his country.

To Mr. Hirshhorn the Nation owes its deepest gratitude.

HIRSHHORN COLLECTION

(Mr. MAHON asked for and was given permission to address the House for 1 minute.)

Mr. MAHON. Mr. Speaker, the Congress has been given the opportunity to enhance the beauty of the city of Washington and to enrich the cultural life of the millions of our people who either visit Washington or live and work here. It is fitting and proper that the Capital City of the greatest Nation on earth reflect the cultural interests of its people.

Mr. Joseph H. Hirshhorn, of Greenwich, Conn., has offered his 5,600-piece art collection to the United States. This collection is generally believed to be the most valuable of its kind in private hands, and is valued at $25 million. On Tuesday of last week, the President informed the Congress of Mr. Hirshhorn's offer and submitted legislative suggestions for the consideration of the Congress which would enable the Smithsonian Institution to accept the gift for the people of the United States.

I hope the Congress will give sympathetic consideration to the necessary provisions for accepting this generous gift. In this age when much is perishable and planned obsolescence has intruded, the timeless beauty of fine art is even more precious.

JOSEPH H. HIRSHHORN ART GIFT

(Mr. BOW asked and was given permission to address the House for 1 minute, and to revise and extend his remarks and to include extraneous matter).

Mr. BOW. Mr. Speaker, millions of Americans and our visitors from abroad are thrilled each year by the exhibits at the Smithsonian Institution. There is no

question it is one of the great museums of the world and has improved year after year.

The recent gift of Joseph H. Hirshhorn will add greatly to the enjoyment of those who visit the Nation's Capital. It is believed to be the most valuable of its kind in private hands. The 5,600-piece art collection is a unique recapitulation of the history of modern sculpture and American paintings of the 20th century.

It has a value of at least $25 million.

It will take its place here in Washington along with the National Gallery of Art and the gifts and bequests of the late Charles Lang Freer, to provide us with one of the great art centers of the world.

I offer a digest of the agreement between Joseph H. Hirshhorn, the Hirshhorn Foundation, and the Smithsonian Institution, and a fact sheet on this subject, as follows:

DIGEST OF THE AGREEMENT BETWEEN JOSEPH H. HIRSHHORN, THE HIRSHHORN FOUNDATION, AND THE SMITHSONIAN INSTITUTION

The principal provisions of the Hirshhorn-Smithsonian Institution agreement are as follows:

Mr. Hirshhorn and the Hirshhorn Foundation agree to transfer their collections of works of art to the Smithsonian Institution and the Smithsonian Institution agrees to accept the gifts, subject to the conditions of the agreement which are that:

Legislation will be obtained to designate the area between 7th Street, 9th Street, Independence and Madison Drive, on the Mall, as the site of the museum and sculpture garden;

The Regents will be authorized by the Congress to remove any existing structure on the site, to prepare plans, and to construct a museum and sculpture garden;

The Museum will be designated the Joseph H. Hirshhorn Museum and Sculpture Garden;

The United States will provide funds for upkeep, operation, and administration;

A Board of Trustees will be established in the Institution to advise the Regents and to have sole responsibility in matters of art for the museum and garden;

The appointment and compensation of four positions in the museum will be authorized, without regard to the Civil Service laws and the Classification Act;

Necessary appropriations to plan, construct, and operate the museum and garden will be obtained;

The museum and sculpture garden will be constructed and completed in accordance with the provisions of the agreement;

The Museum and garden will be built in accordance with plans prepared by architects jointly chosen by Mr. Hirshhorn and the Secretary;

Upon completion of the museum and garden the donor will pay one million dollars to the Institution to acquire works of art for the museum and garden, title to the collection will pass to the Institution, and the collections will be delivered o the Institution;

No works of art will be accepted by the Institution for the museum and garden without the consent of its Trustees, the Institution shall not loan its sculpture for periods longer than 360 days, and the first director of the museum shall be designated by Mr. Hirshhorn with the consent of the Secretary;

Until the Institution gets title to the collections Mr. Hirshhorn can transfer works of art to the Hirshhorn Foundation and he and the Foundation may add to the collections;

If the Congress fails to enact the necessary legislation by ten days after the close of the 90th Congress, or if the museum and garden have not been constructed within five years after such legislation has been passed, the agreement will be void and the proposed gifts will not take effect; and

That the agreement will be binding on the heirs, executors, and administrators of Mr. Hirshhorn.

LOCATION—DEPARTMENT OF DEFENSE—SMITHSONIAN INSTITUTION

The old red brick building at 701 Independence Avenue, Southwest, housing the Medical Museum of the Armed Forces Institute of Pathology will be removed to make way for a new cultural development on the Mall. The site would

be transferred to the Smithsonian Institution under proposed legislation to be submitted to the Congress.

Public exhibits of the Medical Museum will be relocated in space provided by the Smithsonian in its adjacent Arts and Industries Bui ding and will continue to be supervised by the Armed Forces Institute of Pathology.

Founded during the Civil War for the purpose of studying the effects of wounds and diseases encountered on the battlefield, the Medical Museum grew into the Armed Forces Institute of Pathology in 1949, whose mission today encompasses the entire field of pathology.

Th museum exhibits have long been an attraction to tourists visiting Washington, as well as to the residents of the area and to many school groups. In recent years the number of visitors to the museum has approached one million annually.

In 1886, the Secretary of the Smithsonian, with the Secretary of War and the Architect of the Capitol, was a member of the group which chose the site for the then new medical museum building. Over the years there have been many instances of exchange of materials and ideas.

The medical museum building, known as the AFIP Annex, was included in a list of historic landmarks last year by the Secretary of the Interior. In addition, the Annex is occupied by scientists and technologists of the AFIP other than those associated with the Medical Museum. Among them are a number of pathologists who are concerned with Geographic Pathology, the study of diseases on an international level. These consist of the so-called "Tropical Diseases" and many of the medical problems which face our military forces overseas. One of the most important and timely is the form of malaria occurring in Vietnam and affecting our troops today.

Other scientists are studying the medical problems of the middle and inner ear, subjects of great concern in the exploration of outer space and undersea areas. Still others are concerned with legal medicine and the effects of injuries including those related to accidents as well as those associated with war wounds.

In anticipation of the need to relocate these activities, the Department of Defense is engaged in arrangements to furnish them alternate quarters adequate for their needs. A number of potential sites have been selected for consideration as to suitability.

Joseph H. Hirshhorn Art Gift

(Mr. KIRWAN asked and was given permission to address the House for 1 minute and to revise and extend his remarks.)

Mr. KIRWAN. Mr. Speaker, the two speakers before me, the gentleman from Texas (Mr. MAHON) and the gentleman from Ohio (Mr. BOW), as members of the Board of Regents of the Smithsonian Institution, voted with me to accept the wonderful gift of the Joseph Hirshhorn collection.

Like many people, Mr. Hirshhorn gave his blood, and I mean his blood. What a wonderful, unselfish act for him to contribute these priceless works of art, which he had strived most of a lifetime to collect in order that they may be preserved and available for the enjoyment of millions in the years ahead.

While I am in the well, I also want to thank the Mellon family for donating the National Gallery of Art and their art collection to the country. Think what this has meant to the enjoyment and education of millions of Americans.

I also want to thank the Rockefeller family for all they have done for the parks in this country. They have contributed thousands of acres of valuable park land and devoted much of their valuable time to the preservation and development of more adequate parks so that millions could have better recreational opportunities. Over 125 million people visited our national parks alone last year.

We should all join in this wonderful spirit of giving. Think what it would mean if all the 195 million of us, each in his own way, would contribute more to help this country on the home front while our men are sacrificing so much in Vietnam. There is so much that could and should be done to make this an even greater Nation to live in and the burden and cost of Government would be so much less if each of us followed the example which has been set by the Hirshhorns, the Mellons, the Rockefellers, and many others.

[From the Congressional Record, May 16, 1966]

ART COLLECTION

(Extension of remarks of Hon. John C. Kunkel of Pennsylvania, in the House of Representatives Monday, May 16, 1966)

Mr. KUNKEL. Mr. Speaker, in the Washington Post of last Thursday, May 12, there appeared two articles of great significance for the cultural life of our Nation's Capital.

They were in regard to the possibility that the extensive art collection of Mr. Joseph H. Hirshhorn, of New York City, may be brought to Washington. It will certainly be a marvelous thing if this can be done.

I know that my colleagues and many other people, too, will be interested in the articles which follow:

FAMED ART COLLECTION IS PROMISED TO THE UNITED STATES

(By Leroy F. Aarons)

The famed art collection of uranium tycoon Joseph H. Hirshhorn has been promised to the Federal Government, ending one of art history's greatest cliffhangers.

Letters of agreement between Hirshhorn and the White House have been drafted and exchanged, but not signed, it was learned yesterday. President Johnson expects to announce the acquisition in the presence of Hirshhorn and his wife, probably next week.

Involved are 6,300 paintings, drawings and sculptures, representing one of the largest private art collections in the world. The present-day value has been estimated at $25 million to $50 million.

MAY DONATE $1 MILLION

The collection will be administered by the Smithsonian Institution and housed in a new museum and an outdoor sculpture garden to be built on the Mall, possibly across from the National Gallery. The President is expected to ask Congress for funds to build the museum.

In addition to the collection, Hirshhorn is understood to have agreed to donate $1 million for the purchase of works of contemporary art.

Negotiations for the huge collection have been going on a year in the deepest secrecy between Hirshhorn, who lives in New York City, officials of the Smithsonian and the White House. Negotiators here thought they were close to obtaining the much-sought collection about a year ago, but discussions dragged on for a full year more.

THOUGHT OF CREATING TOWN

The discussions were particularly deliciate for two reasons. For one, Hirshhorn was torn between a number of competing sites for his collection, and at one point thought about creating a new town, Hirshhorn, in which to display it. Secondly, the industrialist is extremely sensitive about publicity surrounding the disposition of his works.

The Administration is still so sensitive about the matter that officials scheduled to discuss plans for the new museum on Capitol Hill this week have been instructed not to leave any copies of the agreement lying around.

CURATOR WORKS FULL TIME

Hirshhorn, 67, amassed his art treasures during a lifetime of collecting, much of it with money mined from uranium-rich acreage in Ontario's bush-covered Algoma Basin. The collection is so vast—4800 paintings and drawings and 1500 pieces of sculpture—and Hirshhorn buys with such speed and volume that it takes a full-time curator to keep up with the inventory.

He has probably the world's largest single collection of American art, with examples rich in depth ranging from Thomas Eakins of the mid-19th century to Willem de Kooning, the great contemporary abstractionist. The collection is especially strong in works of the 1930s by such artists of later prominence as Milton Avery, Franz Kline, Ben Shahn, Philip Evergood and Stuart Davis.

The sculpture collection is international in scope, encompassing the Hittite culture, Greece's Golden Age and such masters of the late 19th and early 20th

centuries as Rodin and Maillol. Most impressive, however, is the depth of the contemporary collection, with numerous examples of such greats as Jacques Lipchitz, Marino Marini, Henry Moore, Picasso and Giacometti.

Hirshhorn was reared in the Jewish ghettos of Brooklyn, where his mother settled after emigrating from Latvia in 1905 with him and his 12 brothers and sisters. Fascinated with art from an early age, he used to paste examples of calendar painting over his bed.

At age 17, Hirshhorn went into the brokerage business with $225. He made $168,000 in the first year and by 1928 was making profits of over $2 million. He pulled out of the stock market just before the crash with $4 million.

Hirshhorn takes a businessman's approach to collecting, buying up whole lots at a time and dickering for a bargain rate. But he is also gifted with a sensitivity for art and an extraordinary perceptiveness that enabled him to buy works of unknown artists who were later to become famous.

His collection is scattered around the world, jamming his offices in Manhattan and Toronto, and displayed throughout his Park Avenue apartment, his Riviera villa and his country home in Greenwich, Conn. The bulk of the trove, however, is kept in closets, storerooms and warehouses.

Hirshhorn and his collection have been wooed by more than half a dozen museums, including the Tate Gallery in London and others in Baltimore, Beverly Hills and in France, Israel and Canada.

New York Gov. Nelson Rockefeller, himself a collector, offered to build a museum if Hershhorn would give his works to New York State.

Acquisition of the art treasure by Washington, with both the President and Mrs. Johnson taking personal interest, is expected to rank as a major coup in the art world.

VAST COLLECTION WILL ADD A MAJOR DIMENSION TO ART HERE

(By Andrew Hudson)

Joseph H. Hirshhorn's decision to give his vast modern art collection to the Federal Government adds a major dimension to art in Washington.

This collection is particularly strong in modern sculpture, both European and American. Its 1,500 sculptures range from Rodin's "The Burghers of Calais" through Maillol, Degas, Lipchitz, Matisse, Picasso, Moore, Giacometti, Calder and Smith to recent works by such contemporary Americans as John Chamberlain and Jasper Johns.

It also includes a couple of sculptures by the American painter Thomas Eakins. Almost every prominent name in modern sculpture is represented and the proposed Sculpture Garden of the new Museum will almost certainly be a rich experience.

The collection's holdings in paintings and drawings (numbering 4,800 mainly American) make it the largest private collection of American painting in existence. However, in this area the collection is more diffuse and not so distinguished as it is in sculpture. The choice examples apparently lie in American work of the 1930's and earlier, in paintings by Dove, Marin, Gorky, Stuart Davis, Homer, Sloane and Demuth.

Hirshhorn came rather late on the scene in regard to abstract expressionism, though he did pick up a good 1943 Pollock and some Klines. The more recent work in the collection includes Larry Rivers gigantic assemblage "The Russian Revolution," which was shown at the Jewish Museum last year.

As far as the paintings are concerned, the most promising feature is what may be a donation of an additional $1 million for further purchases. If this could be used toward upgrading the collection in terms of both postwar American painting and modern European painting, we should have a very remarkable museum collection indeed.

OTHER COLLECTIONS CITED

Washington at present contains one of the most comprehensive collections of Western art in the world—up to around 1905—at the National Gallery. There are several fine examples of work after 1905 at the Phillips Collection but these were chosen not to present a comprehensive survey of modern art but according to personal taste—as the late Duncan Phillips was always the first to admit.

Various works in the collections of the Corcoran Galley of Art and the Washington Gallery of Modern Art serve to complement the Phillips Collection,

especially in contemporary American art; and doubtless the revitalized National Collection of Fine Arts, which aims, like the Corcoran, to be primarily a museum of American art, will be building a collection of modern and contemporary work.

GALLERIES SHARE TASK

However, the task of collecting modern European art for this city and of putting contemporary American art in an international context has fallen on the shoulders of the National Gallery and the Washington Gallery of Modern Art. The Gallery of Modern Art has done an admirable job over the past four years, but it has to rely on gifts and bequests for acquisitions and it doesn't have space to put even its present collection permanently on display. It doesn't look as though the National Gallery is about to venture into contemporary art.

It's hard to foresee how this arrival in Washington of a new museum of modern art will affect our other museums. There has been no talk of any exhibition program; indeed, one of the first questions to arise will be where the money is to come from to finance the museum's operation. As things are, the National Collection is having to organize benefits to raise money for its programs.

A possible development might be a merger of the present Washington Gallery of Modern Art and the new museum, with the former continuing a wide-ranging, forward-looking exhibition program and the latter building up an international collection of modern art.

HIRSHHORN ART COLLECTION

(Mr. KUNKEL asked and was given permission to address the House for one minute and to revise and extend his remarks.)

Mr. KUNKEL. Mr. Speaker, last week it was disclosed that our Government has almost reached an agreement whereby one of the great private art collections in the world could be secured for this city and our Nation. The collection belongs to Mr. Joseph H. Hirshhorn of New York.

Thursday afternoon I had a conference with people from the White House and the Smithsonian Institution about this. They assured me this collection is worth every effort on our part to obtain it. From what they told me—and from what I have read about it—I am greatly impressed.

Mr. Hirshhorn's collection contains more than 6,000 pieces of art—many of them by foremost painters and sculptors of the past hundred years. Moreover, it is said to include the largest private collection of American art in existence. In my judgment, it would be a splendid addition to the cultural treasures of the Nation's Capital.

But to bring it to Washington is going to require that we provide a museum for it. In fact, this is going to have to be done right now. The element of urgency is in the fact that many other museums in this country and elsewhere in the world have been attempting to obtain the collection. Mr. Hirshhorn has received a number of proposals. So there is a plan to ask the Congress for the necessary authorization and construction money to build a museum for the collection here. The Smithsonian Institution would administer it.

Now I know there have been many controversies here in the last few months over a number of programs. There are those of us who have argued that it would be wise to postpone some of these projects for at least a year or more. But as this matter of the Hirshhorn collection comes before us in committee, I do not see how that argument can apply. This is a now or never proposition.

If we are to secure this collection for our National Capital—and if we are to assure that it remains permanently in the United States—then action must be taken at once. Otherwise, it will be lost to us forever.

I hope and trust that this body will hold that thought in mind as this matter moves along, and will take kindly toward it.

CHARGES MADE AGAINST MUSEUM AND RESPONSES THERETO

Mrs. HANSEN. Dr. Ripley, please insert in the record a chronological summary of some of the charges that have been made about the Hirshhorn Museum and the reply the Smithsonian Institution has made to these charges.

(The information follows:)

Statement on Hirshhorn Museum Controversy

It has become increasingly clear during the past year that a certain number of people are determined, for whatever reasons, that the Hirshhorn Museum and Sculpture Garden should never be completed and opened to the public. Although these people were not heard from during the 5 months when the Hirshhorn legislation was before the Congress, when hearings were held by subcommittees of both the Senate and the House of Representatives, when the agreement between Mr. Hirshhorn and the Smithsonian Institution was made a matter of public record, when plans for the museum and sculpture garden were approved by the National Capital Planning Commission and the Commission of Fine Arts, when the Congress granted contract authority for construction of the museum and sculpture garden, and when funds were appropriated for construction, in recent months deliberate efforts have been made to deprive the United States of the Hirshhorn collection and of the museum and sculpture garden that are now under construction on the authorized site on the Mall.

I will not speculate about the motives that lie behind these efforts. But I think it is instructive to look briefly at the methods that have been employed by those engaged in these efforts. The first strategy was to denigrate the value and importance of the Hirshhorn collection. We were told that the collection had been vastly overvalued, and that it was in fact uneven and filled with inferior works. In the face of the facts—which are that the Hirshhorn gift comprises what one expert has called "the most comprehensive collection of American painting of the 20th century in existence" and "the most important collection of modern sculpture in existence"—this line of attack has been abandoned by all except the most ill-informed opponents.

Having failed to demonstrate that the gift is unimportant, opponents shifted their attention to the donor. Like others who have offered great gifts to the Nation's museums. Mr. Hirshhorn was subjected to vicious attacks in the press and elsewhere.

At the same time the Smithsonian was attacked for having deliberately "circumvented" a subcommittee of the House of Representatives at the time of the original legislation. Apart from the obvious fact that the Smithsonian does not control the referral of bills to congressional committees, this accusation carries with it the suggestion that the committees that did consider the Hirshhorn legislation—the Senate Committee on Public Works, the Senate Rules Committee, and the House Committee on Public Works—were negligent or incompetent when they reported that legislation favorably.

When these attacks on the collection, on the donor, and on the Smithsonian (and by implication on three committees of the Congress) failed to achieve their purpose, attention was then turned to the architect of the museum and sculpture garden. This distinguished leader of his profession was accused of impropriety and conflict of interest because of his membership on the Commission of Fine Arts. This despite the fact that Mr. Bunshaft, like other members of the Commission under similar circumstances, did not himself present his plans and did not participate in any of the Commission's deliberations thereon. It should be noted that this accusation against Mr. Bunshaft is at the same time a grave accusation against the other distinguished members of the Commission of Fine Arts, suggesting that through friendship or favoritism they failed in the performance of their professional duty.

More recently, the enemies of the Hirshhorn Museum have turned their attention to the General Services Administration, suggesting that the award of the construction contract was improper or even dishonest. Mr. Kunzig's reply to these charges should put them to rest, but presumably the result will be simply to shift the attack to some other front.

These obvious attempts to blacken the name of anyone or everyone associated with the Hirshhorn project have been accompanied by two other equally distasteful tactics. One, which deserves mention only in passing, has been a campaign of truly scurrilous innuendo of a perfectly familiar antisemitic sort. The other has been a consistent distortion of fact about the Hirshhorn Museum and Sculpture Garden. It is suggested, for example, that the location of the museum and sculpture garden somehow make them the equivalent of the Washington Monument and the Lincoln Memorial, and that the use of the donor's name in such a location is an affront to the great heroes of our Nation. The facts are that the museum and sculpture garden are to be located on that part of the Mall

occupied by Smithsonian museums; that there are now six Smithsonian buildings in that area, two of which (the Smithsonian building and the Freer Gallery) are named for donors; that three additional museum buildings are planned in the same area. Again, it is suggested that some $15 million dollars are being spent to build a museum simply to house Mr. Hirshhorn's collection and to serve as a monument to him. The facts are that Mr. Hirshhorn, unlike many donors, has happily accepted the principle that his gift need not be kept inviolate, and has agreed that the trustees should be free to dispose of parts of it in order to add other works of art; and that, therefore, the museum and sculpture garden will house a changing and growing collection.

Again, it has been suggested that the Smithsonian will spend some $2 million a year simply to maintain a memorial to Mr. Hirshhorn. The fact is that this estimated annual budget is based upon a full range of museum activities, including exhibitions, research, and education, befitting a national art museum in the Nation's capital. Instances of similar, presumably deliberate, distortions could be multiplied almost indefinitely.

The sad fact seems to be that the enemies of the Hirshhorn Museum are determined to stop it at any cost. In pursuit of this strange enterprise they are willing to damage the reputations of individuals and of public bodies, and they are willing to play fast and loose with the truth.

Last summer the House Subcommittee on Library and Memorials, chaired by Congressman Frank Thompson, heard testimony on the entire Hirshhorn project. As Congressman Thompson noted on January 28, 1971, "the subcommittee on Library and Memorials did not take issue with the construction of the museum, but directed its criticism solely at the decision to locate a sculpture garden on the Mall." The Smithsonian recognizes that the question of the design and location of the sculpture garden is a serious and legitimate one, and has shown its good faith by working diligently with all concerned to achieve a satisfactory answer. We now believe that we are well on the way to doing so. We trust that the Congress, despite the vicious attacks on this project, will continue to support the museum and sculpture garden that it established, after due deliberation, 4½ years ago.

FREER GALLERY OF ART

Mrs. HANSEN. What is the visitation at the Freer Gallery of Art per year?

Dr. RIPLEY. The Freer visitation, Madam Chairman, is 217,000.

Mrs. HANSEN. This is not a large visitation in the context of other Smithsonian activities.

Dr. RIPLEY. No; it is not.

Mrs. HANSEN. You had a total budget in 1970 of $45,000 for the Freer Gallery of Art and this year you are requesting $80,000?

Dr. RIPLEY. That is correct. We are asking for one position and $21,000. Under the Freer deed of gift Federal funds were to be requested for general support purposes. It has been our feeling that these have been maintained over the years at an absolute minimum.

We are requesting additional support for a clerical position to assist our research in Near Eastern Art on which we have a major collection, and for the purchase of storage equipment and related supplies, $15,000. We believe that we have always maintained the Freer budget essentially on the income of the Freer fund but we have been most prudent in any requests to the Congress for supplementary Federal appropriations.

Mrs. HANSEN. When you compare the total budget, about $2.5 million and the number of visitors, about 6,000,000 of the National Museum of History and Technology with the budget of $80,000 and a visitation per year of 217,000 of the Freer Gallery of Art it seems that the Freer Gallery is receiving a very large amount in comparison.

Dr. RIPLEY. Well, we feel that there is scope, Madam Chairman, within the Mall area for different kinds of museums.

Mrs. HANSEN. This is right.

Dr. RIPLEY. This is a different kind of museum. This is a specialist museum, and for that it is prized around the world. The international reputation of the Freer Gallery is second to none, and it is thought of as the finest collection of Near and Far Eastern Art in the country.

Mrs. HANSEN. I think it is a splendid gallery to have. But I have heard statements made that funds have not been appropriated proportionately to the Freer Gallery as compared with some of your other activities. I think it is in proportion to the kind of visitation and the kind of activity you have at the Freer Gallery.

The committee will adjourn until 2:00 p.m.

AFTERNOON SESSION

CONSTRUCTION COST OF HIRSHHORN SCULPTURE GARDEN

Mrs. HANSEN. The committee will come to order. What portion of your construction costs are related to the Hirshhorn Sculpture Garden?

Mr. BRADLEY. Madam Chairman, the only way we have of estimating that, is that at the time that the sculpture garden bid was taken it was required that the bidders put in an amount just for the garden as a potential deduct alternate. The bids varied. One was $1.2 million, by the firm that is now doing the job, Piracci. Another bidder put in a deduct alternate, as I recall, of $1.4 million and the third bidder put in a deduct alternate of $2.0 million. So we have an uncertainty there because it was bid as a deduct alternate and the bids varied by 100 percent.

COST OF SCULPTURE GARDEN REDESIGN

Mrs. HANSEN. What is the cost of redesigning the sculpture garden?

Mr. BRADLEY. The redesign is estimated to cost $55,000.

Mrs. HANSEN. Do you have funds available within your budget to meet these costs?

Mr. BRADLEY. Yes, Madam Chairman.

ARCHIVES OF AMERICAN ART

Mrs. HANSEN. You are requesting $175,000 for the Archives of American Art. This is a new activity in 1972. Please give the committee the reasons this activity was established and what is involved?

Dr. RIPLEY. I might start, Madam Chairman, if I may, by saying that the reasons for our showing the Archives of American Art as a new, separate line item consists of the fact that this archival organization has its own Board of Trustees, it has a small budget of its own, and the Board of Trustees is committed to assisting us to meet its budget requirements.

The Archives, having been started, has turned out to be a major resource in the history of American painting and American art. As such, it conforms beautifully to the function of the National Collection of Fine Arts, which indeed, as authorized by the Congress, was set up to study and to conduct research on the history of American

art, and also the National Portrait Gallery, which again in its authorization from the Congress was requested to study the history of American Iconography, so that by bringing the Archives to Washington, placing it adjacent to our Library for the National Collection of Fine Arts and the National Portrait Gallery, we have as it were placed the keystone within the arch of the total dimension of the study of the history of American art and American Iconography.

I think that with that introductory remark, I might turn to Mr. Blitzer, who could speak to the issue involved in this budget item.

SIZE OF THE ARCHIVES

Mr. BLITZER. Madam Chairman, let me say first briefly what the Archives consists of. It is a collection of original archival materials about the history of art in this country from the earliest days to the present. It contains approximately 5 million original items of archival material. In addition, it contains or possesses some 3,000 rolls of microfilm of archival material elsewhere, which would perhaps be a total of another 3 million documents on microfilm. It possesses some 30,000 related photographs and some 20,000 printed items, catalogs and reports of institutions and so forth.

I think there is no doubt that it is by far the single greatest archival resource for the study of the history of American art that exists. It is very difficult, I think, to put a monetary value on a collection of this sort. I have been told by people close to it that a value of $2.5 million would be reasonable, but I think more important than that is the fact that it would be simply impossible now to duplicate this collection.

The people who started the Archives in 1954, and the people who have been running it since 1954, have been zealous and very effective in acquiring the papers of the leading artists in this country. They are simply there, and one could no longer acquire these archives or these materials. After very long negotiation it became possible in May of 1970 to bring this to the Smithsonian. The Smithsonian now owns all of the assets as it were of the Archives. All of the archival material and associated equipment, microfilm readers, furniture, and so forth. There also came along with the Archives its own private funds which amounted to several hundred thousand dollars.

The Archives also came with the commitment that the trustees, the people who had founded and presided over the Archives since 1954, would continue to feel a responsibility of providing financial support to it. Our hope, our expectation I should say, is that over the years the Federal contribution will be about equal to the private contribution.

Since the Archives came to the Smithsonian only after the fiscal 1971 budget process was virtually completed, this really is the first opportunity that we have had to bring it to the attention of the Appropriations Committees. During the past year the Archives has been supported by contributions from the budgets of the National Collection of Fine Arts and the National Portrait Gallery to the extent of precisely the same amount that we are now asking in the name of the Archives itself, that is $175,000.

I might say, if I may also, that the rather modest increases that we have requested for the National Collection of Fine Arts and the Na-

tional Portrait Gallery are based on the hope that the Congress will indeed give us this separate funding for the Archives of American Art. If those two galleries are required for another year to maintain the Archives, then I must say that their real needs would be larger than we have shown in their own individual budget requests.

The positions that we are requesting are one GS–15 director; GS–13 area director for the New York area; GS–12 area director for Boston and New England; curator of manuscripts, GS–11, the person in charge of the archival operations here in Washington; and an assistant curator for him, GS–9; three GS–6 secretaries; two GS–5 technicians and one GS–11 archivist. To a large extent these are the people who are responsible for creating this wonderful collection in the first place and we felt the best thing we could do was to bring them along with it. They knew it better and had done such a brilliant job in creating it.

CONSERVATION ANALYTICAL LABORATORY

Mrs. HANSEN. Justify your requested increase of $50,000 for the Conservation Analytical Laboratory.

Dr. RIPLEY. We have a very strong responsibility, Madam Chairman, for conservation work in connection with our museums, as does the National Gallery. We have recently made a tour of these conservation facilities with Senator Pell, who is interested in perhaps proposing some new legislation to enhance the general posture of conservation.

We were delighted to have this expression of interest, and we have, I think, an outstanding conservation laboratory complex. It is a complex of different laboratories, each one in different museums in this area of the eastern part of the States with the exception of New York, where there is the Fine Arts Institute, at New York University. We are requesting three positions and $50,000 for a technician and a small fumatorium chamber. There is a serious problem of insect infestations in the Museum of History and Technology. We are also requesting two additional conservationists, for some 13 million non-biological objects in our collections.

We also are very anxious to get an Ebert Spectrograph for spectrographic analysis. We do lag behind some of the great museums of the country in conservation facilities in the way of sufficient staff and instrumentation, although we are not behind them we believe in terms of quality of personnel.

OFFICE OF THE REGISTRAR

Mrs. HANSEN. Justify your requested increase of $50,000 for the Office of the Registrar.

Dr. RIPLEY. We are seeking a records technician and funds that we need very much for contractual microfilm services.

Mrs. HANSEN. Dr. Ripley, you don't need to continually say, "we need very much." You have done it throughout your presentation.

Dr. RIPLEY. It sounds redundant but it seems to be true. At that 3 percent growth rate we do need many things very much I am afraid. I cited the effects of inflation yesterday.

We have a need to begin duplicating and protecting our documents. I would say that our fire this fall in the Museum of History and Technology reminded us once again of our vulnerability.

HISTORY AND TECHNOLOGY BUILDING FIRE

Mrs. HANSEN. What was the cause of that fire?

Dr. RIPLEY. The cause appears to have been an electrical shortage, a short-like situation in the connections to the computer, which started burning at about 5:00 a.m. on September 30, 1970.

Mrs. HANSEN. You were very fortunate that you didn't have any more damage.

Dr. RIPLEY. We were very fortunate that there were personnel in the immediate area. They heard the noise and were able to react more rapidly than the smoke detection apparatus itself. This was extraordinarily fortunate. But these fires, both this one and the earlier one in 1865, which demolished so many of the Smithsonian's records, remind us constantly that the need for microfilming and copying of important records is very, very great. We need a little bit more for shipping of collections and other materials, and $2,000 is required for mail room supplies and equipment.

HIGHER MAIL COSTS

Mrs. HANSEN. Please insert in the record your projected increased mail costs if postal rates are increased.

Dr. RIPLEY. We will be glad to put this in as part of our record.

(The information follows:)

PROJECTED INCREASED MAIL COSTS

An estimated $165,000 will be spent on postage in fiscal year 1971, of which approximately 90 percent is for first class mail. Although official notice of rate increases has not been received, it is understood that on about May 16, 1971, first class rates will increase from 6 cents to 8 cents and airmail from 10 cents to 11 cents. Other classes will also have increases. On this basis, it may be projected that the Smithsonian's postage costs will increase by approximately 30 percent or an amount of $50,000. To help meet a portion of the higher costs, an amount of $20,000 is requested in the budget justification for the Office of the Treasurer.

FESTIVAL OF AMERICAN FOLKLIFE

Mrs. HANSEN. What costs are inherent in the American Folklife Festival on the Mall?

Dr. RIPLEY. The Folklife Festival is a continuing cost. Mr. Warner, would you like to speak to that?

Mr. WARNER. I would say, Madam Chairman, that most of the program costs, in fact all this year, since we have not asked for any increase of staff or funds for the Division of Performing Arts, are being very well met by outside sources.

Mrs. HANSEN. Such as?

Mr. WARNER. The principal contribution for this year's Festival will be from the State of Ohio. We already have some at hand, but they have pledged a total of $86,000, and will have a feature pavilion at the Festival. The second great source which we are working on right now is AFL–CIO, the different AFL–CIO unions, that is. For ex-

ample, the clothing workers, the shipping unions and various others are going to give us grants which we believe will total near $70,000 for program expenses of the Festival.

Mrs. HANSEN. If you were to bring, for example, the Makah tribe to Washington, D.C. to perform their dances, who would be assessed for their transportation and living expenses?

Mr. WARNER. I believe I can answer that. We have already gotten a donation from a railway.

Mrs. HANSEN. From a railway?

Mr. WARNER. Yes, and from airlines. We are trying to get transportation for some of the performers. We have gotten an offer of $1,500 worth of shipping from the Burlington Northern so far, but that, of course, is for shipping of objects.

Mrs. HANSEN. I was going to say I didn't think there was a passenger train that traveled the length of this country any more.

Dr. RIPLEY. I might add, Madam Chairman, in the past, we have had small matching grants from State arts councils to help get performers to the folk festival.

Mrs. HANSEN. The thing that I am interested in, and most of us are very concerned about, is that you have as many people participating in this program as you can. The Makahs have a culture that I think would be of extreme interest to people in the East.

Dr. RIPLEY. Yes.

AMERICAN COLLEGE THEATER FESTIVAL

Mrs. HANSEN. I don't see anyplace in your budget where you have requested funds for the American College Theater Festival.

Mr. WARNER. We are making our contribution this year, Madam Chairman.

Mrs. HANSEN. You are making a contribution only after a great deal of prodding by this committee.

Mr. WARNER. We have had a difference or two about the budget, with our partners in the Kennedy Center, but we are ironing that out.

Mrs. HANSEN. To what extent did you participate in this activity last year?

Mr. WARNER. We have offered $12,000.

Mrs. HANSEN. I thought more funds were appropriated for this activity last year?

Dr. RIPLEY. No, Madam Chairman, $12,000 was the amount.

Mrs. HANSEN. I think this committee appropriated an increase of $50,000 last year for the division of performing arts.

Mr. WARNER. For both festivals I believe, Madam Chairman.

We requested program money a year ago for both the Folklife Festival and the Drama Festival.

Mrs. HANSEN. What are you requesting this year for the American College Theater Festival?

Mr. WARNER. We did not put any program money in this year.

Mrs. HANSEN. Why?

Mr. WARNER. We thought we would wait and see what was asked of us next year.

Mrs. HANSEN. At a time when the American colleges are under criticism for many of their activities you are not providing funds for an

activity that shows the type of contribution a group of young college people from all over the United States can make? I think you should have requested funds for this activity.

Mr. WARNER. We are supporting the festival.

Mrs. HANSEN. But you can't support it with words.

Mr. WARNER. That is true. We have always taken on the heavy role of production, arranging for rehearsals, meeting the actors, and so on.

Dr. RIPLEY. We do a great deal of physical support; that is, in the personnel time and in particular facilities, trucking, arranging, carrying the materials around town. This is in-house costs.

Mrs. HANSEN. Please insert in the record what an appropriation of $25,000 for the College Theater Festival would accomplish.

(The information follows:)

FUNDS FOR THE AMERCAN COLLEGE FESTIVAL

An appropriation of $25,000 would cover such Washington production costs as theater equipment rentals, backstage crews, box office staff and equipment, and program and ticket printing (total estimated at $17,000), plus about slightly less than half of the Washington living expenses of the festival participants, which total approximately $20,000.

An appropriation of $42,000 would cover all the Washington expenses which the Smithsonian has assumed in past years, with $17,000 for direct production costs, $20,000 for living expenses, and $5,000 for the annual symposium held for critics, faculty, and students.

Mrs. HANSEN. I think as long as the Smithsonian is participating in the Folk Festival, it is no less important to participate in the College Drama Festival.

Dr. RIPLEY. We agree, Madam Chairman, and we had understood that we were committed.

Mrs. HANSEN. This committee appropriated exactly what you asked for last year, an increase of $50,000.

Mr. YATES. They used it for another purpose, Madam Chairman?

Mrs. HANSEN. The total appropriation for this program activity was $210,000.

Mr. WARNER. I might be wrong, but I do remember last year——

Mrs. HANSEN. I know what this committee appropriated for this activity.

Mr. WARNER. I thought we had it broken down in the request document. I know we asked for the Folklife Festival.

Mrs. HANSEN. I remember you requested an increase of $50,000 for the Division of Performing Arts. Your base program appropriation was $160,000 and you requested an increase of $50,000. This committee allowed the $50,000 increase.

Dr. RIPLEY. But I believe the $50,000 was not all for the College Drama Festival.

Mrs. HANSEN. What was requested for the College Theater Festival?

Dr. RIPLEY. $12,000 as I understood it.

Mrs. HANSEN. I think the College Drama Festival is just as important as your Folk Festival.

RELATIONSHIP WITH THE KENNEDY CENTER

Mr. WARNER. I agree. I might say that this year when we started talking with the Kennedy Center it seemed like the whole project

would be self-supporting. That was the initial budget that they gave us. It is not, in fact, and I think perhaps you are right because it is too much to expect these festivals to be self-supporting.

Mrs. HANSEN. I don't think that you should expect the Kennedy Center, which hasn't yet had a full season, to meet the total cost of the College Theater Festival.

Mr. YATES. Is the college festival to be performed at the Kennedy Center?

Mrs. HANSEN. No. This year they have been performing at George Washington University and Ford's Theater.

Mr. WARNER. In the original year we had a tent on the Mall.

Mr. YATES. What is the relationship of the Smithsonian to the Kennedy Center?

Dr. RIPLEY. Under the statute, the Kennedy Center is a bureau of the Smithsonian, but with its independent funds, independent trustees.

(Discussion off the record.)

Mr. YATES. May I ask a question? I noticed in this morning's paper that the movie industry had fallen on hard times. Does Smithsonian's identification with the Division of Performing Arts include any relationship with the movie industry?

Dr. RIPLEY. Not particularly, no. We have some film archives at the Smithsonian but we have no direct relationship. The Kennedy Center has sponsored the American Film Institute, which is directed by George Stevens, Jr., and they have attempted to raise funds for that, but we have not directly done so, although from time to time we have had performances of some of the older archival films.

Mrs. HANSEN. Also the National Endowment for the Arts provides some funds.

Dr. RIPLEY. Yes; that is correct.

ANACOSTIA NEIGHBORHOOD MUSEUM

Mrs. HANSEN. You are requesting an increase of $45,000 for the Anacostia Neighborhood Museum. How many visitations did you have in fiscal year 1970 and how many visitors do you expect in fiscal year 1972?

Mr. WARNER. We had 48,000 total visits, Madam Chairman, in fiscal year 1970, and this year we have 60,000 so far. I should say that we also have a mobile unit. It is sort of a tourmobile with the exhibits which goes out to school districts. That was only in operation for part of last year, so we are doing much better this year with the tourmobile.

Mrs. HANSEN. Don't you also have a craft class at the Anacostia Museum?

Mr. WARNER. We do. and our requested increases are primarily directed to support two full-time teachers, because try as we do with foundations—and we continue to do very well; we have had a total of $191,000, some of it spread over 2 years in foundation grants for special purposes this year—but they don't help us with general operating expenses of the regular teaching activities. It is always special projects, you see, like this wonderful grant we got from HUD, Carnegie Corp., and the Cafritz Foundation, a three-way grant, for the community to determine its own urban problems and then translate them into exhibits. But this grant represents a sort of an overload

task, over and above normal operating, if you see what I mean. We can't get private funds for the operating expenses that we have.

Mrs. HANSEN. How are you going to spend the $45,000?

Mr. WARNER. We are requesting two full-time teachers for further classes. We presently have classes only in ceramics, photography, drawing, and painting. We would like to have two teachers, one for language skills beyond what the children can get in school, and the other teacher for graphic arts, or how to do silk screens, make exhibits, and so on. We would like one deputy director for community relations, because more and more, Madam Chairman, a great number of museums and museumlike institutions come to see the director of the Anacostia Museum with requests for information on how to get this kind of museum started. Anacostia is having a multiplier effect, in other words. Many people are asking: "How do we make exhibits of relevance to minority groups who don't normally go to museums?" We have requested, as you see, an assistant to the director for this multiplier role, which is getting heavier and heavier at the Anacostia Museum.

Dr. RIPLEY. I might point out, Madam Chairman, for the benefit of the gentlemen who are newly on this committee, that the size of the Anacostia Museum is very, very small. It is an abandoned movie theater which we rent, and therefore the visitation of 60,000 is proportionately very great. It is an intensely visited museum as a community project.

Mrs. HANSEN. This is really a neighborhood museum for a great many underprivileged blacks in an area of the city that was almost forgotten. Isn't this true?

Mr. WARNER. That is true.

Mrs. HANSEN. Hasn't this museum done a great deal to improve the problem of crime and the problem of discontent in this area?

Dr. RIPLEY. We take some credit, and I think the District City Council does, too, of the fact that during the riots in 1968 this museum acted as kind of an oasis and offered an atmosphere of calm for several blocks in all directions. It was open in the evening, 9:30 at night, even during the heavy rioting period.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

Mrs. HANSEN. You are requesting $400,000 for the Bicentennial of the American Revolution. Will you give the committee a summary of what your activity will be in this connection during this fiscal year.

Mr. BLITZER. I might start by saying, Madam Chairman, that we have, with the money granted us last year, now set up internal machinery representing all the parts of the Smithsonian, which has worked out a general overall institutional program for the celebration of the bicentennial. I think our program is a very happy combination of ephemeral things like performances and exhibitions leading up to and following 1976, and other activities that we hope to leave as a permanent record of the bicentennial such as national inventories, catalogs, publications and so forth.

Perhaps the simplest way, since it is rather complicated, would be for me to talk about this year's expenditures bureau by bureau, although in doing that I hope you will be aware that this obscures the interrelationships somewhat. I think they are very important.

Mrs. HANSEN. Sometimes your interrelationships are obscure.

PERFORMING ARTS CONTRIBUTIONS

Mr. BLITZER. I think this will be one that we will all be proud of, when it all gets together. The Division of Performing Arts is developing a program which it calls Grass Roots of American Culture which is an attempt first to search out and document performing styles of various kinds from various parts of the country and various ethnic groups. The hope is that among other things in 1976 we will have a kind of super festival of American folklife continuing more or less through the entire year.

They have been given $25,000 out of this $400,000. This now is devoted to preliminary surveys and setting up the machinery for finding the performers and talent that they want around the country.

NATIONAL COLLECTION OF FINE ARTS PARTICIPATION

The National Collection of Fine Arts has a number of projects. The largest I suppose over the years will be its bicentennial inventory of American painting. This is a very ambitious attempt to make a national inventory of painting in America from the beginning until 1914, something that has never been done. We simply don't know what exists. The State of Vermont on its own did this on a very small scale last year and discovered some 300 unknown works of art that were worthy of an exhibition in a museum, for example. When I was back in my office at lunch time I just saw the proof of the brochure that the National Collection plans to send out to 4,000 State and local historical societies, art councils and museums asking for their cooperation in the creation of this inventory. I think apart from the service that it will perform for scholars from 1976 on, it will have two other effects. It will help people all over the country to become aware of their own artistic and cultural heritage, and all of the results will be available to the people who participate with us in making the inventory. It will also make it possible for the National Collection, at the time of the bicentennial in the narrow sense, to have a great exhibition of the history of American art, drawing largely upon works that we probably don't even know about today.

The National Collection of Fine Arts also is developing plans for traveling exhibitions of various kinds tied to the bicentennial. They received this year $50,000 of the $400,000.

BICENTENNIAL ACTIVITY AT THE PORTRAIT GALLERY

The National Portrait Gallery has in a sense a similar enterprise. That is a catalog of portraits of Americans of the Revolutionary era. This is now defined for these purposes as the years from 1770 to 1790. This would be a complete catalog with all available information about all portraits of all Americans painted in that era.

The National Portrait Gallery also has plans for a great exhibition of portraits of George Washington. This will be the first time that all of the known portraits of Washington will have ever been assembled any place for an exhibition. This again will come toward 1976. An amount of $50,000 went to the National Portrait Gallery for this purpose.

UNITED STATES NATIONAL MUSEUM

The U.S. National Museum as an administrative unit was given $10,000 to cooperate with the American Society for State and Local History to help them prepare a kind of guidebook for State and local historical associations for their own use in thinking of ways to celebrate the bicentennial. And $20,000 was allocated to the U.S. National Museum for a plan to transform what we now call the Arts and Industries Building into a kind of replica of the Philadelphia Centennial of 1876. As you know, that building was built largely to house objects that had come from the Philadelphia Centennial Exhibition in 1876, and we feel that between the museums that will document the American past and others like the Air and Space Museum and the Natural History Museum that will talk about the American future, we will have in the Arts and Industries Building a midpoint with a recreation of 1876, using the objects used in 1876 so far as we can.

The Archives of American Art will have $10,000 of the $400,000. Their contribution to this program is a bibliography of the history of American art. The form that that will take will depend, frankly, upon how much money we get in the intervening years. It could be five separate volumes published one year at a time between now and 1976 or, if we don't get adequate money for that, it will be a single volume that will be less useful, but still useful, published in 1976.

ANACOSTIA MUSEUM

The Anacostia Neighborhood Museum received $10,000 of the $400,000. Their particular interest in this is to develop a facility for producing imaginative, low-cost, educational exhibits to be used in institutions like the Anacostia Neighborhood Museum in other parts of the country: innercity museums, community houses, and so forth. With this $10,000 they have hired a consulting firm to help them figure out how to get into the business of producing these exhibits for that kind of audience which they know about—I dare say better—than anyone else in the Smithsonian. That was $10,000.

I am not sure how much I have left out of this.

Mrs. HANSEN. I think you should add it up.

PROJECTS FOR THE INDIANS

Mr. BLITZER. The largest amount was $175,000 that has gone to the Museum of History and Technology. Dr. Boorstin, I think, can talk to that.

Mrs. HANSEN. How much have you allotted for the Indians?

Mr. BLITZER. I would say that the Indians will come in specifically——

Mrs. HANSEN. A poor third.

Mr. BLITZER. No, specifically under two of these headings I should think. One will be the grass roots American culture program of the Division of Performing Arts which I am sure will involve them deeply. The other will be, I think, in the special bicentennial facilities at the Museum of History and Technology.

(Discussion off the record.)

Mrs. HANSEN. You are supposed to be developing an American Indian handbook.

Mr. BLITZER. I should have put that in.

Mrs. HANSEN. That is what I said before, you forget about the Indians. They come in a poor third.

Mr. BLITZER. It is not funded out of this money. That is the reason I omitted it.

Mrs. HANSEN. I want to make sure that you are including all of the American people.

Dr. BOORSTIN. I was going to ask permission to amend your suggestion that they were a poor third and suggest that instead they were a poor first. That is a more accurate description.

Mrs. HANSEN. That is true, but in terms of your activities they are a poor third.

Dr. BOORSTIN. Madam Chairman, I will be glad to indicate what our hopes are for our bicentennial celebration and how we have been spending our money, the money that you have given us in the past.

Mrs. HANSEN. How much has been appropriated to date for this activity?

Dr. RIPLEY. We have had $400,000.

Mrs. HANSEN. The funds you are requesting this year will be your second allotment of $400,000?

Dr. RIPLEY. Yes.

BICENTENNIAL ACCOMPLISHMENTS AND PLANS

Mrs. HANSEN. Please insert in the record what you have specifically accomplished, and what you specifically hope to accomplish this year.

(The information follows:)

SMITHSONIAN INSTITUTION BICENTENNIAL PROGRAM

The Smithsonian Institution's preliminary plans for celebrating the bicentennial of the American Revolution have been approved by the American Revolution Bicentennial Commission. The following is an excerpt from the Commission's Report to the President dated July 4, 1970:

The Commission recommends (*a*) the Smithsonian Institution's plan for a major exhibition in all its museums, to be entitled "The American Experience." This exhibition will include: The Continent and its People, our land at the time of the arrival of the Europeans; First Encounter, the interaction of the European and Indian Cultures; Everyday Life on the Eve of Revolution; Colonial Communications; Colonial Art; the Signers of the Declaration of Independence; the Citizen Soldier of the Revolution; the Portraits of George Washington; the Price of Independence; the risks and opportunities faced by the American people in the Revolutionary era; (*b*) a special feature, in two bicentennial pavilions, will be a Nation of Nations exhibition illustrating the ideas and physical objects brought to America from abroad, and a Nation-to-Nations exhibition displaying the impact of the American experience on other countries; (*c*) the Smithsonian Encyclopedia which will be a one-volume encyclopedia of American history, culture, life, and civilization. The volume will present for the first time an inventory of the range of American achievement from presidential elections to the safety pin; (*d*) a new Smithsonian undertaking on the banks of the Potomac River, a Bicentennial Park, where the life of the Revolutionary citizen soldier will be recreated.

Expenditures in fiscal year 1971 have necessarily been focused primarily upon laying the groundwork for activities spanning the entire Bicentennial era.

ACTUAL EXPENDITURES TO APRIL 1, 1971

EXHIBITIONS AND PERFORMANCES

Architectural feasibility studies for the construction of special structures to house new Bicentennial exhibits at the National Museum of History and Technology; undertaken by Victor Lundy, and con-

sultation services provided by Frank A. Taylor. Mr. Taylor, $4,250. Mr. Lundy, $25,000	$29,250.00
History Map Project. Costs of consultation, travel for research, and design of a history map, exhibit incorporating innovative audio-visual techniques to be featured as a major Bicentennial project	12,025.00
Purchase of specimens, including related materials required for display, and related research for the special exhibitions for the Bicentennial	38,893.50
Corridors of American Experience. A series of time corridors, as distinguished from open exhibition halls, enabling the visitor to experience daily living at several points in American history by involving each of his sensory perceptions. Preliminary planning and development	6,100.00
American Heroes Projection. Purchase of design and equipment for the projection of giant film slides on the exterior walls of the National Museum of History and Technology as an ongoing Bicentennial project	1,973.00
Curatorial examination of private collections and objects located throughout the country for possible acquisition and use in Bicentennial exhibitions	10,767.27
Exhibit of Music Machines—American Style—An exhibit defining and demonstrating mechanized music as an important aspect of American civilization. Production of folders and catalogs	11,095.00
1876 Centennial exhibition, Arts and Industries Building. Fee for researcher, photographic services	20,000.00
Grassroots American Culture Program. Research and consultant expenses, investigations of traditional American expression—American Indian and Spanish-American music and dance, work songs, field hollers, blues, jazz	21,525.00
RESEARCH AND PUBLICATIONS	
Films on Declaration of Independence, Gundelo Philadelphia, "Would You Believe," "Say It Again, Sam!" Scripts, film studio costs, projectors, sound equipment	25,056.74
Payment to the American Association for State and Local History for preparation of a handbook for Bicentennial exhibition planning	10,000.00
The Catalog of American Portraits, cataloguing and processing team, three limited appointments, $10,000. Information and management pilot study in Richmond, Virginia, two limited appointments, $17,950; supplies, equipment, photographic and reproduction services, $7,450; computer costs, $2,000	37,500.00
Bicentennial Inventory of American Paintings Executed Before 1914. Coordinator and researcher, two limited appointments. Fiscal year 1971 portion, $10,000. Supplies, materials, equipment, $3,845.96. Travel, $628.90. Printing 7,500 brochures, $400.00	14,934.86
Bibliography of American Art. Stipends for part-time special staff, design of bibliographic format and sample pages	7,500.00
Bicentennial Park brochure. Punch and binder machine, $250.00. Printing, $9,750	10,000.00
NATIONAL PROGRAMS	
The Image of Revolutionary America. An exhibition of American print making to be circulated to schools, small historical societies, libraries and other places with less than museum facilities. Two limited appointments, $7,170. Photographic services, consultant fees, $7,990.00	15,160.00
Conservation project. A traveling exhibition, probably in an edition of more than one, providing an awareness of contemporary approaches to preserving paintings and sculpture. Stipends for part-time temporary staff, supplies and materials, photographic services	14,850.00
Exhibits design and production laboratory. Fee to Research and Design Institute to determine feasibility of a facility which would allow the Anacostia Neighborhood Museum to design and produce low-cost, exciting exhibitions dealing with the history and contributions of minorities in the United States. These exhibitions would	

circulate throughout the country to other neighborhood museums, storefront operations, etc $10,000.00

ADMINISTRATION

Special assistant for bicentennial planning, Salary 22,000.00

Total 312,129.51

1971 BICENTENNIAL ACTIVITIES AS OF APRIL 1, 1971

Exhibitions and performances	$151,628.77
Research and publications	94,990.74
National programs	40,010.00
Administration	22,000.00
Balance	91,370.49
Total	400,000.00

NOTE.—Some bicentennial activities have not been funded out of this appropriation but contribute to the overall Smithsonian program. These include: the Encyclopedia of North American Indians, Bicentennial Park, and the construction of the National Air and Space Museum.

1972 BICENTENNIAL ACTIVITIES

EXHIBITIONS AND PERFORMANCES

The Price of Independence. An exhibit of the risks and opportunities of independence for the American colonists. A computerized game will be developed to allow the museum visitor to select one of several roles (such as that of a Boston merchant, a Philadelphia laborer, or a Southern planter) and test his decisions against the actual facts of history in the period 1770–1820. In this way he can relive the risks and opportunities of the revolutionary era	$40,000
The Portraits of George Washington. An exhibition(with appropriariate catalogs) of life portraits, political cartoons and cult images during Washington's lifetime down to the present	45,000
The Corridors of American Experience. Further development of this technically complex, major bicentennial exhibition. The look and sound of America in 1750, just before the American Revolution, in 1850, and in 1950	40,000
Colonial Communications. An exhibition on the significance of the colonial printer; colonial, British, and foreign newspapers and their dissemination of news. Attention will be given to the relations of problems of communication to the organization and conduct of the Revolution	30,000
The Signers of the Declaration of Independence. An exhibition of as many of their portraits as extant and available. The exhibit would aim to illustrate the great diversity of individuals involved in the writing and signing of this document in terms of their backgrounds, occupations, personalities, and the fortunes of these men during and after the Revolution	30,000
History Map Project. Construction of this unique and innovative audiovisual presentation	20,000
Colonial Art. The American visage as seen by the foreign-trained sophisticates and by the itinerant painters; New England sign painters; figureheads and scrimshaw; the topographic artists like Christian Remick; the naturalists like William Bartram; historical printmakers like Paul Revere; cartoons and caricatures	25,000
Grassroots American Culture Program. Further investigations of American traditional performing arts leading to performances in Washington and around the country	25,000
The U.S.A.—A Nation of Nations. A major two-part exhibition at the National Museum of History and Technology which will show by means of artifacts and the latest techniques of audiovisual communications: (a) The role of other nations in the development of the United States, and (b) America's contribution to the world	45,000

1876 Centennial exhibition, Arts and Industries Building. Design, location of needed materials, consultant fee $20,000

The Continent and Its People. An exhibition depicting the American continent at the time of the coming of the Europeans—early settlers, Indian tribes, animals, birds and aquatic life, forests and prairie land, rivers and bays and life of the oceans 40,000

RESEARCH AND PUBLICATIONS

The Smithsonian Encyclopedia. A bicentennial project designed to provide an authoritative illustrated one-volume encyclopedia of American history, culture, life, and civilization. It will offer the American people for the first time an inventory of the remarkable range of American achievement. It will include all the usual topics (Presidents, treaties, battles, legislation) in addition to thousands of others (Coca Cola, comic strips, corporate lawyers, safety pin, typewriter, et cetera) for which there is no other accessible authoritative source 50,000

The Catalog of American Portraits. Building upon the experience gained in a successful information collection and management study completed in 1971, researchers will expand efforts to a nationwide scale. Skilled personnel are required to make local contacts, interpret records of collections, make informed decisions on authenticity, and maintain a high standard of quality. The teams will begin the more detailed work of fleshing out art historical and biographical data for each entry into the data bank 100,000

Bicentennial Inventory of American Paintings Executed Before 1914. In 1972 work will be intensified on this massive undertaking to search for and record the whole range of American painting from the earliest years of our history to the present century. Data will begin to arrive from organizations, institutions, and individuals throughout the country. A computer system is used for record storage and display. An annotated directory will be published in 1976 65,000

Bibliography of American Art. Further work on an important and badly needed resource for writers, students, and scholars 20,000

NATIONAL PROGRAMS

Exhibits design and production laboratory. Funds will be required by the Anacostia Neighborhood Museum to establish the new facility and produce prototype exhibitions 40,000

Conservation project. Design and production of a traveling exhibition illustrating various types and causes of the deterioration of works of art, stages and techniques of examination, and remedial approaches to be used in conservation treatment 20,000

The Image of Revolutionary America. Completion of design and production of a circulating exhibition of American print making for non-museum settings 15,000

ADMINISTRATION

Special assistant for bicentennial planning. Salary 24,000

Total ..... [1] 694,000

[1] The bureaus involved in these activities have calculated the difference between this required amount and the $400,000 requested in the fiscal year 1972 budget and will meet the difference from their regular operating funds.

1972 BICENTENNIAL ACTIVITIES

Exhibitions and performances	$360,000
Research and publications	235,000
National programs	75,000
Administration	24,000
Total	694,000

NOTE.—Some bicentennial activities have not been funded out of this appropriation but contribute to the overall Smithsonian program. These include: the Encyclopedia of North American Indians, Bicentennial Park, and the construction of the National Air and Space Museum.

Mr. BLITZER. If I may say so, we have tried to be as scrupulous as possible to avoid subsidizing normal activities. If anything I would say that these bureaus have in fact been subsidizing bicentennial activities.

Mrs. HANSEN. That is not inappropriate.

Mr. BLITZER. No, not at all.

BICENTENNIAL RESPONSIBILITY OF THE MUSEUM OF HISTORY AND TECHNOLOGY

Dr. BOORSTIN. Madam Chairman, may I make a statement at least for purpose of clarification, indicating what the scope of the bicentennial celebration is and of our responsibility in it as we have seen it, which has been guiding our expenditures and our plans.

We have conceived that our role is at least threefold. First, to help people become better informed about the era of the American Revolution defined in a very general way from about the middle of the 18th century at least until the framing of the Constitution. We have been aiming to collect objects and to devise new means for interpreting that era.

But we have also thought, and it has been our understanding that it was the intention of the Congress, that we should conceive, and I also know that it has been the intention of the President's Bicentennial Commission, that we should also conceive our role to be the interpretation of the American experience, an attempt to make more total our understanding of the contributions of all sorts of Americans, Indians, Negroes, and all other racial and religious groups, and that we should also make an effort to sum up and interpret the American achievement during the two centuries of the Nation.

Mrs. HANSEN. I think if the celebration in 1976 does just one thing it should exemplify the unity of the American people.

Dr. BOORSTIN. We hope to use our resources to dramatize that unity and pluralism of the American people.

Mrs. HANSEN. If you can tell me what the American Revolution Bicentennial Commission has in mind, I would really appreciate it. They didn't make what I would call a good presentation before the committee when they testified this year.

Dr. BOORSTIN. Is that a question, Madam Chairman?

Mrs. HANSEN. No, it is a statement.

(Discussion off the record.)

Dr. BOORSTIN. It is our purpose to use this as an occasion to underline and explore the role of all Americans in the Revolution and in the making of the Nation. This means we should not accentuate the evils of segregation by undertaking exhibits of a segregated character.

Mrs. HANSEN. That is the point I am trying to make that the American Revolution was not fought by a group of minorities. It was fought by Americans. Of course minority groups did contribute a large part to the American Revolution.

However, the thing that has concerned me through the last 50 years, is that we are making minorities out of Americans, which we should not be doing. I hope that the goal of the bicentennial is to unite all of us together as Americans.

Mr. YATES. In looking at pages 88–A–90, without denigrating the others who have prepared this justification, I want to congratulate the person who prepared these two pages because I found them fascinating.

Mrs. HANSEN. They have some of the best rhetoric in their justifications as any agency in the Federal Government.

Dr. BOORSTIN. May I just add that the combining of all people and the opportunity of people to affiliate, people from remote parts of the world of different races and religions is something that we should also commemorate in the American achievement, not only in the events of the Revolution but in interpreting what has been accomplished.

Mrs. HANSEN. You find not one word in the Constitution of the United States about minorities. It is a country of all the people.

Dr. BOORSTIN. Exactly.

ENVIRONMENTAL SCIENCES PROGRAM

Mrs. HANSEN. Justify your requested increase of $225,000 for the environmental sciences program.

Dr. RIPLEY. Dr. Challinor, would you like to speak to that?

Dr. CHALLINOR. Madam Chairman, this is one of the more interesting programs that we have attempted at the Smithsonian. Following your suggestion that we curtail the drawing of lines, this is exactly what this particular program is trying to accomplish. As you know, the science bureaus of the Smithsonian consist of the Radiation Biology Laboratory, Tropical Research Institute, the Zoo, the Museum of Natural History, and the Astrophysical Observatory. Here is an opportunity that has already been underway for 1 year to bring these various and rather diverse science bureaus into one major program dealing with the environment.

In this past year we have set up our specific programs, and two areas in which we plan to concentrate. To carry this program out, we are asking for five new positions and a $225,000 increase.

Mrs. HANSEN. I don't think you would find these types of people if unemployment wasn't as it is today.

Dr. CHALLINOR. The sort of people we are looking for are indeed rather difficult to find, with the qualities that we really require. We are now going to concentrate on what we call the shallow water marine environment. This is an area in which a great deal of the productivity of the earth takes place. You have the solar enegy coming right down on the water reaching the bottom. When we are talking about shallow water we are talking about probably less than 3 or 4 meters.

These waters are replenished by the nutrients that run off from the adjacent land, and we have at the Smithsonian, under Institution control, two very suitable areas to carry out the long-term research that we intend to do, one in Panama at our two marine facilities there, and the other at the Chesapeake Bay Center, which has about 12 miles of shore frontage on the Rhode River estuary.

COOPERATIVE RESEARCH

Mrs. HANSEN. Did you notice in the paper this morning that, I believe, the State of Maryland is trying to acquire some land for research in almost the identical area that you plan to acquire land?

Dr. CHALLINOR. Madam Chairman, that may be referring to an area that the State is attempting to acquire for the University of Maryland for long-term ecological research. I believe that is on the opposite side of the Chesapeake Bay from us on the Eastern Shore, near Cambridge.

Mrs. HANSEN. It is in the Chesapeake Bay area?

Dr. CHALLINOR. Yes; the last report was that it was some months or perhaps even a year to realization, to the actual acquisition of this land. They have been negotiating for this for several months now. At the Smithsonian facility on the Chesapeake we have scientists from the University of Maryland working there. This effort of the Smithsonian involving all our bureaus is an attempt to gather the expertise of the astrophysicists, of the radiation biologists, and of the biologists to combine, to get a really clear, global understanding of what is happening to the environment. This is an exciting situation, because there is no other institution that I am aware of in the whole world that has radiation biologists and astrophysicists as well as the systematic biologists that we have in the Natural History Museum.

As you pointed out so clearly, the necessity for curtailing the drawing of lines, we know have astrophysicists sitting down with taxonomic biologists to see how they together can combine their research to understand what is happening to our entire globe. This is what we are endeavoring to do, initially concentrating on two areas where the Smithsonian has facilities. The research will not necessarily be confined to these two areas, but this is where we initially plan to start because we have these available to us and they are particularly suitable for the work which we plan to carry out.

MAJOR EXHIBITIONS PROGRAM

Mrs. HANSEN. You are requesting $525,000 for Major Exhibitions program which is a new activity. Please give the committee a detailed summary of what is involved in this request.

Dr. RIPLEY. Madam Chairman, in preceding years, ending in the early 1960's, the Museum of Natural History embarked on a large scale reexamination of its halls of exhibition. Subsequent to that date, no particular funds have been requested for renovation or redoing of exhibits. We have an exhibit area, a hall, which has been emptied by the move of the National Collection of Fine Arts to the Patent Office Building. In this hall in connection with our primary interest in environmental studies and environmental education through exhibits, we would like to prepare an exhibit which would be finished in about 18 months. Its subject would be the "World of Living Things". This exhibition would be the first attempt to present ideas with objects used as illustrations rather than the object orientation of many current exhibit halls. It would also be the first truly interdisciplinary exhibit to be planned for the National Museum of Natural History which, as you know, has well over 3 million visitors a year.

We refer to this hall as our first environmental exhibit, because the principal objective is to help visitors develop a new level of awareness of their surroundings. Having generated better informed visitors, the exhibit concludes with the presentation of options for action by the individual visitor. In other words, the exhibit gives a visitor the chance to visualize how they, themselves, would like to

behave as an individual in regard to their environmental surroundings. This is a novel and a distinct kind of presentation. The only comparable one is an exhibit done in New York a couple of years ago at the Museum of Natural History, at I may say considerably greater cost than this, which we believe we can surpass with new technology and with the advantage of having had a kind of pioneer exhibit done by them.

It will contain hundreds of specimens, illustrations, and models, each identified and related to each other by the presentation of scientific knowledge. The relationship of planet earth, for example, to the sun as a source of energy will be related to energy flow in a community of cave insects. The insects, some almost microscopic, will be shown 25 times life size to demonstrate highly specialized adaptations for life in a community of darkness, and also to give the visitor a concept of what it is like to be an insect in a cave adapted to cave life. These techniques will be very dramatic and very helpful for young people, for students, and for people who are concerned with teaching ecology courses.

In a large area of the exhibit, structural and behavorial adaptations of living things—man, of course, is included—will be presented, using all types of communication techniques. Another area, "The Preciousness of Life" as it is sub-titled, will provide an introduction to genetics and show man as the supersurvivor of other forms of life that have become extinct through natural causes. This will be followed by an extensive exhibit presentation illustrating man's ability to upset natural balances, and, most importantly, man's ability to recognize what is happening, and, perhaps, to correct it.

We will end the exhibit with the best available information on current ecological problems and suggest how each individual can help through action or conservation groups, support of pending legislation, and local educational projects.

I believe that this kind of core exhibition is one that will utilize the resources of our collections in a new and very novel way, and the expert knowledge which is possessed by our curators. This exhibition will have a long term educational impact for schools, for the public, and would be one of the really fruitful things that the Institution could do.

National Museum Act

Mrs. Hansen. You are requesting $1 million for the National Museum Act which is also a new activity. We discussed this program earlier, but I would like to know why is it necessary to give $100,000 to the National Endowment for the Arts and to the National Endowment for the Humanities for this work when they receive their own appropriations for this activity?

Dr. Ripley. This provision was introduced, Madam Chairman, on the Senate side as an amendment to the act as sent in for reauthorization. As you know, the act was reauthorized in December 1970. A suggested budget of $1 million for this activity was included which followed the recommendation of the Belmont report, the report on American museum needs. The Belmont report was closely correlated with similar reports on activities of museum support given for the arts and humanities endowment as a whole.

We were happy to comply with this amendment, knowing that through the Federal Council on the Arts and Humanities, on which I sit along with directors of the arts and humanities endowments and other agency heads, we would be able to coordinate the use of any such funds for the strict purposes of the act, that is for the training and supplementing of experience of museum technicians for courses in museum exhibit preparation and for other purposes as encompassed in the act.

Both the arts and humanities endowments do have supplementary programs in support of museums, and we would hope that through the correlative activities of the Federal Council this support for the arts and humanities endowments, which is rather small, would tie more closely together the work of the three institutions.

CURRENT MUSEUM ACT ACTIVITY

Mrs. HANSEN. It is a small amount, but the point is I think we wanted to know how the programs will be integrated. What direct grants if any would be made to museums throughout the Nation, how will they qualify, how will priorities be drawn, and what supervision will the Smithsonian exert to make certain that the funds are being used properly?

Dr. RIPLEY. In fiscal year 1970 Congress appropriated about $40,000, and in fiscal year 1971 an additional $35,000 for purposes related to National Museum Act activity. These funds have been provided from our general salaries and expenses appropriation to the Smithsonian as part of the funds requested for the Office of the Director General of Museums, now the Office of Museum programs.

In fiscal year 1971, the Smithsonian will spend an estimated $82,000 on programs in support of the act. Briefly these programs and their level of funding are as follows: $20,000 for a documentation and statistical study of museum problems through the American Association of Museums; $15,000 through the American Association for State and Local History for research in museum techniques and administration; $42,000 for support of regional conferences of the American Association of Museums, to which I referred yesterday in connection with training grants, studies, and visits by teams of specialists to these conferences, and the International Council of Museums; and $5,000 for publication and training in conservation.

USE OF FUNDS IN FISCAL YEAR 1972

If such funds as are requested for fiscal 1972 are appropriated, specifically the Smithsonian would apply the $75,000 already in its base to such important needs as surveys of its visitors, research and development of improved exhibits techniques, and other projects designed to improve our own public education programs.

Then we would begin the development of museum support programs including studies on technology to catalog museum holdings in science, history, and art on a national level. Museum professionals scientists, historians, and other scholars, who use museum collections in their research are much concerned with the need to make these collections more accessible through more comprehensive cataloging.

We estimate that this kind of study on the development of such catalogs would account for about $240,000 of the $1,000,000 requested.

In addition, there is the need for conservation of museum collections which has already been documented in other connections. We think that museum laboratory centers should be established in various locations throughout the United States.

Mrs. HANSEN. Do you plan this in the regional areas of the country?

Dr. RIPLEY. Only through other museums, not through ourselves. All of this work, I might add, would be supervised by a board of outside museum directors and authorities to be appointed by us in conjunction with the American Association of Museums. Such a review board would be similar in purpose and nature to boards that we already have for foreign currency appropriation uses, or that the National Science Foundation has for their granting activities. For such laboratory centers, we are requesting $130,000.

I think that the most urgent need that is constantly expressed to us is for the development of training courses for museum technicians. For this, an amount of $100,000 in the first year would allow us to fund some 20 trainees.

We also need to work on the general problem of communications in museums for the viewer, to make museums of greater use to schools, colleges, and universities; to make these resources available to disadvantaged people in communities; and to experiment with and evaluate these functions. For this we are requesting $150,000.

I think that manuals of instruction on design and preparation of exhibits, which I have already mentioned, are greatly needed, and that in this area funding of $75,000 would take care of a first effort to print and reproduce manuals, photo essays, film strips, and similar materials for such purposes.

For the administration of this program, we would need about $27,000 and three positions. Out of the whole amount, this seems to us to be the minimum amount required. For this small staff and advisory committee of museum experts coming from outside Washington, we would need travel funds, $20,000; for transportation of goods to museums about $18,000; for communications and data processing equipment, $15,000; for supplies, $10,000; and for other equipment, $15,000 for a total of $78,000.

Then, finally, we are, under the Act, requesting $100,000 each for the two endowments for their planned programs of museum support. We have their justifications and if you wish, Madam Chairman, we would put them in the record.

(The information follows:)

NATIONAL ENDOWMENT FOR THE ARTS

Proposal for utilization of $100,000 in fiscal year 1972, if appropriated under National Museum Act.

In the proposed appropriation for the National Museum Act, the transfer of $100,000 to the National Endowment for the Arts would greatly strengthen the Endowment's program for museum aid. The proposed purposes for the use of the funds are fully in accord with the policies for museum aid adopted by the National Council on the Arts at its meeting last November. The National Endowment for the Arts would utilize the proposed funds for the following two projects.

1. MUSEUM CAREER TRAINING

The need for better trained museum personnel is becoming urgent. The Belmont Report documented this need and placed museum training among the top priorities of museum assistance programs. Demands on Museums have continued to grow dramatically, and the situation is critical.

In response to this need, new facilties for museum training are becoming available all over the country as universities expand their museums (e.g., Berkeley, University of Wisconsin, Cornell University) and cooperative efforts between universities and museums are initiated (e.g., University of Delaware and Winterthur Museum, U.C.L.A. and the Los Angeles County Museum, N.Y.U. and the Metropolitan Museum). Never before has there been such an opportunity to build valuable programs of museum training through Federal support.

Several Federal agencies have seen this opportunity and the National Endowment for the Arts has already allocated $200,000 in fiscal year 1971 for museum training programs which will complement those of the National Endownment for the Humanities and the Smithsonian Institution. These funds will be used to assist leading training programs already in existence and to explore new methods of providing trained personnel on various professional and teaching levels by providing pilot grants for new programs of high potential value. Funds from the National Museum Act could be used to enlarge the scale of the Endownment's museum training support and to encourage the establishment of new museum training centers through the cooperative efforts of universities and museums. (Proposed: $40,000 Museum Act Funds)

2. MUSEUM PUBLICATIONS

Many important collections of art, science and history museums are virtually unknown to the public because they have never been properly catalogued and published. Many exhibitions of international significance have had only local impact because funds were not avaiable for publishing and distributing scholarly catalogues. Two of the principal museum programs of the Endowment for the Arts relate to scholarly publication in both of these areas. Its Aid to Special Exhibitions Program assists museums to organize substantial exhibitions with appropriate catalogues, and its Traveling Scholars Program provides funds for museums to catalogue and publish unresearch collections. Funds made avaliable through the National Museum Act could enhance both of these programs. (Proposed: $60,000 Museum Act Funds)

NATIONAL ENDOWMENT FOR THE HUMANITIES

Proposal for utilization of $100,000 in fiscal year 1972, if appropriated under National Museum Act.

CONSULTANT SERVICE FOR EDUCATIONAL ACTIVITIES OF SMALLER HISTORICAL MUSEUMS

It is clear that a central need of historical museums, particularly smaller ones, is for better trained personnel. In the past 4 years the National Endowment for the Humanities has contributed to improvement of the situation through two types of programs: a university fellowship program to attract and prepare students for entering into professional careers with museums; seminars to upgrade the capacities of personnel who are already employed with museums and historical associations.

A third type of program would be very useful, as a complement to the two described—a program to bring highly competent consultants, for brief but intensive periods, directly to the smaller museums which most need guidance. The central purpose of the consultants would be to improve the abilities of the museum personnel in interpreting and presenting their own collections for public education.

The consultants should be qualified to give instruction and advice on how to present exhibits in a way that is meaningful and relevant for the public. Presentations should permit the public to view objects not just as isolated curiosities, but as sources for a broader historical perspective. Before this can be effectively accomplished however, museum personnel themselves need to have deeper understanding of how to relate their collections to wider historical developments, and

how to utilize those collections as a springboard for fruitful discussion and reading.

An institution or association with capacity to organize and administer this consultant program would be selected as a grantee. It in turn would be required to seek the advice of other scholarly and professional groups, in establishing program guidelines, and selecting well-qualified consultants.

The choice of consultants would of course be crucial. They would need to have substantial backgrounds in history, particularly American history, and at the same time they would have to have knowledge and interest in the educational roles of museums. Furthermore, they would need to be willing to assume this kind of activity on a full-time basis for a period of 6 months to 1 year.

An amount of $100,000 would permit one 1-week consultant visit to each of 120 small museums during a period of 1 year (or if preferable, an initial 1-week session, and a followup 1-week session some months later, for each of 60 museums). This calculation is based on the assumption of a full year's employment of three consultants, each spending about 6 weeks in preparation, and each making 40 1-week visits. The home bases of the three consultants would be geographically spread, and each would work in an assigned region. (For each the cost is estimated at $29,000: $15,000 salary; $8,000 travel; $6,000 per diem.) An amount of $13,000 would remain available to meet the costs of the administering organization—the costs of consultant selection and orientation, preparation of descriptive materials for museums, scheduling of visits, evaluation of museums' and consultants' reports, etc.

Mrs. HANSEN. How many organized museums are there in the United States?

Dr. RIPLEY. We estimate at the moment that there are approximately 6,000 museums.

Mrs. HANSEN. How many States are they distributed in?

Dr. RIPLEY. Through the entire Nation. These are visited by almost 600 million people annually.

ACADEMIC AND EDUCATIONAL PROGRAMS

Mrs. HANSEN. Under your academic and educational programs you are requesting a $55,000 increase for graduate studies. What does this additional funding involve?

Dr. RIPLEY. I would like to ask Mr. Warner to speak to that.

Mr. WARNER. The $55,000 additional funding for graduate studies would provide next fiscal year two postdoctoral fellows in environmental sciences and systematic biology and two predoctoral appointments in American history and art, and 10 short-term graduate student summer appointments. That is it in essence. In other words, it is a graduated increase for the predoctoral and postdoctoral fellowships, and for the summer appointments we used to do with our private money. These are graduate students for summer job experience with the scientists at the Smithsonian. We haven't been able to carry out this program for 2 years. We would like to resuscitate it. Built into the $55,000 increase are 10 summer appointments at $2,000 each.

Mrs. HANSEN. This is $2,000 per summer for each person?

Mr. WARNER. Yes.

Mrs. HANSEN. How long is the summer program?

Mr. WARNER. Roughly from when they get out of college to about Labor Day.

ELEMENTARY AND SECONDARY EDUCATION PROGRAM

Mrs. HANSEN. Justify your requested increase of $60,000 for elementary and secondary education.

Mr. WARNER. Essentially, Madam Chairman, I think the graph in our budget that shows the growth of subject matter tours and trained docents tells the story. That is to say, we have a great many volunteer teachers from our associates membership organization, and others, but we do need more professional teachers or staff associates. We need teachers to instruct these volunteer teachers in new subject areas. We have more and more volunteers who say they would like to conduct these museum tours, but as you see from the graph, the number of subjects areas on which we are prepared to give guided tours has remained rather static. We are requesting two new staff associates so we can give a greater variety to our offering. We also require an additional tour scheduler because some days schools complain to us that they try to telephone us for 3 days in a row before they can finally get through to our scheduling office at the peak seasons. The tours that we give are very popular with the schools.

RESEARCH AWARDS PROGRAM

Mrs. HANSEN. You are requesting an increase of $50,000 for your research awards program. Please explain what is involved in this request.

Dr. CHALLINOR. Madam Chairman, we have asked for $50,000 extra for this year. The amount of $400,000 has remained static since 1967. In 1966, the National Science Foundation instituted a limitation on the amount of awards they could make to scientists who are supported by the Federal Government. The Smithsonian research awards program was established in that year to allow Smithsonian scientists to compete for research money that would normally have been funded directly from the National Science Foundation.

Mrs. HANSEN. How much does each of the scientists receive?

Dr. CHALLINOR. Madam Chairman. Each year we fund about 40 proposals, figuring roughly on an average of $10,000 each.

Mrs. HANSEN. How long do these projects last and what are some of the typical proposals?

Dr. CHALLINOR. These projects are normally funded on a year-to-year basis. In the current year, for the first time, we permitted research proposals to be submitted that would be on a more continuing basis. In other words, we found that when we awarded simply on a 1-year grant, the scientists often required as much as a year to get the equipment together and to get the project underway. So we are allowing multiyear proposals now. Among the awards that we have made are, for example, for research in tropical snakes and lizards. I have the list of publications that resulted from this program which I will be happy to put in the record.

(The information follows:)

RESEARCH AWARDS PROGRAM—LIST OF PUBLICATIONS

NMNH/INVERTEBRATE ZOOLOGY

Grant No. Sg 0682008—Bowman, Thomas and McCain, John C.: *Paracaprella barnardi*, a new species of caprellid (Crustacea: Amphipoda) from the West Coast of Panama. Proc. Biol. Soc. Washington, Vol 80, pp. 219–223, 1967.

Grant No. Sg 0682009—Cressey, Roger F.: Caligoid copeoda parasitic on *Isurus oxyrinchus* with an example of habitat shift. Proc. U.S. Nat. Mus., Vol. 125, No. 3653, pp. 1–26, 1968.

Grant No. Sg 0683026—Hope, W. Duane: Free-living nematodes of the general *Pseudocella* Filipjev, 1927, *Thoracostoma* Marion, 1870, and *Deontostoma* Filipjev, 1916 (Nematoda: Leptosomatidea) from the west cost of North America. Tran. Amer. Microscop. Sec., Vol. 86, No. 3, pp. 307–334, 1967.

Grant No. Sg 0682010, Sg 0682012—Manning, Raymond B.: *Nannosquilla anomala*, a new stomatopod crustacean from California. Proc. Biol. Soc. Washington, Vol. 80, pp. 147–150, 1967. Review of the genus *Odentodactylus* (Crustacea: Stompoda). Proc. U.S. Nat. Mus., Vol. 123, No. 3606, pp. 1–35, 1967. Notes on the demanll section of genus *Gonodactylus* Berthold with descriptions of three new (Crustacea: Stomatopoda). Proc. U.S. Nat. Mus., Vol. 123, No. 3618, pp. 1–27, 1967. Stomotopod Crustacea from Madagascar. Proc. U.S. Nat. Mus., Vol. 124, No. 3641, pp. 1–61, 1968. A version of the family squillide (Crustacea, Stomatopoda) with the description of eight new genera. Bull. Mar. Sci., Vol. 18, No. 1, pp. 105–142.

Grant No. Sg 0681027, Sg 0681027/C1—Pawson, David L. and Downey, Maureen E.: Catalog of Recent Ophivroid Type Specimens in major collections of the United States. (in press—should be published in FY 1970). Catalog of the Asteroids. (in preparation and should be ready for press early 1970).

Grant No. Sg 0684025, Sg 0684025/C1—Rosewater, J.: Reinstatement of Melarhaphe Menke, 1828. The Nautilus, Vol. 80, No. 2, pp. 37–38, September, 1966. Indo-West Pacific Littorinidae. American Malacological Union Annual Reports for 1966. Bull. 33, p. 27, January, 1967. Itinerary of the Voyage of H.M.S. Blossom. The Veliger, Vol. 10, No. 4, pp. 350–352, April, 1968.

Principal Research Papers to be Submitted for publication 1969–1970:

Parts 1 and 2 of a monograph of the Family Littorinidae in the Indo-Pacific (scheduled for publication in the Journal *Indo-Pacific* Mollusca).

Grant No. Sg 0684033, Sg 0684033/C1, Sg 0684033/C2—Waller, Thomas R.: Two Fortran II Programs for the Univariate and Bivaviate Analysis of Morphometric Data. USNM Bull. 285, 1968.

Waller, Thomas R.: The Evolution of the Argopecten Gibbus Stock (Mollusca. Bivalvia), with emphasis on the Tertiary and Quaternary Species of Eastern North America. The Paleontological Society, Memoir 3, 125 pgs. V. 43, Supp. to No. 5, Sept. 1969.

NMNH/PALFOBIOLOGY

Grant No. Sg 0651034—Buzas, Martin A.: On the spatial Distribution of Forminifera. Contributions from the Cushman Foundation for Forminiferal Research. Volume XIX, Part 1, Jan. 1968, 11 p. Forminiferal Species Densities and Environmental variables in an Estuary. Limnology & Oceanography, Vol. 14, No. 3, May 1969, pp. 411–422.

Grant No. Sg 0651036—Cheetham, Alan H.: Morphology and Systematics of the Bryozoa Genus *Metrarhabootos*. Smith. Misc. Coll., V. 153, No. 1, pp. 1–121, 18 pls., 24 figs.

Grant No. Sg 0651035:

Cifelli, Richard, Blow, Walter H., and Melson, William G.: Paleogene Sediment from a Fracture Zone of the Mid-Atlantic Ridge. Journal of Marine Research, Volume 26, 2, 1968, p. 105–109.

Cifelli, Richard, Melson, W. G., Thompson, G., and Bowen, V. T.: Lithified carbonates from the Deep-Sea of the Equatorial Atlantic. Journal of Sedimentary Petrology, Vol. 38, No. 4, pp. 1305–1312, Figs. 1–2, December, 1968.

Cifelli, Richard: Distributional Analysis of North Atlantic Foraminifera collected in 1961 during Cruises 17 and 21 of the R/V *Chain*. Contr. Cush. Found. Foram. Res., pp. 118–127—1967.

Cifelli, Richard and Sacks, K. N.: Abundance Relationships of Planktonic Foraminifera and Radiolaric. Deep Sea Research, pp. 751–53, 1966.

Cifelli, Richard, Bowen, V. T., and Siever, R.: Cemented Foraminiferal oozes from the Mid-Atlantic Ridge. Nature, pp. 32–34, 1966.

Cifelli, Richard: Late Tertiary Planktonic Foriminifera Associates with a Basaltic Boulder from the Mid-Atlantic Ridge. Jour. Marine Res., pp. 78–87, 1965.

Grant No. Sg 0653051:

Hueber, Francis M. and Banks, H. P.: *Psilophyton Princeps:* The search for Organic Connection. Taxon, Utrecht, Netherlands 16(2): 81:85, 1967.

Hueber, F. M.: Psilophyton: The Genus and the Concept. International Symposium on the Devonia System. pp. 815–822, 1967.

Hueber, F. M. and Grierson, J. D.: Devonian Lycopods from Northern New Brunswick. International Symposium on the Devonian System. pp. 823–836, 1967. Grant No. Sg 0651032:

Kauffman, E. G., Dane, C. H., and Cobban, W. A.: Stratigraphy and regional relationships of a reference section for the Juana Lopez Member, Mancos Shale, in the San Juan Basin, New Mexico. U.S. Geol. Surv. Bull., 1224–H, 15 pp. 3 figs. 1966.

Kauffman, E. G.: Evolution and ecology of Cretaceous *Thyasira* (Bivalvia, Lucinacea) from the Western Interior. Abstract, Prog. Ann. Meeting, Geol. Soc. America, 1966, San Francisco, p. 105. Cretaceous *Thyasira* from the Western Interior of North America. Smithsonian Misc. Coll. Vol. 152, No. 1, 159 p., 5 pls., 18 figs. 7 tabl. Notes on the Cretaceous Inoceramidge of Jamaica. Geonotes, Jam. Geol. Surv., 15 p. 1 tab., June, 1967. Coloradoan macroinvertebrate assemblages, Central Western Interior, United States. Abstr. Geol. Soc. America, Program and Bull., Sect. Meetings, May 10–13, 1967, 1 p. Coloradoan macroinvertebrate assemblages, Central Western Interior, United States; *in* Paleoneviromments of the Cretaceous Seaway in the Western Interiors; a Symposium. Ed., E. G. Kauffman, H. E. Kent, Colo. Sch. Mincs Pub., p. 67–143, 12 figs. 1967.

Kauffman, E. G., Dane, C. H., and Cobban, E. G., and W. A.: Semilla Sandstone, a new member of the Mancos Shale in the Southeastern part of the San Juan Basin, New Mexico, U.S. Geol. Surv. Bull. 1254–F. Contrib. to Stratigraphy 21 pp., 4 figs 1968.

Kauffman, E. G. and Kent, H. C.: Cretaceous biostratigraphy of Western Interior United States; Abstr. 1968 Ann. Mtng. Geol. Soc., Soc. America, Mexico City, p. 156. 1968.

Kauffman, E. G.: Biostratigraphy and assemblages of Antillean Cretaceous Bivalvia; Abst. 5th Carib. Geol. Conf., St. Thomas, 2 pp. 1968. Form, function and evolution; *in* Treatise on Invertebrate Paleontology. Ed., R. C. Moore: Bivalvia, 147 pp., 17 figs, 1969. The Cretaceous *Inoceramus* of Puerto Rico; Proc. 4th Caribbean Geol. Conf., Trinidad, 1965, 40 ms. p.; 6 figs., 2 pls. 1969. Systematics and evolutionary position of a new Tertiary *Thyasira* from Alaska. Jour. Paleont., 33 ms. pp.; 5 figs., 1 pl. Population Systematics, radiometrics and zonation, a new biostratigraphy. Abstr. N. American Paleontological Convention, Sept., Chicago, 2 ms. pp. 1969. Biostratigraphy and assemblages of Antillean Cretaceous Bivalvia, Proc. Vol. 5th Carib. Geol. Conf. 10 ms. pp., 3 figs., 1969.

Manuscripts in progress, completion expected by May 1970 (all fully supported—in order of expected completion):

(1) Systematics, evolution and ecology of North American Inoceramid genera.

(2) Morphology, anafomy and habitat of Recent Isognomon idae (with K. J. Boss)

(3) Cretaceous Inoceramidae of the Caribbean.

(4) Lower Cretaceous Inoceramidae of Texas.

(5) Systematics and evolution of Paleogene *Astarte* from the Middle Atlantic Coast (with C. H. Buddenhagen).

(6) Jurassic Inoceramidae of Alaska.

(1) Systematics, evolution and ecology of North American Inoceramid genera.

(2) Morphology, anafomy and habitat of Recent Isognomon idae (with K. J. Boss)

Cretaceous Inoceramidae of te Caribbean.

(4) Lower Cretaceous Inoceramidae of Texas.

(5) Systematics and evolution of Paleogene *Astarte* from the Middle Atlantic Coast (with C. H. Buddenhagen).

(6) Jurassic Inoceramidae of Alaska.

(7) Lower Cretaceous Inoceramidae of Western Interior North America and Alaska.

(8) Cenomanian-Turonian Inoceramidae of North America.

(9) Systematics and evolution of Paleocene *Crassatella* from Maryland (with R. Sikora).

(10) Coniacian Inoceramidae of Western Interior North America.

Partially supported:

(1) Cretaceous biostratigraphy of the Western United States (with several coauthors).

(2) Cenomanian-Turonian Stratigraphy of Cimarron County, Oklahoma (with J. D. Powell, D. C. Hattin).

(3) Revision of Coloradian stratigraphy in the central Western Interior United States (with D. C. Hattin).

(4) Stratigraphy of the Dakota Group in central and eastern Colorado (with K. M. Waage).

Grant No. Sg 0654019, Sg 0654019/C1:

Pierce, J. W. and Roberts, W. P.: Outcrop of the Yorktown Formation (Upper Miocene) in Onslow Bay, North Carolina. Southeastern Geol. V. 8, pp. 131–138, 1967.

Pierce, J. W., Siegel, Brien, C. M., and Stone, I. C. Jr.: Clay Mineralogy in the estauary of the Rio de la Plata, South America. 23d Int. Geol. Congress, V. 8, 9.

Grant No. Sg 0652002—Ray, Clayton E., Cooper, B. N., and Benninghoff: Fossil Mammals and pollen in a late Pleistocene deposit at Saltville, Virginia. Jour. Paleont., V. 41, No. 3, pp. 608–622, 2 pls., 4 figs 1967.

Grant No. Sg 0654062, Sg 0654062/C1:

Stanley, Daniel J.: Comparing Patterns of sedimentation in some Modern and Ancient Submarine Canyons. Earth and Planetary Sci. Letters, V. 3, pp. 371–380, 1967. (Some NAS and Nat. Res. Council Canada Funds).

Stanley, Daniel J. and Cok, Anthony E.: Sediment Transport by Ice on the Nova Scotia Shelf. Trans. at. Symp., Marine Tech. Soc., pp. 109–125, Mar. 1967. (USGS and Narocean Off. in joint support with SRF).

Cifelli, Richard: Radiation of Cenozoic Planktonic Foraminifera. Syst. Zool., v. 18, pp. 154–168—1969.

Age relationships of Mid-Atlantic Ridge sediments, pp. 47–70; *in* Bandy, O. L., ed., Radiometric Dating and Paleontologic Zonation, Geol. Soc. Amer. Spec. Pap. 124, 260 pp.

Cifelli, Richard, Sachs, K. N., Jr., and Bowen, V. T.: Ignition to concentrate shelled organisms in plankton sample. Deep-Sea Res., v. 11, pp. 621–622 1964.

Cifelli, Richard and Smith, R. K.: Problems in the distribution of North Atlantic Foraminifera and their relationships to water masses, pp. 68–81; *in* Bronnimann, P., and Renz, H. H. eds. Proc. First International Conference on Planktonic Microfossils, Geneva, 1967, v. 2, 745 pp.

Cifelli, Richard, Thompson, G., Bowen, V. T., and Melson, W. G.: Lithified carbonates from the Deep-Sea. Jour. Sed. Petrol., v. 38, pp. 1305–1312. 1968. Distribution of Planktonic Foraminifera in the vicinity of the North Atlantic Current. Smithsonian Contribs. to Paleobiol. no. 4, pp. 1–52. 1970.

Grant No. 0651036—Cheetham, Alan H., Rucker, James B. and Carver, Robert E.: Wall structure and Mineralogy of the Cheilostome Bryozoan Metrarabdotos. Journal of Paleontology, Vol. 43, No. 1, Jan. 1969, pp. 129–135.

Grant No. 0654062:

Stanley, Daniel J. and Silverberg, Norman: Recent Slumping on the Continental Slope off Sable Island Bank, Southeast Canada. Earth and Planetary Science Letters 6 (1969) 123–133. North-Holland Publishing Comp., Amsterdam. Armored Mud Balls in an Intertidal Environment, Minas Basin, Southeast Canada. Journal of Geology, 1969, Vol. 77, pp. 683–693. The ten-fathom terrace on Bermuda: its significance as a datum for measuring crustal mobility and eustatic sea-level changes in the Atlantic.

Stanley, Daniel J., and Kelling, Gilbert: Sedimentation Patterns in the Wilmington Submarine Canyon Area. Ibed., pp 127–142, 1967 (Inst. of Ocean., Dalhousie University in joint support with SRF).

NMNH/MINERAL SCIENCES

Grant No. Sg 0643048, Sg 0643059, Sg 0643106:

Melson, W. G., Bowen, V. T., Van Andel, T. H., Siever, R.: Greenstones from the central valley of the Mid-Atlantic Ridge. Nature, 1966.

Melson, W. G.: Geologic significance of St. Paul's Rocks. Oceanus, 1966.

Melson, W. G., Van Andel, T. H., and Jarosewich, E.: Metamorphism in the Mid-Atlantic Ridge, 22° N. latitude. Marine Geology, 1966.

Melson, W. G., Jarosewich, E., Bowen, V. T., and Thompson, G.: St. Peter and St. Paul's Rocks: high temperature mantle-derived intrusion. Science, 1967.

Melson, W. G.: Petrologic model of the Earth's crust across the Mid-Atlantic Ridge. Trans. Amer. Geophys. Union 1968.

Melson, W. G., Jarosewich, E., and Henderson, E. P.: Metallic phases in terrestrial basalts: implications on equilibria between basic magmas and iron carbon melts .Trans. Amer. Geophys. Union, 1968.

NMNH/ENTOMOLOGY

Grant No. Sg 0633100—Spangler, Paul J.: A new Brazilian "Berosus and a description of the female of *B. spectatus*. D'orchyment "Coleoptera: Hydrophilidae."

NMNH/BOTANY

Grant No. Sg 0625055—Ayensu, E. S.: Leaf-anatomy and systematics of Old World *VELLOZIACEAF*. Kew Bulletin, Royal Botanic Gardens, London. Vol. 23, No. 2, 1969, pp. 315–335.

Grant No. Sg 0625005:

Eyde, Richard H., Bartlett, Alexandria, and Barghoorn, Elso S.: Bulletin of the Torrey Botanical Club. "Fossil Record of Alangium: Vol. 96, No. 3, pp. 288–314, May, June, 1969.

Eyde, Richard H.: The Peculiar Gynoecial Vasculature of Cornaceae and its Systematic Significance, Phytomorphology. Vol. 17, Nos. 1–4. March-December 1967. Flowers, Fruits and Phylogeny of Alangiaceae. Journal of the Arnold Arboretum, Vol. 49, No. 2, April, 1968, pp. 167–192.

Grant No. Sg 0627016, Sg 0627016/C1, Sg 0627016/C2:

Fosberg, F. R. and Sachet, M. H.: Plants of Southeastern Polynesia. U.S. Nat. Mus. Vol. 2, p. 153–159, June, 1966.

Fosberg, F. R.: Critical Notes on Pacific Island Plants. 1. U.S. Nat. Mus. Vol. 2, p. 144–152, June, 1966. Some Ecological Effects of Wild and Semi-Wild Exotic Species of Vascular Plants. Proceedings and Papers of the IUCN 10th Tech. Meet. (Lucerne June 1966) Part III, IUCN Publications New Series No. 9 (1967) pp. 98–109.

Fosberg, F. R. and Sachet, M. H.: LEBRONNECIA, gen. Nov. (MALVACEAE) des Iles Marguises. Muse'um National D'Histoire Naturelle, Adansonia, Nouvelle Se'rie, Tome-Vl, Fascicule 3, pp. 507–510, 1966.

Fosberg, F. R.: Observations on Vegetation Patterns and Dynamics on Hawaiian and Galapageian Voleanoes. Micronesica 3: 129–34, 1967. Unique Aldabra. Atlantic Naturalist, Vol. 22, No. 3. July–Sept. 1967, p. 160–165. The Cult of the Expert and Numerical Taxonomy. Taxon, Vol. 16, pp. 369–370, October, 1967. A Classification of Vegetation for General Purposes. Guide to the check sheet of IBP Areas, pp. 73–120, 1967. Systematic Notes on Micronesian Plants. *3*. Phytologia. Vol. 15, No. 7, pp. 496–502, January, 1968. Opening Remarks, Island Ecosystem Symposium. 11th Pacific Science Congress, Tokyo, August, 1966. Presidential Address. The Smithsonian Tropical Biology Program pp. 7–12.

(Grant No. Sg 0621054, Sg 0621054/C1):

Shetler, Stanwyn G. and Olive, John R.: Research Proposal to the National Science Foundation for the Flora North America Project. Submitted by the American Institute of Biological Sciences. 91 p. & Appendices I–V. 1967 (Nov).

Shetler, S. G., Ahumada, S. and Crockett, J. J.: An automated bibliography for Flora North America. Presented at Symposium on Information Problems in Biological Sciences. Mexico City. Dublicated for distribution. (Now being revised for publication). 1967 (Dec.).

Morse, L. E., Beaman, J. H., and Shetler, S. R.: A computer system for editing diagnostic keys for Flora North America. Taxon *17*: 479–483. 1968.

Shetler, S. G.: The Computer in the Flora North America Project. ASB Bulletin *15*: 54. (Abstract) Duplicated in full for distribution; originally presented at annual meetings of Association of Southeastern Biologists, Atlanta, Georgia, April, 1968.

Shetler, S. G., Crockett, J. J., Rakosi, S. I., Shetler, E. R., and Howard, N. L.: Computer-generated multiple index to 5th edition (1964) of index Herbariorum, Part I, compiled by J. Lanjouw and F. A. Stafleu. Computer printed at Smithsonian Institution, Washington, D.C., for Flora North America Project 360 p. 1968 (September).

Shetler, S. G., Morisset, P., Crockett, J. J., and Rakosi, S. Automated bibliography for Flora North America: Data collection specifications. 16 p. (Duplicated for Distribution) 1968.

Shetler, S. G. (editor), Morse, L. E., Crockett, J. J., Rakosi, S. L., and Shetler, E. R.: Preliminary generae taxon catalog of vascular plant for Flora North America. (Photocopied for distribution from computer print-out) 69 p. 1968.

Shetler, S. G.: The Crisis of herbaria. ASB Bulletin *16*: 67 (Abstract) (Presented at annual meeting of Association of Southeastern Biologists, Memphis, Tenn. April 1969). Florida North America Project. Annals of Missouri Botanical Gardens 55: 176–178. (Originally presented at annual symposium on systematics at Missouri Botanical Gardens, Oct. 1968.) The herbarium: past, present and future. Proc. Biol. Soc. (In press, 87 manuscript pages) 1969.

NMNH/VERTEBRATE ZOOLOGY

Grant No. Sg 0661039, Sg 0661039/C1:

Gibbs, R. H. Jr. and Barnett, M. A.: Validity of the Stomiatoid Fish Species *Bathophilus Fleming*, and B. *indicus*. Copeia 1968 (1) p. 197–198. Four New Species of the Genus *Bathophilus* with a revised key to the species of *Bathophilus*. Copeia (4): 826–832. 1968.

Gibbs, R. H. Jr.: *Photonecres Munificus*, a new melanostomiatid fish from the South Pacific Subtropical Convergence, with remarks on the Convergence fauna. Los Angeles Co. Mus. Contrib. Sci. (149): 1–6, 1968. (In Press) Taxonomy Zoogeography and sexual dimorphism of the bathypelagic fish genus *Stomias* (Family Stomiatidae) Smithsonian Contr. Zool.

Aron, W., and Goodyear, R. H.: (In Press) Fishes collected during a midwater trawling survey of the Gulf of Flat and Red Sea in 1968. Israel J. Zool.

Gibbs, R. H. and Hurwitz, B. A.: Systematics and Zoogeography of the Stomiatoid fishes *Chauliodus pammelas* and *C. sloani* of the Indian Ocean. Copeia 1967 (4): 798–805.

Goodyear, R. H.: Records of the alepocephalid fish *Photostylus Pycnopterus* in the Indian and Pacific Oceans. Copeia, 1969, (2): 398–400.

Greenwood, R. H., Rosen, D. E., Weitzman, S. H., and Myers, G. S.: Phyletic studies of teleostean fishes with a provisional classification of living forms. 1966, Bull. Amer. Mus. Nat. Hist., 131 (4): 341–455.

Krueger, W. H.: Systematics and zoogeography of the stomiatoid fish family Idiacanthidae. 1967, Ph. D. Thesis, Boston U.

Krueger, W. H. and Gibbs, R. H. Jr.; Growth changes and sexual dimorphism in the Stomiatoid fish *Echiostoma barbatum*. Copeia 1966 (1): 43–49.

Weitzman, S. H.: The ostoleology and relationships of the Astronesthidae, a family of oceanic fishes. 1967, Dana Rep. No. 71: 1–54. The origin of Stomiatoid fishes with comments on the classification of salmoniform fishes. Copeia, 1967 (3): 507–540.

Goodyear, R. H. and Gibbs, R. H. Jr.: (In Press) Systematics and Zoogeography of stomiatoid fishes of the *Astronesthes Cyaneus* species group (family Astronesthidae) with descriptions of three new species. Arch. Fischereiwiss.

Grant No. Sg 0661040—Lachner, Ernest A. and Jenkins, Robert E.: Systematics, Distribution and Evolution of the CAUB GENUS *NOCOMIS* (Cyprinidae) in the Southwestern Ohio River Basin, with the description of a new species. Copeia, 1967. No. 3. Sept. k. pp. 557–580.

Grant No. Sg 0661004, Sg 0661084—Springer, Victor G.: Revision of the circumtropical shorefish genus Entomacrodus (family Blenniidae). Proc. U.S. Nat. Mus. Vol. 122 No. 3582, 150 pp. 1967.

NMNH/DEPT OF ANTHROPOLOGY

Grant No. Sg 0611007, Sg 11007/C1, Sg 0611007/C2:

Evans, Clifford and Meggers, Betty J.: Guia Para Prospeccao Arqueologica No Brasil, Guia No. 2 Conselho Nacional de Pesquisas e Museu Paraense Emilio Goeldi, Belem, 1965, VIII, 57 p. 3 plates.

Evans, Clifford: Meggers, Betty J. and the Brazilian: Archeologists in the program, Miller, Piazza, Rauth, Chmyz, Silvia, Dias, Calderon, Nasser, and Simoes. Programa Nacional de Pesquisas Arqueologicas.—1: Resultados Preliminares do Primeiro Amo 1965, 1966. Publicacoes Arulsas No. 6, Belem, 1967, 158 p., 37 plates.

Chmyz, Igor (editor): Terminologi Arqueologica Brasileira Para A Caramica. Centro de Ensino e Pesaulsas Arqueologicas Manuals de Arqueologia No. 1 Conselho de Pesquisas de Universidade Federal do Parana, Curitiba, 166. 22 p. 12 plates.

Evans, Clifford, Meggers, Brochado, Miller, Piazzo, Rauth, Chmyz, Dias, and Calderon: Programa Nacional de Pesquisas Arqueologicas,—2: Resultados

Preliminares do Segundo Ano 1966–1967 Publicacoes Avulsas No. 10, Belem, 1969, Museu Garanese Emilio Goeldi, 147 p, 35 plates.

Evans, Clifford, Meggers, and various authors: Brazilian Archeology in 1968: An Interim Report on the National Program of Archeological Research. American Antiquity, Vol. 35, No. 1, January 1970. Programa Nacional de Pesquisas Arqueologicas—3: Resultados Preliminares do Terceiro Ano 1967–1968. Publicacoes Avulsas No., Museu Paracnse Emilio Goeldi, Belem. 1970. Portuguese translation of "Brazilian Archeology in 1968: An Interim Report on the National Arqueologia. Musuc Paraense Emilio Goeldi, Publicacoes Arulsas No., Belem. in one of their series, 1969.

Evans, Clifford, Meggers, and Betty J.: Multilihed Edition: Potsherd Language and How to Read It: A Manual for Archeologist. 74 pp., 24 figs. Multilithed Edition: A Linguagem dos Cacos e Como A Interpretar: O Manual para Arqueologia. Musuc Paraense Emilio Goeldi, Publicacoes Arulsas No. ( ), Belem.

Grant No. Sg 0611013, Sg 0611013/C1—Laughlin, Robert M.: Tzotzil–English/English, Tzotzil Field Dictionary, June 1968'

Grant No. Sg 0614001—Wedel, Waldo R.: Some Thoughts on Central Plains–Southern Plains, Archaeological Relationships. Great Plains Historical Association. Spring 7/2, 1968. After Coronado in Quivira. The Kansas Historical Quarterly Winter, 1968. (In Press) Some Environmmental and Historical Factors of the Great Bend Aspect. University of Kansas, 1969.

(Not completed) Antler–Time Scraper Handles from the Central Plains.

RADIATION BIOLOGY LABORATORY

Grant No. Sg 0400002, Sg 0400002/C1—Correll, D. L.: Rhapidosomes—2' -0-methylated ribonueleoproteins. Science, 1968.

Grant No. Sg 0400003—Long, Austin, and Hatlersley, Smith G.: Postglacial uplift at Tanguar Fiord, Northwestern Ellesmere Island, Northwest Territories. Arctic 20: 255–260. 1967.

Long, A., Keys, J., and Johannessen, O. M.: On the oceanography of Distael, Fjord on Northern Ellesmere Island. McGill University Marine Sciences Report. 6:1–7. 1968.

Grant No. Sg 0400004, Sg 0400004/C1—Margulies, M. and Parenti, F.: Synthesis of ribulos diphosphate carboxylase by chloroplasis in vitro. American society of plant physiologists, Amherst, 1968.

Grant No. Sg 0400001, Sg 0400001/C1—Shropshire, W. Jr., Bergman, K., (Division of Biology, California Institute of Technology): Light induced concentration changes of ATP from Phycomyces sporangiophores: A re-examination. Plant Physical. October, 1968.

Shropshire, W. Jr., Delbruck, M., et al.: High intensity responses and action spectra of Phyeomyces Section 21 in Monograph on Phycomyces to appear in *Ann. Rev. Microbiol.* March 1969.

Shropshire, W. Jr., and Dennison, D.: *Bibliography of Phyocmyces Research* 1957. 30 pp. distributed to all workers in the field (100) in preprint mimeographed form.

NMNH/DEPT. OF ANTHROPOLOGY

Grant No. Sg. 0611011—Evans, Clifford and Meggers, Betty J.: Como Interpretar A. Linguagem Da, Ceramica, Manual para Arqueologos, Traducao de Alroino B. Eble, Desenhos Humoristicos de George Robert Lewis, 1970.

GRANTS LIMITED TO SMITHSONIAN SCIENTISTS

Mr. YATES. May I ask a question, Madam Chairman, of the gentleman who just testified? Are you in a better position to make grants in the field of science than the National Science Foundation?

Dr. CHALLINOR. To our own people, Mr. Congressman. These are research grants that are confined to Smithsonian scientists. In other words, these are not made to outside scientists. However, we have had requests this past year from our scientists for about $1.7 million worth of which we had only $400,000 to award.

Mr. YATES. What is a Smithsonian scientist?

Dr. CHALLINOR. These are scientists who are working at the Smithsonian's facilities at the Ph. D. level who are members of the permanent Smithsonian staff.

Mr. YATES. They are all on the staff?

Dr. CHALLINOR. Yes, Mr. Congressman. These proposals are reviewed by an outside panel of six scientists, and the Smithsonian scientists compete among themselves for these grants.

Mr. YATES. I am looking at the various research grants and I must say I sigh with relief when I look at the program for American history, art and music. I can understand those but I am afraid I don't understand the program on evolutionary and systematic biology. I am glad somebody does. I assume that the people at the Smithsonian do.

Dr. RIPLEY. We eat it up.

Mr. YATES. Like the starfish.

IMPORTANCE OF THE HUMANITIES AND THE ARTS

Mrs. HANSEN. I would say that the Smithsonian Institution has been moving away from its arts and history orientation into the world of science. I think this is due to Dr. Ripley.

Mr. YATES. Ever since Sputnik went up we have been emphasizing science and math to the derogation of the humanities and the arts. I don't say this in criticism of Dr. Ripley, but I think this has been a national trend and I would hope not that there is a lack of activity in the field of the physical sciences and mathematics, but rather that there is a growth and fostering of the humanities, of the sociological studies and of the arts.

Dr. RIPLEY. Thank you, Mr. Yates. We will do our best.

Mrs. HANSEN. Dr. Ripley has heard this lecture from me before. The humanities are very important because science cannot be properly applied without an understanding of the humanities.

Dr. RIPLEY. We welcome the support of the Congress for the National Museum of History and Technology, for the National Collection of Fine Arts, the National Portrait Gallery, the Renwick Gallery, the Archives of American Art, the Hirshhorn Museum, and our other art and humanity programs.

HIRSHHORN MUSEUM COLLECTION

Mr. YATES. I looked at the Hirshhorn Museum justification. I was sort of appalled by the amount of renovation that they are asking.

Dr. RIPLEY. This we can explain, Mr. Yates. The point is that when an individual collects pictures or sculpture, it is very difficult for such a person to maintain them at museum quality for exhibition at all times. When you have some 7,000 objects, the level of preservation and conservation required of an individual becomes insuperable. The fact is that that individual has acquired them at a cost which no government would probably ever consider putting up for the acquisition of such objects. Once acquired then we have to undertake the

responsibility for preparing them for the opening of the museum. This problem of preparation of even the 1,200 items, which we decided would be put by selection in the opening exhibition, is very substantial.

Mr. YATES. I was just going to say, Madam Chairman, I thought in reading the justifications in previous years for the Hirshhorn collection, I noted that they were of museum quality, and I assumed that they were in museum condition.

Dr. RIPLEY. No; museum quality as distinct from museum condition.

Mrs. HANSEN. As a matter of fact, our hearings in the past years have indicated this was not true.

Dr. RIPLEY. Museum quality means any museum in the country would be fighting to get them. That museum, once having acquired them, might have to undertake in some cases, not in all, and this varies with the age, condition, and quality of each object, their own program of preparing them for public exhibition.

Mr. YATES. Where are these now, Mr. Ripley, in your possession or in the possession of Mr. Hirshhorn?

Dr. RIPLEY. Under the agreement they are coming to the building when it is completed. That is the way it is, and we are charged with preparing them for that time. It is a binding contract. They are mostly in New York, where we maintain a staff especially for preparing them, and on his own property in Greenwich, Conn.

Mr. YATES. Have you seen them?

Dr. RIPLEY. Yes, I started looking at them in 1964.

Mr. YATES. And you just finished now?

Dr. RIPLEY. I will probably never be finished, because he goes on buying them at an extraordinary rate.

OFFICE OF THE SECRETARY

Mrs. HANSEN. Justify your requested increase of $46,000 for the Office of the Secretary.

Mr. BRADLEY. Madam Chairman, an operations officer is needed in my office in order to provide adequate direction and coordination of what we call the administrative and central support activities, including personnel, procurement, buildings management, and the rest of the administrative activities. This operations officer will be a good investment. He is right there with me, and I can't do it all. An assistant to the Assistant Secretary for Public Service also is needed to help plan and produce a range of educational materials such as books, kits, recording cassettes, drawing upon the Institution's resources. Lastly, an additional $6,000 are required for office support expenses.

BUILDINGS MANAGEMENT DEPARTMENT

Mrs. HANSEN. Justify your requested increase of 25 positions and $425,000 for buildings management.

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

Mr. BRADLEY. At the Renwick Gallery, which will be undergoing exhibit preparation in early fiscal year 1972, and is now scheduled for a public opening in the fall of 1971, we would like to obtain permission for an additional 25 positions. This is a combination of custodial personnel, semiskilled and skilled mechanics, and guards to

take care of the building and to handle the crowds that will come there. This is $195,000 of the requested increase.

In addition, Madam Chairman, other institutional maintenance will cost an additional amount of $230,000, because utilities and other expenses, such as supplies, materials and equipment have gone up. I am afraid you have been hearing this from every witness. This is a very substantial part of our $45 million salaries and expenses appropriation. Over $10 million of our requested operating funds goes to buildings management. This is where we really feel the serious effects of inflation. This is inflation not only on salaries but also on basic housekeeping and protection expenses.

Mrs. HANSEN. Which are?

Mr. BRADLEY. Supplies, utilities, material, equipment, repairs and contracts.

Mrs. HANSEN. Please insert in the record a statement on how inflation affects building management costs.

Mr. BRADLEY. If we may we will supply that.

(The information follows:)

BUILDINGS MANAGEMENT DEPARTMENT INFLATIONARY COSTS

During the past several years, mandatory inflationary costs have added very substantially to the cost of protection, operation, and maintenance of all the Smithsonian Institution buildings. There are indicated below several items of expense and the annualized increase over the 1969 costs. In some cases, written notice was received prior to the increase, but these notices are seldom received in time to coordinate with the budget cycle. This means frequent partial absorption in the current year. No prior notice is received on the cost of supplies, materials, and equipment.

Item of expense	Percentage rate increase	Dollar effect
Salaries and benefits	[1] 36	$1,800,000
(For example: A GS-4 guard's salary increased from $5,531 in 1969 to $8,077 in 1971, or 46 percent; a Wage Board 9's salary increased from $7,759 in 1969 to $9,117 in 1971 or 17.5 percent.)		
Steam	[2] 55	177,000
Electricity	[2] 12	77,000
Federal Telecommunications System (intercity telephone services FTS/GSA	119	32,000
Protection systems	10	11,000
Repairs and maintenance of elevators and escalators	24	21,000
Contract work for removal of trash and debris	148	20,000
Supplies, materials, and equipment (such as paint, lumber, public, and employee washroom supplies)	12-15	135,000
Total		2,273,000

[1] Overall average.
[2] Approximately.

Mrs. HANSEN. I think this is one thing that should be understood by the public, the increased costs related to inflation.

SCIENCE INFORMATION EXCHANGE

Mrs. HANSEN. Please insert justification pages B-1 through B-10 in the record at this point.

(The pages follow:)

SCIENCE INFORMATION EXCHANGE

1970 Actual	0[1/]
1971 Estimate	0[1/]
1972 Estimate	$1,400,000

The Science Information Exchange, which has been in operation for 20 years, has been conducted by the Smithsonian since 1953 at the request of, and on the behalf of, the federal agencies. Funding is currently provided by the National Science Foundation.

The SIE data bank receives and processes about 100,000 one-page records (2.5 to 3 million data elements) of research planned or in progress annually. About 80 percent of the input comes from federal agencies and 20 percent comes from private foundations, universities, state and local governments, industry, and some foreign sources. From this data bank, SIE answers questions from research investigators, directors and program administrators throughout the national science community about who is currently working on what project, where, when, and with whose support. The purpose of this national service is to help investigators and administrators avoid unwarranted duplication and unnecessary overlap of complex programs and to assist in more efficient planning and management of research projects and programs. It is one to three years from the time a project is planned and started until the time it is completed and reported. Efficient planning and management requires the earliest information about what others are doing.

For fiscal year 1972, the Exchange is requesting an appropriation of $1,400,000. The Exchange has been funded at a level of $1,600,000 by the National Science Foundation in fiscal years 1970 and 1971 (1971 at the monthly rate of $1,600,000 for ten months because of the difference in SIE's fiscal year). The fiscal year 1972 budget request of $1,400,000 is contingent upon the realization of additional income generated through the recently established user charge system. Federal appropriations are used for the collection, processing, and storage of the data as a national repository and a national service. Since December 1968, non-federal users have paid for retrieving, synthesizing, and packaging the requested information. All users have paid for such services since July 1969.

About 80 percent of the output service goes to the federal agencies their grantees, and contractors. Their requests range from the retrieval of records (at one dollar each) to the preparation of printed annual catalogues of 1,500 pages (at $25,000) describing the current national research effort, for example in water resources, marine sciences, and environmental quality. The total cost of all output products in fiscal year 1970 was $211,000. SIE experienced an average increase of 200 percent in the demand for services over fiscal year 1969. This demand for services is illustrated on the following pages. In fiscal year 1968, before any service fees were imposed, the output services totaled $650,000. This is the approximate income target that must be achieved in fiscal year 1972 for the Exchange to operate without a financial loss. The large drop in usage resulted from the imposition of user service fees without prior notice and an almost constant federal R&D budget in the face of rising research costs. It is quite obvious that early and adequate information is more essential than ever to efficient planning and management, in research as well as in any other enterprise. At the present, the increasing demand for services is expected to result in a user income of over $400,000 by fiscal year 1972. (Summary information in contained in Table 1.)

1/ Funded by contract with the National Science Foundation.

The SIE data bank is the only one of its scope and size in the world that deals with information about current research activities applicable to planning and management purposes. It is the only source of coherent and comprehensive information that can quickly define and describe the broad multidisciplinary and multiagency (government and private) programs of immediate national importance.

In mid-September 1970, an ad hoc committee was convened to review the current effectiveness of SIE and to identify what it should and could be doing to increase its value. This group was composed of distinguished users representing both government and private organizations in the biological and physical sciences. Recommendations from the Committee are:

1. The SIE has been an effective information exchange organization in spite of many difficulties from an administrative and fiscal point of view.

2. There is both the need and the opportunity for the SIE to provide new kinds of services in response to changing requirements for information.

3. The SIE should continue under a single management organization with an adequate budget, and an advisory committee that would guide the SIE in relation to user requirements.

4. The Smithsonian Institution should become the manager of the SIE.

5. The Smithsonian Institution should take the initiative in recommending to the Office of Management and Budget and the appropriate Congressional committees that the Institution receive an adequate federal appropriation in the form of a special account for the support and continued improvement of the SIE as a national information exchange service for both the federal and non-federal community.

6. The SIE staff, working with the Smithsonian staff, should draft a charter expressing the recommendations of the Users Committee.

7. Ways and means must be considered to strengthen the research record received by SIE. This was considered by all members to be the weakest link in the whole program.

8. More complete coverage of all research grants or contracts awarded by the various Federal agencies should be obtained.

9. Reports of non-Federal supported research on a national scale as well as foreign research reports should also be obtained.

TABLE 1

SCIENCE INFORMATION EXCHANGE
PROPOSED BUDGET FY 1972

	TOTAL COST	PARTIAL DATA BANK COST 1/ (Federally Appropriated Funds)	SUPPLEMENTAL INPUT AND OUTPUT COST 2/ (User Charges and Other Income)
Personnel	$1,366,654	$ 956,000	$410,654
Salaries	1,242,413	869,090	373,322
Benefits	124,241	86,910	37,332
Contract Services			
Travel	10,000	3,000	7,000
Transportation of things	3,000		3,000
Rents			
Telephone	9,000	9,000	
IBM	285,000	197,500	87,500
Xerox	12,000	12,000	
Building	96,500	96,500	
Other	7,000	7,000	
Printing	5,000		5,000
Other Services			
Equipment maintenance	4,000	4,000	
Other	35,000	15,000	20,000
Supplies	20,000	15,000	5,000
Acquisition of Capital Equipment			
TOTAL	$1,853,154	$1,315,000	$538,154
SI Services	171,846	85,000	86,846
GRAND TOTAL	$2,025,000	$1,400,000	$625,000

1/ Partial cost of receiving, processing, and computer storing of research information as requested in appropriation. Total cost of input is estimated at $1,600,000. This difference must be made up if possible by user charges or other sources of income.

2/ Includes additional money needed for input and to cover cost of out put services. In light of a fiscal year 1970 income of only $211,000 and a projected income of only $375,000 in fiscal year 1971 it seems unlikely that user charges and other income will exceed $425,000 leaving a potential deficit of some $200,000 in fiscal year 1972. Such a deficit could require the Exchange to cease its existence around the middle of fiscal year 1972 if an additional source of income is not available.

I. VOLUME STATISTICS FOR Sept. 69 - Aug. 70

INPUT				OUTPUT (BILLED)							
TOTAL INPUT THIS PERIOD 5,591				Routine Invert. Searches (#of Quest.) P-2	Standard Rpts (#of Reports) P-3	Negotiated Requests (#of Requests P-4	Investigator Searches (#of Names) P-5	Accession No. Retrieval # of Numbers P-6	Quarterly Mailings (#of Quest's.) P-7	Automatic Distribution (#of NRPs) P-8	Historical Searches (# of Req's.) P-9
DISTRIBUTION OF CURRENT FILE											
FEDERAL	FY 69	FY 70	FY 71								
Agriculture	10,260	6,461	39	39	3			1			
ABC	1,231	987	51	11			768			91	
Commerce	1,606	1,754	7	45		5	64	41			
Congress											
D O D	15,527	11,551	6	318							
Air Force	4,771	3,979		(10)							1
Army	4,921	4,221	4	(281)							
Navy	4,561	2,050	2	(15)			9	6			
Other	1,274	1,301		(12)							
HEW	18,928	14,817	61	134	10	6	402	286	31	23826	1
HUD	140	20	1			2					
Interior	5,136	5,228	1479	19		1				160	
Justice	73	119		3							
Labor	285	201		3				3			
NASA	3,832	652		4				14			
NSF	6,897	5,015	32	21	3	2	1270		1		
Smithsonian	542	16	12	2	2	1					
State	14	92		1				56			
TVA	33	38	29	1							
Treasury	6	4									
Transportation	1,484	1,590	34	6							
VA	5,411	3,411	54	120		1	53	48		12181	1
Other	167	133	19	28	1	4				296	
TOTAL FEDERAL	71,572	52,089	1824	755	19	22	2566	455	32	36554	3
NON FEDERAL	20,027	11,974	747	1278	4	12	121	209	46		13
G R A N D TOTAL	91,599	64,063	2571	2033	23	34	2687	664	78	36554	16
No. of NRPs (Documents)				208207	2887	16716	3689	699	17244	36554	2644

TOTAL WORKLOAD STATISTICS BY UNITS
SIE FISCAL YEAR 1970
(Invoiced)
Compared with FY 1969

	Routine Inverted Searches Q.	Standard Reports	Negotiated Requests	Investigator Searches	Accession # Retr.	Quarterly Mailings Q.	Automatic Dist.	Historical Searches
	P2	P3	P4	P5	P6	P7	P8	P9
September	144	2	4	216	84	3	5540	-
October	167	2	5	168	63	10	3874	1
November	164	3	4	273	1	-	5075	-
December	153	2	2	149	34	2	4606	3
January	159	-	2	121	1	10	958	-
February	198	1	2	280	15	3	1907	4
March	186	3	6	236	11	2	2209	-
April	182	3	1	223	99	18	3200	1
May	178	1	4	226	44	1	1625	1
June	155	1	3	252	31	-	3158	2
July	202	4	1	244	9	29	1468	4
August	142	1	0	299	272	3	2934	0
Total	2,030	23	34	2,687	664	81	36554	16
FY 1969 Total Invoiced Workload	716	4	5	10,218	179	0	15464	0
% Increase	182%	475%	580%	72% Decrease	271%	--	136%	--

Output Services - During SIE FY 1970

1 September 1969 - 31 August 1970

Category of Service	Total $ Income	Total No. Requests	Total No. of Requests % Fed.	% Non-Fed.
P2 Routine Inverted Subject & Administrative Searches	$ 64,348	2,030	37%	63%
P3 Standard Report	4,216	23	83%	17%
P4 Negotiated Requests	56,399	34	65%	35%
P5 Investigator Searches	7,693	2,687	95%	5%
P6 Accession # Retrieval	726	664	69%	31%
P7 Quarterly Mailings (Selective Dissemination)	3,113	81	41%	59%
P8 Automatic Distribution	3,655	36,554	100%	0%
P9 Historical Searches	2,313	16	19%	81%
Contracts	69,060	10	100%	0%
Total	$211,523			

DOLLAR INCOME BY TYPE OF SERVICE
SIE FISCAL YEAR 1970

Month	User Charge Income									Contract Income	GRAND TOTAL	CUMULATIVE TOTAL
	P2	P3	P4	P5	P6	P7	P8	P9	P2-9 Total			
1969												
September	4,780	536	4,988	660	87	-	555	-	11,606	7,392	18,998	18,998
October	5,180	392	7,818	516	66	300	387	100	14,759	5,862	20,621	39,620
November	4,730	612	1,760	834	5	-	508	-	8,449	12,751	21,200	60,819
December	4,930	342	634	447	46	285	461	1,328	8,472	7,268	15,740	76,561
1970												
January	5,175	-	8,866	369	5	335	95	-	14,846	18,234	33,080	109,639
February	6,060	158	1,627	849	23	140	191	256	9,304	4,611	13,915	123,554
March	6,195	598	8,132	747	14	125	221	-	16,032	-	16,032	139,583
April	5,100	406	9,711	669	104	685	320	33	17,028	947	17,975	157,558
May	4,845	158	2,240	690	48	95	162	60	8,299	2,163	10,462	168,020
June	4,635	191	3,919	759	35	-	316	187	10,041	3,566	13,607	181,627
July	6,843	625	6,700	547	13	1,050	147	349	16,273	2,131	18,404	200,031
August	5,875	197	4	606	280	98	293	0	7,353	4,135	11,488	211,521
TOTAL	64,348	4,215	56,399	7,693	726	3,113	3,656	2,313	142,461	69,060	211,521	Av. 17,627/mo.

LIST OF CATALOGS PREPARED BY THE SCIENCE INFORMATION EXCHANGE

Volume 1. "Water Resources Research Catalog 1965"

a. Part I. Federally Supported Research in Progress

b. Part II. Non-Federally Supported Research in Progress. (Prepared for Office of Water Resources Research, U.S. Department of the Interior, Washington, D. C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, Part I. $2.50; Part II $1.00

Volume 2. "Water Resources Research Catalog" 1966. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D. C. (Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402)

Volume 3. "Water Resources Research Catalog." 1967 (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D. C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 $6.75.

Volume 4. "Water Resources Research Catalog" 1968. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 $8.50

Volume 5. "Water Resources Research Catalog" 1969. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (In Printing Process)

"Marine Research" - FY 1968 (Prepared for Executive Office of President. National Council on Marine Resources and Engineering Development) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 $5.50

"Air Force Research Resumes 1966" (Prepared for Office of Aerospace Research, U.S. Air Force) Clearinghouse, U.S. Department of Commerce, Springfield, Virginia 22151

"Air Force Research Resumes 1968"(Prepared for Office of Aerospace Research, U.S. Air Force) Clearinghouse, U.S. Department of Commerce, Springfield, Virginia 22151

"National Bureau of Standards - Research and Development Projects - FY 1965" (Prepared for National Bureau of Standards, U.S. Department of Commerce, Washington, D.C.)

"Water Resources Thesaurus 1966" (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 $2.00

"Outdoor Recreation Research 1966" (Prepared for Bureau of Outdoor Recreation, U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1967

"Outdoor Recreation Research 1967" (Prepared for Bureau of Outdoor Recreation, U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1968

"Outdoor Recreation Research 1968" (Prepared for Bureau of Outdoor Recreation U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1969

"Abstracts of Research and Demonstration Projects in Social Welfare and Related Fields 1964" (Prepared for Bureau of Family Services, Welfare Administration, HEW, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 70 cents.

"Viral Tumorigenesis Report" (Published semi-annually by National Cancer Institute, National Institutes of Health, HEW, Bethesda, Maryland 20014

"Medical Research in the Veterans Administration, FY 1965"

"Current Population Research 1966". (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014)

"Current Population Research 1967" (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014)

"Current Population Research 1968". (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014) In Printing Process

"Recent Research in Public Administration - A Reference 1969" (Prepared for Office of Metropolitan Development, U.S. Department of Housing and Urban Development, Washington, D.C. 20410) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 $1.25

"Recent Research in Intergovernmental Relations 1968". (Prepared for Office of Metropolitan Development, U.S. Department of Housing and Urban Development, Washington, D.C. 20410)

"Recent Research in Planning 1968". (Prepared for Office of Governmental Relations and Planning Assistance, U.S. Department of Housing and Urban Development, Washington, D.C. 20410)

"International Trade Research" (Prepared for Export Strategy Staff, U.S. Department of Commerce, Washington, D.C.) Department of Commerce January 1970

"Neurological Disease and Blindness Catalog 1969" (Prepared for National Institute of Neurological Disease and Blindness, National Institutes of Health, HEW, Bethesda, Maryland 20014) Published by NIH April 1970

"Sustaining University Program, NASA, 1969" (Prepared for Office of University Affairs, National Aeronautics and Space Administration, Washington, D. C. 20546) Published by NASA April 1970

"Housing and Residential Building Research and Technology Catalog" (Prepared for Office of Urban Technology and Research, U. S. Department of Housing and Urban Development, Washington, D. C. 20410) In Printing Process

"Food Distribution Research Projects in Progress 1969" Food Distribution Research Society, Hyattsville, Maryland February 1970

Note: New catalogs on Water Resources Research, Outdoor Recreation, and Population Research are currently in progress.

TERMINATION OF NSF FUNDING

Mrs. HANSEN. You are requesting $1,400,000 for the Science Information Exchange. Why did the National Science Foundation terminate its funding of this activity?

Dr. RIPLEY. The National Science Foundation decided this year that we should determine to take the responsibility for funding on ourselves. I may say that this is the result, Madam Chairman, of about 3 years of negotiation with the Office of Management and Budget. Each year we have asked the OMB how can we defend the fact that the National Science Foundation's support in the form of a contract to the Institution is decreasing below the funding level that is essential. We have had to release about 80 specially trained technicians over the past several years, spent years learning the techniques of summarizing, taping, computing, and preparing for the computer this digested science material.

This year, the Office of Management and Budget agreed that the Smithsonian should take over the funding responsibility for the Science Information Exchange. We were permitted to put it before the Appropriations Committee as a separate line item and request support for it, but only at the level of $1,400,000. We estimated that the funding in the current year at the monthly rate equivalent to $1,600,000 on an annualized basis, was barely enough to keep it alive. At the level of funding of $1,400,000 we can operate for about 10 months.

Mrs. HANSEN. This activity has been funded at a level of $1.6 million by NSF in fiscal 1970 and 1971.

Dr. RIPLEY. Yes.

Mrs. HANSEN. Yet with increasing costs you are now only requesting $1.4 million?

Dr. RIPLEY. An amount of $1.4 million is all we are allowed to ask for, and we believe this might result in 10 month's operation, unless we can increase the income from user charges or other fees paid by outside users, including essentially Government agencies, to make up the difference and allow us to operate on a 12-month basis.

Mrs. HANSEN. You say in your justifications "The large drop in usage resulted from the imposition of user service fees without prior notice and an almost constant Federal R. & D. budget in the face of rising research costs."

Dr. RIPLEY. Yes. This is one of those activities which everybody wants, but no one is willing to pay for, and it may be very difficult for us to make up our projected funding deficit.

Mrs. HANSEN. Give us one example of what you supply to an agency.

Dr. CHALLINOR. For example, Senator Bible was interested when this item came up and said, "How much research is being undertaken on social, physical, and medical problems of the American Indians?" His question was in the morning. By 3 o'clock that same afternoon we had a print-out from the SIE's computer files for the Senator on the on-going research supported by the Federal Government on this topic.

HISTORY OF THE SIE

Mr. YATES. Madam Chairman, as I recall our hearings before the Independent Offices Subcommittee of which I used to be a member at

the time the National Science Foundation was created, and in subsequent years, one of its principal activities was supposed to be the clearinghouse, for scientific information. I assume this is what that was.

Dr. RIPLEY. This is our Science Information Exchange, which was commenced not long after World War II as a clearinghouse for information about research in progress. It initially was supported by a consortium of Government agencies, each of whom put in a small amount of money to make up the budget.

In 1965 the NSF took over full funding, because like all these sort of activities, there comes a moment when someone says, "Let one agency pay for this activity in the name of defense, NIH so on and so forth," Then with the subsequent difficulties of the NSF budget, there has been this gradual tail off and decline in the face of rising need and rising costs of operation, so that, for example, over a 2-year period, we have had to RIF some 80 personnel. This has become increasingly difficult for us. Finally the Office of Management and Budget said, "You go and make it a separate line item and ask for the funds yourself."

RELATIONSHIP OF THE SIE TO THE SMITHSONIAN

Mr. YATES. Is it better that you should handle something like this, this collection and culling of data than the Library of Congress?

Dr. RIPLEY. This has been a historic activity of the Smithsonian from its beginning. The "increase and diffusion of knowledge" was set down by James Smithsonian in his will. The first Secretary began the idea of keeping scientists in touch with each other all around the world about what they were all doing, through a series of correspondence and then publications, so the SIE fits into one of the jobs that we are thought to have a responsibility for. It is within our mandate. Over the years, the Smithsonian has innovated many techniques for information gathering, retrieval, and correlation of scientific research results. We have conducted the SIE since 1953.

SIMILAR SERVICES IN OTHER COUNTRIES

Mr. YATES. Does any other country have such a service that you know of?

Dr. CHALLINOR. To the best of our knowledge no other country has quite the equivalent of what we do. This service is primarily concerned with finding out what other people are doing now in a particular research field. Suppose a scientist is proposing to study beetles that attack alfalfa, for example. What other scientists in various State research facilities or Federal research facilities are studying the beetles that attack alfalfa?

We can get this information to the requesting government or agency in a day or so. We are now trying to see how we can widen support for the Science Information Exchange. One way is to furnish this information on an increasingly global basis. We are negotiating with a Japanese and German organization to furnish this service abroad.

SIE'S WIDE RANGE OF COVERAGE

Mr. YATES. How is this related to knowing what appears in scientific journals? Is there a relationship or is that another kind of subject?

Dr. RIPLEY. No, this is related to that, although there are such things as biological abstracts and chemical abstracts.

Mr. YATES. Periodical digests?

Dr. RIPLEY. Yes, but in any one year it is possible for the SIE to have a question on such subjects as drugs and drug addiction, solid waste management, nuclear magnetic resonance, urban and regional planning, water resources, oral contraconception, continental drift, airport noise and sonic boom studies, so the SIE provides broad coverage.

Mrs. HANSEN. That is the type of things we need a report on.

Mr. YATES. That is the wrong thing to mention.

Dr. RIPLEY. Also, such topics as pesticide residues in the food chain for man, radiation induced effects of various sorts, thermal pollution.

Mr. YATES. This sounds like the legislative reference service.

Dr. RIPLEY. These subjects are digested and banked in our computer and are available to inquiries. For example, an agency might call up any say, "I don't believe you can do it but I need information on all studies being undertaken on water resources by tomorrow morning." By the next morning the Exchange might have a 40-page report.

Mr. YATES. It sounds like a valuable service to me.

Dr. CHALLINOR. If I could make one point further to Dr. Ripley's statement, the difference that you raise concerning information contained in the journals. As you know research usually goes on for 2 or 3 years and is then written up, submitted to a journal and often has to wait another 6 or 8 months for publication.

This service reports on research that is on-going before it has been published, and that is the crucial distinction of the Science Information Exchange. Before somebody starts to look for money to begin a research project, he can find out who is already working in this field, and thereby hopefully save money, time, and energy by avoiding the duplication of the work. That is the main advantage of this service.

PLANS FOR USER INCOME

Mrs. HANSEN. Do you have any plans for revising the fee structure for services performed by the Science Information Exchange, and would it be a practical approach to put this activity on a self-sustaining basis as far as fee schedules are concerned?

Mr. RIPLEY. I can answer that, but I would like Mr. Wheeler, our treasurer, to answer it, because he has the figures.

Mr. WHEELER. Madam Chairman, we started on a fee basis in December of 1968 for private users, and in July of 1969 for Federal users as well. The income from these fees is now supporting the costs of output. There are two phases of this program: the cost of input, putting the details of the projects into the computer data bank, and the costs of output, that is of giving service to the customers.

The fees now just about cover the cost of the output, and there is no chance, at the current level of output, of recovering input costs.

It won't be until the user fees rise substantially above $400,000 a year, compared to the present estimate of around $325,000 for the current year, that there will be any beginning of absorption of the input costs. We are doing the maximum possible in the way of getting outside income from the people who benefit from this, but to bridge the $200,000 gap between $1.4 and $1.6 million will require a considerable effort in fiscal year 1972.

Museum Programs and Related Research (Special Foreign Currency Program)

Mrs. Hansen. Please insert justification pages C–1 through C–27 in the record at this point.

(The pages follow:)

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

1970 Appropriation	$2,316,000
1971 Appropriation	2,500,000
1972 Estimate	5,500,000

An appropriation of $5,500,000 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 $3,000,000 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 to support urgent field studies in the Smithsonian's traditional disciplines of systematic and environmental biology and anthropology which today are recognized as basic to an understanding of the problems of environmental quality and cultural change.

The increase is essential also to ensure support for on-going and new research which contributes to United States national programs under, for example, the International Biological Program under Public Law 91-438, the International Decade of Ocean Exploration, the National Aeronautics and Space Administration, the National Academy of Sciences, the United States National Museum and the Department of Interior's cooperative programs abroad under the Endangered Species Conservation Act.

Above all, the increase is essential to provide funds for pending and new research projects from some 22 United States institutions. Funds available during fiscal year 1970, including all previous appropriations, were sufficient only to cover the cost of on-going research. The fiscal year 1971 appropriation is sufficient only to support on-going research and that only at a reduced level. There will be no money for new research.

Finally, the increase is essential to permit multi-year obligation of funds for research in those "excess" currency countries, like Tunisia and Morocco, where the excess designation by the Treasury Department is subject to termination at any time because "excess" accounts are small. Failure to obligate funds for a reasonable number of years for projects in such countries could prematurely terminate worthy studies by United States institutions without receiving full value from funds already expended. The Smithsonian appropriation has never been adequate to permit obligation of funds for more than one year of research at a time. Ceylon, where multi-year research has been underway, was removed from the "excess" currency country list at the end of fiscal year 1970. The

Institution was only able to provide for orderly completion of this research, by making multi-year obligations against monies originally committed for obligation for research in other countries during fiscal year 1971. The Program will, of course, continue to require annual Advisory Council review to determine satisfactory research progress of these and other multi-year studies prior to authorizing disbursement of each successive year's funds.

Funds are requested for the following programs:

	FY 1966-70 Cumulative Commitments	FY 1971 Estimated Commitments	FY 1972 Appropriation Request
Archeology and Related Disciplines	$5,689,550	$1,300,000	$1,750,000
Systematic and Environmental Biology	4,143,417	1,000,000	3,000,000
Museum Programs	146,986	80,000	220,000
Astrophysics	519,124	106,000	500,000
Grants Administration ...	51,568	14,000	30,000
	$10,550,645	$ 2,500,000	$5,500,000

PROGRAM GROWTH

The Smithsonian Foreign Currency Program has grown from one that supported nine projects in its first year, fiscal year 1966, to one that will support an estimated 97 projects in fiscal year 1971. A total of 168 projects had received Program support by the end of fiscal year 1970. At the end of fiscal year 1970 also, a total of $10,550,645 had been committed out of the five year appropriation total of $10,564,000. A total of $2,923,000 was obligated in fiscal year 1970 alone for grants to on-going research including that approved in earlier years but postponed while host country clearances were obtained. New inquiries about foreign currency uses continue to average about one a day.

This rising demand for foreign currency grants reflects both the scientists' search for alternatives to declining federal research dollars and an expanding Smithsonian Special Foreign Currency Program authority. Program authority which was limited to archeology and related disciplines in the first year, fiscal year 1966, was broadened in fiscal year 1967 to include systematic and environmental biology, in fiscal year 1969 to include astrophysics and in fiscal year 1970 to include museum programs. During the same period, the appropriation increased from $1,300,000 in fiscal year 1966 to $2,316,000 in fiscal year 1967, where it remained until fiscal year 1971 when it was increased to $2,500,000.

NO FUNDS FOR NEW RESEARCH

This limit on appropriations has meant that worthy projects which have sometimes required months or years to prepare and then to win approval for from the Smithsonian and from host country governments, cannot be supported and may be abandoned. Participating scholars, always under pressure to publish, must seek other research opportunities. A waiting list of such unfunded projects has been established. As funds become available, projects with the highest scientific

ratings will be funded first. To avoid postponement of worthy research and to provide for rising demand, an appropriation level of $6,000,000 annually is considered realistic for future years.

USE OF FOREIGN CURRENCIES SAVES HARD DOLLARS

Special Foreign Currency Program appropriations are an advantageous source of research monies. This is so 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 significantly 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 Endowment for the Humanities, the National Science Foundation, the National Institutes of Health, the National Aeronautics and Space Administration, 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 projects:

...The United States' Desert Biome program under the International Biological Program proposes studies in Tunisia of the continuing encroachment of the Sahara in spite of concerted conservation efforts. Utah State University is the headquarters for this broad study.

...Yale University and the Smithsonian are conducting ecological studies 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.

...The Smithsonian is studying, together with Israeli scientists, 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 Mediterrean originated in the Red Sea. These studies have saved the United States thousands of hard research dollars because they provide a tested model for studies being prepared by the National Academy of Sciences in connection with a possible sea-level canal at Panama.

...The United States Tropical Forest Biome program under the International Biological Program proposes studies of the tropical forests, grasslands, and cultivated lands in the Ganges river valley in India. The University of Georgia is the sponsor of this research.

...The Smithsonian is studying migrating birds and the parasites associated with them in Northeast Africa. Results show that these birds carry viruses and antibodies and thus can be considered potential carriers of human diseases.

Studies of cultural change supported by the Smithsonian Foreign Currency Program include:

...San Jose State College, San Jose, California studies of responses to unusually rapid modernization in a traditional Hindu temple village in India.

...University of Washington studies of the modern history of a caste in India through analysis of its experience of urbanization.

...Kansas State University studies of the nature of changes in values, attitudes, relationships in the Tamil speaking world in India under pressure of modern communications and technological developments.

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 1971 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.

...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.

...Utah State University ecological studies in the Kaziranga Wildlife Sanctuary in India as related to wildlife management.

...University of Nevada comparative ecological studies of the arid zones of Morocco.

ACCOMPLISHMENTS

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

... More than 107 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 214 post-doctoral research opportunities for Americans.

... More than 220 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; 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 archaeological, ethnographic and biological specimens collected and shared with the collaborating institutions in the "excess" foreign currency country. The National Museum of Natural History is receiving specimens of handcrafts from India and Ceylon which are still being manufactured today employing methods handed down from father to son for centuries. They represent a unique source of information on the archaeology of these countries. Yale University's Peabody Museum and the Museum of the University of Colorado have benefited 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 environment 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. Research proposals promoted by this amendment are just beginning to arrive at the Smithsonian. The recent exchange of visits of Dr. Lee DuBridge, when he was the President's Science Adviser, and Yugoslavia's Minister Marco Bulc has provided added impetus and particularly to a Smithsonian-Yugoslav program to study man's impact on his environment. Moreover, the change in government in Pakistan brought increased interest in collaboration in basic research under the Smithsonian program. A University of Washington proposal to study the wild boar of Pakistan has just been approved--the first for the Smithsonian in Pakistan. A Smithsonian proposal to study the marine fauna of the continental shelf of West Pakistan is currently under consideration by the Government of Pakistan. In India, the Smithsonian is sponsoring an ecological research planning symposium which will provide agreed ecological research objectives with the Government of India and open the door to a substantial program of joint research.

Direct dollar costs to the Smithsonian for its Foreign Currency Program are limited to those for administrative personnel in Washington. During fiscal year 1971, six people were employed by the Office of International Activities for this purpose at a total cost of about $88,000. The administrative burden has grown by some 79 grants during the past year and by some 40 grants the previous 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, those postponed by lack of sufficient funds, and other sample 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 1972. It should be noted, however, that actual implementation of these projects, and the distribution among disciplines and countries of "excess" currencies appropriated 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-country 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)	To continue support of the Center for Art and Archeology a research center for South Asian archeology and art history.	1972est.	80,000
		1971	121,012
		1970	150,000
		1969	139,230
		1968	144,500
		1967	130,750
		1966	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.	1972est.	100,000
		1971	164,315
		1970	25,955
		1969	109,415
		1968	202,071
		1967	176,777
		1966	259,200
3. Jerusalem School of Archeology of the Hebrew Union College	To continue the survey and exploration of archeological sites in the Negev and the excavation at Tel Gezer.	1972est.	85,000
		1971est.	85,000
		1970	248,340
		1969	68,500
		1968	216,200
		1967	300,000
		1966	150,000
4. University Museum, University of Pennsylvania	To terminate the study of the Temple of Akhnaten at Luxor, Egypt and to prepare the publication on this study.	1972est.	30,000
		1971	28,000
		1970	67,000
		1969	60,000
		1968	9,730
		1967	65,070
5. University of Missouri	To continue 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.	1972est.	45,000
		1970	35,500
		1969	40,000
		1968	60,500
6. University of Minnesota	To continue a program of research in Yugoslavia with excavations of the unique Roman Palace of Diocletian at Split, Yugoslavia.	1972est.	40,000
		1971est.	55,000
		1970	60,288
		1969	78,184
		1968	32,505

Recipient	Project	Grant Expressed in U.S. Dollars	
7. 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.	1972est.	30,000
		1971	51,030
		1970	76,133
		1969	43,742
		1968	25,128
		1967	6,739
8. 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 and extend them to Thurburbo Majus, Tunisia.	1972est.	150,000 1/
		1971	58,112
		1970	58,691
		1969	28,628
9. University of Illinois	To continue comparative studies of the effects of cultural change on folk music in Israel and Tunisia.	1972est.	22,000
		1971	30,000
		1970	31,575
10. American Institute of Indian Studies	To continue support for post-doctoral research in social and cultural anthropology and linguistics of India and to support the Institute's center in Poona, India as an American research center abroad serving American scholars in all fields.	1972est.	100,000
		1971	239,654
		1970	133,920
		1968	147,930
11. 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.	1972est.	140,000
		1971	117,492
		1970	166,713
		1969	50,000
		1968	80,000
12. State University of New York at Buffalo (formely under University of Michigan)	To continue excavations of the earliest Neolithic settlements in Poland.	1972est.	26,000
		1971	36,220
		1969	37,251
		1968	36,107
		1967	21,684
13. Denison University	To continue excavations at Sirmium, a Roman provincial capital along the fortifications erected against the "barbarians."	1972est.	40,000
		1971est.	61,000
		1970	61,599
		1969	65,223
		1968	34,285

1/ Multi-year obligation to ensure orderly completion of research in countries where "excess" accounts are small.

Recipient	Project	Trant Expressed in U.S. Dollars	
14. 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.	1972est. 1971 1970	85,000 63,536 63,272
15. University Museum University of Pennsylvania	To continue study of Dra Abu El Naga tomb inscriptions, Egypt.	1972est. 1970 1969 1968	20,000 17,000 17,300 9,750
16. 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.	1972est. 1971est 1970 1969	20,000 20,000 50,487 30,900
17. University of Michigan	To continue research and excavations into the Middle Paleolithic of Northern Bosnia, Yugoslavia	1972est. 1971est. 1969	20,000 25,000 15,220
18. University of Michigan	To document photographically the architecture, sculpture and paintings of the Bhuddists, Hindus and Jains during India's "Golden Age" from the fifth to the eight century A. D.	1972est. 1971est.	5,000 5,000
19. 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.	1972est. 1971est. 1970	35,000 35,000 40,000
20. Dumbarton Oaks (Harvard) Center for Byzantine Studies	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 Azibegovo which covers the earlier classical and pre-historic periods respectively.	1972est. 1970	35,000 35,275
	1972 Subtotal Estimate for On-going Research		1,108,000

B. Pending Research Proposals

Recipient	Project	Estimated Request in U.S. Dollars	
1. Smithsonian Institution Office of Anthropology	To study the rapidly disappearing crafts at village level in India	1972est.	25,000
2. 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.	1972est.	30,000
3. University of California Los Angeles	To excavate Islamic archeological sites in West Pakistan.	1972est.	30,000
4. Brandeis University	To survey and excavate a western Phoenician archeological site in Morocco.	1972est.	100,000 1/
5. Smithsonian Astrophysical Observatory, Cambridge, Mass., Dickinson College, Carlysle, Pennsylvania	To explore the significance to ancient Egyptian societies of the stars through study of the alignment of the temples at Luxor through application of new techniques of aerial photography and compiles calculation of the positions of stars in ancient times.	1972est.	7,000
6. University of Hawaii	To initate prehistoric archeological excavations in northeastern India.	1972est.	30,000
7. Washington State University	To excavate a prehistoric flint mining complex work of the Kanienm River in Poland.	1972est.	25,000
8. Washington State University	To study pre-mesolithic fossils in Poland.	1972est.	10,000
9. University of Nevada	To excavate the prehistoric site of Kausambi in northern India.	1972est.	30,000
10. 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.	1972est.	15,000

Recipient	Project	Estimated Request in U.S. Dollars	
11. University of Washington; the American Museum of Natural History, New York	To study the historical and religious documents of Tibet brought to India by the exiled Dalai Lama.	1972est.	30,000
12. Southern Illinois University	To study the impact of rural road construction on social, cultural and economic change in Yugoslavia.	1972est.	28,000 2/
	Subtotal for Pending Research		360,000
C. New Projects			
1. Colgate University, New York	To document in film, tape recordings and through anthropological survey techniques, the disappearing performing arts of India.	1972est.	35,000 2/
2. University of Michigan	To study in Egypt the art and technology of Graeco-Roman lamps as one method of linking the chronology of ancient cities of Egypt with those of the rest of the Graeco-Roman world of antiquity.	1972est.	2,000 2/
3. University of Kansas	To study the pre-history of Lake Ludas in Yugoslavia through studies of fossil remains of plants and animals and the computer analysis of the distribution of prehistoric artifacts.	1972est.	20,000 2/
4. Association for Asian Studies, Ann Arbor, Michigan	To support linguistic research in India of the Committee on South Asian Languages.	1972est.	50,000
5. University of Michigan	To study the genetic effects of inbreeding on Indian children.	1972est.	25,000

2/ Fiscal year 1971 grant postponed for lack of funds.

Recipient	Project	Estimated Request in U.S. Dollars
6. Smithsonian Institution Department of Anthropology	To excavate the Moroccan Islamic city of Sijilmassa.	1972est. 150,000 1/
	Subtotal Estimate for New Research	282,000
	Total Archeology and Related Disciplines	1,750,000

II. Systematic and Environmental Biology

A. On-going Projects

Recipient	Project	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.	1972est. 40,000 1969 73,468
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.	1972est. 75,000 1971est. 75,000 1970 119,462 1969 133,473 1967 122,000
3. Smithsonian Institution Office of Environmental 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.	1972est. 600,000 1/ 1970 478,736 1/ 1969 216,962 1967 150,000
4. 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.	1972est. 25,000 1971 26,680 1970 24,680 1969 33,780 1967 34,593

Recipient	Project	Grant Expressed in U.S. Dollars	
5. 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.	1972est.	25,000
		1971est.	25,000
		1970	25,562
		1969	25,414
6. 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.	1972est.	20,000
		1971est.	20,000
		1970	7,122
		1968	12,036
7. Smithsonian Institution Department of Vertebrate Zoology	To continue studies of South Asian birds and their migration and the preparation of a handbook.	1972est.	20,000
		1971	20,133
		1970	17,800
		1969	3,417
8. University of Missouri	To continue studies of the behavior and ecology of gazelles in Israel.	1972est.	30,000
		1971est.	30,000
		1970	45,070
9. Library, Smithsonian Institution	To continue accelerated translation and publication of reference works and monographs through the National Science Foundation's translations program.	1972est.	50,000
		1971est.	25,000
		1970	25,000
10. Office of Vertebrate Zoology, National Museum of Natural History, Smithsonian Institution	To continue to study the geographic distribution and the ecology of the mammals of Morocco.	1972est.	45,000
		1971	43,650
		1970	66,840
11. University of Michigan	To study productivity of tropical lakes in Southern India.	1972est.	30,000
		1971est.	30,000
12. University of Washington	To study the ecology and behavior of the wild boar in West Pakistan, a little studied animal which is nevertheless a significant agricultural pest.	1972est.	50,000
		1971est.	47,000
13. Duke University, Durham, North Carolina	To conduct studies for the classification of Moroccan lichen with special emphasis on their chemical characteristics.	1972est.	3,000
		1971est.	3,000

Recipient	Project	Grant Expressed in U.S. Dollars	
14. International Biological Program, U.S. National Committee, National Academy of Sciences	To continue direct support to the U.S. National Committee for planning symposia, training U.S. scientists, developing research programs and coordinating U.S. and foreign research in each of the "excess" currency countries.	1972est. 1971 1970 1968	75,000 30,000 50,000 10,000
15. International Biological Program, Yale University New Haven, Conn.	To continue to study habitat relationships, numbers and distribution of wild antelope, deer and boar in the Gir Forest in India as a part of a broad study of this tropical forest has included the Asiatic lion.	1972est. 1971est. 1970	25,000 26,000 35,055
16. 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:	1972est. 1971 1969	220,000
--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.		
--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.		

Recipient	Project	Grant Expressed in U.S. Dollars
--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 Institution	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.	
--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.	
--University of New Hampshire	Ecology of deep sea animals.	
--Lamont-Doherty Geological Observatory, Columbia	Ecology of skeletal plankton (foraminifera and pteropods)	
--University of Georgia	Distribution of organic chemicals and trace elements.	
	FY 1972 Subtotal Estimate for On-going Research	1,333,000

B. Pending Projects

Recipient	Project	Estimated Request in U.S. Dollars	
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.	1972est.	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.	1972est.	25,000
3. Smithsonian Institution Office of Environmental Studies	To initiate studies of the behavior of elephants and primates in India coordinated with base line studies already conducted in Ceylon.	1972est.	50,000
4. 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.	1972est.	50,000
5. Smithsonian Institution, Program of Oceanography and Limnology	To collect and conduct taxonomic studies of the marine fauna of West Pakistan's continental shelf.	1972est.	50,000
6. 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.	1972est.	25,000
7. Smithsonian Institution Division of Invertebrate Paleontology	To study in Tunisia 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.	1972est.	75,000 1/

Recipient	Project	Estimated Request in U.S. Dollars	
8. Smithsonian Institution Office of Environmental Sciences	To conduct in Egypt a symposium on the Biological control of the snail, carrier of the disease, bilharzia, in the newly formed reservoirs and canals associated with the Aswan dam in Egypt.	1972est.	20,000
9. 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 Khasis 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.	1972est.	20,000
10. 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.	1972est.	42,000
11. Missouri Botanical Gardens	To initiate a comprehensive program of the study of the flora of Morocco with bio-systematic studies of flowering plants.	1972est.	100,000 1/
12. Ohio University	To study the pollution condition of Lake Tunis in Tunisia.	1972est.	100,000 1/
13. 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.	1972est.	2,000 2/
14. 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.	1972est.	40,000

Recipient	Project	Estimated Request in U.S. Dollars	
15. 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.	1972est.	56,000
16. Oak Ridge National Laboratory Oak Ridge, Tenn.	As a part of United States research under the International Biological Program, to conduct cooperative research in Poland on temperate zone forest and grassland ecosystems supplementing studies conducted in the United States.	1972est.	25,000
17. Pennsylvania State University	As a part of United States research under the International Biological Program, to conduct comparative studies of human adaptability at high altitudes in India.	1972est.	50,000
18. University of Minnesota	As a part of United States research under the International Biological Program, to study biological rhythms in the catfish in India.	1972est.	25,000
19. Pennsylvania State University and the University of Minnesota	As a part of United States research under the International Biological Program, to study in South Asia the international spread of plant disease by means of airborne organisms.	1972est.	50,000
20. University of Utah	As a part of United States research under the International Biological Program, to conduct comparative studies in the arid climates of Tunisia and India supplementing studies conducted in the United States.	1972est.	175,000 1/
21. University of Colorado	To initiate systematic studies of the flora of Yugoslavia.	1972est.	49,000 2/
	Subtotal Pending Biological Research		1,049,000

C. New Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. Utah State University	To study in India, the ecology and behavior of the one-horned rinocerous, an endangered species, surviving in the Kaziranga Wildlife Sancturay.	1972est.	69,000 2/
2. University of Texas	To conduct studies of the ecology of Indian ungulates in the wildlife sanctuaries of Rajasthan.	1972est.	30,000
3. University of Nevada Desert Research Institute	To conduct in Morocco studies in desert ecology parallel to those conducted in Nevada.	1972est.	200,000 1/
4. University of California, Davis	To conduct in East Pakistan studies related to man's evolution through research in the ecology and behavior of the Hoolock Gibbon which seasonally changes its single-family territorial behavior to multi-family foraging group organization.	1972est.	25,000
5. National Museum of Natural History, Smithsonian Institution	To initiate ecological and behavioral studies of rhesus monkeys and langurs in India.	1972est.	30,000
6. Dartmouth College Hanover, New Hampshire	To conduct studies of the ecology of Lake Ohrid and its drainage basin in Yugoslavia.	1972est.	50,000
7. Office of Environmental Sciences; Smithsonian Institution	To develop a cooperative program in environmental management employing Lake Skadar in Yugoslavia and the Smithsonian's Chesapeake Bay Center for Environmental studies as the study areas. Such studies will provide the foundation for sound economic planning and development limiting man's degradation of his environment.	1972est.	100,000
8. Department of Invertebrate Zoology, National Museum of Natural History	To initiate studies of the systematics and zoogeography of the stomatopod crustaceans on the eastern coast of India.	1972est.	20,000

Recipient	Project	Estimated Request in U.S. Dollars	
9. Chico State College, Californai	To collect for systematic studies, ants and parasites associated with man in Tunisia and Guinea.	1972est.	15,000
10. University of Washington, College of Forest Resources	To study geographic variation of the forest tree species Shorea robusta and the ecological basis for the variations, and to detect seed sources best for reforestation.	1972est.	14,000
11. University of Illinois at Chicago Circle	To trace the evolutionary relationships among Upper Cretaceous teleostean fishes through collection and study of those found in the Yugoslav Dalmatian Cretaceous outcroppings.	1972est.	10,000
12. Office of Environmental Sciences, Smithsonian Institution	To initiate a survey of the rapidly disappearing India tiger and to study its ecology preliminary to development of conservation plans.	1972est.	15,000
13. Smithsonian Tropical Research Institute, Panama	To initiate a program for comparative studies in evolutionary ecology in India including environmental monitoring.	1972est.	40,000
	Subtotal New Biological Research Proposals		618,000
	Total Biological Research		3,000,000

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.	1972est. 1971est. 1970 1969	80,000 55,000 19,056 20,000
	Subtotal On-going Museum Programs		80,000

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.	1972est.	5,000
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.	1972est.	85,000
		Subtotal Pending Museum Programs		90,000

C. New Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. Smithsonian Traveling Exhibition Service	To prepare an exhibition of Pakistani ethnographic materials and accompanying scholarly catalogue for circulation to United States Museums and universities.	1972est.	20,000
2. Division of Ethnic and Western Cultural History, National Museum of History and Technology	To study and collect in Poland ethnographic materials to supplement national collections for circulation to United States educational and cultural organizations.	1972est.	20,000
3. National Museum of History and Technology	To study in Poland and Yugoslavia the cultures of origin of immigrant Americans and make ethnographic collections to be used in preparing U.S. Bicentennial Exhibits.	1972est.	10,000
	Subtotal New Museum Programs		50,000
	Estimated Total Museum Programs		220,000

V. Astrophysics

A. On-going Projects

Recipient	Project	Grant Expressed in U.S. Dollars	
1. 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.	1972est. 1971est. 1970 1969 1968	15,000 15,000 13,450 5,400 41,810
2. 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.	1972est. 1971est. 1970 1969	15,000 15,000 11,200 27,270

Recipient	Project	Grant Expressed in U.S. Dollars	
3. 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 univestigated, 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.	1972est. 1969	10,000 9,540
4. 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.	1972est. 1970	12,000 11,440
5. American University in Cairo and Smithsonian Astrophysical Observatory	To conduct research in theories of planetary motion in Egypt.	1972est. 1971	20,000 23,634
6. Harvard University and Smithsonian Astrophysical Observatory	To conduct studies of thermal emission and absorption of diatomic molecules in India.	1972est. 1971est.	20,000 20,000
7. Smithsonian Astrophysical Observatory and consortium of United States Astronomical Research Institutions	To conduct coordinated 24 hour observation of astronomical phenomena in collaboration with Israeli institutions employing telescopes in the western United States, Chile and Israel.	1972est. 1971est. 1970	70,000 142,000 275,200
--U.S. Naval Research Laboratory, Washington, D.C. and Massachusetts Institute of Technology	To conduct optical and photoelectric monitoring of X-ray sources.		

Recipient	Project	Grant Expressed in U.S. Dollars	
--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.		
8. Harvard University	To conduct laboratory studies in India of the excitation processes in stellar, planetary and cometary atmospheres.	1972est. 1971est.	30,000 41,700
	Subtotal Estimate for On-going Research		192,000

B. Pending Projects

Recipient	Project	Estimated Request in U.S. Dollars	
1. 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.	1972est.	72,000
2. 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.	1972est.	18,000

Recipient	Project	Estimated Request in U.S. Dollars	
3. Smithsonian Astrophysical Observatory	To initiate support for studies in geodesy, geophysics and celestial mechanics based on the tracking of man-made satellites at the Naini Tal astrophysical observing station in India.	1972est.	10,000 2/
4. University of Hawaii	To study the variations in the earths gravity in India for a better understanding of its geological diversity and tectonic history particularly as it contributes to an understanding of continental drift.	1972est.	20,000 2/
5. University of California San Diego	To study in India the effects of cosmic rays on terrestrial and extra-terrestrial materials.	1972est.	8,000 2/
	Subtotal Pending Research		128,000
C. New Projects			
1. Duke University Durham, North Carolina	To study sedimentation at Bahiret el Bibane on the shores of Tunisia.	1972est.	32,000 2/
2. Smithsonian Astrophysical Observatory	To initiate in India a program in indirect atmospheric measurements using radio tropospheric scatter techniques.	1972est.	12,000
3. Smithsonian Astrophysical Observatory	To initiate in Poland geophysical studies employing very long baseline interferometry techniques particularly studies of continental drift, polar wandering and satellite tracking.	1972est.	76,000
4. Smithsonian Astrophysical Observatory	To study in Poland the nature of stellar atmospheres.	1972est.	30,000

Recipient	Project	Estimated Request in U.S. Dollars	
5. Smithsonian Astrophysical Observatory	To supplement in Poland, United States contributions to the International Satellite Geodesy Experiment, a world-wide program sponsored primarily by the Committee on Space Research of the International Council of Scientific Unions.	1972est.	30,000
	Subtotal Estimate for New Research		180,000
	Total Astrophysical Research		500,000
VI. Program Development and Administration			
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.	1972est.	30,000
		1971	20,000
		1970	20,000
		1969	15,000
		1968	10,000
	Total Program Development and Administration		30,000
	GRAND TOTAL		$5,500,000

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

Commitment of Funds by Country

Fiscal Years 1970, 1971 and 1972

Country	1970 Actual	1971 Estimate	1972 Estimate
Burma	$ --	$ 1,000	$ --
Ceylon	661,242	--	--
Egypt	154,411	250,000	300,000
Guinea	--	5,000	10,000
India	475,348	600,000	1,500,000
Israel	946,659	750,000	600,000
Morocco	72,947	150,000	600,000
Pakistan	27,048	140,000	250,000
Poland	71,938	64,000	420,000
Tunisia	623,883	200,000	1,200,000
Yugoslavia	532,773	340,000	620,000
	$3,566,249	$2,500,000	$5,500,000

UNIVERSITY OF WASHINGTON STUDY

Mrs. HANSEN. You are requesting $5.5 million for Museum Programs and Related Research (Special Foreign Currency Program). Is it your policy in any instance to make grants under this program to individuals?

Dr. CHALLINOR. Madam Chairman, these grants are made to the institution at which the individual works.

Mrs. HANSEN. Reading through your justifications I find there are some rather strange items in this program.

For example, the University of Washington is studying the relations of fishing boat crewmembers and how they relate to conflict groups in a peasant fishing town in Yugoslavia.

What is involved in this study?

Dr. CHALLINOR. I would have to refer back to that specific grant application, Madam Chairman.

Mrs. HANSEN. Please insert the information in the record.

(The information follows:)

DETAILS OF CERTAIN RESEARCH PROPOSALS APPEARING IN THE SPECIAL FOREIGN CURRENCY PROGRAM JUSTIFICATION

Page C–10, No. 10, University of Washington: To study the relations of fishing boat crewmembers and how they relate to conflict groups in a peasant fishing town in Yugoslavia.

This study is designed to test the hypothesis that access to the necessities of life is the primary factor in determining how men draw together when they are faced with a fight. The study will compare the strength of this motivation with the strength of family ties and other motivations for choosing up sides. This study is proposed for the town of Komiza, Yugoslavia, which supports a number of small fishing boats, family owned for the most part, with crews of three to six. The questions to be asked in the study include: (1) Do boat crewmembers always aline themselves together in conflict situations not directly related to fishing? (2) Does consideration of boat crew ties supersede considerations of kinship ties when disagreements arise?

WEST PAKISTAN PROJECT

Mrs. HANSEN. You are requesting $50,000 for the University of Washington, to study the ecology and behavior of the wild boar in West Pakistan. What is involved in this request?

Dr. CHALLINOR. This is a particularly important project because as you know, Pakistanis are predominantly Moslems. They, therefore, do not eat pork. There is no major predator on the wild boar. One of the particularly interesting aspects here is that the wild boar, as you may know, goes all the way from India and Pakistan across Asia into Europe, so there is a wide diversity of habitat. This is the sort of research work, the unpopular or unappealing research work, that is done by many Smithsonian-supported scientists but which is often very, very important in these countries.

FOREIGN CURRENCY COUNTRIES

Mrs. HANSEN. Isn't what you are attempting to do, is to add to the total sum of human knowledge in a wide variety of fields? Please insert in the record the excess currency countries which participate in your program.

Dr. CHALLINOR. Those are listed, Madam Chairman. I will be happy to see that they are in the record.

(The information follows:)

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

EXCESS CURRENCY COUNTRIES AS OF APRIL 1971

Burma
Guinea
India
Morocco
Pakistan
Poland
Tunisia
United Arab Republic (Egypt)
Yugoslavia

DETAILS ON OTHER PROJECTS

Mrs. HANSEN. For the information of the committee please insert in the record the details of some of the other projects you are funding.

Dr. CHALLINOR. Yes. These all I assure you have been passed by eminent scientists in competition with other grants.

Mrs. HANSEN. For example you are funding a project to collect for systematic studies, ants and parasites associated with man in Tunisia and Guinea. Also a project to study in South Asia the international spread of plant disease by means of airborne organism.

Mr. YATES. I think you ought to get an explanation of No. 5 on page 13, because I am sure somebody is going to ask about that one.

Mrs. HANSEN. Yes.

Dr. CHALLINOR. We will be happy to fill these in for the record.

Mrs. HANSEN. Please do.

Dr. CHALLINOR. Project No. 5 actually has to do with snails.

Dr. RIPLEY. It has a highly applied medical value. By calling them mollusks instead of snails we have confused the issue.

Mr. MCDADE. That doesn't clear it up very much for me, changing that one word.

(The information follows:)

Page C–13, No. 12, University of Washington: To study the ecology and behavior of the wild boar in West Pakistan, a little-studied animal which is nevertheless a significant agricultural pest.

The wild boar causes crop damage in Pakistan alone estimated at $35 million annually. Its control has been of concern to the Pakistani Government, as it is to the other countries stretching from India to Europe. In muslim countries the boar is considered, like the pig, an unclean animal and its numbers are not, therefore, controlled through regular cropping. The proposed study will provide basic information on the biology, behavior and feeding habits of the boar upon which a program of control can be based. One result might be greater agricultural self-sufficiency in West Pakistan.

Page C–16, No. 7, Smithsonian Institution, Division of Invertebrate Paleontology: To study in Tunisia 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.

Ostracods, which have existed on the earth throughout most geological eras, are indicators of major geological change. Finding fossils of these small animals, which are small shelled marine animals belonging to the same general type as lobsters, shrimp, crabs, and the like, will indicate definite climatic and environmental conditions in a given part of the ocean where they are found; through the study of the distribution of these small animals the major changes in the area now covered by the Mediterranean over the last 40 to 60 million years can be charted. Ostracods are of particular importance in the study of possible mineral-bearing strata, since fossils of ostracods are brought up more readily by oil drills, for example, than would be the case with larger animals.

Page C–20, No. 9, Chico State College, California: To collect for systematic studies, ants and parasites associated with man in Tunisia and Guinea.

Eighty percent of the animals on the earth are insects. Two of the most important groups of these from the point of view of their affect on mankind are ants and termites. If we are to understand how to reduce the damage brought about by these insects, we have to know their precise nature and their role in the economies of other animals. This particular study proposes the collection of ants and termites in Tunisia and Guinea and particularly of the beatles (Staphylinidae) associated with them. This study is an extension of others by the same investigators covering the tropics in both this hemisphere and in Africa and Asia.

Page C–18, No. 19, Pennsylvania State University, and the University of Minnesota: As a part of United States research under the International Biological Program, to study in South Asia the international spread of plant disease by means of airborne organisms.

The air carries much biologically significant material such as the pollen which fertilizes plants and causes hay fever or the exhaust fumes of automobiles and industries which block out the sun's rays over our cities, affecting plants, animals and man. Other living organisms are carried in the atmosphere, such as the spores of fungus, disease microbes, and even minute animals called aphids. This proposal would extend to India studies initiated in the United States under the International Biological Program designed particularly to study plant diseases which are transmitted through the air without respect for international boundaries. The purpose is to understand the evolution of the diseases as well as to record the losses in plant life resulting the diseases. Such studies are but one element in a detailed program which seeks to promote and coordinate internationally oriented research on critical problems in this field of aerobiology and to ensure the application of standardized techniques and the exchange of comparable data between disciplines and nations.

Page C–13, No. 5, 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.

Snails (mollusks) carry diseases which attack man and his domesticated animals. The diseases include schistosomiasis, liver fluke, and other worm parasites. These diseases are widespread in the tropics and they have a way of spreading dramatically in an area where hydroelectric dams and irrigation canals are being built. This happens as a result of the disturbance of the ecological balance apparently through a change in water usage. Precise identification of the snail which is carrying the disease is the first step toward controlling it. Moreover, by knowing the snails habits, man can learn to avoid contact with it. Snails have been little studied in South Asia. These studies are, therefore, of great importance from the standpoint of human and animal health in that region. The studies employ the most modern techniques to understand the basic genetic materials of cells of the snails and thus to tell one family of snails from another when they are from all outward appearances identical.

Construction and Improvement of National Zoological Park

Mrs. Hansen. Please insert in the record justification pages D–1 through D–7.

(The pages follow:)

CONSTRUCTION AND IMPROVEMENTS
NATIONAL ZOOLOGICAL PARK

1970 Appropriation $600,000
1971 Appropriation $200,000
1972 Estimate $200,000

In 1963, Congress approved the concept of a 10-year master development plan for the National Zoological Park. Funds, averaging $1.8 million a year, were appropriated from 1963 to 1968 in support of the master plan. The Bird House, Great Flight cage, deer area, hoofed-stock area, Hospital and Research building, roads and parking lots, utilities, sewerage, heating plant, and improvements in the electrical distribution system were all completed using the original master plan and the funds appropriated by Congress. In fiscal year 1968, Congress appropriated only $400,000 and work was scaled down to only those improvements required to extend the useful life of the facilities not yet replaced and some minor repair projects. Improvements to the Zoo's facilities were further slowed in 1970 because the Zoo was required to reimburse the District of Columbia $168,000 for contractor claims resulting from fiscal years 1964 and 1965 work. In addition, in February 1970 a portion of the master plan was rejected by the Commission of Fine Arts. This rejection means that the plans for the future physical development of the Zoo must be revised embodying a different philosophy of design. We have just entered into a contract with the architectural firm of Faulkner, Fryer & Vanderpool for a revision and updating of the Master Plan, including schematic drawings for all facilities. This will give us the most complete overall plan we have ever had. We will have more reliable cost estimates at today's construction cost levels. We plan to take a hard look at the construction and rehabilitation of the entire Zoo at this time. We will have an opportunity to take advantage of the very latest techniques in animal habitat as well as the accommodation of the visitor. This will require a minimum of one to two years' design effort. In the interim, an appropriation of $200,000 is requested to continue to work on the large backlog of deferred renovation and repair projects such as the following.

-- The perimeter fence is in a bad state of repair and presently, due to vandalism, floods in Rock Creek, as well as deterioration from age, does not afford the security that the Zoo requires. In August 1970, the Zoo lost four waterbucks as the result of an attack by two stray dogs that entered through openings in the fence. The length of the present fence is 3.7 miles. It crosses Rock Creek twice. Probably 70 percent of the fence will have to be replaced and an engineering design will be required at the points where the enclosure crosses Rock Creek in order to prevent future washouts by the creek when at flood stage.

-- The addition of a new water main loop at the south end of the Zoo is needed in order to correct water pressure deficiencies in the area of the Lion House and to insure an adequate supply of water for the boiler plant, which has been rehabilited.

-- Many of the existing buildings are in need of attention beyond the routine maintenance accorded them. The Commissary in the basement of the Reptile House that handles food for the entire animal population of the Zoo requires new equipment along with replacement and remodeling of much of the present equipment. The old Hospital, which hasbeenvacated by the Animal Health Department, requires remodeling to accommodate the Department of Living Vertebrates. The Bird House area requires replacement of the existing crane, pheasant, and owl cages which are badly deteriorated and require repair.

-- The sidewalks are in need of repair and some need to be replaced.

RESTORATION AND RENOVATION OF BUILDINGS

1970 Appropriation..... $425,000
1971 Appropriation.....$1,725,000
1972 Estimate.....$1,050,000

An appropriation of $1,050,000 is requested for the following projects:

Renwick Gallery	$400,000
National Museum of History and Technology	500,000
Sewer System Improvement-South Buildings	125,000
Lamont Street Library Improvements	25,000
Total estimate 1972	1,050,000
Less amount appropriated in 1971	1,725,000
Decrease in 1972	$-675,000

Renwick Gallery

An appropriation of $400,000 is requested to complete the program of exterior and interior restoration of the Renwick Gallery.

Using funds previously appropriated, the Smithsonian has directed its efforts at the restoration of the Renwick Gallery's basic structure. An air cooling plant was installed in the Gallery. The need for this system was not anticipated in the FY 1971 budget request. As part of the restoration process, an air conditioning system was installed in the building which could use cold water supplied by the General Services Administration. The Smithsonian was informed late last year by the GSA that cooling water could only be supplied on a 5-day week, 8-hour, basis. In order to meet the needs of the museum which must maintain a constant temperature and humidity to safeguard the collections; it was necessary to install a revised cooling plant. The exterior stonework, entranceways, and the interior corridors, lobbies and galleries have been renovated to the point where the final or finishing work can be started. This finishing work, the full extent of which could not be determined until the basic structural work was completed, includes the replacement of the sidewalk around the building, exterior lighting fixtures, the cast iron grillwork on the roof and windows, the finishing, painting and gilding of arches and columns, marbleizing of woodwork in the central halls and stairways, and the replacement of damaged marble in the floor of the building. This work will be designed to restore the exterior and certain areas of the interior of the building to their original appearance, as designed by James Renwick in 1859.

In addition, it is necessary to complete storage facilities, to provide gallery furnishings for use by the public in the restored interior areas of the building, and to recast exterior sculpture for the facade as well as to install an essential bird-proofing system.

National Museum of History and Technology
Bicentennial Facilities

An appropriation of $500,000 is requested for the preparation of plans and specifications for the Bicentennial facilities to be added to the National Museum of History and Technology, and to design exhibits for these facilities.

As part of the Smithsonian's contribution to the American Revolution Bicentennial celebrations, the National Museum of History and Technology plans to convert the terraces of its building into usable space by the construction of structures on the sides of the building. The purpose of these structures will be to house certain national treasures and exhibits relating to the twin themes

of the Museum's Bicentennial participation--what the nations of the world gave to make the United States of America, and in turn what the United States has given to the nations of the world.

The National Museum of History and Technology will conclude a feasibility study for the Bicentennial structure project in fiscal year 1971. The completion of the study will permit the Museum to proceed on July 1, 1971, with developing final architectural plans. Construction would begin in fiscal year 1973 and be completed no later than January 1, 1975, to allow one year for installation of exhibitions. Total structural costs are estimated to be $4,500,000, while the exhibits will cost an additional $1,000,000.

Sewer Systems Improvements-South Buildings

An appropriation of $125,000 is requested to correct a serious sewer problem for the buildings on the south side of the mall.

The three Smithsonian buildings on the south side of the Mall, Smithsonian Building, Arts and Industries Building, and the Freer Gallery of Art, empty both their sanitary wastes and rainwater runoff into the District of Columbia sewage system through single pipe systems. This type of system has two serious drawbacks--overloading the treatment plants and a tendency to backflow during heavy rains. Because the rainwater runoff and the sanitary system wastes are mixed, large quantities of polluted water are discharged into the river. The District of Columbia is in the process of converting to a separate system to reduce the load upon the already overloaded sewage treatment plants. The Smithsonian must be able to tie into this system. In addition, flooding of the buildings during heavy rains, because of the limited ability of the pipes to carry off rain water, occurs frequently. By replacing the single pipe system with separate and larger sanitary and drain pipes, flooding can be eliminated.

Lamont Street Library Modifications

An appropriation of $25,000 is requested to modify space at the Smithsonian's Lamont Street facility to house library materials.

At the present time, the library is extremely short of shelf space for library materials. A study of available space at the Smithsonian showed that the space formerly occupied by the Department of Entomology at Lamont Street, which recently moved back to the Natural History Building, could be modified by the addition of flooring, partitions, shelving and lighting to serve as an overflow facility for library materials. The library is temporarily storing about 40,000 books in cartons and boxes at the Lamont Street facility because of lack of space in the Mall buildings. With the modifications about 50,000 volumes could be handled at this facility, all of which would be accessible for use by researchers.

CONSTRUCTION

1970 Appropriation..... $3,500,000 1/
1971 Appropriation..... $5,200,000 1/
1972 Estimate..... $5,597,000 1/

CONSTRUCTION
Joseph H. Hirshhorn Museum and Sculpture Garden

By the Act of November 7, 1966, the Congress provided a site on the Mall for the 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, $2,000,000 were appropriated for plans and to start construction. Contract authorization was granted by language in that appropriation bill in an amount not to exceed $14,197,000. An additional $3,300,000 was appropriated in 1970 and $5,200,000 in 1971 toward liquidation of the contract authority.

Construction was started in March 1970 and the excavation and foundation construction is in progress. Construction is proceeding on schedule with no major delays being anticipated at this time. An appropriation of $3,697,000 is requested for fiscal year 1972 in order to liquidate the remaining contract authority. This appropriation, with the $1,000,000 legally committed by Mr. Hirshhorn, will complete funding of construction contracts and finance supervision and related construction management costs. This will allow for the completion of the construction in time for the planned opening of the Museum in late fiscal year 1973.

CONSTRUCTION
National Air and Space Museum Planning

The Act of August 12, 1946, established the National Air Museum as a bureau of the Smithsonian Institution. The Congress included provisions for selecting a site for a National Air Museum building to be located in the Nation's Capital. By the Act of September 6, 1958, the Congress designated a site for a building to be on the Mall from Fourth Street to Seventh Street, Independence Avenue to Jefferson Drive. Planning appropriations in the amount of $511,000 and $1,364,000 were made available to the Smithsonian by the Congress for the fiscal year 1964 and 1965 respectively. In 1966, the Congress enacted legislation authorizing the construction of the National Air and Space Museum but deferred appropriations for construction until expenditures for the Vietnam conflict had shown a substantial reduction. Construction plans and specifications for the proposed museum building were completed and were accepted by the Commission of Fine Arts and the National Capital Planning Commission. The cost of the buildings, built to those plans and specifications, was estimated to be $40 million dollars in 1965. Unfortunately due to the rising costs of labor and materials, this same building would cost between $60 million and $70 million, to construct depending on the increase in costs and the date of the beginning of construction.

The space program, with its Mercury, Gemini, and Apollo flights, has caused a considerable increase in the public's interest in aeronautical and aerospace matters. During 1970, almost 4.5 million visitors were counted in the Arts and Industries Building and the Air and Space Building, both of which

---

1/ Fiscal year 1970 and fiscal year 1971 liquidation of Contract Authority. Fiscal year 1972 $3,697,000 liquidation of Contract Authority. $200,000 in 1970 was appropriated to move the Armed Forces Institute of Pathology.

are used to house temporarily a very small portion of the collections and exhibits of the National Air and Space Museum. With the additional space available in the new building, the National Air and Space Museum will be able to use a wide range of the more than 200 aircraft and thousands of aerospace objects in the collections to interpret the historical and technological progress of aviation and aerospace science to the millions of visitors that will come to the Museum annually. The Air and Space Museum already has in its collections such historically significant aircraft as the original Wright Brothers Flyer, Lindburgh's "Spirit of St. Louis," the NC-4 (the first to fly the Atlantic), the Bell X-1 (first to exceed the speed of sound) as well as Mercury, Gemini, and Apollo spacecrafts. To demonstrate and exhibit technological progress, the Museum can choose from literally hundreds of engines, power plants, and ancilliary equipment ranging from simple rotary engines built at the turn of the century to the huge Saturn F-1 engine which produces millions of pounds of thrust. This collection of aeronautical and aerospace items which many consider the finest in the world, needs only the additional space provided by a new Museum to be displayed properly to the public.

During a Symposium on the National Air and Space Museum which was held on January 18, 1971, Senator Barry Goldwater, Dr. Wernher von Braun, Congressman Frank T. Bow, and Congressman James G. Fulton jointly proposed the following resolution be presented to the Board of Regents of the Smithsonian Institution.

--That the Smithsonian Institution should press for construction of the authorized National Air and Space Museum building;

--That a study of changes in the original approved design should be undertaken immediately in order to determine the feasibility of lowering construction costs;

--That a firm date of July 4, 1976, should be established for the opening of the new museum building as a major element of the Smithsonian Institution's contribution to the commemoration of the Bicentennial of the American Revolution;

--That consideration be given to constructing a major underground parking facility beneath the Mall in order to alleviate the increasing problem of automobile parking in the vicinity of the Mall;

--That consideration of the joint venture by the National Park Service and private capital be explored. This action would complement the requirement for parking facilities as a significant factor in construction of the National Air and Space Museum.

In consideration of the rising costs of the building and the increased public interest in air and space activities, an appropriation of $1,900,000 for planning and redesign, and for the specifying of programs, facilities, and installations is requested. The object of this redesign would be to utilize the latest design, construction, and exhibit techniques to lower the cost of the building to approximately $40 million, which still providing outstanding facilities to display properly the many unique aeronautical and astronautical items in the collections.

The Senate Committee on Rules and Administration has advised that a request by the Smithsonian for redesign funds would be consistent with the Committee's 1966 recommendation regarding construction funding.

Smithsonian Institution Current Building Program

Project	Est. Total Cost	Appropriated to Date	Fiscal Year 1972 Request
Construction and Improvements, National Zoological Park	$20,000,000 (depending on redesign)	$8,703,000	200,000 1/
Restoration and Renovation of Buildings	Continuing Program	8,323,000	1,050,000 2/
Construction, Joseph H. Hirshhorn Museum and Sculpture Garden	15,000,000 3/	11,303,000	3,697,000 4/
Construction, National Air and Space Museum	44,775,000 (depending on redesign)	1,875,000	1,900,000 5/

1. Buildings and facilities repair and maintenance.

2. Renwick Gallery completion ($400,000) planning and design of Bicentennial facilities and exhibits on the History and Technology Building ($500,000), sewer system improvements ($125,000), and library improvements at Lamont Street ($25,000). Total estimated cost of Bicentennial facilities is $4,500,000.

3. Excludes $200,000 for relocation of the Armed Forces Institute of Pathology and $1,000,000 legally committed by Mr. Joseph H. Hirshhorn for construction.

4. Liquidation of contract authority of $14,197,000 provided in fiscal year 1969 appropriation act.

5. Building planning and redesign.

Mrs. HANSEN. On September 2, Dr. Ripley, you wrote to me about a proposed reprograming of $1,419,000 for construction in the National Zoological Park. On October 7, I replied that this matter should be taken up in the hearing at which time all master planning in connection with these projects should be completed as well as required approvals. Dr. Ripley will you please discuss this for the committee. As I recall, the construction program involved an otter pool, $215,000; a monkey island, $376,000; support facilities, $320,000; and major repairs and renovation, $508,000.

Dr. RIPLEY. Mr. Bradley, would you speak to this.

Mr. BRADLEY. Of course Dr. Reed lives with all of this, but I get into it with him also. The admonition that we get all of our planning lined up was in your letter, and we have reviewed the situation this morning at the very last moment. We have not had sufficient time yet to obtain all of the clearances, such as that of the Planning Commission and the Commission of Fine Arts.

We are in contract relations now with a good firm of architects. We have an excellent landscape architect as part of the design team. Landscaping has been part of the problem, trying to subordinate the buildings and make the best of the beautiful park, but we have not yet equipped ourselves to come back to you and discuss the reprograming.

Mrs. HANSEN. Aren't you glad I wrote and told you this?

Mr. BRADLEY. Yes.

NEED FOR GOOD PLANNING AND DESIGN

Mrs. HANSEN. I really am tremendously interested in bettering the habitat of the zoo and making it a more beautiful place.

Mr. YATES. That birdhouse is marvelous.

Mrs. HANSEN. But considering the habitat of some of the animals and comparing it with others in the country, the Washington Zoo leaves much to be desired. Part of it has been in the planning and design of the facilities.

For example, and you have heard me mention this before, the Portland Park Zoo is just lovely. The Salt Lake City Zoo and the Seattle Woodland Park area are also well designed.

The items you want to construct will help create a tremendous experience, but they do take planning and design.

Dr. REED. If I may, somewhat in defense, you have mentioned zoos that were all built since the National Zoological Park. Please remember that our lion house is an 1890 creation. We are going to replace it with an exhibit of beauty and a thing of joy. You mentioned the birdhouse. We hope to do, and I am sure that we will do, as well by the other animals as we have done by the birds, but it does take planning and we are making an extensive study right now.

Mrs. HANSEN. This past fall I was called by the *Washingtonian* and I said that you wouldn't have a much better zoo until you had some better planning, better design, and more funds. These are the ingredients of good zoos. You have the animals and you have the personnel, who are doing a good job, but now what you need is adequate facilities.

Dr. REED. I may say that I appreciate very much your kind words in the *Washingtonian* article. We needed them in that article.

Mrs. HANSEN. A zoo should be an exciting experience. It is like a portrait gallery. To a child of 5 this is perhaps his first contact with monkeys or what have you.

Dr. REED. We consider that the time and effort spent in this designing, and it may take us as long as a year, probably will be the best money that we can possibly spend.

Mrs. HANSEN. I couldn't agree with you more, because you will probably waste less in the end if you have a well planned program.

BUDGET REQUEST FOR REPAIRS

Justify your request of $200,000 for construction and improvements at the National Zoological Park.

Dr. REED. This $200,000 that we have in this present budget presentation is for repairs. These are the necessary repairs that we must make to keep the zoo going, including the perimeter fence. This is just renovation and repair of what we have to keep the zoo in operation until such time that the major improvement program can be reinitiated.

Mrs. HANSEN. Under what activity are you requesting your planning and design funds?

Dr. REED. The planning and design money was in funds appropriated in previous years so we have enough money to accomplish our master plan.

Mrs. HANSEN. This is the first agency that has ever admitted that.

Dr. REED. It is the truth.

Mrs. HANSEN. You also are requesting funds for the addition of a new water main loop at the south end of the zoo.

Dr. RIPLEY. And some commissary repair.

Dr. REED. And there are many other small items involved in this request for $200,000.

RESTORATION AND RENOVATION OF BUILDINGS

RENWICK GALLERY

Mrs. HANSEN. Justify your request of $400,000 for the Renwick Gallery.

Mr. BRADLEY. Madam Chairman, this amount is for the completion of the construction of what has been a very difficult reconstruction and restoration program. The antiquity of the structure I think is probably the reason for this difficulty.

Mrs. HANSEN. When was the facility built?

Mr. BRADLEY. In 1857, and the restoration project required much exploratory work and considerable research to determine the original and authentic nature of both the exterior and interior designs and the various original construction features. We now see the end, and we think by the end of this calendar year and with these funds, we will be able to complete construction.

BICENTENNIAL FACILITY

Mrs. HANSEN. Justify your request of $500,000 for the National Museum of History and Technology bicentennial facility.

Mr. BRADLEY. This represents the combination of both an opportunity to add some additional space that is needed and to give the Bicentennial exhibits an identity and a recognition in their own right. We have had two designs so far. One design sought to employ the terraces that extend around the building and the other design considered going out on the east lawn, and there putting up several pavilions. At any rate, the budget amount that we have submitted here would permit us to do two things: to plan and design additional floor area under a suitable structure, and, also, to design the specialized exhibits that would be housed there.

Mrs. HANSEN. How large is this going to be?

Mr. BRADLEY. It would approximate 50,000 square feet, Madam Chairman.

Mrs. HANSEN. Are these permanent structures?

Mr. BRADLEY. This would be permanent.

Mrs. HANSEN. The committee will be interested in the plans.

Mr. BRADLEY. As soon as we have plans, we will be delighted to go over them with you.

SEWER SYSTEM IMPROVEMENTS

Mrs. HANSEN. You are requesting $125,000 for sewer systems improvement in the south buildings. This as I understand is to correct a serious sewer problem.

Mr. BRADLEY. Yes, Madam Chairman. This essentially is to separate storm water from sanitary sewage.

LAMONT STREET LIBRARY MODIFICATIONS

Mrs. HANSEN. Justify your request of $25,000 for the Lamont Street Library modifications.

Mr. BRADLEY. A study of what we can do at the Smithsonian's building on Lamont Street showed that the space formerly occupied by Entomology could be modified by the addition of flooring and shelving to be very useful for library purposes. This is needed because of the lack of space which is rather chronic in the building on the Mall, the Natural History Building, where our principal library facility is located.

Mrs. HANSEN. Will this complete the modifications?

Mr. BRADLEY. Yes; this will do the 1972 part of the work.

Mrs. HANSEN. You will be able to house 50,000 volumes. Is this correct?

Mr. BRADLEY. That is the figure.

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. Please insert in the record a tabulation of your unexpended and unobligated construction fund balances as of March 31, 1971. This tabulation should list each individual project for which there is a balance and should indicate the year in which the funds were appropriated.

(The information follows:)

Balances in Construction Accounts
Information as of March 31, 1971

Project	Appropriation and Year	Unobligated Balance	Unexpended Balance
Construction, History and Technology Building	$36,000,000 [1] (1956 - 1957)	$57,771	$126,061
Construction, Additions to the Natural History Building	18,636,000 (1958 - 1962)	71,616	82,251
Remodeling of Civil Service Commission Building	6,865,000 (1962 - 1965)	5,962	12,402
Construction and Improvements, National Zoological Park	8,703,000 (1963 - 1971)	2,101,541	2,580,531
National Air and Space Museum Building	1,875,000 [2] (1964 - 1965)	-0-	53,072
Restoration and Renovation of Buildings:	7,061,905 (1966 - 1971)	1,521,162	1,872,324
Smithsonian Institution Building	2,620,000	59,528	93,224
Arts and Industries Building	592,905	459,691	510,792
Feasibility Studies	250,000	60,532	60,532

1/ $585,948 Returned to Treasury, September 1965.

2/ $150,000 Returned to Treasury, June 1965.

Project	Appropriation and Year	Unobligated Balance	Unexpended Balance
Restoration and Renovation of Buildings (Cont'd)			
Renwick Gallery	$2,370,000	$270,269	$354,189
Fine Arts and Portrait Galleries	125,000	44,573	50,076
Freer Gallery of Art	80,000	6,813	22,835
Radiation Biology Laboratory	601,000	484,230	527,913
Smithsonian Oceanographic Sorting Center	148,000	3,763	3,763
Smithsonian Tropical Research Institute	150,000	18,357	127,500
Library Modification	50,000	50,000	50,000
Fumigation Facility	75,000	63,406	71,500
Joseph H. Hirshhorn Museum and Sculpture Garden	11,303,000 (1968 - 1971)	787,789	12,496,480
Contract authorization	3,697,000		
Total	15,000,000		
History and Technology Supplemental (Fire)	775,000 1/ (1971)	482,209	775,000

1/ There was a delay in this project due to the Presidential Proclamation at the requirements of the Davis- Bacon Act of March 3, 1931, amended, to be deleted from the contract requirements. The contracting officer awaited a directive from the GSA Administrator on how to proceed. This Proclamation was rescinded on March 30, 1971.

FUNDS IN RESERVE

Mrs. HANSEN. Do you have any funds in reserve?

Mr. BRADLEY. Practically none.

Mrs. HANSEN. That isn't the answer.

Mr. BRADLEY. Let us be precise.

Mr. JAMESON. There are two identical sums in reserve. The first is an amount of $130,000 from the $775,000 that was appropriated this year for the repair of the fire damage to the Museum of History and Technology.

Mrs. HANSEN. Why is that in reserve? I thought that was an urgent item.

Mr. JAMESON. When we came to the Congress to ask for the money to repair the damage, it was yet unknown whether there would be any major structural damage. All we could look at, at that point, was the damaged finishes. We knew that there was damaged electrical wiring, damaged elevators, and so forth, but we were not sure that once we pulled down the ceilings, looked behind the walls, whether we would find major structural damage to the building. With that understanding, the Office of Management and Budget said, "Fine, let us hold the $130,000 and if you need it, we will release it from reserve."

Mrs. HANSEN. Has the OMB released those funds?

Mr. BRADLEY. We haven't asked them yet to release it.

Mrs. HANSEN. Why?

Mr. BRADLEY. We haven't run into the difficulty.

Mrs. HANSEN. So it wasn't such an urgent request?

Mr. BRADLEY. It was an urgent request, Madam Chairman, but we had to build a large contingency into our request because of the exploratory nature of that job. When we were asked about it, we said it is more contingency than we would normally have. They said, "Fine, we will put that into the reserve until you need it," with the understanding if we needed it, we would come and get it.

Mrs. HANSEN. What else is in reserve?

Mr. JAMESON. It is not precisely in our camp, but the Office of Management and Budget does have $130,000 in reserve for the Woodrow Wilson Center.

Dr. RIPLEY. That is not in our appropriation account.

Mrs. HANSEN. No; but I am very glad to hear about it, because you know I can have as good a reserve as the OMB.

BICENTENNIAL FACILITIES

Dr. RIPLEY. Would you like to hear any supplementary words, Madam Chairman, if I may ask, about these proposed bicentennial facilities?

Mrs. HANSEN. Yes.

Dr. RIPLEY. Dr. Boorstin has a short statement he would like to make.

Dr. BOORSTIN. This is an effort to provide additional space which is necessary in order to produce the dramatic and significant bicentennial exhibit of the "Nation of nations," which will emphasize the unity and diversity of the American peoples; that is, the diversity of origins and the way in which Americans have all worked together to build

American civilization. We do not have appropriate available space in the existing building at the present time to provide these exhibits. It is our hope to acquire such space by making these additions, either on one side of the building or the other, or perhaps attached on the verandas of the building. This will depend on plans which we will be developing and on the reaction of the National Capital Planning Commission, and others.

Mrs. HANSEN. Is this just for plans and specifications?

Mr. BRADLEY. Yes.

Mrs. HANSEN. As I said, the committee would like to see the plans before you go further into the Mall or some other place.

Mr. BRADLEY. We have no intention of going further.

Dr. RIPLEY. We would be happy to show them to you.

OTHER FUNDS IN RESERVE

Mrs. HANSEN. Are there any other funds in reserve?

Mr. JAMESON. No, Madam Chairman.

I should say that the Woodrow Wilson Center is a separate appropriation account.

Mr. BRADLEY. We don't handle that and honestly don't know why it is in the reserve.

Mrs. HANSEN. I do.

Mr. RIPLEY. I have a suspicion.

CONSTRUCTION, JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Mrs. HANSEN. $3,697,000 is requested for construction of the Joseph H. Hirshhorn Museum and Sculpture Garden in FY 1972. Please insert in the record the total amounts of funds that have been expended on planning and design and construction.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Construction funding

Planning (appropriated in fiscal year 1968)	$803,000
Construction (contract authority in fiscal year 1969)	14,197,000
Moving AFIP (appropriated in fiscal year 1970)	200,000
Pledge from Mr. Hirshhorn (non-Federal funds)	1,000,000

The planning and design have been completed and the funds expended. The construction contract has been obligated and work is underway on the building. The General Services Administration expects to expend $6,677,738 in fiscal year 1971 and $6,660,000 in fiscal year 1972. Against the contract authority, the following amounts have been appropriated: $2 million in fiscal year 1969; $3,300,000 in fiscal year 1970; and $5,200,000 in fiscal year 1971. The balance of $3,697,000 is requested in the fiscal year 1972 budget appropriation.

CURRENT STATUS OF CONSTRUCTION

Mrs. HANSEN. What is the current status of construction on this project? We discussed this earlier, do you have any details to add?

Mr. BRADLEY. I think not, Madam Chairman.

Mrs. HANSEN. For fiscal year 1969, contract authorization in the amount not to exceed $14,197,000 was granted for the construction of this museum. What have been your expenditures to date in this connection?

Mr. BRADLEY. Approximately $2,435,000 have been earned and expended to date to the contractor as of March 29, 1971.

Mrs. HANSEN. If there are any additional comments that you would like to insert in the record concerning the Hirshhorn Museum and Sculpture Garden please insert them at this point in the record.

Mr. BRADLEY. We shall do so.

(The information follows:)

HIRSHHORN CHARGES AND ANSWERS

1. The Smithsonian "circumvented" a committee of Congress at the time of the original legislation.

The Smithsonian Institution has absolutely no control over the referral of bills to Congressional committees. The Hirshhorn bill was sent to the Speaker of the House and the President of the Senate by President Johnson on May 17, 1966. In the Senate, the bill was referred to both the Committee on Public Works and the Committee on Rules and Administration, both of which reported it favorably. In the House, the Speaker referred the legislation to the Committee on Public Works, which, after public hearings, also reported it favorably. The Committee on Public Works is concerned with the authorization of public buildings and grounds of the United States.

2. The Agreement between the Smithsonian and Mr. Hirshhorn presented the Congress with a *fait accompli*.

In his letter of May 17, 1966 to the Speaker and the President of the Senate, President Johnson explicitly stated: "I commend to the consideration of the Congress legislation enabling the Smithsonian Institution to accept this gift on behalf of all our people." In a statement to the Subcommittee on Public Buildings and Grounds, Committee on Public Works, it was pointed out by the Smithsonian representative that the proposed legislation "will make possible the acceptance" of the Hirshhorn collection and "will make possible the consummation of an agreement by Mr. Hirshhorn. . . ." It is explicitly provided in the Agreement between Mr. Hirshhorn and the Smithsonian, dated May 17, 1966, that immediately following the completion of the museum and sculpture garden, title to the collection of works of art shall pass to the Institution and such collection shall be delivered to the Institution at the expense of the donor.

3. The agreement was negotiated without prior Congressional approval.

The full agreement between the Smithsonian Institution and Mr. Hirshhorn was made part of the record of hearings before both Senate and House committees. That agreement was clearly contingent upon congressional action.

4. Opponents were not given an adequate chance to be heard in 1966.

The 1966 hearings before committees of the Senate and the House provided a full opportunity for anyone opposed to the Hirshhorn Museum to express his views.

5. The architect, as a member of the Commission of Fine Arts, was involved in a conflict of interest.

Mr. Gordon Bunshaft, the architect selected and member of the firm of Skidmore, Owings, and Merrill, enjoys the highest professional reputation. He has designed other museums, libraries, and public buildings. In order to avoid any possible suggestion of conflict of interest at the time the Hirshhorn plans were before the Fine Arts Commission, Mr. Bunshaft, like other Members of the Commission under similar circumstances, did not himself present his plans nor did he participate in any of the Commission's deliberations thereon. For our part, we are sure that the other six members of the Fine Arts Commission, all distinguished professionals in their own right, gave this matter independent judgment and approved it on its merits alone.

6. Mr. Hirshhorn is not living up to his agreement to care for the collection pending completion of the museum. Federal funds are being improperly used for this purpose.

Mr. Hirshhorn and the Hirshhorn Foundation are spending approximately $81,000 each year for the care, storage, and insurance of the collection, in accordance with the agreement. Federal funds are being used not to care for the collection, but rather to prepare selected pieces for exhibition in the museum and sculpture garden scheduled for completion in the fall of 1972.

7. Mr. Hirshhorn has rescinded his pledge of $1,000,000.

This is one more statement that is not true. The $1 million gift provided in paragraph 4 of the agreement has not been rescinded. Mr. Hirshhorn has agreed that the $1 million gift could be applied to construction of the museum if needed to make possible its completion. He agreed also to add to the original gift at least $1 million worth of additional works of art. If the trustees of the museum should prefer a cash endowment, they will be free to sell these additional works for that purpose.

8. Use of $1,000,000 of private funds for construction is improper.

One million dollars contributed by Mr. Hirshhorn was added to the amount appropriated for construction of the museum with the prior knowledge of the chairmen of the Smithsonian's Senate and House Appropriations Subcommittees, and the chairmen of the Senate and House Subcommittee on Public Buildings and Grounds.

It should be noted that the Smithsonian has been authorized to accept gifts since 1846, when the Congress accepted the original bequest of its first donor, James Smithson.

9. That the sculpture garden as originally planned is esthetically unwise.

The plan for a sunken garden of sculpture across three panels of the Mall was approved by the National Capital Planning Commission and the Fine Arts Commission in 1967. Currently, the Smithsonian and the GSA, with the agreement of Mr. Hirshhorn and the cooperation of Mr. Bunshaft, are exploring possible alternative arrangements for the sculpture garden.

10. That the museum was created "hastily."

The Smithsonian does not consider that the authorization of the museum was hasty. Five and a half months elapsed between submission of Hirshhorn legislation (May 17, 1966) and its passage (November 7, 1966). The architectural plans were subsequently approved by the Fine Arts Commission on July 13, 1967, and the National Capital Planning Commission on December 22, 1967, in accordance with law.

[From the Arts Reporting Service, March 22, 1971]

HIRSHHORN NEWS ARTICLES—WHAT CONSTITUTES GOVERNMENT INTERFERENCE

(The first of two articles)

A quiet controversy has been bobbing up and disappearing in Washington for a year about the arts and Federal opinions. The implications of this running battle are so far-reaching that it is of enormous importance to anyone interested in the future of the arts in the United States that the principles involved be aired. The Congress and the President pledged the faith of the United States to Joseph H. Hirshhorn and now some Members of the Congress wish to revise that pledge. Most surprising is the fact that none of the national news media has seen the necessity of a public exposure of the facts.

In 1966, Mr. Hirshhorn was the most sought after art collector in the world. He had made it known that he wished to give his collection in perpetuity to some jurisdiction which would value it and preserve his name as donor. New York State offered to provide land and buildings, Los Angeles, Baltimore and Zurich made generous offers and England offered to set aside ten acres of Regent's Park for a museum and sculpture garden. Mr. Hirshhorn was in England, in fact, to consummate an agreement when Roger L. Stevens managed to persuade him to wait until the United States Government could make an offer. President Johnson personally took an active role in negotiating an agreement. Mr. Hirshhorn was satisfied and honored to offer his collection.

Although the central point here is the principle involved, the size and scope of the collection is an important consideration. Paging through the complete inventory of the works held by Mr. Hirshhorn and the Joseph H. Hirshhorn Foundation is a breathtaking experience in itself. More than 4,000 paintings and drawings by a staggering number of 19th and 20th century artists, primarily Americans, are included. Virtually every artist of note is represented, not by one or two works, but by six, or a dozen. The sculpture collection is even more astounding in

its riches. Over 1500 pieces of sculpture, from American and Classical antiquity, to the most recent concepts of the most respected artists. The total value placed on the collection at the time was a conservative $25 million. Mr. Hirshhorn also offered an additional $1 million for additional purchases to fill out the holes in the collection and stated he intended to personally buy paintings for it until he died. Most experts agreed at the time that the United States was being offered the most valuable private collection in the world from every point of view.

What happened? President Johnson sent a bill to the House and Senate on May 17, 1966. In the Senate, the bill was referred to the Committee on Public Works and to the Committee on Rules and Administration. In the House, the Speaker sent the proposed legislation to the Committee on Public Works. Note both the date of transmittal and the committees receiving the bill; both of these facts were later challenged as improper.

In the House, hearings were held on June 15, 1966, at which administration officials, Smithsonian staff, and others testified. Since the location designated for the Hirshhorn Museum on the Mall required the demolition of the Armed Forces Medical Museum presently on the site, the Departments of Interior and Defense were asked to clear the bill. They did without objection, and subsequently funds were voted. (The collection will move to a new $8 million building this summer.) The House committee report took note of the value of the collection, at one point listing in part some of the sculptors included: "(Artist and number of his works) Daumier, 43; Rodin, 17; Degas, 22; Giacometti, 23; Sir Henry Moore, 53; Matisse, 21; David Smith, 22; Brancusi, 3; Lipshitz, 13; and Manzu, 27." On October 11, 1966, the committee recommended the bill for passage saying the committee found it "an outstanding piece of legislation and one that in future years will be looked back on as the groundwork from which sprung into full being the establishment of one of the great art collections in the world . . ."

However, the elaborate hearings were held in the Senate Committee on Public Works which at the time claimed jurisdiction of the project. Some objection was offered at the time concerning the piercing of the Mall, but largely this was a matter of misunderstanding the plan for a *sunken* garden. In the end, the Senate was ready for floor action on August 31, 1966, and the House by October 11. Reading the more than 200 pages of reports and testimony, eliminating some of the duplication of the two Houses, one is struck by the gratitude of the Congress for the gift, and the appreciation of the work done by President Johnson and all those involved in bringing about the opportunity for the United States Capital to capture such a magnificent collection.

On the floor of both Houses, the bill met no opposition even from the traditional naysayers to art and culture. It was pointed out that no appropriation was attached at the time and that 2 years would pass before funds were needed. Several Congressmen from both parties spoke in gratitude, and the bill passed both Houses without a roll call vote. The President signed the bill making it into Public Law 89–788 on November 7, 1966. In the subsequent Congress, funds were appropriated for the construction of the museum and sculpture garden.

In July, 1970, the whole matter of the Hirshhorn gift was brought into question suddenly by a subcommittee of the House of Representative's Committee on House Administration. The Subcommittee on Library and Memorials, chaired by Rep. Frank Thompson of New Jersey, claimed it was strangely bypassed when the whole issue came up 4 years ago and now claimed jurisdiction. The roots of this sudden new interest rest in obscurity. Some people claim the reopening was triggered by a vicious attack on Mr. Hirshhorn by columnist Jack Anderson, others believe Smithsonian Secretary Dillon Ripley was unpopular with members of Congress and they wanted to embarrass him publicly. At any rate, 2 weeks of hearings were held, inquiring into all the operations of the Smithsonian, resulting in a report issued December 30, 1970. Though this report recommended several minor and one or two major changes in Smithsonian policy, by far the most shaking recommendation concerned the Hirshhorn agreement: "the subcommittee recommends that no further action to carry out the proposed plans for the sculpture garden transversing the Mall be taken until a complete review has been made by appropriate committees of Congress including the Subcommittee on Library and Memorials, the Subcommittee on Public Buildings and Grounds, and the relevant appropriations subcommittees."

In reviewing the report and the hearings held last July, several obvious questions rise to haunt an objective observer. Answers, however, don't pop up readily to belie suspicions and there lies the seeds of jeopardy for all the arts programs

in the Federal Government. For instance, why was the transcript of the hearings never published as almost all hearing transcripts are? Why did Congressman Crane, a member of the subcommittee, include a disclaimer in the report, questioning the staff research connected with the hearings and insisting he held no opinion concerning the Hirshhorn gift? How can the Smithsonian value the recommendation of the subcommittee with construction contracts already let and work in progress without suffering severe financial penalties for which the subcommittee does not assume responsibility? Of course, the overriding question is why are these particular Members of Congress except Congressman Crane, now re-considering the gift when they were present and apparently supportive of the plan on three previous floor appearances over a 4-year period? The answers are not apparent, but the implications are serious.

(Continued in the next issue of ARS.)

[From the Arts Reporting Service, Apr. 5, 1971]

WHAT CONSTITUTES GOVERNMENT INTERFERENCE?

(The second of two articles)

Joseph H. Hirshhorn offered the most important private collection of modern American art to the U.S. Government and it was accepted with enthusiasm in 1966. From May until November of that year two subcommittees of Congress, the National Capitol Planning Commission, the Fine Arts Commission, the entire House and Senate examined the gift and the agreement and passed it without dissent. Within the next 2 years, the subcommittees on appropriations, the full appropriations committees in both Houses, and the full Congress again reviewed the agreement and the cost and voted for the construction of the Hirshhorn Museum and Sculpture Garden. At the present moment, a large hole exists exactly where all these deliberative bodies have insisted that one be dug in order to fulfill the pledge of faith to Mr. Joseph Hirshhorn.

In July 1970, the Subcommittee on Library and Memorials held hearings inquiring into the operation of the Smithsonian for the first time since 1855. Based on a report by the Government Accounting Office which charged that the Smithsonian wasn't dotting all its i's and was crossing its t's from left to right instead of from right to left in the administrative area, the subcommittee spent most of its energies talking about the Hirshhorn agreement. By December 1970, when the subcommittee issued its recommendations, all the contracts had been let and construction was well underway. The report is a masterpiece of prejudicial writing. It begins by implying the subcommittee was improperly bypassed in the original legislative process, but avoids ever stating a definite claim to jurisdiction. Studying the House Rules which spell out jurisdiction only convinces the reader of the need for congressional reform. Both the slighted committee and the one which actually conducted the hearings can legitimately claim jurisdiction under the vague and overlapping wording found in the rules. The report shrewdly avoids making a case for jurisdictional challenge because it has no substantial case.

The findings of financial and administrative inefficiency were in some cases justified, in others exaggerated, and in other cases understandable errors on both sides, but most of the justified and some of the unjustified findings were corrected by the Smithsonian before the report was published.

Without doubt, the most unjustified recommendations of the report, probably the one which prompted three members of the subcommittee to file a minority view, referred to the reputation and character of Mr. Hirshhorn: "Also with respect to the future, the subcommittee recommends that no federally financed structure be named for any individual without public examination and disclosure of that person's background and character before final action is taken." The minority report said: "The minority members recommend that new hearings be held next year which would deal solely with the Hirshhorn project. Mr. Hirshhorn should be invited to clear his name and reputation of the charges and allegations which have been made." Clear his name and reputation? From what? From charges that were made without substantiation and remain unpublished? From Jack Anderson's column?

Information made available privately to ARS indicates that much of the innuendo surrounding Mr. Hirshhorn's character stems from the fact that he was

once fined by the Canadian Government for illegally taking Canadian currency across the border. The facts of the case are that in the course of building his fortune Mr. Hirshhorn crossed back and forth into Canada, literally hundreds of times. On one such trip he did not declare a considerable but not unusual amount of currency in his wallet. After passing through customs, he remembered the money and informed the authorities. Immediately, he went to the proper official and paid the technical fine and continued on his journey. This completely minor incident was known to those who were responsible for negotiating the original agreement, so thorough was the investigation of Mr. Hirshhorn's reputation. However, this same technical offense was exaggerated by his enemies into hinted accusations of money fraud, smuggling, etc.

The report also talks about the manner in which the agreement was rushed through Congress without "meticulous and deliberate study," and the fact that the Committee on Public Works did not "inquire into the wisdom of accepting the Hirshhorn gift." The implication clearly given is that the Congress can be intimidated and that the committees aren't clear as to their role. Anyone who has ever tried to influence the Congress will find this surprising news, including President Nixon after the SST defeat. And finally, the report refers to the "alleged excessive tax benefits" Mr. Hirshhorn received as a result of his gift. The subcommittee has the power and ability to investigate such allegations and come out with a clear and concise statement saying the benefits are right or wrong. If there are excessive benefits, so say, otherwise such statement is, to say the least, beneath the dignity of a congressional committee.

No one in Washington seems to know what is really behind this investigation which almost borders on a witch hunting expedition. Some knowledgeable people believe it is simply a vendetta between Congressman Frank Thompson, who had always been a steadfast champion of the arts—the single legislator most responsible for the establishment of the National Endowment, and Smithsonian Secretary S. Dillon Ripley. If this is so, then Frank Thompson seems be using congressional clout inadvisedly, since the situation he has created gives support to the timid folk who are afraid of Government interference in the arts. Others believe the controversy is the result of a coalition of anti-Ripleyites, antisemites, anti-Smithsonianites and Mall purists.

Whatever prompted these four Congressmen (the subcommittee has seven members, but three filed a minority report disagreeing on the Hirshhorn phases), Congressmen Thompson of New Jersey, Gray of Illinois, Brademas of Indiana, and Bingham of New York, whatever prompted these men to throw mud on one of the most generous gifts of art ever offered to our Government remains a mystery. However, the causes of controversy are often not as important as the precedent which it established as a result. After the last issue of ARS went to press, Dillon Ripley surrendered to Frank Thompson and announced he was proposing an alternate site for the sculpture garden to counter criticism against "splitting the Mall." The new location parallels the Mall. Ripley said: "We have no objection to an alternate design. We never have had. Our sole desire is to get the Hirshhorn collection in Washington, D.C. and to get it open to the public." He said the alternate proposal was being made "not because someone was leveling a gun at our heads. We did this because we were asked to do so by a congressional committee" he curator of the Hirshhorn collection. Abram Lerner, said: "If they give me a place to put the sculpture, I'll be satisfied, but the critics have succeeded in wrecking a very noble plan." The new plan must now be re-approved by the planning commission and Fine Arts Commission. The changes will take time and energy, and the result will be a considerable increase in construction costs.

Do the Mall purists have an argument? Would it be a sin to have a 3 foot high concrete wall cutting across its width? It's hard to judge because of the unsightly parked automobiles and buses which now transverse the Mall daily.

What is the aftermath of this tangled web of ego clashes, verbal and literary stiletto wielding, and shadow debate? A beautiful and proud example of Federal appreciation of the arts and the generosity of one man has been made sleezy. The taxpayers are paying for unnecessary costs at a time when money is scarce. The reputation of a benefactor to the Nation is slandered without proof. Federal agencies are reminded that no action of Congress is ever final and that capriciousness is acceptable behavior. The suspicious are reinforced in their feelings about Government interference in the arts. The business community can use this event as an example of a reason why business should not become involved with Government or the arts. More important, philanthropists will now be hesitant

about contributing to the Federal Government because they risk harassment, and Federal agencies authorized to receive gifts (viz National Endowment for the Arts, the American Revolution Bi-Centennial Commission) might well become over-cautious about the source of gifts.

Most disappointing of course is the complete lack of support for the Smithsonian by individuals and organizations which have a vested interest in the Federal attitude toward the arts. Organizations interested in private giving to the arts, the museum profession, artists, individuals with philanthropic ties to the Federal establishment, have all been "good Germans" about the issue though they have followed its course with avid interest. All these, and the news media, especially the local press, have been silent or wishy-washy while a generous man has been severely criticized for giving his lifetime collection of art to his Government, while a vigorous Federal agency has been harassed into succumbing to the will of an extremely small minority of Congressmen, and while a Federal promise has been unconscionably modified, bent, and perhaps broken.

[From the Washington Star, Feb. 24, 1971]

HIRSHHORN MUSEUM DESIGN HAS AN IRONIC DEFECT

(By Benjamin Forgey)

In spite of all the recent criticism aimed at practically everything about the project, Washington almost certainly will get its new Joseph H. Hirshhorn Museum, and get it with architect Gordon Bunshaft's circular museum building on Independence Avenue and his elongated sculpture garden across the Mall.

This is both a stupendously good thing for the city and something of a shame.

It is good because the Hirshhorn bequest will add in countless ways to the city's art life.

It is unfortunate because Bunshaft's design, particularly for the sculpture garden, leaves much to be desired.

All of this may be beside the point, a futile exercise in ex post facto criticism, because the contracts have been signed and workers right now are putting the finishing touches on the substructure of the four-story building. Only minor work has been done so far on the sculpture garden, but one Smithsonian source said major digging is slated to start "late this spring."

It would take an act of Congress to change this schedule, and such an event is unlikely in spite of the fact that Representative Frank Thompson, Democrat, of New Jersey, has introduced a bill to forbid construction of the sculpture garden.

The bill does not seem to have generated widespread support in Congress, in fact it has been assigned to the same subcommittee which reported out favorably the original Hirshhorn measure 4 years ago.

And even if it were to pass, it would be a mixed blessing indeed, because it would seem to justify much of the ill-mannered and ill-conceived criticism of both the man and his gift. One cannot simply ignore the fact that such a law would in effect amount to breaking the contract signed by Hirshhorn and the U.S. Government. It would be an act of awesome petulance, but in such a case Hirshhorn could, legally, pick up his fabulous marbles and take them elsewhere.

In yesterday's Star I indicated just how good I believe the Hirshhorn donation to be. My conclusions, briefly restated, are that as is generally acknowledged the sculpture gift is one of the finest collections of modern sculpture in the world, and that the painting bequest is good enough to make the museum one of the greatest repositories of modern American art.

But what about the house for this treasure?

The site for the building and garden could not be better, situated on the south side of the Mall at 7th Street and Independence Avenue, diagonally across from the National Gallery of Art.

The building itself has been too much maligned. If it is not monumental architecture at its highest expression, and if it is not an inventive new solution to the architectural issues presented by a museum—and, to make myself perfectly clear, I think it neither of these things—it still is miles above the utter debasement of scale and taste of the Rayburn Building and the banal mediocrity of the Smithsonian's most recent museum structure, the Museum of History and Technology.

Bunshaft's circular design will offer a certain relief to the planar facade of Federal office buildings lining Independence Avenue, and it will, I believe, be a rather elegant and handsome addition to the row of museums on the Mall.

The top three floors of the building—two for exhibitions and one for offices—will be supported at ground level by massive and elegantly curved stilts. The open interior court with its circular fountain pool, the space around the 14-foot-high columns, and the paved rectangular plaza surrounding the building will make a lovely display area for some of the sculpture.

ALTERATIONS ALREADY

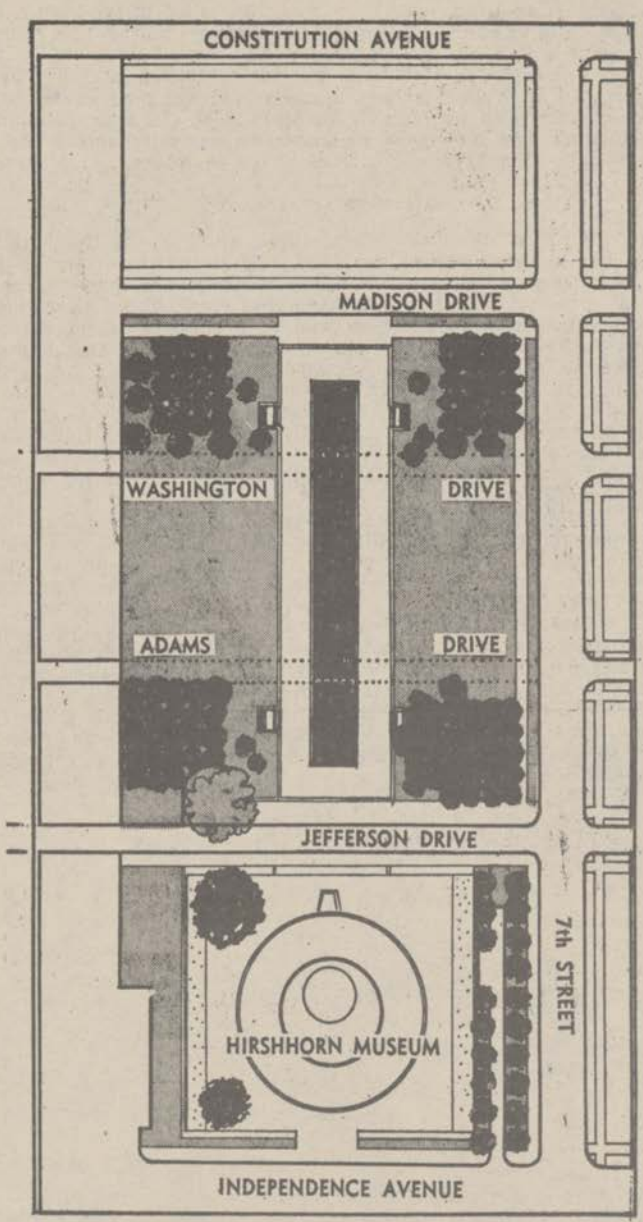
Of course, much of the final effect, the "livability" of the building, will depend on details, what stones are used, and in what pattern to pave the courtyard, how trees and benches and sculpture are placed, how surface textures are matched, et cetera. There already have been cost-induced alterations in the design, most prominent among them being the substitution of exposed reinforced concrete for marble as the material for the facade. One hopes that in this all-important matter of design details the architect has managed to find viable solutions in spite of the cost inflation.

On the inside the design represents a sort of grand galerie going in a circle, and this is an improvement over the endless stretch of paintings one gets in the conventional elongated exhibition hall, the kind that so often induces a dreary sense of sameness in the viewer's imagination no matter what masterpieces line the walls.

Still, the Hirshhorn design shares many of the drawbacks of the grand galerie concept—the lack of flexibility, the difficulty in displaying smaller pictures—and one or two drawbacks unique to the circular concept. The convex wall on the inside of the circle, for example, will limit the size of paintings that can be hung there.

All this, however, is something that Abram Lerner the Hirshhorn curator who will become director of the museum, can deal with by the imaginative use of partitions and a feeling for what is visually proper. The paintings will look good there, and that, after all, is the primary thing.

The architectural excitement of the Hirshhorn will have to come from externals, from the play between the sculpture, the building, the fountain and the surrounding space. This surrounding space. This brings us to the principal architectural issue, the sculpture garden.



Map shows the location for the proposed new Hirshhorn Museum.

Congressional critics of the garden's design stress that it will interrupt the grand sweep of the Mall from the Capitol to the Washington Monument.

Actually this is a relatively minor complaint; the fact is that it won't interfere all that much. Bunshaft designed a clean, sharp, rectilinear space 142 feet wide and 586 feet long. It will sink a total of 10 feet, with walls extending 3 feet above ground level, leaving 7 feet below ground level. A reflecting pool, 60 feet wide and 506 feet long, will punctuate this space like a long, emphatic dash right down the middle.

This cross axis no doubt will interfere with the grassy center slice of the Mall, especially since it cuts off both Washington and Adams Drives, but one ought to keep things in perspective of the truly grand distances involved. The Mall is also "interfered" with at present by Third Street, Fourth Street, Seventh Street, an unnamed drive, 14th Street and 15th Street. The visual "sweep" of the Mall is strong enough to accommodate the streets and the sculpture garden.

A TRICKY PROBLEM

The real design defect of the garden, ironically, probably was caused by the Mall itself. Bunshaft apparently was worrying so much about that grand vista and its rigidly rational, symetrical patterns (and, perhaps, looking over his shoulder at congressional protectors of the hallowed ground) that he did not think too carefully about the true function of the space: to make a good background for the display of modern sculpture.

This is a tricky problem, especially when one is dealing with as many pieces of sculpture as in the Hirshhorn collection. A stone-walled courtyard two football fields long, unrelieved by any visual accents except the sculpture itself, is the least imaginative solution I can think of.

Not incidentally, whereby is this sunken stone mini-Mall a "garden"? Where is the grass, where are the trees, where are the visual and physical accents that would make the space inviting to walk through and, perchance, to stop and dream a bit?

The architect—or whoever is responsible for the original idea of the transverse sculpture court—might have taken valuable lessons from almost any source, not the least of which could have been the Joseph H. Hirshhorn home in Greenwich, Conn. There, surrounding the Greenwich Tudor mansion on that tree-scaped little hill, is one of the loveliest, most comfortable and most impressive sculpture gardens in the entire world.

For a more urban-oriented solution, one could have looked carefully at the sculpture court of the Museum of Modern Art in Manhattan, which, with its trees, wandering stream, steps, tiers, enclosures, etc., is a remarkable urban park. In both places the setting vastly enhances one's enjoyment and understanding of the art.

The real shame of it all is that there is indeed—or at least there was—an alternative solution right at hand, one that would silence the protectors of the Mall and provided a better place to enjoy the sculpture.

OUTSIDE PANELS

The Mall in cross section is divided into five panels. All of the museum buildings, Hirshhorn included, sit on the outside panels. These are succeeded by two "tree" panels, and the Versailles sweep of which our solons are so jealous is primarily defined by one panel—the grassy one in the middle.

The Hirshhorn sculpture court now forms the stem of a "T" to which the building site is the cross member. What would happen if one were to swing that stem 90 degrees to the south, thus placing it in the tree panel immediately to the north of the building?

The answer is it would change the shape some, but it would fit. As designed, the sculpture court measures 83,200 square feet, 30,300 square feet of which are taken up by the reflecting pool. This leaves 52,900 square feet of dry exhibition space.

The tree panel defined by Jefferson and Adams Drives measures a total of 100,700 square feet. This high figure is somewhat misleading, because any use of the plot as a sculpture court would no doubt involve a cutback to the width of the plot on which the building stands. The building site, as indicated on our map, is set in quite a bit from Seventh Street to accommodate a service roadway. Even allowing for this, the tree panel would measure 67,450 square feet—not so much of a cutback, considering the benefits that would encrue.

In this position the design no longer would be inhibited by the need to keep the Mall's center strip free of vertical interruptions such as sculpture, walls, partitions or trees. The design potential of such a solution would be enormous: Trees, pools echoing the circular design of the building and its central fountain, benches, walk-up plateaus, etc.—all the intimate touches so remarkably lacking in the Bunshaft design.

Such a desirable new design could become a reality in 2 or 3 years if all parties to the compact were agreeable. But that would mean a voluntary turnabout on the part of the architect, the Smithsonian, and Hirshhorn himself. This seems highly unlikely, and that's a shame.

[From the Washington Evening Star, April 1, 1971]

HIRSHHORN GARDEN PLAN IS VASTLY IMPROVED

(By Benjamin Forgey)

Architect Gordon Bunshaft said a lot of good things yesterday but perhaps the best was his remarks that a lovely giant oak tree on the Mall is "the best piece of sculpture here."

Bunshaft was talking about one of the world's finest collections of modern sculpture the Joseph H. Hirshhorn gift to the Nation—but he may be forgiven the hyperbole of the comparison.

The tree in question stands majestically in the southwest corner of the plot of ground in which the architect chose to locate his new design for the Hirshhorn sculpture garden.

TREE PRESERVED

Bunshaft went to the trouble to preserve that tree in his new version of the sunken sculpture court, and that simple gesture speaks volumes about the superiority of the new design to the original one.

The architect unveiled a cardboard model and scale drawings of the revised concept for four members of a committee of the National Capital Planning Commission, which must approve the design before the garden can be built. Neither the Commission Members nor the staff appeared to be overly impressed, but they should have been.

Referring to his original inspiration of a severely elegant sunken rectangle slicing across the Mall, on a north-south axis, Bunshaft remarked that it would have been appropriate for the display of sculpted "Roman gladiators and senators" but not for the exhibition of modern sculpture.

Hence the significance of that grand oak tree. The new design is fit for habitation by people, nature and sculpture in a way that the first design was not. It will be visually more interesting, artistically more satisfying, and altogether a more pleasant place to visit.

In addition, it has the advantage of responding to the objections of congressmen strongly opposed to the original proposal on the grounds that it would have interrupted the visual sweep of the Mall from the Capitol to the Washington Monument.

These objections, which reached such a point in January that Representative Frank Thompson, Democrat-New Jersey, introduced a bill to forbid construction of the sculpture garden, were sufficient to overturn the commission's approval of the first plan and send the architect back to the drawing board.

The new sculpture garden will be confined entirely within the tree plot of the Mall immediately to the north of the Hirshhorn museum site. It, like the first version, is sunken some 10 feet below ground level, is rectangular in outline, and contains a long, narrow reflecting pool.

But in his revised design Bunshaft has managed to combine a rather severely elegant setting with an intriguingly asymmetrical push-pull of visual variety.

The oak tree, for example, will be on ground level and nicely serves the aesthetic function of anchoring the court at one corner. It is counterbalanced visually on the opposite side of the courtyard with another large tree. (This one presumably will have to be planted, so we'll have to give it time to provide its welcome shade). The oak tree also will serve as a backdrop for a second pool, this one to be equipped with water-spraying jets, that is tucked into an enclosed corner.

The court as presently proposed will offer visitors any number of places to sit down and gaze at the sculpture: Under either of the big trees, on the edge of the

reflecting pool, at any point along the two 15-inch-high "steps" with which Bunshaft has defined the largest rectangular area in the design.

Visitors can descend into the sculpture court from three entrances: From a passageway that starts in the plaza surrounding Bunshaft's doughnut-shaped museum building and burrows under Jefferson Drive, or from two neatly counterpointed "stairways" made of 6-foot granite slabs, one at the west and the other at the east end of the rectangle.

Bunshaft added a further element of variety by shielding the view from the entrance tunnel with a massive stone pier, flat on one side and gracefully concave on the other.

The ground surface will be a somewhat disappointing blend of sand and gravel where a lovely pattern of stone would have been more appropriate, but this is a money-saving solution that is absolutely necessary if the project is to be built within the budget limitations already set by Congress.

In view of all this it is difficult to understand most of the objections raised yesterday by members of the planning commission and its staff.

One member, Conrad L. Wirth, appeared to want to take advantage of this revision of an already approved design to reopen the whole issue of whether the museum should have a separate sculpture garden at all. His rationale was disappointingly familiar: The hallowed sanctity of the Mall's "gamboling greensward," as he called it.

Even the staff, which endorsed the idea of removing the scultpure court from the center strip of the Mall, asked that the Smithsonian Institution "study the feasibility of developing a sculpture garden within the surface plaza level around the museum building." Translated, this means "no sculpture garden."

It is late in the day to be asking for such "studies." One of the most pleasing aspects of Bunshaft's design for the museum building is the plaza, and the building is raised 14 feet above the plaza level by four sculptural piers. It has been part of the plan all along to display some of the Hirshhorn sculpture collection on this plaza and even under the building.

As Bunshaft said yesterday, "If this museum is to fulfill its uniqueness it must have space for sculpture. . . . A sculpture garden is as essential to this museum as a surgical section is to a hospital."

The sculpture garden is not negotiable. It is part of the agreement between Hirshhorn and the Government and of the authorizing legislation.

EFFECTS OF WITHHOLDING CONSTRUCTION APPROPRIATION

Mrs. HANSEN. What would be the situation if the committee were to decide to withhold further appropriations to liquidate contract authorization until all the matters in controversy regarding this museum were resolved?

Mr. BRADLEY. Madam Chairman, the construction job would have to be slowed down and eventually stopped.

Mrs. HANSEN. How would this affect your contract with Mr. Hirshhorn?

Mr. BRADLEY. We would have to ask Mr. Kunzig about that, the Administrator of General Services. We look to him for these technical services.

Mrs. HANSEN. Would you have him give the committee an opinion?

(The information follows:)

GSA OPINION ON EFFECTS ON CONSTRUCTION AND GOVERNMENT OBLIGATIONS

The following request has been made to the General Services Administration. Their response will be made available to the committee.

APRIL 8, 1971.

Hon. A. F. SAMPSON,
Commissioner, Public Buildings Service,
General Services Administration,
Washington, D.C.

DEAR MR. SAMPSON: The chairman of the Subcommittee on the Department of Interior and Related Agencies of the House Committee on Appropriations has raised the following questions regarding the Joseph H. Hirshhorn Museum and

Sculpture Garden and has requested that this information be submitted for the record:

If further appropriations to liquidate contract authorization were withheld until the resolution of the controversy in proposed legislation, what would happen? Would the project be slowed down or halted?

What obligations would be incurred by the Federal Government should construction of the present contract be terminated?

Our report has been requested to be supplied to the subcommittee early during the week of April 12. Your prompt reply would be deeply appreciated.

Sincerely yours,

S. DILLON RIPLEY, *Secretary.*

GENERAL SERVICES ADMINISTRATION,
PUBLIC BUILDINGS SERVICE,
Washington, D.C.

Mr. JAMES BRADLEY,
Under Secretary, Smithsonian Institution,
Washington, D.C.

DEAR MR. BRADLEY: Your letter of March 29, 1971, requested a statement of the consequences of stopping work on the Hirshhorn Museum and Sculpture Garden. Contractually, there are two alternatives for accomplishing this, specifically, suspension or termination of the work. The most appropriate procedure depends entirely on the time element involved. In this case, we feel that the entire construction of the Museum and Garden should not be suspended for more than 30 days. If the work is to be delayed beyond the 30-day period, the contract should be terminated.

The nature and number of variables implicit in this sort of action will not permit precise analysis of costs involved. Some of the costs would be the subject of extensive negotiation and possible litigation. However, we estimate that the contractor has incurred commitments of more than six million dollars to date. Less than one third of this amount is recoverable which gives some perspective to the financial consequences of this action. Further, if the contract is suspended or terminated, the project cannot be completed within the available funds. If the contract is terminated, the structure could never be erected at the current contract amount.

As you know, construction of the original sculpture garden transversing the Mall is currently suspended. Here again, time is of the essence and determinations must be made within a two-month period. With appropriate accommodations in the design and strict adherence to the two-month schedule, a sculpture garden can be developed within the tree panel of the Mall at no increase in the contract price. However, if suspension of work extends beyond a two-month period, this part of the contract should be terminated. The cost of terminating the sculpture garden would be approximately $700,000, with possible additional costs resulting from litigation.

Sincerely,

A. F. SAMPSON,
Commissioner, Public Buildings Service.

SMITHSONIAN INSTITUTION,
Washington, D.C., April 28, 1971.

Hon. JULIA BUTLER HANSEN,
Chairman, Subcommittee on Interior and Related Agencies, U.S. House of Representatives, Washington, D.C.

DEAR MADAM CHAIRMAN: You asked during our recent hearing on the appropriations for the fiscal year 1972 about the consequences if no further appropriation was made for construction of the Hirshhorn Museum and Sculpture Garden.

Since passage of legislation authorizing the Museum in 1966, design and construction have gone steadily forward. The estimated completion date for the Museum is September 1972, eighteen months away. With the approval of the Senate and House Committees on Public Works, of the Senate Committee on Rules and Administration, of the Appropriations Committees, and of the Congress, a substantial financial commitment has been made by the Federal Government.

The Museum received its first appropriation in Fiscal Year 1968: $803,000 for plans and specifications. By the Act of July 26, 1968, specific contract authority in the amount of $14,197,000 was provided. In the Fiscal Year 1969 budget, $2,000,000 was appropriated as part of the liquidation of this contract authority. Additional sums of $3,300,000 and $5,200,000 were appropriated in Fiscal Year 1970 and Fiscal Year 1971 further to liquidate this authority. Based on this authority, the General Services Administration on February 27, 1970, signed contracts for the construction of the Museum and Sculpture Garden and the Piracci Construction Company, committing $13.8 million. Associated costs such as the demolition of the Armed Forces Institute of Pathology and moving it to its new quarters, the design fee, supervision, post contract services, survey, bids, tests and contingencies amounted to approximately $2.1 million. Costs in excess of the authorized total of $15 million are to be borne by an additional donation from Mr. Hirshhorn of $1 million to be made under an existing firm legal commitment. The Smithsonian's budget request for Fiscal Year 1972 includes $3,697,000 which, with Mr. Hirshhorn's donation, will complete the funding of construction contracts.

The construction of the Museum and Sculpture Garden was begun in March 1970. Excavation, foundation, and the lower structure of the Museum are nearly completed. Through March 1971, accrued costs for the Museum have totaled $3,447,424.

Should the General Services Administration be forced to terminate this contract, the Government would be faced with substantial and grave uncertainties. Lenghthy negotiations would be required with the Piracci Construction Company for an appropriate settlement of terminating or delaying the contract.

Implicit in this description of moneys already appropriated and spent under Congressional authority is the fact that at every step of the way this project has been under the scrutiny of authorizing and appropriating Committees of the Congress. In addition, the designs and plans for the Museum were approved by the National Capital Planning Commission and the Commission of Fine Arts. For the past five years, the Smithsonian has acted in compliance with repeated Congressional mandates. Each year since 1967, funds for the planning and construction of the Museum have been included in the Smithsonian's budget and approved by the Appropriations Committees and the Congress. Each fiscal year since 1968, the Congress has also approved funds for the authorized museum functions of the Hirshhorn Museum and Sculpture Garden, including the preparation of works of art for display when the Museum is open.

We believe that deferment or termination of construction would bring into question the agreement between the Smithsonian and Mr. Hirshhorn. There would be for consideration the effect on the completion date. We have no understanding with Mr. Hirshhorn in the uncertain circumstances which might result from the termination or interruption of an authorized and funded public building under construction. We recognize that such action could result in the loss of the entire Hirshhorn collection of art to the Nation, a collection whose value was appraised in 1965–66 at approximately $25,000,000 and today may be worth as much as $50,000,000.

Art experts have described this as the most comprehensive collection of American painting of the 20th century in existence, and as the most important collection of modern sculpture in existence. Mr. Hirshhorn built this collection with taste and devotion over a period of forty years. To assemble such a collection now would probably be impossible.

Equally important to the legal problem of deferring or terminating the construction contract by the United States is the question of breach of faith. Deferring or terminating construction would not only impair the obligations of the contract entered into in good faith by the General Services Administration pursuant to express contract authority carried in the Act of July 26, 1968. It would also repudiate the obligations of the United States accepted by the Congress and the President in the Act of November 7, 1966, which pledges "the faith of the United States" to provide for the upkeep, operation, and administration of "the Joseph H. Hirshhorn Museum and Sculpture Garden."[1] This is the same

[1] "Sec. 2(b) The faith of the United States is pledged that the United States shall provide such funds as may be necessary for the upkeep, operation, and administration of the Joseph H. Hirshhorn Museum and Scupture Garden." P.L. 89–788, Nov. 7, 1966; 80 Stat. 1404; 20 U.S.C. § 76bb(b).

pledge, "the faith of the United States," that was made by the Congress and the President on behalf of the United States in the Act of July 1, 1836, which accepted the obligations of the testamentary trust of James Smithson, to found the Smithsonian Institution.[2]

With all best wishes.

Sincerely yours,

S. DILLON RIPLEY, *Secretary.*

SCHEDULE FOR BUILDING COMPLETION

Mrs. HANSEN. Is your construction program on schedule?

Mr. BRADLEY. No, Madam Chairman. The construction program is somewhat behind schedule. The estimate, as of the end of March, called for approximately 26 percent completion and the job is now approximating 17 percent of completion.

Mrs. HANSEN. Why is your construction program behind schedule?

Mr. BRADLEY. We understand from the written reports of the engineer inspection team that difficulty has been experienced from the complexity of the design for the pouring of concrete, which is to have an exposed aggregate finish. The building has some very massive pediments that support the building. These four columns or pediments, we understand, have also given some difficulty. We understand that the difficulties are being surmounted and the job is picking up.

Dr. RIPLEY. This is the hardest part, I think, of the construction. These are a very interesting sort of sculptural forms, these four major buttress supports for the whole building. Once they are completed, the hanging of the panels on the exterior surface I think will go very rapidly, but this is the hardest. This is a novel and innovative device, these four pediments, and they have required a very careful and cautious approach toward completing them.

Mr. BRADLEY. I should add that the estimated completion date has not changed on the official report. It is still predicted to come in on September 4, 1972.

Mrs. HANSEN. This will be the completion of the structure. When is the museum expected to open?

Dr. RIPLEY. Six months later.

FUNDING OF POSSIBLE ADDITIONAL DESIGN

Mrs. HANSEN. If it becomes necessary to revise any of the planning engineering design or architectural design of any of the facilities in connection with this project, what would be the situation with regard to funding the additional cost? I have in mind whether or not it would be necessary for you to get additional legislative authorization, and also any rough estimates you can give of what the additional cost might be?

Mr. BRADLEY. The additional design cost, Madam Chairman, would be $55,000, and this money would be taken from the contingency fund that is on hand.

Mrs. HANSEN. You don't need additional authorization?

---

[2] "Sec. 3. *And be it further enacted*, That any and all sums of money, and other funds which shall be received for, or on account of, the said legacy, shall be applied in such manner as Congress may hereafter direct, to the purpose of founding and endowing at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men; to which application of the said moneys, and other funds, the faith of the United States is hereby pledged." Act of July 1, 1836; 5 stat. 64.

Mr. BRADLEY. No additional authorization or appropriation. GSA has advised by letter of March 17, 1971, that the proposed changes can be developed within the present contract price.

EFFECTS OF DELAY ON AGREEMENT

Mrs. HANSEN. If this project were delayed because of the necessity to revise your plans, what effect, if any, would that have on the agreement under which this project was originally started?

Mr. BRADLEY. As of this moment, we do not anticipate that this redesign would have any effect on the agreement with Mr. Hirshhorn, because we think that we have so far arranged that we can carry on the studies of redesign, and get on with an accelerated job of drawing new contract drawings in order to avoid a delay in the construction project.

NATIONAL AIR AND SPACE MUSEUM

Mrs. HANSEN. $1,900,000 is requested for planning and redesign of the National Air and Space Museum. What is the current status of this project? Also what amount has been spent to date for planning and design?

Mr. BRADLEY. The amount that has been appropriated, Madam Chairman, is $1,875,000. That is planning only.

Mrs. HANSEN. Is this amount a complete loss because of the necessity to change the design?

Dr. RIPLEY. No.

Mr. BRADLEY. We think not, because we plan to employ the same architect, and he has had this grounding in the needs of an air and space museum. We think that should reflect economy in both time and money.

Dr. RIPLEY. Substantially the elements of design will be the same. What we will do will be scaling down the building, so we do not believe that that money has gone to waste.

COST FACTORS IN DESIGN ESTIMATE

Mrs. HANSEN. $1.9 million is a rather high figure for planning and design. Please give us the cost factors involved in this estimate.

Mr. BRADLEY. If we may put that in the record we will get it from GSA.

(The information follows:)

NATIONAL AIR AND SPACE MUSEUM ESTIMATE OF REDESIGN COSTS

From letter dated July 30, 1970, from the General Services Administration to the Smithsonian Institution.

National Air and Space Museum

Estimated total project cost (January 1973) $40 million included for design, review, and inspection:

Surveys and bids	$108,000
Drawings and specifications	1,922,000
GSA review, included above	100,000
Supervision and inspection	792,000
Subtotal	$2,822,000

Recapitulation (drawings, specifications and review):	
Drawings and specifications	$1,822,000
GSA review	100,000
Total	1,922,000
Rounded estimate	1,900,000

The amount of the architectural/engineering fee will be subject to negotiation with the architect.

SELECTION OF ARCHITECT

Mrs. HANSEN. Have you selected the architect to do this work?

Dr. RIPLEY. We have. It is Mr. Gyo Obata, the same architect we had already employed for the original building. I made the point of going directly back to him when we contemplated trying to come back to the Congress for a request of this sort and said, "Will you do it because you have lived with it for years?"

Mrs. HANSEN. You felt that this would be saving funds because he could better utilize whatever plans had been developed?

Dr. RIPLEY. This seemed to us to be the only prudent course to follow.

COST OF CONSTRUCTION

Mrs. HANSEN. As you currently visualize it, what is your estimate of the total cost of the construction of this project?

Dr. RIPLEY. We have consulted with the Smithsonian regents, and the regents have recommended that we try to come back for a building which would not cost much in excess, if at all, of what we had originally asked for and had been authorized in 1966. That is approximately $40 million for construction.

Mrs. HANSEN. Where would it be located?

Dr. RIPLEY. It would be located on the authorized site between Fourth and Seventh Streets, Independence Avenue, and Jefferson Drive.

PRIOR EXPENDITURES FOR PLANNING

Mrs. HANSEN. What have been your total expenditures in this connection to date?

Dr. RIPLEY. We will insert that in the record, Madam Chairman, if we may.

Mrs. HANSEN. Please do.

(The information follows:)

NATIONAL AIR AND SPACE MUSEUM EXPENDITURES TO DATE FOR PLANNING AND DESIGN

A total amount of $1,875,000 was appropriated for planning and design of the National Air and Space Museum. These funds were made available in fiscal year 1964 ($511,000) and 1965 ($1,364,000). Of these amounts, $1,725,000 were obligated for plans and specifications for a building design which was fully approved by the National Capital Planning Commission and the Commission of Fine Arts. These appropriations were annual accounts so the $150,000 balance is no longer available for obligations. This expenditure is not a wasted effort, however, since the proposed redesign can take advantage of much of the prior work.

HISTORY OF EFFORTS TO CONSTRUCT THE BUILDING

Mrs. HANSEN. Various individuals have criticized you for delaying the construction of the Space Museum, which we discussed earlier to-

day. May we have your comments for the record as to why progress on this project has not been at a faster rate?

Dr. RIPLEY. We would be glad to supply that for the record.

(The information follows:)

REASONS FOR DELAY IN CONSTRUCTION OF THE NATIONAL AIR AND SPACE MUSEUM

Starting with the act of August 12, 1946, the Congress established the National Air Museum as a part of the Smithsonian Institution. The Congress included provisions for selecting a site for a National Air Museum Building to be located in the Nation's Capital. By the act of September 6, 1958, the Congress designated a site for a building to be on the Mall from Fourth Street to Seventh Street Independence Avenue to Jefferson Drive. Planning appropriations in the amount of $511,000 and $1,364,000 have been made available to the Smithsonian by the Congress for the fiscal years 1964 and 1965, respectively. These resulted in a building design approved by the National Capital Planning Commission and the Commission of Fine Arts.

It appeared that the building might soon be approved for construction, it was so recommended but the bill was not passed by the House after it had been approved by the Senate.

The Congress subsequently enacted legislation approved on July 19, 1966, authorizing the construction of the National Air and Space Museum.

In connection with this authorization, Public Law 89-509, the Senate Committee on Rules and Administration in its report to the Senate stated:

"In reporting favorably on H.R. 6125, the Committee on Rules and Administration noted with satisfaction the letter of May 13, 1966, from Secretary Ripley, giving assurances that funds would not be requested in this session of Congress pursuant to the authorization on H.R. 6125. The committee expressly recommends that funding for the National Air and Space Museum should be deferred even further, if need be, and that appropriations should not be requested pursuant to H.R. 6125 unless and until there is a substantial reduction in our military expenditures in Vietnam."

Rather than assume the responsibility for interpreting the wording, "substantial reductions in military expenditures in Vietnam," the Smithsonian Institution continued to seek appropriations for the Air and Space Museum. Funds for construction were then requested in the fiscal year 1966 and fiscal year 1967 budget submissions to the Bureau of the Budget in the amount of $40,045,000 and $40,331,000, respectively, as estimated by the General Services Administration. Both requests were deleted by the administration prior to submittal of the budget to the Congress. During preparation of the fiscal year 1968 budget, it was decided that an incremental request for construction funds for the foundation and underground parking garage might be more acceptable, following the precedent used by the Public Buildings Service of the General Services Administration to start the FBI Building and the new Labor Department Building. Funds in the amount of $9,500,000 were therefore requested for this purpose in both the fiscal year 1968 and fiscal year 1969 budget submittals to the Bureau of the Budget and each time the item was deleted and not submitted to the Congress.

With the passage of time and unusually sharp increases in construction costs, the GSA was requested to update the construction cost estimate. In January 1968 we were advised by GSA that the building would now cost nearly $56 million and in the next few years would increase to $65 million, if the then planned planetarium were added to the project. This substantial increase in cost led to consideration of reducing the cost by reducing the size of the building and even completely redesigning if necessary.

The Chancellor of the Smithsonian Institution then wrote to the President on November 19, 1969, to inform him of the resolution approved by the Board of Regents on November 5, 1969, as follows:

Voted that the Board of Regents of the Smithsonian Institution recognizes the intense interest of the American people in the national air and space programs and in the historic flight of Apollo 11 to the Moon and return. The Regents recognize that by Public Law 89-509 the Nation's Air and Space Museum is authorized to be constructed on the Mall on a site designated by Act of Congress. The Regents further recognize that because of substantial increases in construction costs, the building as now designed should be scaled down from its present

level of $65 million to a cost level not to exceed $40 million. The Regents, therefore, most respectfully and most urgently request that the President include in his budget for the fiscal year 1971 an amount of $2 million to finance the necessary redesign of this great educational and exhibition center for our air and space exploration.

The assistant to the President for Domestic Affairs responded to the Chancellor's letter on December 10, 1969, and stated that funds for redesign had not been included in the 1971 budget by the Bureau of the Budget because of budgetary constraints, but that it would be included in a list of appealed items to be presented to the President during his review.

After a discussion of these efforts, Regent William A. M. Burden wrote to the President, urging that redesign funds be inserted as an amendment to the Presidential budget. He stated that his concern "arises from our intense desire to complete the National Air and Space Museum within the years of your incumbency as President. In order to complete such an historic structure in time for 1976 at the earliest, it will be necessary to commence planning for a rescaling downwards in cost of the present approved structure. The Nation can save perhaps more than $20 million in completed costs by spending $2 million for replanning now."

"Mindful of the vital need which the Administration faces in cutting costs, it seems to us that this planning item, which could be inserted as an amendment to the Presidential budget, would be viewed as a prudent investment for the future."

In the interim, the architect has been authorized to prepare a feasibility study to show in outline form the maximum size and arrangement for a building estimated to cost $40 million. This study was completed in June 1970.

The Smithsonian was subsequently advised that the Senate had requested in 1966 that appropriations for this purpose not be sought "unless and until there is a substantial redirection in our military expenditures in Vietnam." While the military effort in Vietnam is certainly redirected, we were advised, unfortunately the military expenditure level has not lessened appreciably. We were further advised that the President has directed very drastic cuts in all budgets for fiscal year 1971 and that there is no possibility of reinstating this request under the circumstances.

In our submission of the fiscal year 1972 budget to the Office of Management and Budget, we again requested an appropriation of $1,900,000 for planning. The investment of redesign costs will result in a substantial decrease in ultimate construction costs and thereby increase the prospect of starting construction at the earliest possible date. The Senate Rules Committee has advised that it has no objection to a request for redesign funds.

ACCELERATION OF PROJECT

Mrs. HANSEN. What have been the determining influences in the past year that have caused you to accelerate your work on this project?

Dr. RIPLEY. With due homage, Madam Chairman, to the senior Senator from a western State, I would like to say that we have been trying to get this project back on the tracks for some time.

Mrs. HANSEN. Hasn't the Vietnam war been a deterring factor?

Dr. RIPLEY. The war in Vietnam has been a deterring factor, as shown in the report of the Senate Committee on Rules and Administration. Once Apollo 11 flew the summer before last, in 1969, we made a very strong appeal to the Budget Bureau, to have a redesign item put back into our budget for last year, fiscal 1971. This was eventually turned down at the highest level by the Budget Bureau, and was not, therefore, in our request for this year's funds. This is prior, of course, to the publicity and so on that emerged during the subsequent winter.

We did at that time justify our appeal to the Office of Management and Budget on the basis that we felt that there appeared to be, at least from the press and statements by the administration, some decline in

the war in Vietnam. At the same time we attempted to get an opinion from the Senate Committee on Rules and Administration that it would be appropriate for us to ask for these redesign funds in the light of the language of the earlier committee report. Senator Jordan and Senator Pell agreed last year that it would be appropriate for us to ask for redesign money.

PARKING ON THE MALL

Mrs. HANSEN. Would the construction of this museum necessitate the relocation of any existing buildings or structures?

Dr. RIPLEY. It would merely add to the burden of the parked cars on the Mall. There are no structural changes of any sort.

Mrs. HANSEN. What are you going to do with the parked cars?

Dr. RIPLEY. We have, of course, been conducting studies on this for sometime. Of course it is true that the design for the Air and Space Museum includes a garage for cars in the basement areas as requested by the National Capital Planning Commission at the time we went for approval of the original plans for the building. I mentioned the parked cars because the General Services Administration, the National Park Service, and the Smithsonian are constantly struggling for ways to solve the problem of the car parking in the Mall area.

BUDGET APPENDICES

Mrs. HANSEN. At this point in the record please insert justification pages E–1 through E–6.

(The pages follow:)

SMITHSONIAN INSTITUTION

"SALARIES AND EXPENSES"

Report on the Number of Permanent Positions by Organization Unit

	1970 Actual	1971 Estimate	1972 Estimate	Increase 1971 over 1970
National Museum of Natural History	258	271	349	78
Smithsonian Astrophysical Observatory	57	57	57	0
Smithsonian Tropical Research Insititute	40	45	57	12
Radiation Biology Laboratory	36	40	46	6
Office of Environmental Sciences	23	34	42	8
National Air and Space Museum	41	41	44	3
Center for the Study of Man	6	7	10	3
Center for Short-Lived Phenomena	0	1	4	3
National Zoological Park	0	249	297	48
Museum of History and Technology	158	158	157	-1
National Collection of Fine Arts	59	70	72	2
National Portrait Gallery	30	37	38	1
Joseph H. Hirshhorn Museum and Sculpture Garden	13	18	21	3
Freer Gallery of Art	7	7	8	1
Archives of American Art	0	0	11	11
National Armed Forces Museum Adv. Bd.	8	8	6	-2
Office of Museum Programs	7	9	9	0
Exhibits	167	167	164	-3
Conservation Analytical Laboratory	11	11	14	3
Registrar	29	29	30	1
Anacostia Neighborhood Museum	9	11	15	4
Office of International Activities	8	8	9	1
International Exchange Service	9	9	9	0
Performing Arts	7	7	7	0
Public Affairs	12	12	12	0
American Revolution Bicentennial	0	2	2	0
Environmental Sciences Program	0	3	8	5
Major Exhibitions	0	0	0	0
National Museum Act	0	0	3	3
Academic & Educational Programs	18	20	23	3
Research Awards	0	0	0	0
Secretary	38	38	40	0
General Counsel	8	8	9	1
Treasurer	31	31	33	2
Personnel	26	28	29	1
Libraries	49	54	63	9
Press	23	25	25	0
Information Systems Division	13	14	16	2
Archives	6	6	6	0
Photographic Services Division	20	20	20	0
Supply Division	21	21	21	0
Administrative Systems Division	9	9	9	0
Duplicating	7	7	7	0
Other Central Support	13	13	13	0
Buildings Management Department	748	768	793	25
Woodrow Wilson International Center for Scholars	8	0	0	0
Total	2,033	2,373	2,608	235

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Obligations by Objects

	1970 Actual	1970 Estimate	1972 Estimate	Increase or Decrease(-) '72 over '71
11 Personnel Compensation ..	$20,631,000	$25,126,000	$28,000,000	$2,874,000
12 Personnel Benefits.....	1,564,000	1,942,000	2,177,000	235,000
21 Travel & Transportation of Persons.....	313,000	329,000	527,000	198,000
22 Transportation of Things..	210,000	180,000	253,000	73,000
23 Rent, Communications, and Utilities.....	1,889,000	2,349,000	2,656,000	307,000
24 Printing and Reproduction.	597,000	885,000	1,095,000	210,000
25 Other Services.....	2,397,000	3,297,000	5,376,000	2,079,000
26 Supplies and Materials....	1,048,000	1,204,000	1,763,000	559,000
31 Equipment.....	1,355,000	1,012,000	3,134,000	2,122,000
41 Grants.....	8,000	8,000	23,000	15,000
Total Obligations	$30,012,000	$36,332,000	$45,004,000	$8,672,000
Appropriation Adjustments:				
Receipts and Reimbursements from Federal Funds.....	-61,000	0	0	0
Unobligated balance lapsing...	14,000	0	0	0
Appropriation or estimate....	$29,965,000	$36,332,000*	$45,004,000	$8,672,000

* Includes anticipated supplemental of $1,630,000.

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 Art and Portrait Galleries	Total[j]
1961	1,024,526	2,912,371	2,047,973	987,853	130,746	a	c	7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597	a	c	8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359	a	c	10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774[a]	c	10,813,195[b]
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776	c	13,153,713
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112	c	12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102	c	13,312,586
1968	847,176	1,344,622	3,257,957	1,123,698	169,533	4,750,023	30,888	11,523,897[d]
1969	275,259[e]	1,493,141	2,916,749	1,225,959	179,374	4,174,071	166,177	10,430,730[g]
1970	e	2,557,155[f]	3,269,791	1,839,373	217,305	5,483,555	216,523	13,583,702[h]

a Museum of History and Technology opened January 1964.

b July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.

c National Collection of Fine Arts opened May 1968, and the National Portrait Gallery in October 1968.

d Reflects the significant decrease in visitors to the Nation's Capital in the first six months of CY 1968, due to unsettled local conditions.

e Building closed for renovation October 1968.

f Since the first display of the lunar sample in September 1969, visitors to this building have averaged approximately 213,000 per month.

g 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.

h Reflects a significant increase of 30 percent in visitors to the Smithsonian's museums and galleries.

j An additional 5,000,000 visitors visit the National Zoological Park annually, and 50,000 to the Anacostia Museum.

SIGNIFICANT EXHIBITS, FISCAL YEAR 1970

Natural History Building

John Wesley Powell: The Indomitable Major
Smithsonian Science Illustrators
Bengal Tiger
Dead Sea Scrolls, Parts I and II
Daco-Roman Traces in Romania
Malay Archipelago
Armand Hammer Exhibit
A Heritage in Peril - Alaska's Vanishing Totems
Studies of South African Costumes

Arts and Industries Building

Contemporary Black American Artists
British Designer Crafts
Yugoslavian Tapestry & Graphics
Urban Transit
Apollo Art
White House Press Photographers
Lovis Corinth
Moon Rock
Toledo Glass
Johannes Gutenberg
Art Protis
Polish Folk Art

History and Technology Building

Historical machinery and products of the American textile industry
Energy Conversion
"The Roots of California Culture"
"Women and Politics"
"Laser 10"

Fine Arts and Portrait Galleries

Retrospective of the work of Milton Avery
"Explorations"
Mid-career retrospective of Leonard Baskin
Tibetan Art
Winslow Homer
Paintings and sculpture from the 1930's
Augustus Saint-Gaudens: "The Portrait Reliefs"

Cooper-Hewitt Museum of Decorative Arts and Design

"Kabuki Prints"
Contemporary Japanese Posters
A Stately Pleasure Dome: "The Royal Pavilion at Brighton"
Light and Line: Etchings by Rembrandt
Posters by E. McKnight Kauffer 1890-1965
Contemporary Drawings by New York Artists
India Chintz

Smithsonian Institution Traveling Exhibitions

The exhibits originated at the Smithsonian with Smithsonian collections and were planned and produced by Smithsonian programs.

Jean Louis Berlandier
Photography and The City
Werner Drewes Woodcuts
The People's Choice

Performing Arts

Folk Festival on the Mall - Third Annual Event

Anacostia

The Rat: Man's Invited Affliction
"The Douglass Years" Frederick Douglass

CONTRACTS AND GRANTS TO THE SMITHSONIAN INSTITUTION
Fiscal Years 1970 and 1971

Contracts	1970	1971	Grants	1970	1971
National Aeronautics and Space Administration					
Interdisciplinary Communication	$ 199,606	$ 155,379	Satellite Tracking Program	$1,635,000	$2,100,000
Radio Meteor Research	500,839	300,000	Recovery of Meteorites	130,000	150,000
Celescope	747,000	900,000	Miscellaneous	155,000	275,000
Barium Cloud Experiments	132,000	201,603			
Miscellaneous	300,000	400,000		$1,920,000	$2,525,000
	$1,879,445	$1,956,982			
Department of Defense					
Mosquitoes in Southeast Asia	$ 161,895	$ 170,000			
Diseases in Overseas Areas	119,300	73,580			
Mammalian Parasites	100,937	95,999			
Mediterranean Biological Studies	0	133,068			
Ocean Acre	38,505	0			
Miscellaneous (Dept. Army)	100,000	175,000			
Miscellaneous (Dept. Navy)	95,000	125,000			
	$ 615,637	$ 772,647			
Department of Health, Education, and Welfare					
Drug Exhibit	$ 87,538	$ 40,000	Human Osteon Chemistry	$ 41,124	$ 35,069
			Interdisciplinary Exploration of Carcinogenises Problems	94,097	86,000
				$ 135,221	$ 121,069
Atomic Energy Commission					
Protein Properties	$ 15,634	$ 15,634			
Radiation & Plant Metabolism	70,000	70,313			
	$ 85,634	$ 85,947			

Contracts	1970	1971	Grants	1970	1971
			National Science Foundation		
Processing Antarctic Collections	$ 136,862	$ 142,297	Study of Neotropical Phanerograms	$ 38,500	$ 0
Science Information Exchange	1,637,367	1,600,000	Papers of Joseph Henry	30,000	30,000
Miscellaneous	18,000	25,212	Undergraduate Research Program	24,910	0
	$1,792,229	$1,767,509	Miscellaneous	121,191	291,290
				$ 214,601	$ 321,290
			National Institutes of Health		
Miscellaneous	$ 60,000	$ 65,000			
			Department of the Interior		
Oil Pollution	$ 79,375	$ 60,000			
Water Pollution Control	86,500	75,000			
Miscellaneous	35,000	50,000			
	$ 200,875	$ 185,000			
			Department of State - A.I.D.		
MeKong Basin Project	$ 149,276	$ 150,000			
Int'l. Environment Assess.	98,370	100,000			
Miscellaneous	0	10,000			
	$ 247,646	$ 260,000			
			Other		
			Miscellaneous	$ 30,000	$ 50,000
Total, Contracts	$4,969,004	$5,133,085	Total, Grants	$2,299,822	$3,017,359

Mrs. HANSEN. Thank you, Dr. Ripley, for a very informative hearing. I also want to thank Mr. Bradley and the members of your staff for a very excellent presentation and a most informative 2 days.

Dr. RIPLEY. Thank you, Madam Chairman.

TUESDAY, APRIL 6, 1971.

NATIONAL COUNCIL ON INDIAN OPPORTUNITY

WITNESSES

ROBERT ROBERTSON, EXECUTIVE DIRECTOR
DALE WING, ASSISTANT EXECUTIVE DIRECTOR
CARL W. GUIDICE, CHIEF, DIVISION OF FISCAL SERVICES, DEPARTMENT OF THE INTERIOR

Mrs. HANSEN. We now have the National Council on Indian Opportunity and our principal witness is Mr. Robertson, Executive Director.

GENERAL STATEMENT

Mr. Robertson, please insert your general statement in the record and summarize it for us.

(The statement follows:)

It is a deep pleasure to appear before this subcommittee today to support the fiscal year 1972 budget request to the National Council on Indian Opportunity, hereinafter called the Council.

THE COUNCIL

The Council was established by Executive Order No. 11399 on March 6, 1968. It was authorized by the Congress in late November of 1969 and the first appropriation was given to the Council in December 1969.

The Council membership consists of the Vice President, who is Chairman: the Secretary of Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the Secretary of Health, Education, and Welfare, the Secretary of Housing and Urban Development, the Director of the Office of Economic Opportunity, and the Attorney General. Eight Indian members are appointed for 2-year terms by the President of the United States. The eight new Indian members are:

Dr. B. Frank Belvin, Choctaw, Okmulgee, Okla. (Baptist Missionery to Creek and Seminole Indians).

Mrs. Laura Bergt, Eskimo, Fairbanks, Alaska (active in Alaska Native land claims issue).

Mrs. Betty Mae Jumper, Seminole, Hollywood, Fla. (chairman, Seminole Tribal Council).

Mr. Earl Old Person, Blackfeet, Browning, Mont. (president, National Congress of American Indians).

Mr. John C. Rainer, Taos Pueblo, Taos, N. Mex. (director, National Indian Graduate Scholarship Program).

Mr. Harold W. Shunk, Yankton-Sioux, Rapid City, S. Dak. (former BIA superintendent).

Mr. Martin E. Seneca, Jr., Seneca, Versailles, N.Y. (Harvard University Law School student).

Mr. Joseph C. Vasquez, Apache-Sioux, Los Angeles, Calif. (founder, Urban Indian Development Organiization).

THE COUNCIL AND THE PRESIDENT

President Nixon sent his Indian policy message to the Congress on July 8, 1970. The nine points in his message are: (1) rejecting the concept of termination

of Federal Indian reservations; (2) asserting the right of Indian tribes to control and operate Federal programs; (3) restoring the sacred Indian lands near Blue Lake to the Taos Indians; (4) providing for Indian involvement in Indian education; (5) proposing economic development legislation; (6) proposing increased funding for Indian health; (7) helping urban Indians; (8) proposing the creation of an Indian Trust Council Authority; and (9) proposing a new position in the Department of the Interior of Assistant Secretary for Indian and Territorial Affairs. In order to obtain Indian views, reaction, and comment on his proposals, the President directed the Council to hold field hearings throughout the country.

THE COUNCIL AND THE INDIAN COMMUNITY

As a result of the recommendations from the Indian members of the council, the various member departments of the council have established Indian desks at the program level. Secondly, a person has been designated within the immediate Office of the Secretary as contact person on Indian policy matters. Relationship with the Federal departments is through meetings convened by the council to discuss current Indian issues and matters relating to interagency projects. For example, interagency coordinating groups have been formed to deal with specific program areas, such as the group representing OEO, HEW, and BIA to review and fund Indian projects on alcoholism: a Labor Department/BIA Indian member task force to deal with formulation of the Labor Department's Indian program. A special Indian Education subcommittee with all Indian membership has been formed at the direction of the President and is addressing itself to the problems of Indian education.

THE COUNCIL AND ITS PROGRAM

The council centers its work program around four program functions which are as follows:

1. To encourage full use of Federal programs;
2. To encourage interagency coordination and cooperation;
3. To measure impact and progress of Federal programs; and
4. To suggest ways to improve the delivery of services.

The council is a direct link between the Indian people and the Cabinet officials of eight departments. In carrying out the council's work in encouraging full use of Federal programs by Indians, outreach activities have been developed with Federal agencies on the council through accelerated personnel recruitment, and arrangement for follow-up meetings with specific tribes and groups in the field. Specific requests coming from tribes have been responded to by a team effort from the several departments working in concert. An example of this is the Labor/Agriculture/BIA meeting at Parker, Arizona for the Colorado River Tribe and its interest in new farm crops. The council holds regular monthly meetings for the Indian desk representatives of the departments who report Indian program activity and coordinates field efforts. Ad hoc meetings involving individual Indian tribes and their requests are held in the council office with Indian desk representatives in attendance.

During the course of the meetings with Federal departments assessments of the activities and goals of the agencies are reviewed and communicated to the Indian members of the council as well as to the general Indian population through the monthly NCIO Newsletter.

The council's work activities are handled by five professionals, an administrative assistant, and two secretaries.

The council reviews budget projections for the member departments and provides opportunity to coordinate projects proposed for interdepartmental funding. Further, the council serves as a clearinghouse for proposals from Indian tribes and organizations to the several agencies.

THE COUNCIL AND CURRENT PROGRAM ACTIVITIES

The extremely poor housing conditions of the Indian people has been a special concern of the council. The council encouraged the formation of a tri-agency agreement (HUD, HEW, Interior) to determine the extent of the need, and to establish goals that would meet the needs. This agreement was finalized in April of 1969 and called for the production of approximately 30,000 units of HUD financed housing for Indians. These were to be constructed at a rate of 6,000

units per year for a period of 5 years. Although this agreement was in effect in fiscal year 1970 the goal was not reached. With this knowledge the council began a series of meetings with the three agencies to determine the cause for not reaching the goal in 1970 and to assure that the goal would be reached in 1971. We are pleased to report that the three agencies have agreed that the 6,000 construction starts will take place in 1971, and it is possible that additional units will be started.

A first-time-ever urban Indian meeting took place in the Washington area in December and a list of recommendations were developed by the Indian delegates. These are serving as the basis of further development for the thrust of the programs for the model urban Indian centers which are being jointly funded by four agencies.

The newly-formed all-Indian-member subcommittee on Indian education has met and formulated a plan of action for the ensuing months in the key area of Indian involvement in the education of Indians.

The council will have completed a study of a select number of Indian tribes and the Federal budgeting process. This will be the basis for developing a plan to involve Indians in budget planning on a national basis and to consider input for the budget process for programs which affect their natural and human resources on a national basis.

The council, through the efforts of the Indian members of the council, will be convened to extend the dialogue between Indians and the members of the member departmens in high priority areas of Indian concern. The council is meeting with BIA and Labor Department in the planning of a special evaluation of the job placement activities of these departments as they affect Indians.

The council is working with a task force of select Indian leaders in the area of employment activities to develop Indian recommendations for a national policy and approach to solution of the Indian employment problems. The work of these two groups will be coordinated to ensure maximal effort and working together between the Federal agencies and the Indian community.

Working through the efforts of its Indian members, the council will continue in its role of linking Indian input with the Federal programs. In closing, I would like to again thank you for the privilege of appearing before you to speak in support of the appropriations for fiscal year 1972 for the National Council on Indian Opportunity.

Mr. ROBERTSON. The first item of my statement deals with the establishment of the council. You are very familiar with it. During the supplemental hearings we submitted for the record the names and tribal affiliations and backgrounds of the eight new Indian members of the council who were sworn in on September 1 of last year. The next section of the statement concerns itself with comments on President Nixon's Indian policy message to the Congress of July 8 of last year, and enumerates the nine points which he stressed in that message.

Mrs. HANSEN. How many of those nine points have been met?

NINE POINTS OF PRESIDENT NIXON'S INDIAN MESSAGE

Mr. ROBERTSON. The first point was rejecting the concept of termination of Federal Indian reservations. I think that that is rather an ongoing thing. It is a statement of administration policy, and in the message the President asked for a repudation of House Concurrent Resolution 108. In every hearing that we have had over the last two years, the Indian people have recognized that the concurrent resolution really isn't binding in the law, but that it is a great desire of their's to see that concurrent resolution repudiated. The President called for the assertion of the rights of tribes to control and operate Federal programs. He stated his desire in this area.

Mrs. HANSEN. Has the Blue Lake area been returned to the Indians?

Mr. ROBERTSON. Yes, ma'am. I think there are still some final paper difficulties with boundaries, etc. but it has been restored to them. That was the third point, Madam Chairman. The second point was the assertion of the rights of the tribes to control and operate Federal programs. A part of the $7 billion legislative package that the President sent up is the takeover legislation which aims to give the Indian people sanctions over the system. The fourth is Indian involvement in Indian education. This is on-going, Ramah, Wild River is moving toward this, Rocky Boy also.

Mrs. HANSEN. You have a great many Indian school boards all over the United States.

Mr. ROBERTSON. Yes, many of them are advisory. We would like to see them actually being operated by the people.

Mrs. HANSEN. There are quite a few Indian school boards that are elected.

Mr. ROBERTSON. Yes. The sixth point was increased funding for Indian health, which was accomplished, the aid to urban Indians, was the seventh.

Mrs. HANSEN. Increased funding for Indian Health Service was accomplished in part because of the interest of this committee.

Mr. ROBERTSON. Yes, ma'am, but I mean the request was made. Assistance to urban Indians has been rendered through interdepartmental cooperation.

Mrs. HANSEN. There has got to be a policy established on this, because they are still a great many problems involving our urban Indians.

Mr. ROBERTSON. The eighth point was the proposed creation of the independent Indian Trust Counsel Authority, which is one of the seven pieces of legislation which will be submitted shortly. The ninth was the proposed new position of Assistant Secretary for Indian and Territorial Affairs within the Department of the Interior. This legislation will also be submitted. Those are the nine principal points.

COORDINATION WITH THE EIGHT MEMBER DEPARTMENTS

The next section of my statement covers the activities of the Council in generating interest and cooperation within the eight member departments of the Council, and the work that we have done in attempting to get in each of those departments a program level person, an Indian desk person, and also a representative at the policy level with whom we could communicate on a daily basis. This has been accomplished in all eight of the departments. Each of the eight Indian members of the Council has assumed responsibility for one of those eight departments. This also betters the communications between the departments and the Indian members of the Council. Also relating to this coordination is the work of Mr. Wing in the alcoholism program, interagency coordinating activities in accordance with the Labor Department/Bureau of Indian Affairs task force on manpower programs, and education. We are, of course, also involved energetically in the economic development area. In housing we have accomplished, I think, quite a good record of delivery to Indian people.

INDIAN HOUSING

Mrs. HANSEN. One of the problems the committee discovered from our hearings with the BIA was that the new housing program for the Indians, which is largely funded through HUD, has not been at an adequate level.

Mr. ROBERTSON. I would agree there.

Mrs. HANSEN. Also I think the Federal Governments overall housing program has not encouraged the repair and the rebuilding of houses wherever there is a structure worth rebuilding. A great deal of money could possibly be saved if more of this were done.

This would also be a good program to employ Indian people who have acquired this type of skill.

Mr. ROBERTSON. We are also encouraging the formation of Indian construction companies which can construct not only on the reservation but can go off the reservation in competitive bidding against other contractors. This year, Madam Chairman, we are going to produce a minimum of 6,000 units of Indian housing. In the period as I recall between 1963 and 1968 there were only a total of 1,053 completions recorded in all of the Indian reservations.

Mrs. HANSEN. The deficiencies are many. I think you should do all that you can to increase the housing repair program so that the Indian people don't have the frustration of waiting for the HUD program.

Mr. ROBERTSON. I have encountered many of the older people who have a sentimental attachment to the house that they are living in. They want to see it repaired.

The next section, Mrs. Hansen, scores the four charges that the Council has given which we covered before.

The next section goes into the Council and its current activities. We have just discussed housing, the triagency agreement, which is going to accomplish the face amount agreed upon in that three-agency agreement of 6,000 units.

URBAN INDIANS

We had talked about activities in the urban Indian area with the seven model programs that the President called for in his message, which will be underway. We are not, in the case of the urban Indians, calling for the creation of any new program because the resources are there.

Mrs. HANSEN. I think you have to establish a policy on how the BIA is to participate in an urban Indian program. There seems to be some misunderstanding in our cities as to who provides welfare support to the urban Indians. I think there has to be a determination between HUD and the local agencies as to what role, if any, the BIA takes. I am rather sorry for the BIA, inasmuch as they are always being blamed for something that they don't do and yet they are willing to participate in urban Indian programs if there were funds available and legislative authority established. The urban Indian as an American, is entitled to the same services as anybody else.

Mr. ROBERTSON. I agree. Organizations in the urban area, all Indian organizations can be of great help to the reservations. For instance, the UIDA operation in Los Angeles which is subcontracting a portion of the employment assistance program is doing a beautiful job work-

ing with people. We are involved in a study of the budgeting procedures as they affect Indian tribes themselves. In other words, are the priorities that are set at the Indian tribal level reflected in the final budget that comes to the Congress?

We have been, as you know, quite active in the consultation area of really having meaningful dialogues with Indian people throughout the country. We had 18 hearings over that 2-month period late last year which were quite eye opening, and I think very productive going into the future. That about summarizes the statement.

JUSTIFICATION MATERIAL

Mrs. HANSEN. We will insert the justifications, pages 1 through 6, at this point.

(The information follows:)

NATIONAL COUNCIL ON INDIAN OPPORTUNITY

SALARIES AND EXPENSES

Supplemental appropriation, 1970		$286,000
Appropriation, 1971	$275,000	
Proposed supplemental appropriation, 1971	25,000	
Total appropriation, 1971		300,000
Budget estimate, 1972		300,000

Analysis by Activity

Activity	F.Y. 1970 Amount Available	F.Y. 1971 Amount Available	F.Y. 1972 Estimate	Increase (+) or Decrease (-) 1972 Compared with 1971
Administration	$285,700	$300,000	$300,000	---
Unobligated balance lapsing	300	---	---	---
Total	286,000	300,000	300,000	---

JUSTIFICATION

Administration: Fiscal year, 1971 $300,000; fiscal year 1972, $300,000; no change.

An appropriation of $300,000 is being requested to finance the National Council on Indian Opportunity for fiscal year 1972. The Council was allowed an appropriation of $275,000 for fiscal year 1971, which was less than the $300,000 requested by the Administration. However, due to additional responsibility being added to the Council a supplemental appropriation in the amount of $25,000 has been requested. In fiscal year 1970 the Council functioned by way of supplemental appropriation of $286,000 for the period January 1, 1970, through June 30, 1970.

The National Council on Indian Opportunity was created through the issuance of Executive Order No. 11399 dated March 6, 1968. The Congress authorized the existence of the Council in November, 1969, limiting its life to five years and its annual appropriation to $300,000. On August 6, 1970, the President amended the Executive Order creating the Council by adding the Attorney General of the United States as the eighth Federal member and by increasing the number of Indian members from six to eight.

On a number of occasions since September 27, 1968, when President Nixon addressed the National Congress of American Indians both he and the Vice President have stressed the need for the Council. Most recently, in his message of July 8, 1970, on the American Indians (House Document 91-363), the President said, "this Administration has broken a good deal of new ground with respect to Indian problems in the last 17 months. We have learned many things and as a result we have been able to formulate a new approach to Indian affairs. Throughout this entire process, we have regularly consulted the opinions of Indian people and their views have played a major role in the formulation of Federal policy. As we move ahead in this important work, it is essential that the

Indian people continue to lead the way by participating in policy development to the greatest possible degree. In order to facilitate such participation, I am asking the Indian members of the National Council on Indian Opportunity to sponsor field hearings throughout the Nation in order to establish a continuing dialogue between the Executive Branch of government and the Indian population of our country. I have asked the Vice President to see that the first round of field hearings are completed before October."

The Council membership consists of the Vice President, who is Chairman; the Secretary of the Interior, the Attorney General, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the Secretary of Health, Education and Welfare, the Secretary of Housing and Urban Development, the Director of the Office of Economic Opportunity and eight Indian leaders appointed by the President for two year terms. Although it is not officially a member agency, the Small Business Administration cooperates with the Council.

In the Executive Order, the President directed that the Council shall:

(a) Encourage full use of Federal programs to benefit the Indian population, adapting them when necessary to be available to Indians on reservations in a meaningful way.

(b) Encourage interagency cooperation and coordination in carrying out Federal programs as they relate to Indians.

(c) Appraise the impact and progress of Federal programs for the Indians.

(d) Suggest ways to improve such programs.

The extensive use of consultants by the Council is felt to be more desirable than creating a large and permanent staff in carrying out the charges of the President's Executive Order. This flexibility is appropriate for two reasons: (a) it is a desirable way of assembling the expertise needed for specific assignments; (b) more importantly, it provides a means of employing Indians in the analysis of programs affecting them. A permanent professional staff of six persons headed by an Executive Director aides members of the Council and Subcommittees. The professional staff is assisted by two secretarial - clerical employees.

The proposed $70,000 for personnel other than permanent envisions three types of expenditures:

(a) Indian members of the Council will receive $100 per day for days spent in meetings of the total Council, of solely the Indian members of the Council, of the special advisory boards which they head and regional dialogue meetings with tribal leaders as requested by the President or Vice President. It is estimated that the eight Indian Council members will be involved in these meetings a minimum of 20 days each, requiring an expenditure of $16,000.

(b) $24,000 is required to compensate the members of advisory subcommittees. This will permit the involvement of Indian leaders who would afford the Council over 400 days of effort per year.

(c) $30,000 will permit the Council and its special advisory Subcommittees to draw from the general public and the academic communities of the Nation the expertise needed to conduct evaluation of programs, plan and conduct special projects, develop program recommendations, and the like. The sum proposed would make available an average of four special consultants to each of the existent Subcommittees and other Subcommittees which may be created in the Council totaling over 400 man days of work per year.

Travel for non-Federal members, staff and consultants is estimated at $45,000. This sum is based on an average of $2,000 for each of the eight Indian Members annually, approximately $8,000 for the Special Subcommittee Members; approximately $8,000 for consultants and approximately $2,600 for each of five professional full-time staff.

PROGRAM OF WORK

The President's message on Indian affairs of July 8, 1970, (House Document No. 91-363) clearly spells out the Administration's policies and specifically directs the Council to perform certain tasks. The President asked each of the eight current Indian Members of the Council to chair hearings in their respective regions on his message and the legislation which has been introduced to implement it; eighteen hearings were held throughout the country, the last one being conducted in January, 1971. Since these hearings were concerned with reservation people, the Council sponsored with the Office of Economic Opportunity a meeting involving leaders from every known urban Indian center in the country. Additionally, the President asked the Vice President to see that a Special Indian Education Subcommittee be formed and be composed of Indian educators. This Subcommittee of the Council is charged to (a) provide technical assistance to Indian communities desirous of forming school boards; (b) evaluate the quality of education of all Indian children in all schools, and (c) report to the President annually on the extent of Indian takeover of federally run schools.

The Council will be involved also in examing how well the Administration's policy of self-determination, as it was detailed in the July 8, 1970, message to Congress is carried out. This will involve stimulating Indian communities to consider their administering now federally run programs, providing technical assistance to interested tribal councils and measuring the degree of assumption by tribes of the Bureau of Indian Affairs and Indian Health Service programs.

The Indian Members of the Council and its permanent staff will continue to work closely with Indian associations, tribes and consortiums of reservation governments in developing resources in reservation communities.

A serious inhibitor of reservation development is the fear of Indians that the intrusion of new industry may conflict with the traditional values and mores of the community. The Council is working to the end that tribes will establish their own development priorities, having at their disposal the technical know-how necessary to enable them to make fullest use of all available Federal, and other programs. In this approach the Council will continue to encourage the cooperation of the Economic Development Administration, the Small Business Administration, the Department of Labor and other relevant Governmental agencies.

As it has in the past, the Council will establish ad hoc committees as needed to encourage and effect coordination among Federal agencies involved in the administration of programs. An example of this type of activity is evident in the three-agency housing agreement which was signed in April of 1969 and which continues to be monitored by such an ad hoc committee. The efforts of this

group have resulted in a dramatic increase in the number of Indian housing units being produced. The efforts of this three-agency committee will be stimulated by the Council in the years ahead.

The stimulation of local initiative on the part of Indians in program planning will continue to be an important activity of the Council. "Operation Outreach", which was conducted earlier this year is an example of effort in this area. Ten Indian consultants visited over 55 reservations to gauge the level of Indian participation in programs being conducted for them and to discover the desire of the Indian people to become more involved in the planning of these programs so that they are more sensitive to local needs. The eighteen regional hearings held between September, 1970 and January, 1971 also disclosed information relating to planning and other reservation problems. The new Indian Members of the Council are determining how they are going to reach out to the reservations to encourage involvement in planning and how they are going to provide technical assistance or see that it is provided for interested tribal groups.

At present, the Indian members of the Council, along with staff and Indian consultants, are identifying problems which impair the delivery of Federal programs and problems relating to difficulties Indians encounter in gaining access to these programs. In addition to pertaining to single agencies, the Indian Council Members are identifying interdepartmental program and policy problems which are inhibiting Indian advancement. All of the high priority points raised will be presented to the full Council when it is convened by the Vice President.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The original six Indian Members of the Council established in 1968, identified specific areas of concern. They established six special areas, each to constitute the work of a Subcommittee or advisory group headed by an Indian Member of the Council with the aid of the appropriate Federal Member and his department. The eight new Indian Members felt that this was too rigid an approach because the functional areas were too interrelated. Instead, each of them are assigned to an individual department in order to become acquainted intimately with it. In this way they feel that they will be in a better position, working as a group, to suggest how the needs of Indian people can be met with regard to single departments and interdepartmentally.

In order to emphasize the opportunities available to Indian people and to keep them apprised of Federal agency activities, the Council publishes monthly a newsletter. Additionally, the Council utilizes Indian publications to disseminate information.

The Vice President convened a full meeting of the Council in the Roosevelt Room at the White House on January 26, 1970. It was at this meeting that the Indian members presented to the Vice President and Federal members their statement of recommendations which was a key resource document in the formulation of the President's message of July 8, 1970.

The Council contracted with a national consulting firm to ascertain why President Roosevelt's Executive Order of 1936 acquiring submarginal lands for sixteen Indian reservations had not resulted in the acquisition of title to these lands by the tribes in question. A report has been completed and distributed.

A contract has also been let with a leading national consulting firm to study the budgeting system of the Federal Government as it affects Indian involvement in this process. Serious questions have been raised not only as to involvement

of Indians at the local level in the budgeting process but, where they are involved, if the priorities set on the reservations are properly reflected in the Administration budget as it goes to the Congress.

In order to assure proper logistical support and to assure attendance of the poorer Indian tribes at the regional hearings with Indian leaders called for in the President's message of July 8, a contract in the amount of $80,000 was awarded to the National Congress of American Indians. In addition to the above mentioned stipulations, the contract calls for the assemblage and printing of hearing records for all sixteen meetings that are planned.

The eight new Members of the Council were sworn in on September 1, 1970, and met in briefing sessions for two days. They were given information on the programs in all Federal departments having significant Indian programs. Since assuming their tasks they have met together on a number of occasions.

The Council has contracted with a leading national consulting firm to conduct studies on two reservations in order to determine what community actions took place in their acquisition of Federal programs and establishment of priorities which led to this acquisition. The memorandum report of this study has been of great value to the Council staff; additionally, from information derived from it the Council has sent to tribal leaders throughout the country a manual entitled "Tribal Officials Guide to Federal Assistance for Indians."

The first Federal-State Indian Affairs conference ever held took place at Lake Tahoe, Nevada, August 19-21, 1969, under the sponsorship of the Council. This meeting drew together the representatives of thirty governors and Federal officials involved in Indian programs. The results of this conference, aimed at better Federal-State relations in Indian matters, have been published and distributed.

The Council holds frequent meetings in Washington among member agencies to discuss programs and coordinate efforts. A regular bi-monthly meeting of staff who work mainly with Indian programs is held and higher level meetings are especially called as needed. Staff also attends important Indian meetings around the country which are called by Government agencies, Indian organizations, universities and so forth.

The Council reviews the budget projections for the member departments and provides opportunity to coordinate projects proposed for interdepartmental funding. Further, the Council serves as a clearing-house for proposals sent from Indian groups to several agencies. The Council also works to bring Indian matters to the attention of private organizations, colleges and universities, and local governing bodies.

PERSONNEL SUMMARY

	1970 Actual	1971 Estimate	1972 Estimate
Total number of permanent positions	7	8	8
Full-time equivalent of other positions	2	4	6
Average number of all employees	4	12	14
Average GS grade	12.7	13.0	13.0
Average GS salary	$19,439	$20,095	$20,283

ITEMIZATION OF ESTIMATE

Appropriation Title: Salaries and Expenses — National Council on Indian Opportunity

	1970 Actual	1971 Estimate	1972 Estimate	Increase (+) or Decrease (-)
Program and Financing:				
Total obligations	$285,700	$300,000	$300,000	---
Unobligated balance lapsing	300	---	---	---
Budget authority (appropriation)	286,000	275,000	300,000	$+25,000
Proposed supplemental appropriation	---	25,000	---	-25,000
Object Classification:				
11.0 Personnel compensation	83,348	217,000	217,000	---
12.0 Personnel benefits	4,479	11,000	11,000	---
21.0 Travel and transportation of persons	35,028	45,000	45,000	---
22.0 Transportation of things	---	1,000	1,000	---
23.0 Rent, communications, and utilities	7,474	9,000	9,000	---
24.0 Printing and reproduction	1,559	5,000	5,000	---
25.0 Other services	151,229	7,000	7,000	---
26.0 Supplies and materials	2,064	3,000	3,000	---
31.0 Equipment	519	2,000	2,000	---
Total obligations	285,700	300,000	300,000	---

COUNCIL MEETINGS

Mrs. HANSEN. How many formal Council meetings have you had during the past calendar year?

Mr. ROBERTSON. Involving all of the Federal members? Since January 1 of this year we haven't had a full Council meeting, but the Vice President has met on a number of occasions with the Indian members of the Council in work sessions, most recently March 8 in Kansas City, and at other times. The Indian members of the Council and the subcommittees have been working quite energetically.

Mrs. HANSEN. Are you in the process of planning a formal meeting of all the members?

Mr. ROBERTSON. One is being planned now hopefully for the month of May—both an economic development meeting involving the Vice President and also a full Council meeting involving the Vice President. In the interim the Indian members of the Council have requested the Vice President to contact the eight Cabinet members with very important requests in many areas. For instance, economic development activity problems as they relate to the reservations have been passed on to Secretary Stans. Just as an example, I think each of the eight Departments received a minimum of two substantial requests from the Indian members.

MAJOR ACCOMPLISHMENTS

Mrs. HANSEN. What were two of your major accomplishments during the past year?

Mr. ROBERTSON. I would say the work that we exerted for the President with relation to his message, and the hearings that were held with the Indian people throughout the country.

Mrs. HANSEN. Was this work done prior to the President's message on Indians?

Mr. ROBERTSON. This was subsequent to. The purpose of the hearings was to hear from the Indian people, their reactions to the total message, and also specifically to those pieces of legislation. To that end we have mailed to you four volumes of those hearings that were held throughout the country.

I would say another area is housing, one that we are very happy with. We want to build on it. We want to do better. We do agree with you that the housing improvement program——

Mrs. HANSEN. I think this will offer you a great opportunity to employ Indian people.

COUNCIL MEMBERS ALLOWANCE

What is the pay and travel allowance of Council members?

Mr. ROBERTSON. The travel allowance is approximately $2,000 per year for each of the eight members of the Council.

Mrs. HANSEN. Is this based on actually what they spend?

Mr. ROBERTSON. We fill out the Government travel requisition and take care of all of that, so they have no money out of pocket. It is just for the bare cost of the travel. They are paid when actually employed $100 per day with no per diem. It is just a flat $100 a day.

Mrs. HANSEN. Does this include all of their expenses?

Mr. ROBERTSON. Yes, ma'am. Hotel, meals, and so forth. There is an allowance for taxicabs, I believe.

Mr. GUIDICE. Miscellaneous expenses and their basic transportation are in addition to the per diem.

Mrs. HANSEN. But the $100 per day pays for hotels and meals?

Mr. ROBERTSON. Which cuts it a little close for them sometimes.

Mrs. HANSEN. Have you had many meetings at Tahoe?

Mr. ROBERTSON. We haven't had one since August 1969.

REVIEW OF INTERDEPARTMENTAL FUNDING REQUESTS

Mrs. HANSEN. On page 4 of your statement, you say, "The Council reviews budget projections for the member departments and provides opportunity to coordinate projects proposed for interdepartmental funding." Just what does this involve?

Mr. ROBERTSON. I think we gave one example, the triagency agreement in housing. The reason the three-agency agreement was formulated early in 1969 was because HUD would come to the Congress asking for money in the low-rent housing area and they would oftentimes receive a substantial amount of money in this area. Yet the Indian Health Service would not be budgeting to supply the sewer and water for these houses that could potentially be constructed using HUD money with Bureau of Indian Affairs supervision. That is just one example of what we have done in that area, to try to get the departments together to get them to cooperate one with the other and to modify their guidelines and administrative procedures to make it easier for the Indian people to deal in a multidepartmental situation.

Mrs. HANSEN. How effective have your recommendations been in this connection?

Mr. ROBERTSON. I am very satisfied that we are making some real progress.

Mrs. HANSEN. When the BIA prepares their budget, are you called in for consultation on the various items in their budget?

Mr. ROBERTSON. No. That is a single departmental situation. We don't get involved unless it is a multidepartmental consideration. They are very capable, and they know how to do their business over there.

INDIAN INVOLVEMENT IN FEDERAL BUDGET PROCESS

Mrs. HANSEN. On page 5 of your statement, you say, "The Council will have completed a study of a select number of Indian tribes and the Federal budgeting process." What is the objective of this study?

Mr. ROBERTSON. The objectives that I alluded to before, is finding out if the priorities that are set by the tribal council working with the agency superintendents are really reflected in the final budgets that come out of the administration to the Congress. Are the Indian people meaningfully involved in that budget formulation process at the local level? This is the big question.

Mrs. HANSEN. What has resulted from this study?

Mr. ROBERTSON. It is a real patch-work situation. Some tribes are meaningfully involved and really control the process, while others

for their own reasons allow the agency superintendent to do the work, to establish the priorities. I will make sure, Mrs. Hansen, that you get a copy as soon as the report is completed.

Mr. HANSEN. As you well know, the scarcity of budget dollars is probably felt more in this committee than any other, because we are dealing with people and land. The committee would like to see all of the programs we fund given a higher priority in the overall Federal budget.

MEMBERSHIP OF COMMITTEE

Please insert in the record the membership of your advisory committee.

(The information follows:)

INDIAN COUNCIL MEMBERS

Dr. B. Frank Belvin, Choctaw, Okmulgee, Okla., (Baptist Missionary to Creek and Seminole Indians).

Mrs. Laura Bergt, Eskimo, Fairbanks, Alaska, (active in Alaska Native Land Claims Issue).

Mrs. Betty Mae Jumper, Seminole, Hollywood, Fla., (chairman, Seminole Tribal Council).

Mr. Earl Old Person, Blackfeet, Browning, Mont., (president, National Congress of American Indians).

Mr. John C. Rainer, Taos Pueblo, Taos, N. Mex., (director, National Indian graduate scholarship program).

Mr. Harold W. Shunk, Yankton-Sioux, Rapid City, S. Dak., (former BIA superintendent).

Mr. Martin E. Seneca, Jr., Seneca, Versailles, N.Y., (Harvard University Law School student).

Mr. Joseph C. Vasquez, Apache-Sioux, Los Angeles, Calif., (founder, urban Indian Development Organization).

MEMBER OF THE SPECIAL INDIAN EDUCATION SUBCOMMITTEE

Will Antell, Chippewa, Stillwater, Minn., (director of Indian education for the State of Minnesota).

John Borbridge, Jr., Tlingit, Juneau, Alaska, (president of the Central Council of the Tlingit and Haida Indians of Alaska).

Ned A. Hatatahli, Navajo, Many Farms, Ariz., (president of the Navajo Community College).

Overton James, Chickasaw, Oklahoma City, Okla., (the Governor of the Chickasaw Nation).

John Rainer, Jr., Taos, Taos, N. Mex., (a graduate student and member of the faculty at Brigham Young University in Utah).

Linda M. St. Peter, Wailaki-Wintun, Billings, Mont., (a graduate student at Eastern Montana College).

Alonzo T. Spang, Northern Cheyenne, Lolo, Mont., (director of Indian studies program at the University of Montana).

John C. Wade, Sioux, Aberdeen, S. Dak., (a graduate student working toward a Ph. D. in education administration at the University of Minnesota).

David Warren, Chippewa-Pueblo, Albuquerque, N. Mex., (director of curriculum and instructor at the Institute of American Indian Arts at Santa Fe, N. Mex.).

CONSULTANT EMPLOYMENT

Mrs. HANSEN. What is your policy with regard to the contracting with consultants?

Mr. ROBERTSON. Basically the need area has to be identified first. If it is economic development or Indian health we would hopefully select the most qualified Indian person available.

Mrs. HANSEN. Do you usually hire Indian people?

Mr. ROBERTSON. All Indians.

Mrs. HANSEN. Please insert in the record a tabulation indicating all contracts with consultants from the inception of your council, indicating the name of the consultant, the duration of his work, the type of study, and the total amount paid.

(The information follows:)

Name	Consultant Rate (Daily)	Appointment From	To	Amount Paid	Assignment
Wendell Chino	$100	6/3/68	6/2/70	$800	Former Indian Council members appointed by the President.
LaDonna Harris	100	6/3/68	5/4/70	3,000	
William Hensley	100	6/3/68	6/2/70	3,000	
Roger Jourdain	100	6/3/68	6/2/70	2,000	
Cato Valandra	100	6/3/68	6/2/70	1,800	
Raymond Nakai	100	6/3/68	6/2/70	500	
B. Frank Belvin	100	9/1/70	Present	2,000	Present Indian Council members appointed by the President for a two year term.
Laura Bergt	100	9/1/70	Present	1,450	
Betty Mae Jumper	100	9/1/70	Present	2,000	
Earl Old Person	100	9/1/70	Present	1,050	
John C. Rainer	100	9/1/70	Present	2,450	
Harold W. Shunk	100	9/1/70	Present	2,800	
Martin E. Seneca, Jr.	100	9/1/70	Present	1,800	
Joseph C. Vasquez	100	9/1/70	Present	2,650	
John Belindo	100	3/10/70	6/30/70	2,000	A survey to assist the National Council on Indian Opportunity to fulfill its obligations of coordination, appraisal and innovation of various Federal programs affecting Indian communities. Forty-nine reservations were contacted under this survey. PROJECT OUTREACH
William Cuny	100	3/10/70	6/30/70	1,400	
William E. Hallett	100	3/10/70	6/30/70	1,400	
William G. Harris	100	3/10/70	6/30/70	1,700	
*Myron Jones	100/85	3/10/70	Present	1,425	
Leo LeClair	100	3/10/70	6/30/70	1,400	
*Antalo D. Lester	100/85	3/10/70	Present	1,400	
Herschel Sahmaunt	100	3/10/70	6/30/70	700	
Ernest Stevens	100	3/10/70	6/30/70	1,000	
Wilbur Tandy, Jr.	100	3/10/70	6/30/70	300	
John E. Baker	100	3/10/70	6/30/70	800	
Linda St. Peter	33	2/25/71	Present	66	Appointed for two year term by the President for the Indian Education Subcommittee.
Jon C. Wade	65	2/25/71	Present	130	Provide assistance to Indian communities wishing to establish control of Indian schools. The Subcommittee will report annually to the President their findings in accordance with the President's Message to Congress of July 8, 1970.
David Warren	65	2/25/71	Present	130	

* Personnel on board for projects as they are initiated by the Council. This is to avoid repeating the processing of personnel actions when they are needed for an assignment.

Name	Consultant Rate (Daily)	Appointment From	To	Amount Paid	Assignment
Clarence Acoya	$ 85	11/6/69	3/31/70	$5,268	Condultation to Council and Department members on Indian matters.
*William R. Carmack	85	3/3/70	Present	2,338	Former Executive Director. Consultant to Council and Department members.
William H. Gilbert	40	6/1/70	9/30/70	2,160	Assist and advise in arrangements for meetings of the Council and Subcommittee. Made preparations for press releases and response to the public.
*Harold M. Gross	85	4/26/70	Present	1,700	Edited Project Outreach Transcripts, Legislative Package for printing.
Richard B. Halcomb	90	11/12/68	1/16/69	3,690	Assisted Indian Education Subcommittee involvement.
*David K. Hartley	100	2/11/71	Present	300	Study utilization of Indian population in employment.
*John A. Jollie	85	10/5/70	Present	9,269	Performing structure and functions of Indian Education Subcommittee.
Ralph F. Keen	100	6/22/70	7/31/70	200	Study Osage Indian problem on tribal enrollment.
*Sue Lallmang	85	1/1/71	Present	170	Attend special meetings for the Executive Director and submit a report.
*Leland J. Pond	56	6/22/70 2/1/71	8/21/70 Present	560	Study and make recommendations for improvement of Federal agencies administering programs for Indians.
Woodrow B. Sneed	85	9/5/70	9/11/70	340	Former employee of Council. Implementation of Legislative Review Program.
*James Thomas	85	1/25/71	Present	2,551	Special committee on presentation of news releases and newsletter.
*Richard A. Trudell	85	6/17/70	Present	1,599	Study operations of Federal agencies administering programs for Indians.
*Louis C. Willis	100	9/19/70	Present	3,300	Implemented NCIO newsletter for publishing and printing.

* Personnel on board for projects as they are initiated by the Council. This is to avoid repeating the processing of personnel actions when they are needed for an assignment.

STANFORD RESEARCH CONTRACT

Mrs. HANSEN. You say in your justifications that a contract has been let with a leading national consulting firm to study the budgeting system of the Federal Government as it affects Indian involvement in this process. What is the cost of this study?

Mr. ROBERTSON. $49,755.

Mrs. HANSEN. Is this an Indian consulting firm?

Mr. ROBERTSON. No, it is a Stanford Research Institute.

Mrs. HANSEN. Are they employing Indians?

Mr. ROBERTSON. Not that I know of. I don't know of any Indians who are employed by Stanford.

Mr. WING. Yes, they are using Indians for their field case work.

Mrs. HANSEN. What is the objective of the study?

Mr. ROBERTSON. The objectives are (1) to assess the current process for establishing program goals, priorities and funding levels in relevant departments and agencies concerned with Indians and other native American peoples (2) to assess the current process for integrating departmental and agency budgets, and the consequent effect in achieving both overall program efficiency and in reflecting Federal Indian policy (3) to assess current programs which affect budgeting of Indian programs as they exist at the level of Indian communities, and (4) to develop a series of recommendations for (a) improving the structure by which department and agency Indian budgets are integrated and made to fully reflect administration Indian policy, and (b) more adequately providing means and procedures for the Indian communities to put their own concepts of need, desire, and self-determination into the total budget making process.

NATIONAL CONGRESS OF AMERICAN INDIANS CONTRACT

Mrs. HANSEN. Please explain for the committee the details of the contract you consummated in the amount of $80,000 with the National Congress of American Indians.

Mr. ROBERTSON. This related to the 17 regional hearings that were held in two phases throughout the country to bring together Indians within those areas, to have them comment on the President's message, and to make criticisms, recommendations and suggestions for changes in the seven bill legislative package, and other related topics that they wanted to discuss.

Mrs. HANSEN. You actually obligated $151,229 for "other services" in 1970 whereas you estimate only $7,000 for this activity in fiscal years 1971 and 1972. What accounts for this change in level of funding?

Mr. ROBERTSON. I would like Mr. Guidice to speak to that.

Mr. GUIDICE. Of that total, the three contracts that were entered into totalled $143,000. These three contracts were the Stanford Research Institute which we have already discussed, one with the National Congress of American Indians for $80,000, and finally a contract with the Institutional Development and Economic Services.

INSTITUTIONAL DEVELOPMENT AND ECONOMIC SERVICES CONTRACT

Mr. ROBERTSON. This was a study on sub-marginal lands—President Roosevelt's Executive Order of 1936. We have a full study on that,

which we will supply to the committee. It is now being printed. It is a very interesting reading.

Mrs. HANSEN. What is the essential comment of this study?

Mr. ROBERTSON. The reason the Vice President was interested in this area was that we had extant a Presidential Executive order. Land had been purchased for the Indians to expand their land base. Nothing had ever been done beyond that point. The instruments necessary to give title to the tribes had not been accomplished except the Seminoles in Florida and the Pueblos in New Mexico. With these facts in front of us, we wanted to find out why, how much was involved, what happened to the moneys that had been received by the Federal Government over all these years for oil leases, grazing permits, land use.

Mrs. HANSEN. The committee will be very interested in that report.

Mr. ROBERTSON. It is a fascinating study and one that I hope will be helpful to the 16 Indian tribes that it involves. The one that really is in need is the Burns Paiute Indians. They have such a small land base that they desperately need that land to help themselves.

Mrs. HANSEN. Indians for a long time have wanted additional land. But they lack funds to purchase back some of the land that has been sold by fee.

Mr. ROBERTSON. I think Pine Ridge is very active in land acquisition. They have been purchasing lands with excess monies.

Mrs. HANSEN. If they have adequate tribal funds they can again purchase their land, but if they don't have the tribal funds, and many of our Western Indian tribes are extremely poor, they can't. Mr. McDade?

Mr. MCDADE. No questions, Madam Chairman. We on the committee wish you well in your difficult assignment.

Mr. ROBERTSON. Thank you. I have good help. I have topnotch Indian people on the staff. We are happy with what we are doing and hope that we will be more so.

URBAN INDIAN PROBLEMS

Mrs. HANSEN. The committee will be very interested in the solutions you develop on the urban Indian problem and in the reports which you are formulating.

Mr. ROBERTSON. If I may just offer this, I think that really the solution, and the Indian people in the urban areas have brought this to us, is that they need an instrumentality in the urban area which is of, by, and for Indian operation to act as the outreach, to assume these resources, Federal, State, and local, that must be made available to all of these Indian people.

Mrs. HANSEN. The committee is very troubled that Indian people going into a city on their own, are not receiving any form of assistance, when they get into difficulty, but that of relief. I think their greatest difficulties lie in the housing and health field. How many Indians can afford the health services and how many can afford housing?

Mr. ROBERTSON. Yesterday in Los Angeles it was brought to my attention that a single Indian down there has to live on less than $200 a month, in that urban area.

Mrs. HANSEN. It is pretty tragic in some areas.

Thank you, very much, Mr. Robertson.

WEDNESDAY, APRIL 28, 1971.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

INDIAN HEALTH SERVICES AND INDIAN HEALTH FACILITIES

WITNESSES

BENNY B. HALL, DEPUTY ADMINISTRATOR, HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
DR. EMERY A. JOHNSON, DIRECTOR, INDIAN HEALTH SERVICE
HENRY V. CHADWICK, EXECUTIVE OFFICER, INDIAN HEALTH SERVICE
RICHARD S. GREEN, DIRECTOR, OFFICE OF ENVIRONMENTAL HEALTH, INDIAN HEALTH SERVICE
WILLIAM E. MULDOON, DIRECTOR, OFFICE OF FINANCIAL MANAGEMENT
CHARLES MILLER, DEPUTY ASSISTANT SECRETARY, BUDGET

Mrs. HANSEN. The committee will come to order.

This morning we are pleased to welcome the Indian Health Service. Our principal witnesses are Mr. Benny B. Hall, Deputy Administrator of the Health Services and Mental Health Administration, and Dr. Emery A. Johnson, Director, Indian Health Service.

Mr. Hall, please proceed with your general statement.

OPENING STATEMENT OF DEPUTY ADMINISTRATOR, HSMHA

Mr. HALL. Thank you, Madam Chairman and members of the committee, I am pleased and grateful to have this opportunity to discuss with you very briefly the mission of the Health Services and Mental Health Administration, of which the Indian Health Service is a vital element.

As the agency within HEW which carries primary responsibility for how health services are organized and delivered to the American people, HSMHA performs a wide variety of functions. These range from the role of observer, collector, and disseminator of data, and stimulator of innovative approaches in the non-Federal health system, to that of direct provider of care to beneficiary groups. Of the latter the largest and in many ways most challenging is represented by the American Indians and Alaskan natives who are this committee's main concern.

The programs of the Indian Health Service interact with our other activities in many mutually beneficial ways. This is as it should be, because our Indian population faces essentially the same problems—though often in a particularly acute form—that confront the American people as a whole in preserving health and obtaining needed health care. They suffer from insufficient attention to preventive measures, from barriers that block ready access to care, from shortages and inequities in the distribution of health resources—all of which characterize the national health scene as well.

It is to problems like these that HSMHA must address itself. And we are fortunate to have, in the Indian Health Service, a comprehensive health delivery system serving more than 400,000 people which provides a model for developing new and better ways of performing these tasks. The Indian Health Service benefits from its close association with those who are dealing with similar challenges in the health system as a whole. The National Institute of Mental Health, for example, is developing new approaches to dealing with the problems of alcoholism and suicide, and the NIMH provides its specialized expertise to the Indian Health Service in developing its own programs to handle these serious Indian health problems. At the same time our other programs are immeasurably strengthened by the pioneering work done in Indian health.

The successes of the Indian Health Service programs using dental assistants and other paramedical personnel provide impetus for other HSMHA programs developing similar approaches to the problems of health care delivery. In return, as HSMHA's own research and development program learns more about health service delivery, the knowledge gained will be applied to Indian programs.

In the course of Dr. Johnson's testimony I hope you will recognize various specific examples of this mutually supportive relationship. Thank you again for providing me with this chance to express my enthusiastic interest in our common endeavor.

Mrs. HANSEN. Thank you very much, Dr. Johnson, I am happy to welcome you back to the committee.

Dr. JOHNSON. Thank you, Madam Chairman. If I may submit the statement for the record and then just highlight it for you.

Mrs. HANSEN. Please do.

(The statement follows:)

BIOGRAPHICAL SKETCH OF EMERY A. JOHNSON, M.D., M.P.H.

Position: Director, Indian Health Service.

Birthplace and date: Sioux Falls, S. Dak., April 16, 1929.

Education: Hamline University, St. Paul, Minn., 1951, Bachelor of Science; University of Minnesota Medical School, Minneapolis, Minn., 1954, Doctor of Medicine; University of California, Berkeley, Calif., 1964, Master of Public Health.

Experience:

Present: Director, Indian Health Service, Rockville, Md.

From 1967 to 1969: Deputy Director, Division of Indian Health, Silver Spring, Md.

From 1966 to 1967: Chief, Office of Program Services and Assistant Director, Division of Indian Health, Silver Spring, Md.

From 1964 to 1966: Indian Health Area Director, Indian Health Area Office, Billings, Mont.

From 1961 to 1963: Medical Officer in Charge, Phoenix Indian Medical Center, Phoenix, Ariz.

From 1959 to 1963: Assistant Area Medical Officer in Charge, Indian Health Area Office, Phoenix, Ariz.

From 1957 to 1959: Medical Officer in Charge, PHS Indian Hospital, Winnebago, Nebr.

From 1956 to 1957: Medical Officer in Charge, PHS Indian Hospital, White Earth, Minn.

From 1955: Medical Officer, PHS Indian Hospital, White Earth, Minn.

Association memberships: American Public Health Association, American Medical Association, Association of Military Surgeons, Alpha Omega Alpha—National Honorary Medical Society, Delta Omega—National Honorary Public Health Society.

Awards: PHS Commendation Medal—October 5, 1966, PHS Meritorious Service Award—September 18, 1970.

STATEMENT OF EMERY A. JOHNSON, M.D., M.P.H.

Madam Chairman and members of the committee, the Health Services and Mental Health Administration of which the Indian Health Service is a part, is the major health arm of the Federal Government. Its purpose is to improve the health of American people by strengthening the capacity of the Nation's health systems to deliver high quality services to all its citizens.

The Indian Health Service, with its direct operation of a comprehensive health services delivery system for some 420,000 Americans, provides a viable program model for Health Services and Mental Health Administration planning, especially in regard to rural and poverty-affected populations.

In turn, as part of the Health Services and Mental Health Administration, the Indian health program benefits from the expertise of other Health Services and Mental Health Administration programs, as it draws on them for consultation and shares resources, especially in the areas of manpower development, mental health and nutrition.

The Indian Health Service is well into its second decade of responsibility for the health care of American Indians and Alaska natives. It has been a period of many developments—of program growth, facility improvement and health progress.

In the beginning, the four major areas of emphasis were to assemble a competent health staff; establish adequate facilities where services could be provided; institute extensive curative treatment for the many Indians who were seriously ill; and develop and initiate a full-scale preventive program which would reduce the excessive amounts of illnesses and early deaths, especially from preventive diseases, and generally build a stronger, healthier people.

These were not improvements or expansions that could be achieved immediately. Many were set as basic program objectives and are still applicable Much progress has been made however, in meeting these objectives, as a result of strong continued and increasing support of the Congress, the assistance of numerous private and Government agencies and the active participation of Indian and Alaska native people. The gap has lessened between the Indians' state of health and that of the general population.

Active involvement of Indian people is essential to all phases of the health program—planning, operation, and evaluation. One of the most significant developments through the years has been the growing participation of Indians, and most especially, their assumption of a leadership role in their activities. Throughout the Indian Health Service, Indian boards of health are helping to develop policy, determine health needs, establish priorities and allocate resources. Many individuals have taken leadership training in health affairs which they are utilizing in their respective reservations and communities. And many tribes have taken the initiative to develop and operate a variety of programs in nutrition, accident prevention, alcoholism control, suicide prevention, mental health, improved housing, and other areas of community action and economic development.

Training and employment of Indians and Alaska natives in the Indian health program has always been of paramount concern. Opportunities have been considerably expanded through the years and new categories of employment established.

The service conducts training for Indian people as practical nurses, health record technicians, radiology technicians, dental assistants, sanitarian aides, laboratory assistants, medical social work associates, food service supervisors, nutrition technicians, health educators, and mental health workers, and licensed practical nurses are sponsored for registered nurse training. On-the-job training is also provided for nursing assistants, food service workers, and medical record clerks.

A limited amount of specialty training for such professional categories as physicians, dentists, nurses, and pharmacists is supported for both Indians and non-Indians.

The most successful new category of Indian employee is the community health representative. This program began in fiscal year 1969, and is conducted through contracts between the Indian Health Service and Indian tribes. Community health representatives are Indians, selected, employed, and supervised by their respective tribes and trained by the Indian Health Service to meet specific tribal needs. They provide the link between the Indian community and the health services staff, stimulate community health activities, promote Indian participation in the health program, locate new health resources, and devise innovative ways of using them.

There is a similar program in Alaska, but there an aide's assignment is usually in an isolated location where he is the only health-trained person in permanent residence, and therefore his training emphasizes skills which enable him to perform a wide range of medical services under professional supervision received via shortwave radio or telephone. In fiscal year 1969, we were able to introduce formal training to qualify aides for part-time paid employment. In fiscal year 1972, aides will be sufficiently trained for full-time employment.

By the end of fiscal year 1971, the Indian Health Service will have trained and placed under contract 410 community health representatives. In addition, 185 Alaskan Native community health aides are employed.

These two programs represent contracts with over 100 tribal groups and about 155 Alaska villages.

Another new category of employee also proving of extreme usefulness is the community health medic or physician assistant. Conceived primarily as a means of extending health services to remote locations where there is no full-time physician, the community health medic is trained to provide some primary health services and in addition, to serve as a focal point for a community health program.

Another function for the person is to serve directly under a physician in a medical facility, relieving the medical doctor of lesser tasks and permitting him to more efficiently apply his unique skills.

A successful pilot project of community health medic training was completed in 1970 and a formal program initiated this fiscal year.

In order to initiate expanded efforts to improve the health status of Indians, the President, in a message on Indian affairs, presented to Congress July 28, 1970, requested allocation of an additional $10 million for Indian health programs for fiscal year 1971. This is a cooperative effort of the Federal Government with funding derived from the Health Services and Mental Health Administration and the National Institutes of Health of the Department of Health, Education, and Welfare; the Office of Economic Opportunity; and the Department of Labor. The program is targeted on five key areas: Prevention and control of alcoholism; control of otitis media (middle ear disease); improvement of maternal and child health; promotion of mental health; and manpower development to enable Indians to staff and manage their own programs.

With these funds, training is being extended in a number of existing programs and expanded in the categories of basic health leadership, health management, and in the health professions. Added support is being given to implement programs to meet these other critical needs.

PROGRAM PROGRESS

The acceptance of the health program by Indian people can be measured by the ever-growing utilization of services available to them. In the past 15 years, annual admissions to Indian and contract hospitals have nearly doubled; outpatient visits made to hospitals, health centers, and field clinics have more than tripled; and the number of dental services provided has almost quadrupled. Almost all Indian babies are born in hospitals.

The Indian Health Service operates a total of 51 hospitals, 74 health centers—including 27 school health centers—and over 300 field health stations. Since 1955, 13 hospitals, 15 health centers, and 54 field health stations have been built and major alterations made at 11 other facilities. Under construction now are two health centers and three health stations. Two hospitals and one health station are under design or site adaptation.

Through Public Law 85–151, 147 beds to serve Indians and Alaska Natives have been added in 18 community hospitals which were constructed with Hill-Burton assistance.

Since passage of Public Law 86–121 in 1959 enabling construction of sanitation facilities, projects have been authorized to provide running water and an adequate means of waste disposal for approximately 52,200 Indian and Alaska Native homes through fiscal year 1971.

In addition to facilities construction, numerous environmental services have been provided for added thousands in the Indian and Alaska Native homes and communities. Examples of these services include epidemiological investigations of disease and accident occurrences; rabies immunization clinics; carbon monoxide surveillance of homes. Headstart schools, schoolbuses, and necessary followup; the monitoring of schools and of food, recreational, and industrial establishments; and the promotion of modern health practices throughout the environment.

ACCOMPLISHMENTS AND TRENDS

The health of Indians and Alaska natives has been substantially improved. Infant death rates are down 51 percent from 1955; tuberculosis death rates are down 75 percent; gastroenteric death rates are down 53 percent, and death rates from influenza and pneumonia are down 36 percent.

The most significant trend in the Indian health program is away from hospitlization and toward ambulatory care and preventive services. More and more resources are devoted to treating people in clinics and keeping people from becoming seriously ill. The success of these efforts is manifested in reductions in average daily patient loads in Indian Health Service hospitals.

The general state of health of Indians and Alaska Natives however, is still some 20 to 25 years behind that of the general population. Infant death rates are 1.4 times as high as the United States all races rate; the crude death rate for tuberculosis is 4.5 times as high and gastritis 4.6 times as high.

There is still much to be done.

SPECIAL HEALTH PROBLEMS

The health service needs of the American Indian and Alaska Native significantly exceed those of the general population. Their health problems are more diverse and severe, and are compounded by a number of cultural, socio-economic and ecological factors.

Meeting these needs requires a dynamic, innovative approach to assure maximum utilization of program resources. In addition, all other potential resources must be explored, developed and utilized.

In recent years a number of effective programs have been developed in cooperation with other Federal agencies, especially the Department of Housing and Urban Development, the Office of Economic Opportunity, the Bureau of Indian Affairs, the National Institute of Mental Health, and the National Council on Indian Opportunity; with a number of States, with Indian tribes, and with Indian interest groups, such as Arrow, Inc.

At the Service's Health Program Systems Center in Tucson, Ariz., new methods and techniques for health care delivery, reporting systems, and manpower utilization are being developed to provide new insights into the improvement of health care planning, programing, implementation, and evaluation.

Mental Health

The seriousness of mental health problems among Indians and Alaska Natives is demonstrated in suicide rates (age adjusted) which are 2 times as high as the all races rate, and an age adjusted homicide rate 3.3 times as high.

Indian deaths from alcoholism, alcoholic psychosis or cirrhosis with alcoholism are 6.5 times as high as in the general population.

Emotional problems and behaviorial disorders are frequent among Indian children. The conditions that predispose to emotional and mental instability are aggravated by the Indian's struggle for recognition and achievement of self-sufficiency in a new social set-up. Young people are most severely affected as they are caught between ancient and modern cultural patterns. There is increasing need for the mental health component in child guidance and counseling, and for the development of new and effective methods to prevent further trauma to the growing child.

As of this fiscal year, professional mental health teams are working in all Indian Health Service areas, a pilot inpatient mental health program has been introduced, and training of Indians as mental health aides has been expanded.

We are beginning to solve the problems of providing good mental health services.

Nutrition

Mild and moderately severe nutritional deficiencies are relatively common among Indians and Alaska Natives, especially in infants and preschool children, and women in the childbearing years of 15–44. Malnutrition is a problem in itself and also is a contributing or complicating factor in a wide variety of other health problems and illness.

The Indian Health Service has always conducted a family centered nutrition services program of intensive education, adapting proper principles to the food habits and cultural practices of Indians and Alaska Natives and will continue these efforts in the future.

Through the nutrition program of the National Center for Disease Control of the Health Services and Mental Health Administration, four Indian tribes and the Alaska Federation of Natives have grants to conduct demonstration programs to better nutritional health by improving food supplies, training indigenous workers, increasing participation in food assistance programs and providing practical information to Indian and Alaska Native people.

Other components of the Department of Health, Education, and Welfare also are conducting studies and research projects aimed at improving the nutritional health of these two populations.

Otitis media

Otitis media has always been a serious health problem among Indians and Alaska Natives and has been the leading notifiable disease since 1964. It has replaced tuberculosis as a major health problem, inflicting serious and often permanent damage.

The extreme prevalence of the disease with accompanying demands for prolonged treatment, curative and restorative surgery and rehabilitation created a workload that was impossible to meet out of regular program resources. The backlog was extreme.

In fiscal year 1971 however, the Congress appropriated funds especially for an otitis media program. With these funds and additional support resulting from the President's message, we finally have been able to institute the kind of program which has been needed.

The total 1971 level represents the first increment of a 5-year program which will bring this serious problem under control.

Maternal and child health

Improving the health of mothers and children has always had highest priority in the Indian Health Service, and new program efforts are introduced whenever possible.

The importance of family life and responsible parenthood are emphasized in the family planning program which was intensified in 1965.

Since that time through June 30, 1970, family planning services have been provided to 36,300 women. In fiscal year 1970 there were 29,000 medical visits by 14,526 Indian and Alaskan Native women for family planning services. In fiscal year 1970 the number of Indian women 15–44 years of age is projected at 77,638.

In 1970 the first nurse-midwife program was introduced in Alaska, to provide services to mothers and babies in isolated areas. An additional program now is operating in Shiprock, N. Mex., and more expansion is anticipated.

A comprehensive approach to maternal and child health problems is being intensified.

Dental health

The overwhelming demands created by the generally poor dental health of Indians and Alaska Natives necessitates the setting of priorities for services. In general, children receive the most dental care. Some expansion of services to adults is occurring, but still on a restricted basis.

Environmental health

Added to the poor general environment in which Indians and Alaska Natives live are the hazards of crowded living conditions, restricted amounts of safe water and lack of sanitation facilities.

As stated previously, through Public Law 86–121, both running water and a waste disposal system will have been provided for approximately 52,200 Indian and Alaska Native homes from 1960 through 1971.

All tribes or communities that have benefitted from the program also have received instruction in use, care and maintenance of the facilities whether they are in private homes or belong to a community.

Under cooperative arrangements with the Department of Housing and Urban Development, the Bureau of Indian Affairs, the Office of Economic Opportunity, and various Indian housing authorities, the Indian Health Service has undertaken 361 sanitation construction projects to provide facilities for new or improved housing over and above projects undertaken to serve existing Indian homes and communities through fiscal year 1970. In fiscal year 1971, the Indian Health Service is initiating efforts to provide facilities for 7,100 units of new or improved housing constructed by other agencies, and to provide technical assistance for another 900 new housing program homes.

THE FUTURE

The additional funds provided by the Congress for fiscal year 1971 together with the added resources provided by the President have enabled the Service to provide significant improvements through the initiation of new programs and restoration of staff. We look forward to continued progress in the future.

The Indian Health Service is committed to provide the best possible quality of health care, to act as the Indians' advocate in generating other interests and resources and to offer every assistance to Indian efforts to man and manage their own health programs.

Consistent with the charge issued in the President's message to improve the Indians' health status, we recognize the urgency of pressing on to close the health gap between Indians and the rest of the population. We have every determination to do so.

PROVISION OF APPROPRIATION REQUEST

The 1972 appropriation request for $141,903,000 for Indian Health Services represents a net increase of $17,252,532 and an increase of 177 positions of which 23 are for staffing the newly constructed Albuquerque School Health Center. This request includes: a program increase of $6,200,532 and 154 positions which provides for (a) an accelerated maintenance and repair program to correct serious fire and safety hazards and reduce the tremendous backlog of projects requiring immediate attention (+$2,599,532); (b) a laboratory quality improvement program (+$254,000 and 7 positions); (c) the provision of contract services to an additional 22 general average daily patients (+$863,000); (d) increased preventive and corrective dental services to children and young Indian people through the addition of 14 dentists and 17 dental assistants (+$418,000); (e) an expansion in the mental health program to provide basic services to Indian people who previously have not had access to mental health resources and the strengthening of our existing program by addition of 76 mental health oriented positions (+$1,290,000); and (f) an emphasis on improvement in the health status of mothers and children by improving and expanding our maternal and child health program with the addition of 40 employees (+$776,000). These program increases are off-set in part by a program decrease in the contract tuberculosis average daily patient load (—$113,000).

The construction appropriation request in the amount of $18,789,000 will provide for: (1) air quality control projects at Indian health installations ($339,000); (2) sanitation facilities to assist Federal and tribal housing programs to serve approximately 8,000 units of new or improved housing (includes 900 units furnished technical services to HUD) ($17,705,000); (3) an additional phase of the Kotzebue, Alaska, water and sewer systems ($300,000); and (4) special sanitation projects to serve ceremonial areas and community buildings, engineering investigations, emergency works, supplies and equipment, and unforeseen conditions ($445,000).

Dr. JOHNSON. Mr. Hall has made a good presentation, I believe, of the relationship of the Indian health program to HSMHA.

PERCENTAGE OF PROGRAMS RELATED TO INDIAN HEALTH

Mrs. HANSEN. What percentage of HSMHA programs are related to the Indian Health Service?

Dr. JOHNSON. I would defer that to Mr. Hall.

Mr. HALL. In terms of money resources or people resources?

Mrs. HANSEN. In terms of people and funds.

Mr. MILLER. The total budget estimate for HSMHA for 1972 is $1,500 million approximately, and your appropriation is about $141 million, so it is less than 10 percent.

Mrs. HANSEN. How many people do the HSMHA programs serve?

Dr. JOHNSON. You mean the public generally?

Mrs. HANSEN. Yes.

Mr. MILLER. Again you are only talking about the Health Service and Mental Health Administration and not the Department as a whole. We really don't know.

Mr. HALL. We could get those figures for you, realizing, of course, that direct delivery of health care is not the total thrust of the Health Service and Mental Health Administration.

Mrs. HANSEN. I understand. Please insert in the record the portion of HSMHA's programs that are related to the Indian Health Service.

Mr. HALL. May we get that for you in terms of people and dollars and submit that?

(The information follows:)

Direct patient care activities for specific beneficiary groups account for approximately 13 percent or $210,975,000 of the total Health Services and Mental Health Administration appropriation for 1971. Indian health care comprises 58 percent of HSMHA's direct care programs and approximately 7 percent of the total HSMHA appropriation.

While the Indian Health Service has responsibility for the health care of 415,000 Indians and Alaskan natives, the other HSMHA beneficiary groups include approximately 200,000 merchant seamen, 52,000 Coast Guard personnel, and over 100,000 other beneficiaries in 1971.

Mr. MILLER. I think we only have two very specifically targeted beneficiary populations in the Health Services and Mental Health Administration, and the Indian population is one. The other is the population that the Public Health Service hospitals are responsible for, the Coast Guard and the Merchant Marine.

CLOSING OF PHS HOSPITALS

Mrs. HANSEN. Aren't you trying to close some of your PHS hospitals?

Mr. MILLER. Madam Chairman, we are trying to work out a solution. It includes primarily attempting to find ways to transfer them to the community and make them community hospitals.

Mrs. HANSEN. Considering the financial conditions in these communities, what do you propose to do?

Mr. MILLER. We hope we can find a way to tide them over until they can tolerate the cost.

Mrs. HANSEN. Do you know of a single city in the United States that doesn't have fiscal difficulties?

Mr. MILLER. No. Really your question is a good one, and we certainly don't know the answer. However, there isn't a single city that doesn't need hospital capacity, and would like to make use of it.

We are finding out every day how tough it is to resolve.

Mrs. HANSEN. It just happens there is a PHS hospital in the State of Washington.

Mr. MILLER. Yes, I know.

Mrs. HANSEN. You are talking to the wrong person.

Mr. MILLER. I haven't found the right person to talk to yet.

REVENUE SHARING

Mrs. HANSEN. I receive information on revenue sharing every day and I discover the revenue that is actually going to be shared isn't nearly adequate to meet the needs. In the first place, I think you have to understand that there is a very limited tax base available to cities. In most States, the cities are limited by a State ceiling. For example, the State of Washington has a 40-mill property limitation, and excess levies must be voted upon individually. It is a rather com-

plicated formula, and it is becoming increasingly difficult to pass these levies. I don't think any city is going to hastily take over the operations of a PHS hospital facility.

Dr. Johnson, please proceed with your general statement.

HIGHLIGHTS OF INDIAN HEALTH PROGRAM

Dr. JOHNSON. I am going to try to highlight, Madam Chairman, where we have been in the program, and then to look at some of the issues that we are still having to come to grips with. As you recall, in the time of the transfer in 1955, the Indian was clearly the most disadvantaged of all minority groups in terms of health status. Initially we had to develop a clinical services mechanism, hospitals, doctors, nurses, facilities, to provide good clinical services so that you could get the acceptance and the support of the people. At the same time we began to develop the nucleus of preventive health programs.

I think as we go through our opening statements, we will begin to see the results of that kind of a very deliberate health strategy, a health strategy in which you have identified the needs of people, you develop the delivery system and the mechanisms for the involvement of the people, because health in the last analysis, of course, is not something that you put on or take off like a suit of clothes. It is really a way of life.

Mrs. HANSEN. I think you should explain this to the Office of Management and Budget.

Dr. JOHNSON. No comment.

By having the people involved in the program, the people that it is serving, so that they are an integral part of whatever you are doing within the health system, then these kinds of changes that are required within the community are going to take place. It becomes a program then that is not imposed from without. It is not a delivery system in the Federal sense that it comes from on high, and is simply imposed on local people, but it is really a program which is developed out of the felt and expressed needs of the local people, developed in concert with the health professionals on our staff and in other agencies that are available, and then really put together as a strategy, a health strategy for a group of people. We will develop, I think, this morning the opportunity to see how this has begun to pay off.

PROGRAM PROGRESS—HOSPITAL ADMISSIONS

If I may, Mrs. Hansen, we will begin to talk about program progress. I have a series of charts, I believe you have them available to you. We talked about first of all developing the clinical base so that you could have acceptance of the program. In other words, you could have the finest medical facilities in the world, and if the people don't use them, then you have accomplished nothing. Some of the examples of acceptance that we have, of course, would be in chart No. 1, where you can see the increase in the number of admissions to the hospitals over the years.

Mrs. HANSEN. I notice the admissions seem to have stabilized.

Dr. JOHNSON. They have stabilized, Madam Chairman, within the last couple of years. Our experience for fiscal year 1971 is that they are beginning to rise again very slightly.

Mrs. HANSEN. Why?

Dr. JOHNSON. I think one of the reasons, of course, for the temporary decline in admissions was the fact that we did have to cut back services a couple of years ago. I am sure we have been through that before. We had to close some hospital wards and this type of thing.

Mrs. HANSEN. You have had crowded facilities, overworked personnel and budgetary limitations.

Dr. JOHNSON. We had certain constraints.

Mrs. HANSEN. That is a polite way of phrasing it.

Dr. JOHNSON. We had to put a lid, in a sense, on admissions, but since those problems are hopefully behind us now, we are seeing again this year the increase in admissions, but I don't believe we would expect to continue to see an increase in admissions. I think we are beginning to see now a plateauing. We may fluctuate up and down.

Mrs. HANSEN. In other words, you have reached that point in time where perhaps your preventive medicine is beginning to pay dividends so that your hospital admissions will begin to stabilize?

OUTPATIENT VISITS

Dr. JOHNSON. I think this would be our prediction. In chart 2, Madam Chairman, you see the number of outpatient visits.

You can see these have almost quadrupled since the transfer of 1955, but the point you are raising was about the preventive services, or the field type services. You can see that in 1955 we had about 100,000 field visits out of a total of 455,000 visits. Last year, 1970, the field visits were about 718,000, so you can see there has been a sevenfold increase in the field visits. These are in the clinics out in the communities in schools and out in little health stations and health centers. I think clearly this is where our emphasis has been, to get health care and preventive care out into the community where the people are, rather than putting our emphasis on in-hospital types of care.

Another thing that I think will help as an example here is in spite of the fact that admissions have been increasing, the average daily patient load or the number of patients in hospital beds each day has been going down steadily.

Our length of stay has dropped remarkably over the last few years.

Mrs. HANSEN. To what do you attribute this?

Dr. JOHNSON. I think there are several factors here. One, of course, is if you can get people early, before their disease has progressed until they are acutely ill or moribund, then they can be treated much more rapidly. I think we are able to do things more selectively, diagnostic procedures in the hospitals now, where in the old days all we could have in the hospitals were people who were desperately ill. The utilization of the hospital is beginning to change.

One example specifically would be in pediatrics. You will remember we used to have wards just filled with sick kids. Some of our pediatric wards used to remind me of an oil field with all those derricks—with all the kids on IV fluids and the IV bottles hanging up. This has really changed, 50 percent of our inpatients were children. Now it is down to about 27 percent.

Mrs. HANSEN. At the same time, what has happened to your infant mortality rate?

INFANT MORTALITY RATE

Dr. JOHNSON. The infant mortality rate, of course, has dropped about 51 percent since 1955. It has dropped from 62.5 down to about 30.9. It has been a very remarkable decrease in infant mortality. Of course it is still 1.4 times as high as the general population, but here again I think, Madam Chairman, we can see the result of a program which is focused clearly on the target.

In 1955 the infant mortality of the American Indian and Alaskan Native was significantly higher than the infant mortality of the nonwhite in this country, 62.5 as compared to about 40. Over this period of time, the Indians position has reversed. The nonwhite is now around 34, the Indian down to 30. In other words, we have reversed the position. The Indian infant mortality has declined 51 percent, other nonwhite infant mortality has decreased around 20 percent.

Mr. MCDADE. May I interrupt? To what do we attribute this commendable decline in the infant mortality rate?

Dr. JOHNSON. I am not going to make a statement that it is all due to the health program because clearly it is not. It certainly is related to improved housing, improved nutrition, improved economic status on many of the reservations, but these sorts of things have occurred to other populations too, and you have not had this same decrease in infant mortality. I think what has happened is that first of all we have had health services accessible to the people. We have had health services that are relevant to the people that are to use them. It is a part of their program, not somebody else's program. They are getting out to where the people are with preventative services, with health education, with nutritional programs; in a sense creating a better way of life for a family, focusing on the high risk mother, because the high risk mother is the one who tends to have the infant who is going to have trouble.

Mrs. HANSEN. How do you define a high-risk mother?

Dr. JOHNSON. A high-risk mother is a lady who has had previous complications in pregnancy. She is the very young mother or the very old mother. She is one that has a concomitant diabetes, renal or heart disease, something like this. There is a certain socially disorganized relationship which can make a high-risk mother. These are the major things, but you can focus on this.

Then you have the high-risk infant who comes from this high-risk mother, one who has had a difficult delivery, for instance. This is the one you need to pay attention to instead of shotgunning the horizon for everyone. With limited resources, I think it is just general good sense to focus your resources on these kinds of high-risk people. I think that kind of program is what is beginning to pay off.

Mr. MCDADE. In addition to that then you say you are able to deliver that service out to the people?

OUTPATIENT VISITS

Dr. JOHNSON. Where the people are. As we were just pointing out, Mr. McDade, in chart 2 you see we have had a sevenfold increase in field outpatient visits. Those are the little clinics that are out in the villages. We have deemphasized, in a sense, hospital care, and I have got to be careful when I say that. Hospital care is extremely important

and, when you are ill and need hospitalization, you must have the ability to have the hospital, and you have got to be able to have adequate staff, drugs, and the supporting services that you need for quality care. I am not downgrading the essential component of a hospital. I am just saying that the hospital is only one piece of it, and we pay attention to that, but at the same time we are paying tremendous attention to the field and the community aspects of medical care.

Mrs. HANSEN. Dr. Johnson you also have to improve the educational and sanitation facilities, and provide adequate housing. Isn't this correct?

Dr. JOHNSON. All of these things support each other. I think that any one alone, you see, could not have had this kind of effect. What we are saying is if you have a strategy, and focus your attention on doing these kinds of things, it can be done, rather than just simply sitting around and treating illness as it arises. The crisis kind of medical care does not, I think, come up with these results. This is a comprehensive, focused health delivery system, and I think it pays off. I think this is a good investment.

Mr. MCDADE. On that chart 2, showing the tremendous increase in outpatient visits, are all of those people seen by doctors, or are they other types of paramedical people?

Dr. JOHNSON. The basic ground rules for our visit at this point in time has been a physician visit. We are beginning to move away from that. In fact we already have. We are beginning to work, for example, with the community health medic and we will perhaps talk about that later. We are beginning to find ways in which a pharmacist can serve a very useful purpose to see some of the patients, because there is a limit to the number of physicians you have, and there are more effective ways of using the unique talents of a physician than in a lot of routine things.

Mr. MCDADE. But even though you are making a further adjustment, that table No. 2 is based upon physician visits.

Dr. JOHNSON. That is right. If we were going to show the others, it would be quite different.

Mr. MCDADE. Thank you, Madam Chairman.

Dr. JOHNSON. Another example, Madam Chairman, of acceptance is chart 3, where again we see the remarkable increase in the number of infants who are born in hospitals. This is most significant in Alaska, where you can see we have gone from 65 percent up to over 90 percent, almost 92 percent now.

HOSPITALS IN ALASKA

Mrs. HANSEN. How many hospitals do you have in Alaska, and what portion of the Native population is hospital care available to?

Dr. JOHNSON. We have hospitals at Barrow, Kotzebue, Bethel, Tanana, Kanakanak, Anchorage, Mount Edgecumbe, St. Pauls, and St. Georges, the two little hospitals out in the Pribilofs—nine.

Mrs. HANSEN. What is the Native population in Alaska?

Dr. JOHNSON. Approximately 50,000.

Mr. CHADWICK. Specifically we have 639 beds that are available.

Dr. JOHNSON. Of course as you know, Madam Chairman, the problem in Alaska is one of distance, time, and travel. Out in the bush of Alaska, of course, is where most of our hospitals are, and we are in

fact the only health resource in much of the bush area in Alaska. As this committee knows, we do serve as a community hospital, under the old territorial Code of Federal Regulations. We have the authority in Alaska in remote areas to provide care.

Mrs. HANSEN. You have to or the people couldn't survive. You have the problem in Alaska of the hospitals actually serving as nursing homes for the elderly population. What you actually need are separate nursing home facilities.

EXPANSION OF HUD PROGRAMS IN ALASKA'S COMMUNITY CENTERS

Dr. JOHNSON. We have been talking with HUD very recently. There is going to be quite an expansion in the activities in Alaska this next year, we believe.

One of the things that we are interested in developing with them is the concept of a community center in these small villages. They tell me that there are opportunities within their legislation and within their budget to do some of these things. We have just got to nail it down to a model village type of approach. We have talked about this, as you know, for several years, and nothing has ever happened in a concrete way. I think we are getting to the point where we can, in a sense, nail them down to going out and trying to do one of these things, where you could put your community services activities, the health clinic, which in most of these small villages would be handled by the village health aid, other helpers that may come into the community, such as your social service people and various State public health nurses, but to put in as part of that complex either apartment type or sheltered care within a single facility. I think that is the only way that it can pay off or be economically feasible, in many of these bush areas.

The Native people want this sort of thing. They don't want to have their old folks have to go off to the pioneers home down the chain or something like this.

Mrs. HANSEN. Yet the Natives usually don't have adequate space in their homes to provide the care.

Dr. JOHNSON. No. This, I think, has a real potential. We have gotten some expressions of interest now. We have talked to the Alaska Federation of Native Officials on this too, and I would hope that within this coming year that we will be able to get a start on one of these activities at least. There has been really no provision made for the aged in the small villages in Alaska.

INFANT DEATH RATES

If I may go on, Madam Chairman, we talked about infant death rates a moment ago. Chart 4 shows the infant mortality rate. You can see the steady decline in this.

I would like to call your attention to chart 5, which identifies infant death rates by age at death. The significant part here is that for the Indian and Alaskan Native infant, for the first few days of life he is all right.

Mrs. HANSEN. Then the infant goes home to a disadvantaged environment.

Dr. JOHNSON. Then he goes home, and then he goes home to the disadvantaged environment and this is where we get in trouble with sani-

tation, with nutrition, all the other sorts of things that make up a disadvantaged environment. Of course the 28 days to 11 months of life is where the major opportunity for reduction of death rates remains.

USE OF COMMUNITY HEALTH WORKERS

Mrs. HANSEN. Have the community health workers been of material assistance in this field?

Dr. JOHNSON. I believe quite significant because as you know, there is always a limitation on the ability of professional people. First of all, you never have enough and you never will. Secondly, most of them, of course, are Anglos, and they may not be able to relate as easily into many of the communities as people within that community. The community health worker, of course, is from that community. He has been selected by the tribal council from among their own people. Almost all of them are bilingual. They can speak the native language as well as English, and they have been a tremendous asset in terms of bridging this communication gap. You see, there is a gap in communication between a professional and whatever society he comes from.

Mrs. HANSEN. There is a gap in communication between many patients and their doctors.

Dr. JOHNSON. Right, and then you put in another culture and it makes it that much worse. Even sensitive and very concerned physicians have found that their ability to practice well has been enhanced by having the community health worker who can come back and say, "Doctor, did you know that the patient you had yesterday didn't understand what you told him"? Otherwise we would never know this. It helps sharpen our ability to relate to people by having the community health worker. The important thing is that he doesn't work for us. He works for the tribe. I thought that was a very important element when we first developed this program. Time has really proven this to be true, that they are a tribal piece of the action. They are really the nucleus of the tribe's health department in a sense. We could just cite example after example of ways in which they have made not just our programs more responsive, but county programs and State programs.

We have county health departments now who are moving their well baby clinics out to the reservation, because they say that is where the problem is. But if it hadn't been for the community health representatives, the Indian never would have gotten any attention. I think they are very good advocates, excellent communicators.

TUBERCULOSIS DEATH RATES

Chart 6, Madam Chairman, shows tuberculosis death rates. As you can see, particularly in Alaska, the tremendous decline that we have had.

Mrs. HANSEN. Did you have any deaths attributable to tuberculosis last year?

Dr. JOHNSON. Yes, we have had a very small number. The death rate is continuing to decline, but you see, we will always have deaths from tuberculosis until those who harbor the illness pass from the

scene, because they will always be coded at one point in time as tuberculosis when they die.

Mrs. HANSEN. I think last year you reported there were no Alaskan native deaths attributed to tuberculosis.

Dr. JOHNSON. No Alaskan Native in Alaska died of tuberculosis, I think it was in 1969. We no longer have TB hospitals in Alaska. We have a small ward at the Anchorage Medical Center. In 1955, as I recall, we had some 3,000 or 4,000 hospitalized with tuberculosis, and a like number on waiting lists to get into hospitals. Now we are down to I guess 25 or 30 at the most at any time in the Anchorage Medical Center.

Mrs. HANSEN. To what do you attribute this accomplishment?

Dr. JOHNSON. Clearly we have to stress here that it was the very concerted village by village treatment program that did this, where they went into each village and treated the entire population at risk with INH. This plus the extensive followup, the "hot spot" team approach, in which you had a group of people who, any time a case showed up, were out there working on it. I think that is clearly what has happened in Alaska. Certainly the economic improvement and so forth has had a role, but I think here we can claim the medical role as being the most significant.

TUBERCULOSIS PROGRAM IN THE LOWER 48

We have not been able to do this same thing in the south 48 Indian population.

Mrs. HANSEN. Why?

Dr. JOHNSON. It has been a matter of the resources to do it, I guess, and how you look at your priorities, so that right now the Indian in the south 48 is somewhat disadvantaged in terms of tuberculosis. We are taking the next major step, hopefully within the next few days, as a result of money that was made available through the President reassigning some money from other agencies for Indian health this last year. As you recall, the committee approved his request to move some money into support of these programs.

One-third of our tuberculosis in the south 48 is focused in the Navajo, and we are going to be contracting with the Navajo Tribe for a tuberculosis control program within the next few days. Again I think this is an interesting evolution of program, and not by accident.

As part of the Navajo's health effort, which now includes the community health representatives and certain OEO funded nutrition programs, they are going to take on a tuberculosis control follow-up program. This is a cooperative project between the Navajo Tribe, the State health departments of Arizona, New Mexico, and Utah, of course the Indian Health Service, and the National Center for Disease Control in Atlanta, which is the Federal Government's agency for tuberculosis support, another sister agency within HSMHA.

We would expect, Madam Chairman, to see within the next few years some very dramatic results on the Navajo reservation. Here is a tribally operated program with professional supervision from us, professional consultation and direction, but carried out by bilingual Navajo people working among their own people.

COMPARISON OF NAVAJO HEALTH STATUS TO ALL INDIANS

Mr. McDade. Could I interrupt at that point?

When you mention the word "Navajo," that is a word that we frequently hear in this subcommittee. Now you have, for example, zeroed in on one statistic involving tuberculosis. We hear about their incredible unemployment rate on that reservation. We get figures on the welfare caseload that just is in almost geometric progression, and sometimes when you look at a statistical chart overall, you lose sight of some of these additional problems like this TB rate on that reservation. Would the health problems on the Navajo reservation reflect a different trend than the charts that we see that reflect the overall thoroughly commendable and excellent progress that we are making with Indian health? Would there be a serious differentiation between those charts and charts that might exist on the Navajo reservation?

Dr. Johnson. I think the Navajo presents certain special problems. One is obviously there are so many more of them than there are of any other tribe. Secondly is their dispersion over such tremendous amounts of territory. In other words, the Navajo reservation is larger than the State of West Virginia. The transportation problems out there are appalling. The problems of getting sanitation facilities into these scattered camps is just tremendous.

Mrs. Hansen. The climate also presents some problems.

Dr. Johnson. Climate, there is a whole series. Really to answer your question, yes, there is a disparity. In most of the indicators that I talk about you will find that the Navajo lags somewhat behind. It is not extravagantly behind in many areas, but it is. It is a place where I believe over the next few years we must focus on some special problems. We have certain other reservations, smaller reservations, that have equally high incidence of problems, that we want to begin to focus on. In a sense, if you are going to be limited in your ability to do everything for every one, I think there comes a time when you have to say we have to focus in on some of the deficit areas, and try to at least bring them down to the level of the rest. In other words, to share the poverty. In a sense, this is what you have to do.

TESTIMONY OF MRS. WAUNEKA

Mrs. Hansen. Dr. Johnson, Mrs. Wauneka testified before this committee the other day. She mentioned in her statement that the average yearly income of the Navajos is about $300. She goes on to state that:

> Many Navajos have walked many miles carrying their sick children to hospitals or clinics. The death rates of the Navajo people are much higher than those found in the general population of the United States. Deaths from pneumonia are two times higher. Deaths from diarrhea and intestinal infection are 11 times higher.
>
> Deaths from tuberculosis are 3.5 times higher. Deaths of newborn babies are two times higher. Deaths from accidents are three times higher. The death rate of Navajo Indians is 42 for every 1,000 live births. This is two times higher than the infant death rate in the general population of the United States.

She also discusses the continued problem of poor nutrition, because their diet is not adequate. If it wasn't for the Indian schools, there would be many youngsters who wouldn't have meals at all. Isn't that correct?

Dr. JOHNSON. That is correct; certainly not balanced meals.

Mrs. HANSEN. She also mentions in her statement that "Two years ago an average of 16 new cases of malnutrition were diagnosed each month in Navajo hospitals and clinics." She has asked for a sizable increase in funds for health care in the Navajo area.

HEALTH FACILITIES OF THE NAVAJO

How many hospitals do you have on the Navajo?

Dr. JOHNSON. Crown Point, Ship Rock, Fort Defiance, Gallup, Winslow, and Tuba City—six.

Mrs. HANSEN. What is the total number of available beds?

Mr. CHADWICK. We have a total of available beds in the Navajo area of 565.

Mrs. HANSEN. Isn't one of your major problems on the Navajo transporting the people to the hospitals? How many outpatient clinics do you have?

Dr. JOHNSON. We have major ones at Chinle, Kayenta, at Tohatchi, Fort Wingate. We have several under construction; one at Many Farms. I am sure, Mr. Chadwick, you have the itemized list of them.

Mr. CHADWICK. We have five regular Indian health centers and nine school health centers, 14 in total.

Mrs. HANSEN. Your problem is similar to the problem of providing adequate educational facilities. The Navajo people live such tremendous distances from each other that it is difficult and costly to provide adequate education and hospital care. I think there are a lot of children who are not going to school, because of the tremendous distances.

Dr. JOHNSON. I think this is one of the places where the community health representatives have been most effective. They have wheels and they can get out and they have just extended tremendously the ability to get contact between the health program and the people. There is no question that the problems of Indian people are magnified on the Navajo. You know Mrs. Wauneka very well. You have visited with her out on the reservation and you have been into the homes. Certainly there are few Indian leaders who can speak more knowledgeably and with more deep feeling about the problems of these people than Mrs. Wauneka. She is the member of the health committee of the Navajo Tribe and she serves on the area health board that serves as our board of directors for the Navajo. She also serves on the National Intertribal Health Board and serves on my board. She has gone to the places that she has talked about.

ADDITIONAL NEEDS FOR THE NAVAJO

Mrs. HANSEN. Mrs. Wauneka makes the comment in her statement that "46 percent of the homes have only one room. Only 23 percent of the homes have running water to a sink. Only 16.5 percent have flush toilets. Only 8.5 percent of the homes have bathrooms with hot and cold water. Only 25 percent have electricity. Only 20 percent have refrigerators to store food." The problem is that the Navajo people were neglected for so many years. They remind me of an emerging nation. They emerged into a 20th century that was so well developed that catching up has been tremendously difficult and ex-

pensive. The funds that were necessary to catch up have not been provided. This is understandable to a certain extent because this country is caught in a crisis of funding.

The Navajo people are fine Americans. They don't want the country destroyed or their own area destroyed, but I think if the conditions on the Navajo continue much longer you will see a revolt that may be far more expensive to this country than it would be to correct the deficiencies.

I think if some of the Indian projects are completed such as Indian irrigation projects and adequate Indian health facilities are provided you won't have a revolt on the Indian reservations.

Dr. JOHNSON. I think, Madam Chairman, that the mood that I see, as I go throughout Indian country—and I don't go just to the big cities or talk to the chairman, but out into the communities—the Indian people are ready, and they are willing, and they have the capacity to move.

Mrs. HANSEN. Their patience is rapidly becoming exhausted.

RESPONSIBLE LEADERSHIP ON THE NAVAJO

Dr. JOHNSON. But they have responsible leadership at this point in time, and leadership that will help to move in progressive and responsible ways. I think that you are quite right that their patience is going to be wearing thin, it is wearing thin. Early in the program, as I look at the development of the health program, very early it was difficult to get very much responsiveness. In other words, as doctors we would go out there and we would do doctoring but to try to get anybody enthused about doing a community program of some kind, or doing things for themselves in a sense was very, very difficult. That has all changed. Now our problem is to keep ahead of the game. In other words, they are ready, willing and able, and they are moving.

I have done all I can within the resources of our program and with whatever persuasion I have to try to get this message across to all elements of government and other agencies that here is a minority group that is ready, willing and able. They have the leadership and they will progress.

Mrs. HANSEN. I think they have a responsible leadership that wants to work with the Federal Government.

Dr. JOHNSON. And if we could just be able to respond to these legitimate needs of these people, we could have a tremendous success story for this Government.

Mrs. HANSEN. I think we have to, Dr. Johnson. I think we have arrived at that point in time where we can no longer put off responding to the needs. You can't deny people the right to survive in their own country. That is all there is to it.

HOSPITAL UTILIZATION RATE

Dr. JOHNSON. Madam Chairman, we have some additional charts on changes in death rates and so forth, and I am sure they simply say the same story that we have been talking about. I would like to point out to you chart No. 9. This relates back to what we were saying at the very beginning this morning. The plateau that we are beginning to see, this is a utilization rate. In order words, this is per every

thousand people, how many are going to a hospital. You see, we have had a "plateauing" for several years really and a beginning decline, and I think that is what we would expect in the rate. It means that fewer people are sick enough to have to go to the hospital. Again I would say this is illustrative of the payoff that you begin to have when you can get into preventative programs.

FAMILY PLANNING

Chart 10 is another example, I think, of one of the health programs that have been important to us, family planning. To us, of course, family planning is not birth control. Family planning is simply part of a comprehensive health program which says that each child should be a wanted child, each mother, each family should be able to make a decision as to how many children they have and when they have them, and that our responsibility as an agency is to make sure that they have access to this kind of service.

Mrs. HANSEN. Is this program being accepted throughout the Indian world?

Dr. JOHNSON. I think here the chart shows the acceptance. From our very small start we have now had almost 40,000 women who have participated in the program, out of something around 78,000 that we would think are potential users of this. These would be the women in the child-bearing ages, so about 50 percent have already participated in the program so far. I think it is accessible to them, and this chart demonstrates that. It is not acceptable to Indian groups to talk about birth control, and I want to emphasize that our family planning program is not a birth-control program.

(Discussion off the record.)

Dr. JOHNSON. To look at some of these serious problems remaining, I am sure we will talk more about these later, but just to highlight them. The issue of mental health which you have already brought up, and to the extent that alcoholism is a symptom of maladjustment it can be considerd mental health.

DENTAL PROGRAM

Mrs. HANSEN. There have been some complaints from older people, who say they do not have access to the dental facilities. They say the children are receiving adequate dental care, but you are not giving enough attention to the older people.

Dr. JOHNSON. It is even a lower age than that. If you look at chart 11, you will see that in 1970, about 19 percent of the adults over the age of 20 are receiving services as compared to 54 percent of the children under the age of 20, or broken down a little bit more finely in chart 12, you will see in the school-age children, this is 5 to 9, 10 to 14, and 15 to 19, a pretty substantial percentage of their need is being met, but when you begin to get over that age, when you get 45 plus, less than 5 percent of their needs are being met.

Mrs. HANSEN. What is the reason for this?

Dr. JOHNSON. Again it is a matter of program strategy. It is really an overwhelming problem. When I first got into the program, I was in Minnesota, and we had a dentist who used to cover Minnesota, Wisconsin, Iowa, and Michigan; one dentist. We used to get him for maybe

3 or 4 weeks if we were lucky in the summertime. The rest of the time any dental care that was being provided I provided, and it was limited to treating infection and pul ing teeth. I am not a dentist, but you can learn to do these things. There was simply no dental program at all in any sense and all that the dentist could do when he could come for these few weeks in the summer was pull teeth. Well, how do you attack that monumental problem, the problem of essentially basic neglect of teeth? You could treat people as they came into the clinic, and over 15 or 20 years you would really never know what had happened. Or you could say, "What can we do to make the maximum use of the limited resources we have?"

We did the latter, and we said if you have an incremental dental program, where you start with the youngest kids that you can get your hands on, and this means the first graders at that time, we didn't have kindergartens or Headstart, and if we would bring them up to maintenance level, then as they become second graders, we can maintain them for a fraction of the time and resource it took us the first year. Then we will take the new first-grade group, and so each year what happens is that you have kids growing up with good teeth, so that now we have, in most of the program the school kids on a maintenance level.

Mrs. HANSEN. In 20 years you probably won't have as acute a problem, because of the work you are doing today.

Dr. JOHNSON. The acute problem will not be there. If you spend your time doing restorative work on adults, you can take care of maybe six or 10 kids for the amount of manpower and resources it takes to take care of one adult, say to provide dentures or something like this, so we have deliberately, in a sense, passed over the adults.

Mrs. HANSEN. But aren't you going to have to increase the amount of dental care the adults are receiving?

Dr. JOHNSON. Sure we are, but to give you a sense of the wisdom of Indian communities, and I just want to stress this, they have understood what the problem was, and we have gone to them and said, "Here is the issue. What do you want to do?" They have said, "Let's take care of the kids first." They have not said, "Take care of me first." They have said, "We know that that means that all we can get as adults is emergency treatment."

Mrs. HANSEN. Isn't the attitude of the Indian people, to take care of the children first?

Dr. JOHNSON. You are so right. I think the importance of this is if we are going to help them develop socially and economically, teeth are important. We are trying to provide training and get them in jobs and if they have a bunch of snags in their mouths, there is not a very good chance of going out and competing for jobs. Clearly the adult dental need is significant. It has been neglected but it has been neglected by design of the incremental dental program.

(Discussion off the record.)

Mrs. HANSEN. If you do not have responsible Indian leadership, which can happen, then you are going to have a different situation.

Dr. JOHNSON. I think the stability and leadership of the Indian community is a precious resource.

(Discussion off the record.)

IMPROVEMENTS IN EFFICIENCY OF DENTAL PROGRAM

Dr. JOHNSON. The next chart, No. 13, Madam Chairman, I think, is just for interest, perhaps in response to Mr. McDade's comments about the dental program. One of the reasons we have been able to do some of these things again, I think, is based on the strategy and the technical ability to focus program activities. You can see on this chart for a 100-percent increase in dentists we have had a 200-percent increase in services provided. That is a pretty good productivity expansion. It has been done through the development of dental assistants, through the development of expanded functions for dental assistants so that they do things that normally dental assistants don't do. In fact, they do some things that dental hygienists in the dental profession don't do, through the design of dental operatories that are more effective, through team training of the dentist and his assistant so that they work together as a unified group.

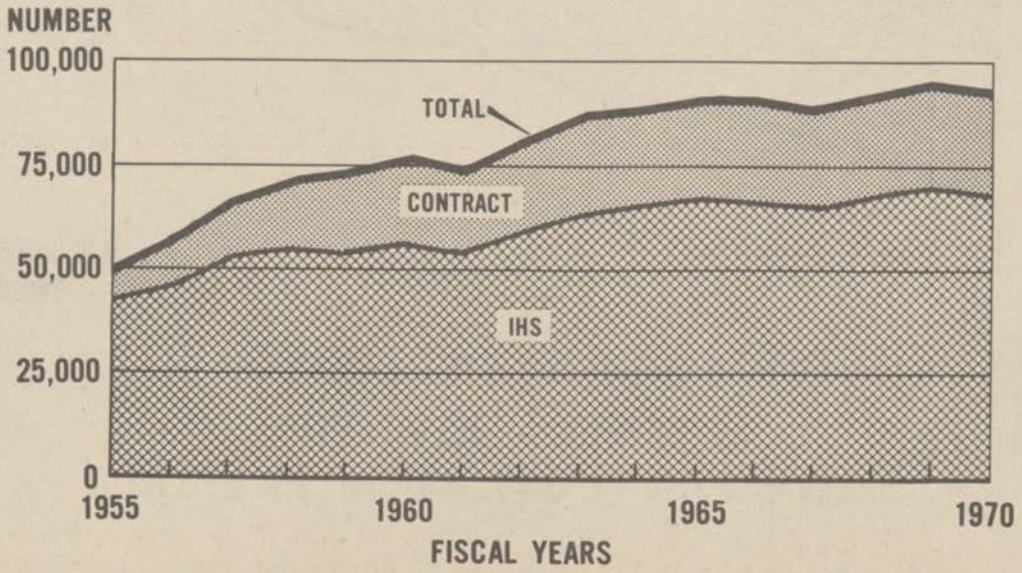
If we hadn't been able to do some of these things, our dental statistics would have been even worse. If we went back to the productivity of 1955, we wouldn't even be close to taking care of the children. There are innovative types of things, the dental trailers that we haul out to the school, and the dental classroom where the teacher brings the whole class to the dental clinic. They have regular classroom activities, they have dental health education, and each kid comes out just long enough to get his own personal dental work, so that the whole thing becomes part of a way of life out there. If it hadn't been for that, we would have had a lot more deficits showing on the charts than we do.

INCREASED COST OF HEALTH CARE

I am sure that we will get in, Madam Chairman, to a discussion of environmental health later. I have chart 14 that we have already looked at during the supplemental. Medical care costs haven't changed in the last 2 or 3 weeks.

(The charts follow:)

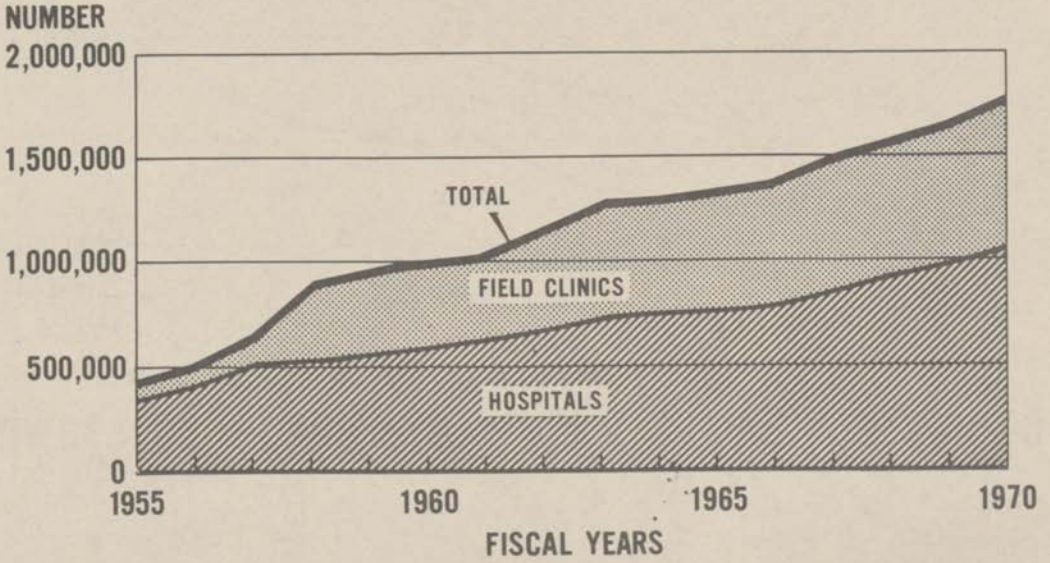
NUMBER OF INDIAN AND ALASKA NATIVE ADMISSIONS
TO I H S AND CONTRACT HOSPITALS



2

NUMBER OF INDIAN AND ALASKA NATIVE OUTPATIENT VISITS

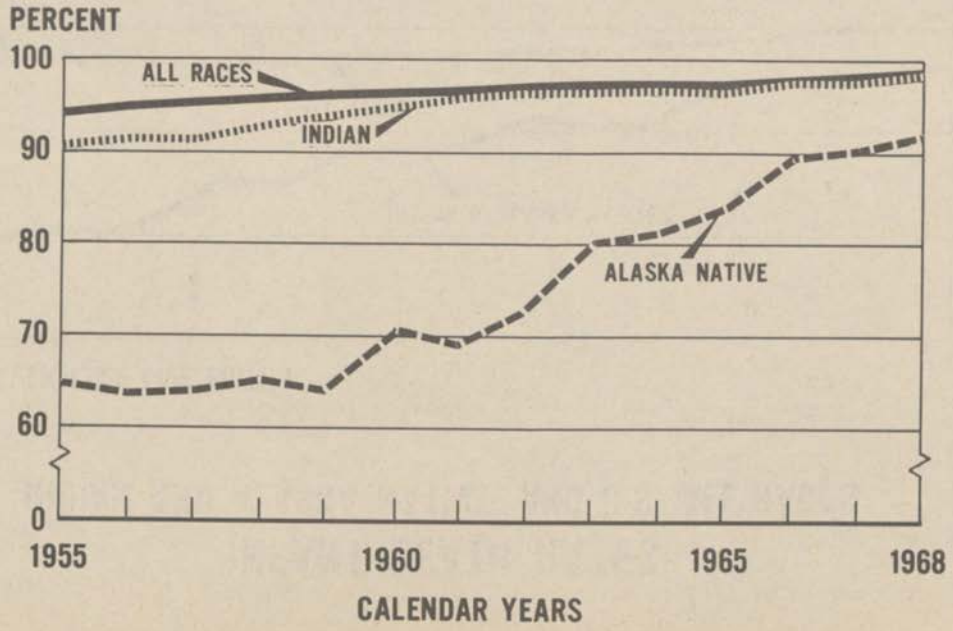
TO I H S HOSPITALS AND FIELD CLINICS



1000

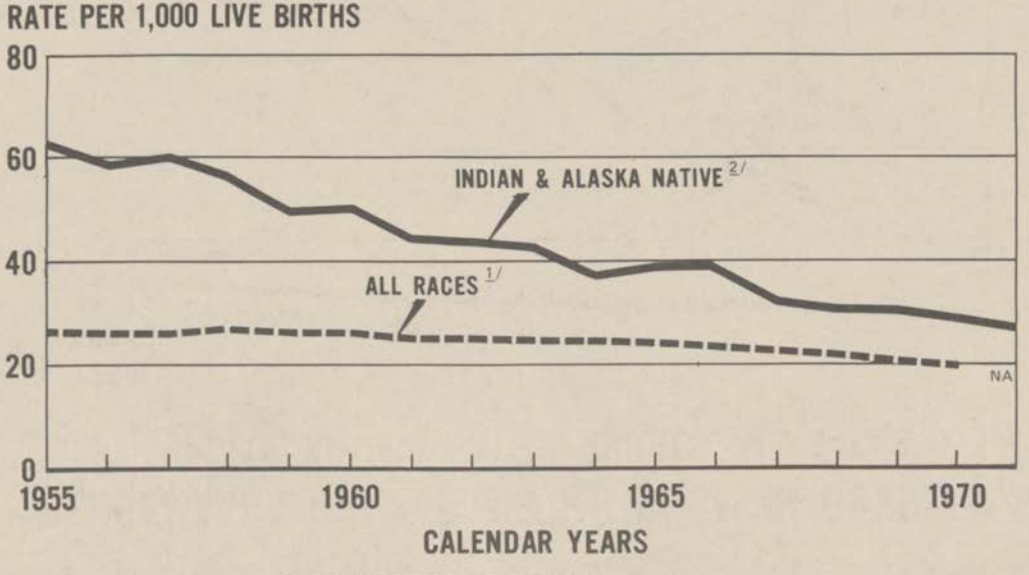
PERCENTAGE OF LIVE BIRTHS BORN IN HOSPITALS

INDIAN, ALASKA NATIVE, AND U.S. ALL RACES



1001

INFANT DEATH RATES
INDIAN AND ALASKA NATIVE, AND U.S. ALL RACES



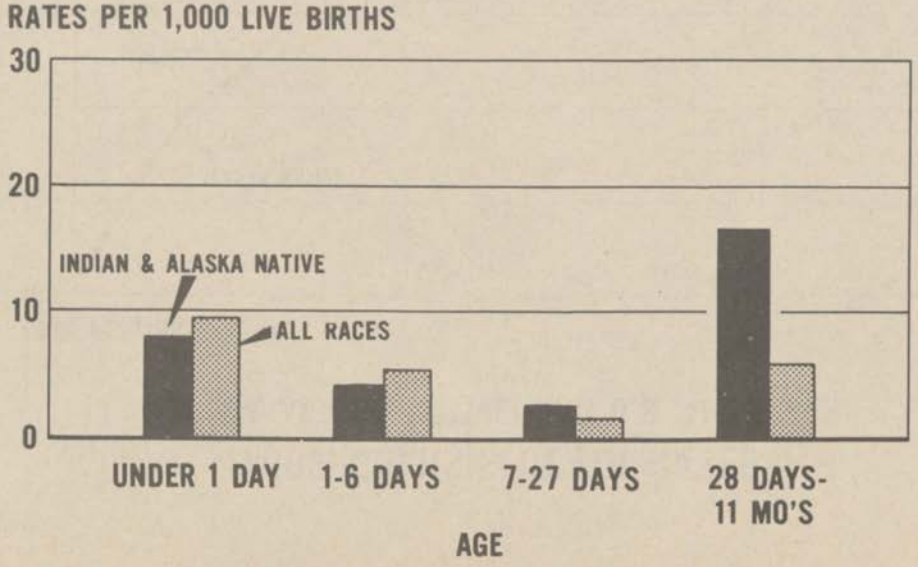
1/ PROVISIONAL, MONTHLY VITAL STATISTIC REPORTS, NCHS 1969, 1970
2/ PROJECTIONS 1969, 1970, 1971
NA NOT AVAILABLE

1002

5

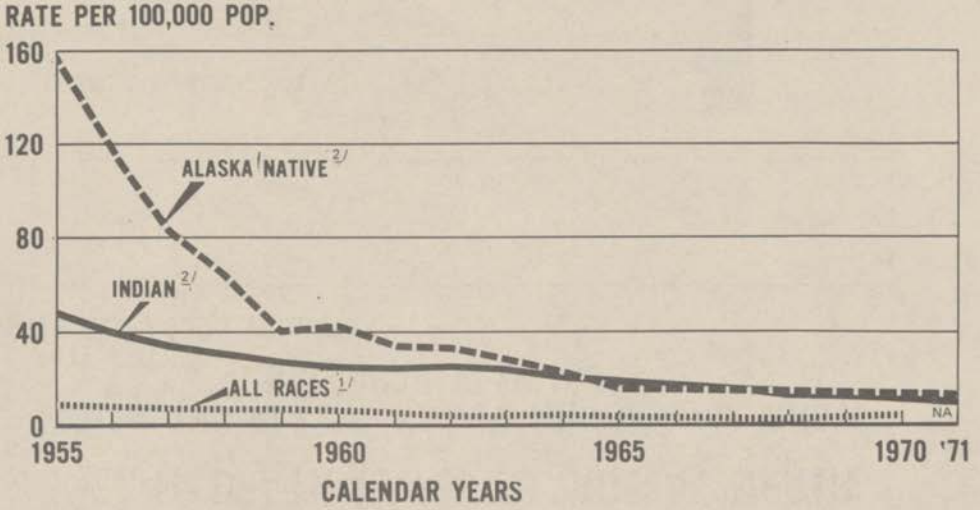
INFANT DEATH RATES BY AGE AT DEATH

INDIAN AND ALASKA NATIVE, AND U.S. ALL RACES
CALENDAR YEAR 1968



1003

TUBERCULOSIS DEATH RATES *
INDIAN, ALASKA NATIVE, AND U.S. ALL RACES



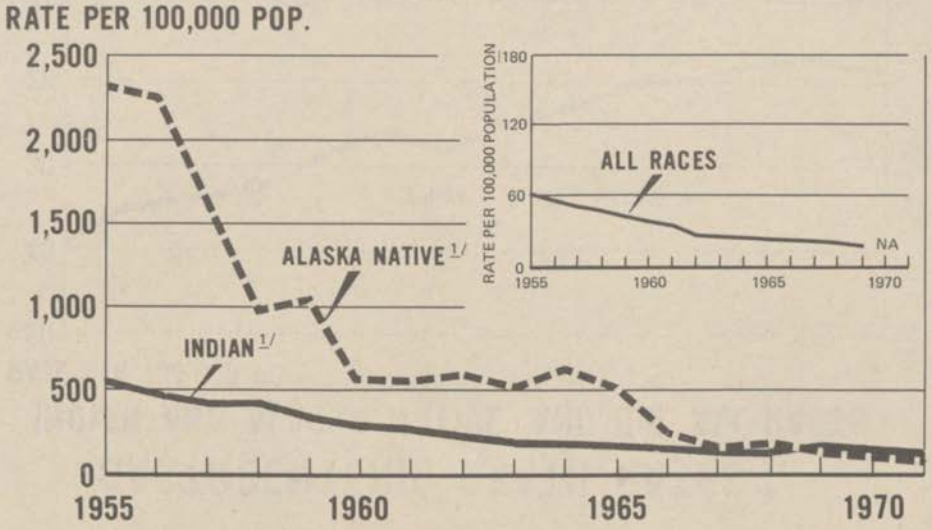
INDIAN AND ALASKA NATIVE RATES BASED ON 3-YEAR MOVING AVERAGE THRU 1967. ALL OTHER RATES BASED ON SINGLE YEAR DATA.

1/ PROVISIONAL BASED ON 10 PERCENT SAMPLE, NCHS 1969, 1970

2/ PROJECTED YEARS - 1969, 1970, 1971

NA NOT AVAILABLE

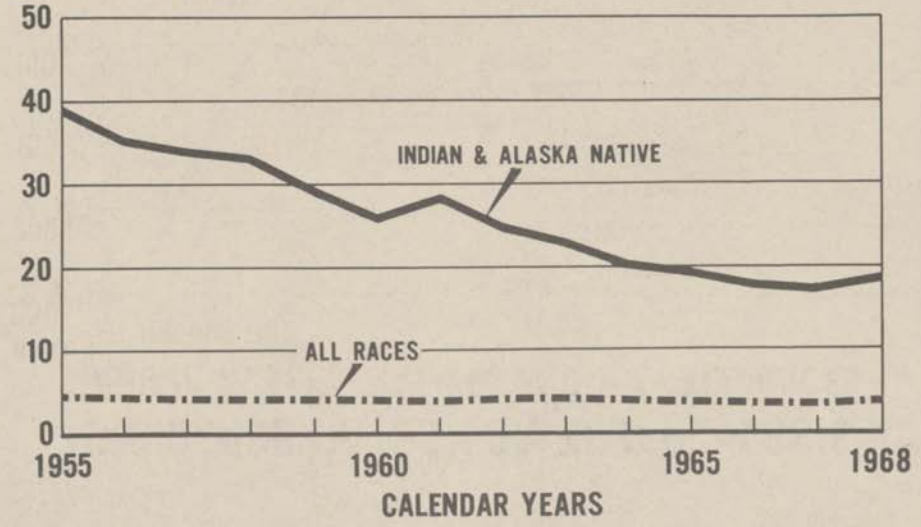
INCIDENCE RATES FOR TUBERCULOSIS
INDIAN, ALASKA NATIVE, AND U.S. ALL RACES



1/ PROJECTED 1970, 1971
NA NOT AVAILABLE

GASTROENTERIC DEATH RATES*

INDIAN AND ALASKA NATIVE, AND U.S. ALL RACES

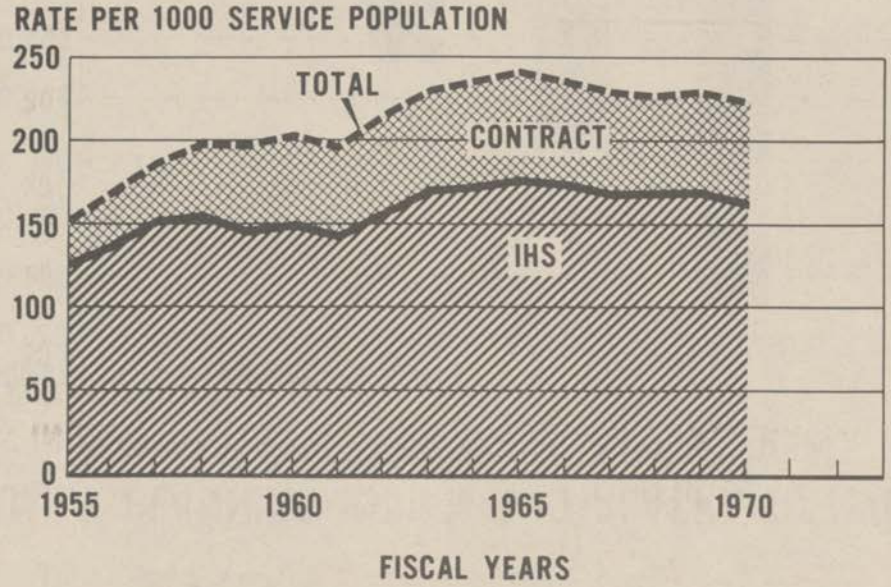


* INDIAN AND ALASKA NATIVE RATES BASED ON 3-YEAR MOVING AVERAGE THRU 1967. ALL OTHER RATES BASED ON SINGLE YEAR DATA.

1006

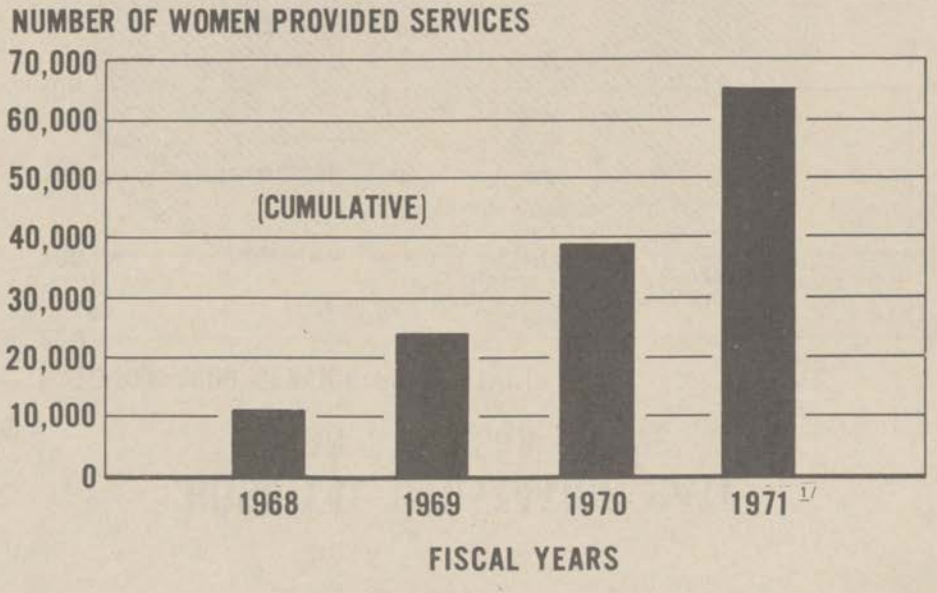
58-287 O—71—pt. 4——64

HOSPITAL UTILIZATION RATE
INDIAN & ALASKA NATIVE



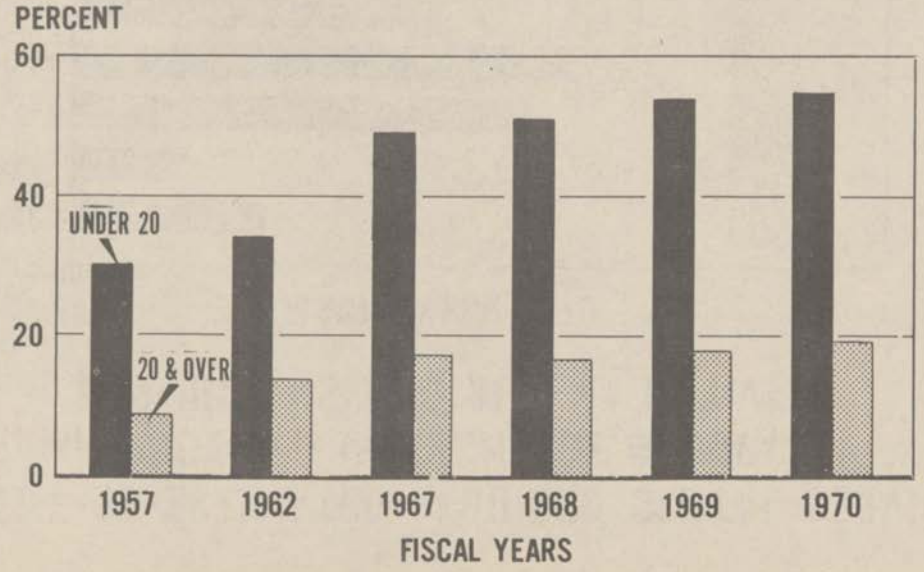
FAMILY PLANNING INDIAN AND ALASKA NATIVE

(Unadjusted Count of New and Old Acceptors)



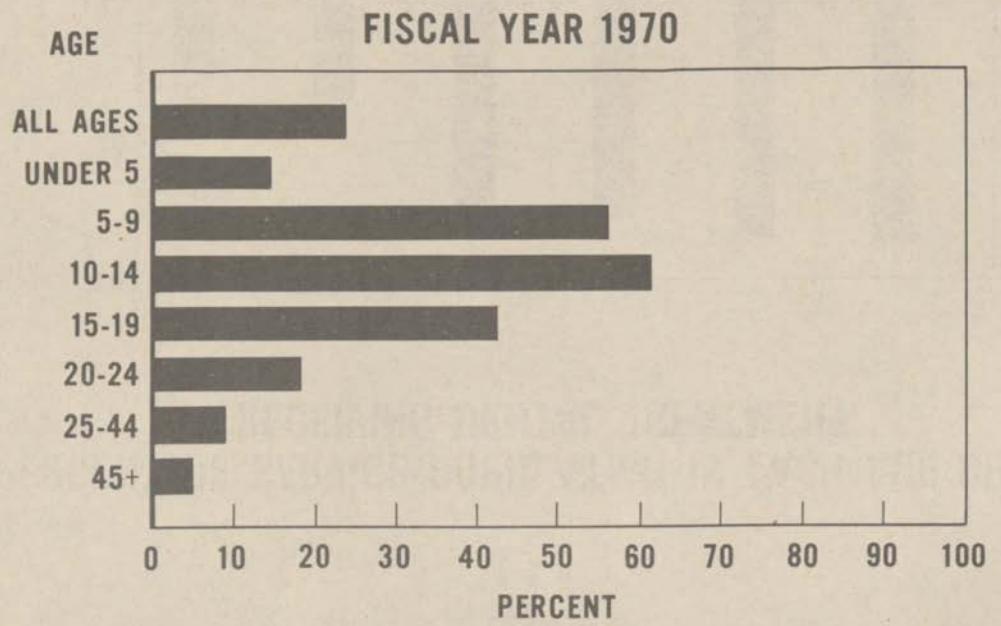
1/ PROJECTION BASED ON FIVE MONTHS EXPERIENCE.

PERCENT OF SERVICE POPULATION IN EACH AGE GROUP RECEIVING DENTAL TREATMENT

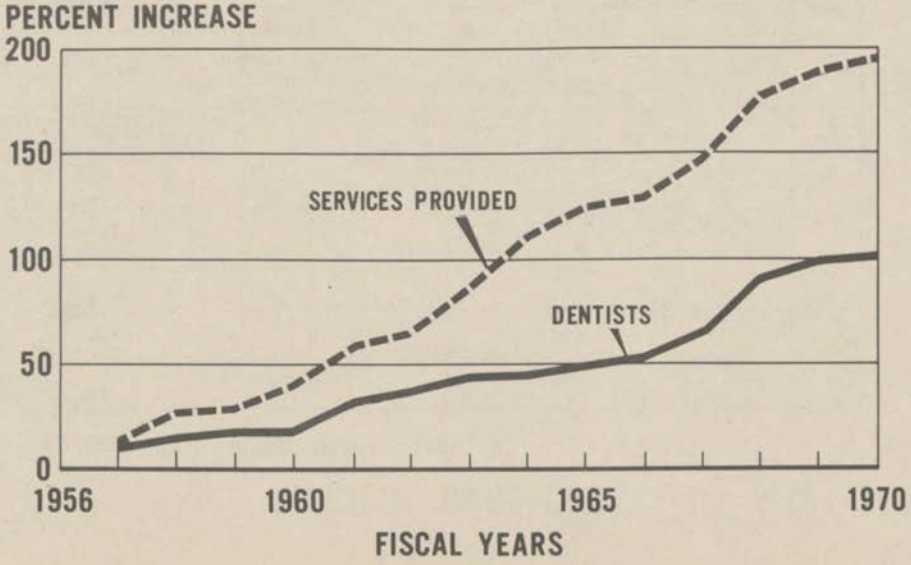


1009

PERCENT OF ESTIMATED REQUIRED DENTAL SERVICES PROVIDED IN EACH AGE GROUP FOR INDIANS AND ALASKA NATIVES

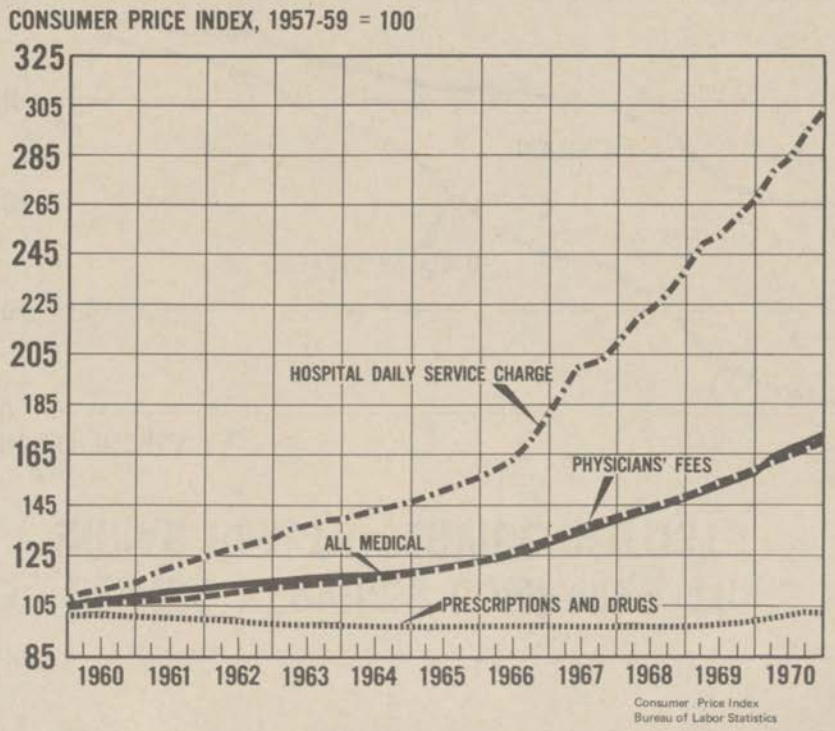


DENTAL SERVICES COMPARED TO INDIAN HEALTH SERVICE DENTISTS



1011

MEDICAL CARE COST



1012

PROGRAM TO REDUCE HOSPITAL COSTS

Mr. HANSEN. What can you do to reduce hospital costs?

Dr. JOHNSON. If I were to be wiser, I would pass the ball to Mr. Hall, since that is the larger field. If he doesn't want to respond, I will try.

Mr. HALL. It might be a bit presumptuous of me, Madam Chairman, after some 90 days in the Department of Health, Education, and Welfare to tackle the totality of that question.

Mrs. HANSEN. You will probably do better than somebody who has been there for 10 years.

Mr. HALL. I think one of the most effective things that we can probably do is to pull together the health related activities in the way we are trying to do in the Health Services and Mental Health Administration.

Mrs. HANSEN. I notice in your charts that prescriptions and drug costs are fairly stable. Even the physicians fees have not increased as monumentally as hospital service charges. This is not only true with the Indian health care but all hospital costs.

Mr. HALL. One of the things we are trying to do, Madam Chairman, through some of the efforts in our National Center for Health Services Research and Development is to do some really meaningful studies on what hospital service charges are and should be.

Mrs. HANSEN. There is probably going to be a wide disparity between the two charges.

Mr. HALL. Yes. The way charges are made from one location to another varies greatly, and until we know what the system of charges is, and until we have some standards that we can talk about in the way of a common language to discuss the nature of the problem, it is going to be very difficult for us.

Mrs. HANSEN. You have to take into consideration your built-in hospital costs such as maintenance, utilities, and laboratory costs. You also have increased nursing costs, even though I think you will find in the average hospital today that there are fewer graduate nurses on duty than there have been at any time in the history of this Nation.

Mr. HALL. One of the alternatives, of course, Madam Chairman, that we are looking into is the extent to which we can use ambulatory care systems in lieu of hospitalization, which we fear all too often is an unnecessary approach.

Mrs. HANSEN. How do your hospital costs compare with the Veterans' Administration hospital costs?

Mr. CHADWICK. Yes, Madam Chairman. For 1970 Indian Health Service per diem was $67, for the Veterans' Administration it is $45.04. We might add that the general surgical cost in the Veterans' Administration was $53.43. The Veterans' Administration has multi-thousand bed facilities and a different mix of patients than we have.

RELATIONSHIP OF SMALL SIZE OF INDIAN HOSPITALS TO COSTS

Mrs. HANSEN. In other words, your small bed hospitals have relatively higher built-in costs than the large bed facilities. Also, since your hospitals are located in relatively unpopulated areas, the costs are higher. Isn't this correct?

Mr. CHADWICK. Yes, ma'am.

Mrs. HANSEN. What is your largest Indian hospital?

Dr. JOHNSON. About 276 beds.

Mrs. HANSEN. Where is that hospital located?

Dr. JOHNSON. At the Anchorage Medical Center.

Mr. CHADWICK. We have 51 hospitals of which only 18 are as large as 50 beds.

Dr. JOHNSON. I think too, Madam Chairman, that our hospitals are a little bit different than the general concept of a community hospital that we think of. Our hospitals really are a comprehensive health care center. They are the doctor's office, the local health department, the sanitation facility resource as well as inpatient. Much of our cost—Mr. Chadwick has pointed out the per diem cost—a number of things end up in the per diem cost that are not a normal part of anybody else's hospital per diem cost, because other hospitals just don't do these kind of things.

Mrs. HANSEN. Such as?

Dr. JOHNSON. For example, I believe, our hospital budget that that is based on has all of the maintenance and repair of health centers and quarters. It is all charged to the so-called hospital budget, as one specific example.

Mrs. HANSEN. These charts are excellent.

REDUCING COSTS BY DECREASING USE OF HOSPITALS

Dr. JOHNSON. I think to amplify a little bit about the cost containment, Madam Chairman, we are going to have to, in developing the health strategy, and I believe the President has started in setting out his health strategy to begin to look at these types of things, obviously you are going to have to do something about the delivery mechanism, the accessibility of services, the mix of resources that may be available. For example, Mr. Hall talked about ambulatory care instead of hospital care. The system right now tends to put a premium on using hospitals, and a disincentive for getting along outside the hospital. Certainly some of the health maintenance type organizations have shown you that their hospital rates, not cost rates but the rate of utilization of hospitals in some of these prepaid practice plans is about three-quarters the utilization rate of the general population, so here is an opportunity again to pull down the utilization of these very expensive types of things.

USE OF PARAMEDICAL PERSONNEL

We are certainly going to have to do something about using paramedical personnel, the sorts of things that we are doing in our program, so that you can minimize the necessity for the very expensive kinds of people.

Increasing the supply of physicians, the whole supply-demand issue is one that has to be addressed. I believe that we are as an administration beginning to look and really come to grips with some changes within the health system, which are going to begin to at least put a lid on the escalation. I don't think that we can ever think of going back to $10 a day hospital rooms. I think in terms of the total cost of hospital care, we can begin to get some kind of a grip on it. I think in our program we have demonstrated how some of these things can in fact occur. Does the Department have any comment?

Mr. MILLER. No, except to endorse entirely what you have said.

Mrs. HANSEN. I know something has to bring down hospital costs, because there isn't one proposed health care system in the United States that will be able to meet the needs without bankruptcy.

Mr. MILLER. I think it has been said in several ways, Madam Chairman, and mostly I know this from listening rather than from anything specific, that the only way that the cost to the patient of hospital care can be brought under control is by shortening the length of stay in a hosiptal. The best we can hope for is to reduce the rate of increase of the daily costs of hospital stays. There is little chance that we will really reduce it, so I think most of the attention is being paid to prevention of illness and reduction of hospital stays and ambulatory care. I think this is where almost all the emphasis is going.

Mr. HALL. If I may add, Madam Chairman, you asked at the outset if it was Dr. Hall or Mr. Hall, I am not an M.D., but I have brought to the Health Services and Mental Health Administration some background in electronic engineering and administration, which I hope with some modesty to apply to this rather large problem of the system.

BIOGRAPHY

Mrs. HANSEN. Please insert your biography in the record at this point.

(The biography follows:)

BIOGRAPHICAL SKETCH

Benny B. Hall was named Deputy Administrator of the Health Services and Mental Health Administration (HSMHA) of the Department of Health, Education, and Welfare (HEW) on January 14, 1971. As Deputy Administrator of HSMHA, Mr. Hall assists the Administrator in managing a wide variety of national programs concerned with improving the quality and availability of the Nation's health services.

Born in Hardy, Ark., on March 17, 1924, Mr. Hall lived in various locations in Arkansas and Missouri where his father has served as a Methodist minister for the past 50 years. He entered on active duty with the U.S. Air Force in 1943 and, except for a brief period, remained on active duty until 1958. While still in uniform, Mr. Hall completed his undergraduate work in electronic engineering at the Air Force Institute of Technology, Dayton, Ohio, graduating in 1954. He is a registered professional engineer in the State of Ohio. Military assignments included duties as pilot, electronic officer, meteorologist, administrative officer, and a 4-year assignment as Director of the T-37 System Program Office at Wright Field. This program involved the development and production of several hundred jet aircraft for the U.S. Air Force.

Upon release from active military duty in 1958, Mr. Hall became Deputy Director of the Strategic Air Command Control System Program Office (System 465L) at Wright Field. From 1961 until 1962, Mr. Hall served as Deputy Director of Systems Integration at the Air Force Electronic Systems Division, Bedford, Mass., with principal involvement in the design and integration of the Air Force Command and Control Systems network and in the NMCS (National Military Control System).

In December 1962, he joined NASA's Office of Space Science and Applications as Assistant Director for Engineering, Bioscience Programs, and was promoted to Deputy Director of the same office in February 1964. Principal areas of interest were a broad spectrum of basic biological research, flight program activities, and lunar and planetary quarantine programs.

While with NASA, Mr. Hall completed degree work for the master of arts in public administration (technology of management) at the American University and is now a Ph. D. candidate at the same institution.

Mr. Hall resides at 6001 Denton Court in Springfield, Va., with his wife and three daughters. Mrs. Hall is the former Mary K. Rhodes, of St. Louis.

Mr. HALL. I must approach this with some modesty because of the size of the endeavor, but I would like to relate to you some of the things we are trying to do by way of health services research and development, which in my opinion is the kind of job we should do at the Federal level. It can't be properly done at the State and local levels of government. We should not try to take back from them the job of direct delivery of health care. They are more sensitive to the needs and the local people are in a better position to deliver than we at the Federal level, but in the area of research and development we are concentrating on gathering data which are not available to the local people, and which we would hope to share with them as the information develops.

Examples of R. & D. work we are supporting include: (1) the development and installation of an all-inclusive charge mechanism for hospitalization, to replace individual pricing, (2) the development and installation of a uniform hospital discharge abstract and common billing data for all of the carriers, (3) evaluation of hospital mergers and laboratory mergers on the basis of quality, productivity, cost and equity (we should produce some data which would help local governments and community organizations decide on whether it is really productive to merge certain laboratory facilities or to have separate ones in various parts of their communities).

In the area of computer assisted electrocardiogram interpretation, St. Lukes Hospital in Denver projects a 75-percent saving in physician manpower on the basis of the use of this one technique. Studies in Berkeley, Calif., show that laboratory automation currently increases costs for many hospitals. We must take a systematic look at the application of techniques and not just apply them blindly in areas where they may very well increase the costs rather than contain or lower them.

Mrs. HANSEN. It seems as though the Federal Government gets involved in many programs without really weighing whether it is going to be a more effective or less expensive program.

Mr. HALL. Many of our technologists are wont to apply their new found techniques to new areas in somewhat the same fashion as we spread butter on bread, rather indiscriminately, and I think this may be part of the explanation for the increasing costs.

Another thing is in determining what costs we are talking about, we have a tendency to mix developmental costs with operating costs, and we hope in some of our studies to shred out the costs of health care R. & D. and startup costs, and not confuse them with hospital charges on a patient basis at the local level. I didn't mean to bore you with this subject.

Mrs. HANSEN. No; I think this is fundamental to the budgetary process.

Mr. HALL. So in summary we hope to add some system and some technique in an intelligent, measured way.

Mrs. HANSEN. Thank you very much.

Dr. JOHNSON. Madam Chairman, if I may just close the opening statement really by reaffirming again the commitment of the Indian Health Service.

Mrs. HANSEN. You have a commitment. What you needed is a commitment and adequate funds.

Dr. JOHNSON. Thank you.

Mrs. HANSEN. Your budget officer glares at me.

Mr. MILLER. No, no; indeed not. I do not glare. I agree with you.

Dr. JOHNSON. To serve really as the Indians' advocate in the health field, to direct our attention not only to the resources that may be provided directly to us by this committee, but the resources that may be and should be available to Indian people and Indian communities through all other mechanisms of the Federal Government as well as State and local governments, to really be in their corner, as Indian communities address themselves to the problems of developing their communities, developing their capacity to man and to manage their own health programs, and in the process of doing this, of course, have evermost in our minds the issue of quality of care, accessibility, the acceptance, the manner in which care is provided, which I think is really a crucial issue in the whole health care delivery system.

Mrs. HANSEN. Mr. McDade, do you have any questions at this time?

Mr. MCDADE. No.

Mrs. HANSEN. Mr. Galifianakis?

INDIAN ACCEPTABILITY OF HEALTH CARE

Mr. GALIFIANAKIS. Do the Indians accept medical services with the degree of alacrity, or is one of the problems to make sure that they receive it because they need it and not because they want it?

Dr. JOHNSON. I can't say yes or no. Initially there was great difficulty in gaining acceptance of the program for some things. Certainly preventive care was not very popular. If someone was very sick, yes. You can't make a general statement, because different tribes behave in different ways. For example, there is a concept in many Indian groups, of two different kinds of diseases. There is a white man's disease and an Indian disease or a ghost disease, and when someone became sick they had not only the anxiety of being sick but they also had to decide which kind of disease they were talking about. Clearly if it is a ghost disease, going to the anglo doctor is going to solve no problems for you. In fact the spirit got you sick in the first place and going to an anglo doctor, first he doesn't know anything about it, and secondly the spirit is going to be even more unhappy with you. It has really been a matter of trying to develop a health program which does not conflict with cultural values. In other words, not intrude into the culture or the behavior of the community in that sense.

Mr. GALIFIANAKIS. You have really a decisional burden.

Dr. JOHNSON. An additional opportunity.

Mr. GALIFIANAKIS. Yes. It is kind of tough though I would think.

The other thing is this: How many tribes do you have totally, and how many of those total tribes do you consider medically deprived?

Dr. JOHNSON. There is a total of 220 different tribal groups, and I would be hard pressed to find one that I wouldn't call medically deprived in one way or another. If I look in terms of their total situation, some may have enough medical resources in the strict technical sense, but may have deficiencies in the environment which I would consider part of health deprivation.

RECRUITMENT OF PHYSICIANS

Mr. GALIFIANAKIS. What do you do to attract physicians? Do you get most of them out of the U.S. Public Health Service? How do you get the physician to enter the service and go into medically deprived areas? Are there any special incentives?

Dr. JOHNSON. The major incentive, of course, at the moment is the fact that service in the Public Health Service is equivalent to military service.

Mr. GALIFIANAKIS. That is all you have got? Is that sufficient?

Dr. JOHNSON. That is sufficient now to get physicians. However, I think the interesting thing that is occuring and the thing that we are really putting our emphasis on, is attracting those physicians with what I would call a social conscience. All of us in medical school have been supported by the taxpayer in one way or another.

Mr. GALIFIANAKIS. How many Public Health physicians have you got who devote their full time to Indian care?

Dr. JOHNSON. We have about 450 total physicians in the Indian Health Service.

Mr. GALIFIANAKIS. M.D.'s?

Dr. JOHNSON. M.D.'s, and about one-third of those are what we call career officers. In other words, they have been in longer than their 2-year military obligation. We are finding really increasing numbers of these, and people who have been in this program, who go out, go into private practice and then come back, because they say this is where the action is. They are people interested in comprehensive care, looking at total community health services. I am optimistic, obviously. I think there are enough physicians being trained in the country today who want to make a contribution.

PHYSICIAN ASSISTANT PROGRAM

Mr. GALIFIANAKIS. Are you familiar with this physician assistant program?

Dr. JOHNSON. Yes. We did a pilot training program of the physician assistant about 2 years ago. We have had for the last year and a half a physician assistant, or we call them community health medic, stationed in Supai Village down at the bottom of the Grand Canyon as the general practitioner for that village. It has been a very successful program and we are able to build on that experience to the point where now we have 30 Indian men and women in training in two different locations now to be community health medics.

AVAILABILITY OF IHS EXPERIENCE TO OTHER AGENCIES

Mr. GALIFIANAKIS. Do you make available your experience in providing health services to other Federal agencies for general information purposes?

Dr. JOHNSON. Yes; we do.

Mr. GALIFIANAKIS. I think that is going to be very useful, since we have got this national health insurance as an issue that will be before the 92d Congress. It would seem to me that some of their experiences would be very vital in determining the kinds of general health services that the whole country would need.

Dr. JOHNSON. In addition to our own physicians, of course, we do have a number of physicians in private practice who we pay under the contract care program. There would be hundreds under that.

Mr. GALIFIANIKIS. Is that a satisfactory system do you find?

Dr. JOHNSON. It is in those places where physicians are accessible. One of our problems is that so much of our program is out where there are no physicians for anyone. There is no one to contract with. Money is not really what draws doctors into practice. They don't go into rural areas or into the big city slums even if you offer them money.

GOVERNMENT SUPPORT OF PROFESSIONAL EDUCATION

Mr. GALIFIANAKIS. We are addressing ourselves to that problem. There is a new breed of socially conscious folks who are coming out, and we are providing an incentive for them, particularly those who have to borrow money to complete their professional education, to go to an area where there is a medical shortage. The Federal Government by contract would pick up their debts, so that they can start their practice debt free. I am sure you have an interest in this. I think the Congress is going to act on it. The President included it in his health message, and some of the people on that committee are interested in that viewpoint. I am too. I have a bill in to that effect.

Mrs. HANSEN. First of all the medical schools in the United States have not been training a sufficient number of doctors. Secondly you don't find many specialists on Indian reservations let alone general practitioners. This creates problems for the Indians on reservations inasmuch as their places of habitat are far from the main stream of the sophisticated medical centers of the Nation. Yet if you compare the medical services that are available to the Indian people it is probably as good or better than that received by the average poor American in our urban cities. Isn't this correct, Dr. Johnson?

Dr. JOHNSON. Certainly we feel that the delivery system available to the Indians is significant.

Mr. GALIFIANAKIS. That is the reason I think it is going to be vital to get their information in trying to correct the maldistribution problem.

PERFORMANCE OF IHS

Mrs. HANSEN. The Indian Health Service has received a lot of criticism but I don't think the criticism is a result of what you have done. You are criticised because you are not reaching more Indian people with your services. I think the Indian Health Service has performed magnificiently during the 8 years I have been a member of this committee.

RECRUITMENT OF INDIAN DOCTORS

Mr. GALIFIANAKIS. How about Indian physicians? Are you able to recruit Indians who want to become doctors?

Dr. JOHNSON. Yes. We have a small success story, I guess, to tell you here. We have been trying to uncover the Indian physician in this country and we have identified about 35.

Mr. GALIFIANAKIS. I am not talking about witch doctors.

Dr. JOHNSON. No, no. I can give you a story about those too. They are our colleagues. We are participating in a school for training

Navajo medicine men. You were out at Rough Rock. I don't know if you were told this or not, but there is a college for training Navajo medicine men. The funding is by the National Institutes of Mental Health, another part of HSMHA. The only non-Navajo on the faculty is our psychiatrist on the Navajo. We feel that the Navajo medicine man has a significant role to play in the health of Navajo people and we are delighted to be working with them to help in training additional medicine men for them.

Mr. GALIFIANAKIS. Maybe some of us could use them.

Dr. JOHNSON. Right. But to go back to your comment about Indian physicians, we are going to be meeting with a group of these Indian physicians next month in Oklahoma City. Dr. Everett Rhodes, a Kiowa Indian, and professor of medicine at the University of Oklahoma, has agreed to attempt to bring these Indian physicians together as an Association of American Indian Physicians, who can do several things for us.

First of all, to serve to recruit and counsel Indians boys and girls who want to go into medicine, to serve as a model for Indian kids who have never seen the vision that they might become a physician, but if you have Indian physicians who can be visiting on the reservation and the kids can say, "I can be too," this is one of the things. You have to give them a vision of what they might be before they will aspire for it. We think this group might do that.

We talked earlier this morning about the cultural barrier between a professional from whatever culture he comes. A physician is sort of removed from the rest of his society just because of his training. Then you take an Anglo physician and put him in an Indian culture, and he has got two cultural barriers. We are thinking that the Indian physician who is a part of both the medical and Indian cultures could be of great assistance to the non-Indian physician, to help him bridge this kind of communication gap. We expect that this association will assist us in orienting and assisting the non-Indian physician.

Mrs. HANSEN. Some of your doctors do a tremendous job in bridging the cultural gap. I talked to a couple of young doctors at the Quinault Reservation; also Dr. Bock and Dr. Rabeau of the Navajo Reservation. These are people who have really made a tremendous contribution and they have the complete confidence of the Indian people.

JUSTIFICATION MATERIAL

Please insert pages 2 through 39 of the justifications in the record at this point.

(The pages follow:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
INDIAN HEALTH SERVICE

Highlight Statement

Introduction

The Indian Health Service program is conducted through a system of direct, contract, and alternate health services which provides comprehensive care to approximately 420,000 American Indians and Alaska natives. The program goal is to raise the health of these populations to the highest possible level.

Direct health services will be provided to Indians, Eskimos, and Aleuts in fiscal year 1972 in 51 Indian Health Service hospitals, 74 health centers (including 27 school health centers) and over 300 other health facilities. The direct care program will be supplemented through contractual arrangements with other public and private health vendors and institutions when it is considered to be the most feasible, effective, efficient, and accessible method of delivering the highest quality care to the American Indians and Alaska natives. Whenever and wherever they are available, alternate health services provided by the public and private sectors at the Federal, state, and local levels are used to avoid costly duplication and to assure a comprehensive health program for the Indian and Alaska native people.

Direct care is supplemented by a Field Health program which brings health services directly to Indians and Alaska natives in their homes and communities. The great majority of Indians and Alaska natives live in remote and isolated areas. Not only does this make travel to a central facility very difficult, but it also subjects them to the hazards of poor communication, violent weather, lack of basic sanitation requirements and inadequate exposure to modern health practices. The Field Health program consists of Sanitation and Dental programs, programs in Public Health Nursing, Health Education, and Field Medical Services. Through the health stations and clinics a complete range of health services is provided, and is supplemented by home visits which provide further preventive and curative health services combined with education in good health care and practice. These services include programs in Mental Health, Nutrition, Maternal and Child Health, and Family Planning. The Community Health Representatives greatly enhance the effectiveness of these programs in their ability to provide a cultural and communication link between the Indian and Alaska native and health professionals.

The health of Indians and Alaska natives has steadily improved since 1955. In spite of this improvement, however, their health status remains comparable to that of the general population 20 to 25 years ago.

Mortality and morbidity among Indians and Alaska natives are considerably higher than among the general population. The health problems of these population groups are caused by the extreme hardship of their physical environment, gross insanitary conditions, poor and crowded housing, unsafe water supplies, inadequate nutrition, emotional problems inherent in a transitional culture, impoverished socio-economic status, and limited educational opportunities.

1. Mortality

The latest available age adjusted mortality data for Indians and Alaska natives are considerably higher than the general population, except for heart disease, malignant neoplasms, vascular lesions, and certain diseases of early infancy. The higher ratios are as follows:

	Ratio Indian to U. S.
All causes of death per 100,000 population	1.5
Accidents	4.1
Influenza and pneumonia	2.1
Cirrhosis of liver	4.8
Homicide	3.3
Diabetes	2.3
Suicide	2.0
Tuberculosis, all forms	7.3

Moreover, in 1968 the Indian and Alaska native infant death rate per 1,000 live births was about 1.4 times higher than the U.S. all races rate of 21.8. This high rate is primarily due to deaths in the post-neonatal period when infants leave the hospital and return to the complex problems that accompany a poverty-oriented environment.

Approximately one fifth of all Indian and Alaska native deaths in 1968 were due to accidents; one fourth, to disease of the heart and neoplasms; and one eighth, to infectious and parasitic and respiratory diseases.

2. Morbidity

Infectious Diseases--Large numbers of episodes of illness requiring hospital or outpatient care are due to infectious diseases and their residuals. These diseases include gastroenteritis, dysentery, influenza, tuberculosis, otitis media,

trachoma, pneumonia, and common childhood communicable diseases.

Mental Health--The effects of poverty, cultural clash, geographic isolation, unemployment, lack of education, downgrading of the role of the father in the family, and adverse physical environment--all combine to develop in many reservation Indians a frustration and sense of hopelessness. The results of these feelings are shown in the form of excessive use of alcohol, suicide, violence, disintegration of the family and child neglect. This situation is further complicated by a school system where a child frequently must live in what he feels to be a hostile environment, separated from his parents and unable to converse in his native language.

Nutrition--A major problem faced by the Indian and Alaska native population is lack of food and economic resources to provide adequate diets. This is intensified by their lack of knowledge of the relationship of food to health. Mild and moderately severe nutritional deficiencies are relatively common with infants, preschool children and women in the childbearing years (15-44) who are particularly vulnerable to malnutrition. Malnutrition occurs per se and as a contributing or complicating factor in a wide variety of other health problems and illness such as infectious disease, retarded physical growth, high infant morbidity and mortality, maternal morbidity, nutritional anemia, significant overweight or underweight, and chronic diseases.

Dental Problems--Dental caries, periodontal disease, orthodontic conditions, and missing teeth comprise a major health problem afflicting Indian and Alaska native populations. The average school child between 6-17 years of age experiences almost six decayed teeth, and the average number of unfilled decayed teeth per adult between the ages of 18-79 years is more than three times that for the general population. For each 1,000 persons, on the average more than 450 dentures are required and about 265 persons are experiencing serious periodontal disease.

Maternal and Child Health (Including Family Planning)--Maternal and Child Health Services have brought about significant improvements in the health of the Indian and Alaska native mothers and children during the last ten years. Maternal mortality has been reduced from 82.6 per 100,000 live births in 1958 to 33.9 in 1968. Infant mortality has been reduced from 62.5 per 1,000 live births in 1955 to 30.9 in 1968. Nevertheless, greater efforts and improvements are necessary in order to bring the American Indian and Alaska native maternal and

58-287 O—71—pt. 4——65

child health rates in closer alignment with the U.S. all races rates. The use of indigenous Indian Health workers through contracts with the tribes is an important component of the program.

3. Health-Related Problems

In addition to the health problems previously discussed, a number of related problems have an impact upon the health status of Indians or upon the effective delivery of services. These include:

a. Housing: One-third of all Indian homes have two rooms or less.

b. Sanitation: After construction of projects requested for fiscal year 1972, a total of 20,600 out of a projected estimate of 80,800 existing Indian homes will still lack running water and will have inadequate means of waste disposal. Additional needs are developing to upgrade work done early in the program and to serve new families.

c. Income: In 50 percent of the households, the income is under $2,000 a year--hardly enough to sustain life much less maintain it in a healthy condition. Part of this problem is the unusually high unemployment rate.

d. Communication: Deep cultural, linguistic, and psychological isolation exists in addition to the geographic barriers. Consideration must be given to the differences between Indian and non-Indian cultures and to the many differences among the various Indian communities. Related to communication are the problems of literacy and educational levels and the amount of understanding of good health practices. Considerable effort is expended on securing participation by the Indian people in the planning, operation, and evaluation of the health program in order to insure program effectiveness.

4. Indian Participation

Indian participation is woven through all three of the basic program components--planning, implementation, and evaluation. Experience has shown that participation by the Indian people in all program aspects is indispensable in the reduction of health problems or other social problems.

Indian participation has been provided for in a formal way since the Indian Reorganization Act of 1934. The most recently issued Indian Health Service statement concerning Indian participation is contained in the 1969 Annual Report to the First Americans. It states:

> "The Indian health program is your program, to be carried out in accordance with your wishes and requirements. To meet our common goal--to raise your health to the highest possible level--your

involvement and participation in every phase of the program is essential."

"Only with your advice, guidance, and assistance can we assure true identification of your health problems and undertake proper action to meet your needs."

The commitment of the Administration to Indian involvement and participation was reiterated in the President's message on Indian affairs presented to the Congress on July 8, 1970.

Indians now are participating in the development of plans, in operations, and in the evaluation of their health programs in each of the 83 IHS service units and at area and national levels. Indian leadership is playing a significant role in developing and coordinating resources from many Federal, state, and local health programs.

Indians and Alaska natives who serve as community health representatives in the lower United States and as native village health aides in Alaska receive training by the Indian Health Service and are employed by Indian tribes or the Alaskan villages.

The function of the trained community health representative and Alaska native village health aide is to serve as a member of the health team serving the community, to effectively speak for the community and to secure community support for health programs. In this connection, these representatives participate by: (1) making people aware of their health conditions and the availability of health services; (2) assisting families in doing things for themselves to improve and maintain their health; (3) conducting surveys and accumulating vital data; (4) interpreting to the families the environmental conditions that need attention for improving health and encouraging participation in planned programs; (5) referring individuals to professional health personnel and following up on these referrals to insure that the individuals are following prescribed instructions and keeping scheduled appointments; and (6) educating and advising communities and individuals on nonprofessional aspects of all phases of the health program.

5. Identification and selection of resources

The identification and selection of health resources must consider (1) direct services provided by the Indian Health Service, (2) services for which the Indian Health Service pays through contracts with private vendors, and (3) alternate resources available to Indians from other than the Indian Health Service.

An assessment of direct care capabilities is maintained and continuously updated. Information about the availability of alternate resources is being refined to assess

the impact of these other resources in meeting Indian health needs. The amount and kinds of services that need to be provided through contract sources then are more precisely determined. The objective is to synthesize alternative health services systems (direct, contract, and alternate services) for each IHS service unit and select the optimal system which also considers individual needs and tribal desires.

This step is the heart of a comprehensive system for Indian health with IHS as the focal and coordinating point in the process. Critical to the process is the establishment of interagency resources planning groups so that agencies can work with each other and with tribes in developing comprehensive health plans and in identifying resources.

6. President's Special Program for Indian Health

The 1972 Budget provides for continuation of the President's special program of health services for the Indians which was begun in 1971 with a $10 million special allocation. This is a cooperative effort of the Federal Government with funding derived from the Department of Health, Education, and Welfare; the Office of Economic Opportunity; and, the Department of Labor. The program is targeted on five key areas: prevention and control of alcoholism; control of otitis media (middle ear disease); improvement of maternal and child health; promotion of mental health; and manpower development (to enable Indians to staff and manage their own health programs).

The special program was established with the following objectives:

- to reduce the incidence and the complications of middle ear disease by early detection and treatment;

- to carry out tribally-conceived plans for prevention and treatment of alcoholism;

- to make basic mental health services available;

- to reduce excessive Indian infant mortality and morbidity and promote optimum early growth and development;

- to begin a number of tribal community health projects which will improve the level of health services and increase the ability of the Indian people to staff and manage their own health programs through training of Indian health personnel.

There follows the narrative justification for the 1972 Indian Health Service budget by activity and subactivity.

HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
Indian Health Service

Appropriation, 1970 (adjusted)		$107,601,828
Total amount available		107,601,828
Appropriation, 1971	$117,986,000	
Transferred to other accounts (GSA)	- 154,532	
Transferred to "Facilities Engineering and Construction Agency"	- 67,000	
Comparative transfer to "Office of the Administrator"	- 78,000	
Comparative transfer to "Comprehensive Health Planning and Services" for Regional Director's staff	- 24,000	
Proposed transfer from "Higher Education Facilities Loan Fund" for pay increases	+ 5,067,000	
Total amount available, 1971		122,729,468

Summary of Increases and Decreases, 1972

Patient Care	
To provide for mandatory increases for direct care at IHS facilities ($2,253,000) and indirect contract care ($2,807,000); program increases for direct care at IHS facilities ($2,849,532) and indirect contract care ($863,000); and a program decrease for indirect contract care ($-113,000)	+ 8,659,532
Net change - patient care	+ 8,659,532
Field Health Services	
To provide for mandatory increases for sanitation ($79,000), dental ($466,000), public health nursing ($95,000), health education ($65,000) and field medical services ($3,031,000); a program increase for dental ($400,000) and field medical services ($2,000,000)	+ 6,136,000
Net change - field health services	+ 6,136,000
Administration	
To provide for mandatory increase ($51,000)	+ 51,000
Net change - administration	+ 51,000
Net change - 1972	+14,846,532
Budget estimate, 1972	137,576,000

Effect of 1971 Increased Pay Costs

Indian Health Services

	1972 Estimate
Appropriation	$137,576,000
Budget amendment proposed to finance increased pay costs	4,327,000
Revised Appropriation	141,903,000

	1971 Revised Estimate	1972 Estimate
Amount currently available for obligation	$117,662,468	$137,576,000
Increases		
Built-in:		
Amount required to finance increased pay costs	+6,988,000 1/	+4,239,000
Program:		
Additional amount required for increased pay costs of new positions in 1972 request:		
1. Laboratory quality improvement	--	+4,000
2. Dental services	--	+18,000
3. Mental health	--	+40,000
4. Maternal and Child Health	--	+26,000
Revised amount available for obligation	$124,650,468	$141,903,000

1/ To be derived by transfer from "Higher Education Facilities Loan Fund."

INDIAN HEALTH SERVICES
Analysis by Activities

Activity	Amount Available 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
	1/	1/		
Patient Care .	$77,743,136	$88,415,468	$97,075,000	+$8,659,532
Field Health Services ...	27,427,329	32,049,000	38,185,000	+ 6,136,000
Administration	2,084,567	2,265,000	2,316,000	+ 51,000
Unobligated balance lapsing	346,796	---	---	---
	2/	2/	2/	
Total	107,601,828	122,729,468	137,576,000	+14,846,532

1. Patient Care

Sub-Activity	Amount Available 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
(a) Direct - Operation of IHS hospitals:				
Positions	4,364	4,702	4,709	+ 7
Amount ..	57,835,574	66,310,468	71,413,000	+ 5,102,532
(b) Indirect - Contractual:				
Positions	40	40	40	---
Amount ..	19,907,562	22,105,000	25,662,000	+ 3,557,000
Total Patient Care:				
Positions	4,404	4,742	4,749	+ 7
Amount ..	77,743,136	88,415,468	97,075,000	+ 8,659,532

1/ Reflects the following comparative transfers:

	FY 1970 Pos.	FY 1970 Amount	FY 1971 Pos.	FY 1971 Amount
a. From - "Departmental Management"	-	+$59,000	-	---
b. To - "Comprehensive Health Planning and Services" for Regional Director's staff	-1	- 24,000	-1	-$24,000
c. To - "Office of the Administrator": For Global Community Health Career Development Program	-3	-119,000	-3	- 69,000
For HSMHA Library	-	- 9,000	-	- 9,000
Total (c)	-3	-128,000	-3	- 78,000

2/Excludes reimbursements as follow: FY 1970 - $1,283,042; FY 1971 - $1,550,000; FY 1972 - $1,550,000.

1. Patient Care

SUMMARY OF CHANGE

Mandatory increase:	
Statutory salary promotions	$ 906,000
Full year cost of 1971 wage board increases	325,000
Increased cost of supplies and materials	356,000
Increased cost of medical care under contract	2,787,000
Full year cost of 1971 new positions:	
a. Pilot inpatient mental health program	42,000
b. Nutrition and dietetic program	56,000
Increased cost for contractual services (includes utilities and communications)	314,000
One additional paid day	132,000
One additional holiday	62,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	80,000
Total mandatory increase	5,060,000
Program increase:	
Maintenance and repair	2,599,532
Laboratory quality improvement (7 positions)	250,000
Contract medical care	863,000
Total program increase (7 positions)	3,712,532
Program decrease:	
Decrease in contract tuberculosis A.D.P.L.	-113,000
Total program decrease	-113,000
Net program increase	3,599,532
Total increase	8,659,532

(a) Direct--The 1972 estimate of 4,709 positions and $71,413,000 provides an increase of 7 positions and $5,102,532 over the 1971 estimate of 4,702 positions and $66,310,468.

Need for Increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$ 890,000
Full year cost of 1971 wage board increases	325,000
Increased cost of supplies and materials	356,000
Full year cost of 1971 new positions:	
a. Pilot inpatient mental health program	42,000
b. Nutrition and dietetic program	56,000
Increased cost for contractual services (includes utilities and communications)	314,000
One additional paid day	130,000
One additional holiday	62,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	78,000
Total mandatory increase	2,253,000
Program increase:	
Maintenance and repair	2,599,532
Laboratory quality improvement (7 positions)	250,000
Total program increase	2,849,532
Total increase (7 positions)	5,102,532

Maintenance and Repair - $2,599,532

An increase in funds of $2,599,532 is requested in fiscal year 1972 for the maintenance and repair of the Indian Health Service's real property and related equipment. This increase is required to (1) alleviate the large unmet backlog of essential maintenance and repair (BEMAR) requirements which have contributed to the deteriorated and unsafe conditions in many of the Indian Health Service's facilities; (2) compensate for the increased gross square footage of buildings to be maintained and the increased cost of materials, services, and labor; and (3) initiate a totally integrated facilities management system, including a scheduled maintenance program.

The Indian Health Service has tried to maintain the highest possible safety standards in its facilities. In this respect, all new and modernized facilities constructed by the Indian Health Service have included the best practical fire and other safe patient care protection. However, many older, obsolete, and unsafe health facilities still remain in operation. These facilities are periodically inspected by the Joint Commission on Accreditation of Hospitals, State and local fire and safety inspectors, the Department of Health, Education, and Welfare's Facilities Engineering and Construction Agency, and by our own personnel. These inspections continue to bring to light many serious fire and safety inadequacies.

The Department of Health, Education, and Welfare's Facilities Engineering and Construction Agency in 1970 conducted a detailed survey of approximately 95 percent of Indian Health Service health facilities for the purpose of determining the existing conditions and the funds required to upgrade the maintenance level and to provide a safe patient care environment. This survey indicated a serious backlog of essential maintenance and repair items and structural, functional, and fire and safety deficiencies.

The fiscal year 1972 request will permit the beginning of a systematic approach to (1) correcting the fire and safety deficiencies that come within the scope of the maintenance and repair program and (2) overcome the backlog of essential maintenance and repair items both of which were succinctly delineated in the FECA survey. In addition to this, it will provide the resources necessary for maintaining and repairing the following:

(1) the 1971 inventory of approximately 5,000,000 square feet of building facilities;

(2) the maintenance of the boiler plant, electrical generators, sewage disposal systems, and communications systems.

Laboratory Quality Improvement - 7 positions and $250,000

The impetus of this program is geared to the improvement of proficiency and increased quality of the laboratory system of the Indian Health Service and initiates a program towards bringing the quality of services to a level specified in the Laboratory Improvement Act of 1967. The one essential ingredient for upgrading and increasing laboratory quality is in training. Two factors operate against the system at present, both of which can be overcome by increased training. The first is that many of IHS technicians work alone and in isolated locations, thus cutting them off from both the normal exchange of professional contacts and from exposure to new techniques as they are developed. The second relates to the above fact in that laboratory service is a rapidly expanding field, both in equipment and technique. Because of the reasons cited above, the IHS lab technician finds it extremely difficult, if not impossible, to keep up professionally. Considerably more than half of the laboratory personnel presently working in IHS facilities have had no opportunity to obtain refresher courses.

One of the best means of getting new information and techniques to the area and service unit level is through consultants visiting each facility. During these visits, the consultant will demonstrate newer techniqies, provide consultation in methodology and direct the calibration and standardization of these updated procedures. In addition, IHS plans to provide short-term refresher training for approximately 60 service unit technicians.

One specific area needing upgrading is that of laboratory equipment. Much of the current equipment is outmoded and falls within the criteria for replacement. Also, in the last several years there has been a tremendous development of new pieces of equipment which greatly improve both capacity and quality of laboratory work. Purchasing some of this advanced equipment will allow a more rapid and higher degree of accuracy in laboratory testing, thus enabling the health staff to provide more efficient care to the patient.

The current staffing for laboratory operations has been inadequate resulting in workloads beyond that which the system can handle. In many cases a single technician is the only person capable of doing the lab work-up for a facility, and in the event this person is called away, needed services could not be performed. With an increase of 7 new positions and $250,000 it will be possible to hire valuable emergency alternate support personnel who will provide emergency back-up services to service units whose technicians go on leave or are away receiving short-term training.

Plan of Work

A study of the laboratory function of the Indian Health Service by the National Center for Disease Control revealed that existing laboratory services are grossly inadequate to properly support the medical programs of IHS and fail to meet the standards of the clinical Laboratory Improvement Act of 1967. In reference to necessary basic upgrading of existing laboratory services, the 1972 request will enable the Indian Health Service to meet 20 percent of its needs as an initial step towards meeting the standards of the above Act.

A concerted effort will also be made to reduce the large backlog of critical facility safety and hazard projects. The 1972 request will provide the resources that will enable the Indian Health Service to maintain an on-going maintenance and repair program and in addition to begin to overcome the Backlog of Essential Maintenance and Repair needs.

Expected workloads for the hospital program are shown on the following table:

INDIAN HEALTH SERVICE HOSPITALS
Workload Data

Average Daily Patient Census by Type of Patient (Excl. newborn)	1970 Actual	1971 Estimate	1972 Estimate	Increase (+) Decrease (-)
Inpatient load by type of patient:				
General patients	1,622	1,534	1,500	- 34
Tuberculosis patients .	107	93	85	- 8
Total inpatient load	1,729	1,627	1,585	- 42
Total GMS admissions (excl births)	67,313	68,280	68,625	+ 345
Average length of stay (days) General patients	8.8	8.2	8.0	- .2
Total births-All Indian Health Service Hospitals	8,928	9,100	9,300	+ 200
Outpatient visits to hospital facilities	1,068,820	1,131,200	1,200,500	+69,300

(b) Indirect -- The 1972 estimate of 40 positions and $25,662,000 provides an increase of $3,557,000 over the 1971 estimate of 40 positions and $22,105,000.

Need for increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$ 16,000
Full year cost of PL 91-418 (increase in health benefit contributions)	2,000
One additional paid day	2,000
Increased cost of medical care under contract	2,787,000
Total mandatory increase	2,807,000
Program increase:	
Contract medical care	863,000
Total program increase	863,000
Program decrease:	
Decrease in contract tuberculosis ADPL	-113,000
Total program decrease	-113,000
Net program increase	750,000
Total increase	3,557,000

A continuing study of rates negotiated in agreements with community hospitals, clinics, physicians, and dentists indicate continuing rising costs regardless of the hospital ownership (private, state, or community).

Part of the increased cost of contract medical services is attributable to the higher cost of salaries and supplies. Also the higher cost of medical care is inherent in a modern health care system which continually requires new and expensive diagnostic and therapeutic procedures.

In order to continue the level of services provided under this program in 1971, it is necessary to plan for the added cost in 1972. An increase of $2,787,000 is therefore requested in 1972 for the rising costs of contract rates. The following table reflects the percentage increase in hospitalization costs projected for FY 1972:

Contract Hospitalization	1970 Actual over 1969 Actual	1971 Estimate over 1970 Actual	1972 Estimate over 1971 Estimate
General	17.7%	10.7%	18.3%
Tuberculosis	14.3%	7.4%	15.0%
Neuropsychiatric ...	18.3%	12.6%	17.1%

An increase of $16,000 is requested to provide funds for mandatory within-grade promotions.

The 1972 program increase of $863,000 will provide an increase of 22 general average daily patients. Since only 60 to 70 percent of the contract health needs of the American Indians and Alaska natives are being met, the increase will be used toward this unmet need.

A decrease of $113,000 results from a decrease of 10 tuberculosis ADPL.

Plan of work

The request of $25,662,000 is for the purchase of medical care through contractual arrangements and is an essential element of the Indian Health Service program. Formal agreements are entered into with community hospitals, private physicians and clinic groups, dentists and providers of ancillary health services, to assure that quality care is obtained. Through this mechanism health services are practically and effectively provided for the widely scattered and small groups of Indian people who urgently need such services. In addition, the use of contract services makes possible special diagnostic and therapeutic services which many small-sized and intermediate-sized Indian Health Service hospitals cannot provide at economical costs. Emergency hospital and medical care services are frequently required at locations not readily accessible to health facilities directly operated by the Indian Health Service program.

The following table indicates the distribution of funds under the various items requested for the 1972 program. It also shows how 1970 funds were obligated and the plan of funding for 1971. The actual experience of average daily patient loads are reported for 1970 together with expected levels for 1971 and 1972.

INDIAN HEALTH SERVICES
Indirect - Contractual

	1970 Actual			1971 Estimate			1972 Estimate		
	Average Daily Pt.Load	Rate	Amount	Average Daily Pt.Load	Rate	Amount	Average Daily Pt.Load	Rate	Amount
Hospitalization									
General	398	$62.49	$9,077,968	401	$69.18	$10,126,000	423	$81.82	$12,668,000
Tuberculosis	98	28.82	1,030,794	90	30.95	1,017,000	80	35.59	1,042,000
Neuropsychiatric ...	128	14.21	664,121	130	16.00	759,000	130	18.73	891,000
Total	624		10,772,883	621		11,902,000	633		14,601,000
Patient and escort travel			482,558			485,000			495,000
Professional field supervision			497,932			550,000			570,000
Physicians' services (inpatient fees, office visits, consultation services)			5,356,545			6,043,000			6,572,000
Dental services (emergency services, dental laboratory prosthesis) ...			1,022,545			928,000			1,010,000
Other costs (lab and X-ray services, pharmaceuticals, drugs for inpatients and outpatients, prosthesis and burials			1,894,099			2,197,000			2,414,000
Total			20,026,562			22,105,000			25,662,000

ITEMIZATION OF ESTIMATE
Patient Care

Obligations by Object	Actual 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
11 Personnel compensation ...	$38,304,752	$44,347,000	$45,911,000	+$1,564,000
12 Personnel benefits	5,160,240	6,213,000	6,437,000	+ 224,000
21 Travel and transportation of persons	2,067,895	2,247,000	2,360,000	+ 113,000
22 Transportation of things	819,437	871,000	901,000	+ 30,000
23 Rent, communication, and utilities ..	2,901,047	2,745,468	2,892,000	+ 146,532
24 Printing and reproduction ...	143,798	153,000	154,000	+ 1,000
25 Other services ..	20,692,093	23,173,000	28,241,000	+ 5,068,000
26 Supplies and materials	7,122,433	7,876,000	9,242,000	+ 1,366,000
31 Equipment	1,147,313	1,436,000	1,583,000	+ 147,000
32 Lands and structures.....	26,418	---	---	---
42 Insurance, claims, and indemnities.	3,805	---	---	---
Subtotal	78,389,231	89,061,468	97,721,000	+ 8,659,532
Deduct quarters and subsistence charges	-646,095 1/ 2/	-646,000 1/ 2/	-646,000 2/	---
Net obligations .	77,743,136	88,415,468	97,075,000	+ 8,659,532

1/ Reflects the following comparative transfers:

	FY 1970 Pos.	FY 1970 Amount	FY 1971 Pos.	FY 1971 Amount
a. From - "Departmental Management"	-	+$59,000	-	---
b. To - "Comprehensive Health Planning and Services" ..	-1	- 24,000	-1	-$24,000
c. To - "Office of the Administrator":				
For Global Community Health Career Development Program	-3	-119,000	-3	- 69,000
For HSMHA Library	-	- 9,000	-	- 9,000
Total (c).....	-3	-128,000	-3	- 78,000

2/ Excludes reimbursements as follow: FY 1970 - $1,170,677; FY 1971 - $1,437,000; FY 1972 - $1,437,000.

2. Field Health Services

	Amount Available 1970		Amount Available 1971		Estimate 1972		Increase (+) Decrease (-)	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount
(a) Sanitation	332	$4,209,776	332	$4,485,000	332	$4.564,000	---	$+ 79,000
(b) Dental	294	3,674,402	331	4,009,000	381	4,875,000	+50	+ 866,000
(c) Public Health Nursing	270	2,927,141	275	3,313,000	275	3 408,000	---	+ 95,000
(d) Health Education	94	1,188,450	99	1,425,000	99	1,490,000	---	+ 65,000
(e) Field Medical Services	831	15,427,560	1,017	18,817,000	1,137	23,848,000	+120	+5,031,000
Total	1,821	27,427,329	2,054	32,049,000	2,224	38,185,000	+170	+6,136,000

SUMMARY OF CHANGE

Mandatory Increase	
Statutory salary promotions	358,000
Full year cost of 1971 wage board increases	45,000
Increased cost of supplies and materials	156,000
Full year cost of 1971 new positions:	
a. Nutrition and dietetic program	80,000
b. Mental health program	214,000
c. Staffing related to new construction	690,000
Full year cost of 100 CHR's trained in 1971	900,000
Salary increase from 3/4 to full annual salary for 185 Alaska native health aides employed in 1969	410,000
Increased contractual level for 310 CHR's employed in 1971	424,000
Increased contractual level for 100 CHR's in training	94,000
Increased cost for contractual services (includes utilities and communications)	65,000
One additional paid day	39,000
Staffing for new Albuquerque School Health Center (Positions: Dental 19 and Field Medical Services 4)	235,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	26,000
Total mandatory increase	3,736,000
Program increase	
Dental services (31 positions)	400,000
Mental health program (76 positions)	1,250,000
Maternal and child health program, including family planning (40 positions)	750,000
Total program increase	2,400,000
Total increase	6,136,000

(a) Sanitation -- The 1972 estimate of 332 positions and $4,564,000 provides an increase of $79,000 over the 1971 estimate of 332 positions and $4,485,000.

Need for increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$69,000
One additional paid day	5,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	5,000
Total mandatory increase	79,000
Total increase	79,000

The physical environment of the American Indian and Alaska native in most locations throughout the United States is characterized by severe climatic conditions, rough, often treacherous geographical setting, and extreme isolation. Survival under these conditions attests to the ingenuity, adaptability and self-determination of these people.

This harsh environment, coupled with decades of economic deprivation with the resulting lack of basic environmental amenities has resulted in an exceptionally high incidence of disease, much suffering, and premature deaths, particularly among infants. Surveys made during the period 1957 to 1964 on Indian reservations representing more than 10 percent of the total population showed that: (1) one-half of the Indian families lived in one and two-room houses; (2) more than 70 percent hauled or carried water from potentially contaminated sources; (3) more than 75 percent had grossly inadequate facilities for sanitary waste disposal. Since the passage of P. L. 86-121 in 1959, the Indian Health Service has been constructing sanitation facilities for Indian and Alaska native homes and communities. This fact, together with the growing accomplishments of housing programs of other Federal agencies, has done much to improve the water and waste disposal problems of these people. However, many families still lack basic facilities and are subject to the serious health hazards associated with such environmental deficiencies.

For example: Surveys made during the period 1968 to 1971 on Indian reservations representing more than 30 percent of the total population showed that: (1) one-third of all Indian homes have two rooms or less; (2) water is hauled more than 100 feet to 35 percent of all Indian homes; (3) 29 percent of Indian homes rely on unsatisfactory sources of water and; (4) more than 50 percent of all Indian homes have inadequate facilities for sanitary waste disposal.

Other environmental conditions including insect and wild rodent vectors continue to result in sporadic epidemics on Indian reservations.

The staff of the environmental health program provides basic environmental health services, engineering and technical support in the development of sanitation facilities projects, coordination with Federal and tribal housing agencies, negotiation of agreements, securing of tribal participation in the work, logistical support and supervision of the installation of facilities, and provides essential training to Indian people in sanitation practices and the operation, maintenance, and care of sanitation facilities completed under the Public Law 86-121 sanitation facilities construction activity.

Basic Environmental Health Activities

A continuing program of consultations and services is made available to Indian and Alaska native families and communities to assist them in implementing a comprehensive environmental health program. These consultations and services help the Indian and Alaska natives in identifying and correcting environmental conditions which are detrimental to their health status and in insuring sustained improvement in the quality of their lives. The services go far beyond the traditional environmental concerns of the past while still incorporating the basic elements of more and better housing, water supplies, waste disposal facilities, and other amenities as well as the development of an increased understanding of modern health and sanitation concepts. An essential element of the services provides that emphasis be placed in furthering community guidance of program activities. This will permit the integration of those activities into the total health, social and economic structure of Indian and Alaska native communities.

In addition to the foregoing, the basic environmental health activities incorporate a consultative service to assure that a high level of environmental sanitation is maintained in Federal facilities serving Indians.

In the provision of these basic services, the Indian and Alaska native environmental health aides/technicians are key members of the staff who help bridge the gap of cultural differences to bring modern environmental health practices to Indian communities and groups. These aides/technicians are trained by the Indian Health Service in the basic elements of environmental health and they, in turn, impart this knowledge to their own people. Ninety-six full-time and three part-time environmental health aides/technicians are currently authorized to provide services on Indian reservations and Alaska native villages.

Sanitation Facilities Construction Activity

The sanitation facilities construction activity complements the basic environmental health activity by providing tangible support in those situations where the need for facilities exceeds the available resources of the Indian people. The Indian Health Service is authorized to provide this assistance under Public Law 86-121, the Indian Sanitation Facilities Act. The activity employs a coordinated tribal-Federal attack to correct gross deficiencies in individual

and community water supplies, waste disposal, and other sanitation facilities. Staffing to implement this work is supported under the field health activity of the Indian Health Service budget.

In the construction activity, Indians participate in project planning and construction and assume responsibility for the operation and maintenance of the completed facilities. The staff effort devoted to project engineering, technical support and motivation and training of Indian families and groups has resulted in notable Indian participation in the form of men, money, and materials.

Plan of work

A review of the environmental health activities indicates that the 1970 level of 100,000 advisory and consultative services rendered to Indian homes and communities represents 66 percent of the estimated total need for such services. Within the existing staff, the 1971 level is expected to increase slightly to approximately 101,000 services and to approximately 102,000 in 1972. These figures represent 62 percent of the estimated total need for 1971 and 59 percent of the estimated need for 1972. As the quality of life of the Indian family and community is improved through increased understanding of health concepts and receipt of sanitation facilities under P.L. 86-121, the need for advisory and consultative services will continue to increase.

During fiscal year 1972, the Indian Health Service will continue to cooperate with the Department of Housing and Urban Development, the Bureau of Indian Affairs, Office of Economic Opportunity and tribal governments by providing sanitation facilities for new and rehabilitated Indian housing construction. It is estimated that work on approximately 8,000 new or improved Indian housing units will be initiated, of which 7,100 will require sanitation facilities construction assistance by the Indian Health Service and the remaining 900 units will require technical assistance concerning site location, facilities design and construction inspection.

The 1972 request will also permit the construction of another phase of the Kotzebue water and sewer systems.

With the completion of all projects authorized or planned through fiscal year 1971 both running water and an adequate means of waste disposal will have been provided for approximately 52,200 Indian homes. Including the 1972 program, a total of 60,200 homes out of a current estimate of 80,800 existing Indian homes will have been served. Many of those homes were provided sanitation facilities in the early years of this program and therefore now require upgrading. Furthermore, additional homes are being provided for new families and to replace existing grossly substandard housing. For example, the Bureau of Indian Affairs estimates that 34,600 existing Indian homes are in need of replacement or major renovation. This number, combined with homes required for approximately 11,900 Indian families now sharing a house with another family, reveals a total current need of 46,500 new Indian houses. These factors combine to make the future requirements for sanitation facilities larger than 20,600 - the difference between the current estimate of 80,800 existing homes and the number provided with improved sanitation facilities through FY 1972.

(b) Dental -- The 1972 estimate of 381 positions and $4,875,000 provides an increase of 50 positions and $866,000 over the 1971 estimate of 331 positions and $4,009,000.

Need for increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$ 43,000
Increased cost of supplies and materials	38,000
Full year cost of 1971 new positions for staffing related to new construction (16 man years)	184,000
One additional paid day	4,000
Staffing for new Albuquerque School Health Center (19 positions)	195,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	2,000
Total mandatory increase	466,000
Program increase:	
Dental services (31 positions)	400,000
Total increase	866,000

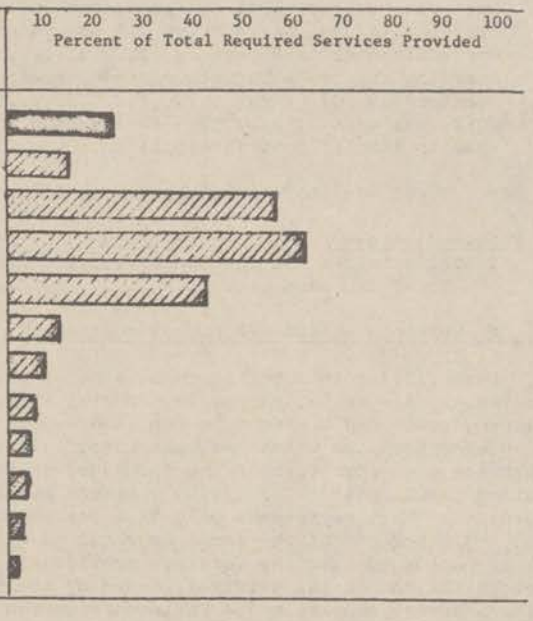
Dental Services - $400,000 and 31 positions

Dental diseases continue to be a major health problem afflicting Indian and Alaska native people. Dental caries, periodontal disease, missing teeth and orthodontic conditions constitute a great backlog of needed services which has been magnified by an inability to increase resources to meet the large growth in the child population. During fiscal year 1970, 141,857 persons received 646,580 dental services. This represents only 34.6 percent of the population and only 60.2 percent of the services required by the people treated. It is estimated that the services provided in 1970 are but 23.7 percent of the dental services needed by the total Indian and Alaska native populations. Children were the recipients of most of the limited care that was rendered.

The table and graph on the following page illustrates the percent of required services provided in fiscal year 1970:

PERCENT DENTAL SERVICES PROVIDED BY THOSE REQUIRED
BY TOTAL INDIAN AND ALASKA NATIVE POPULATION
FISCAL YEAR 1970

Age Group (In Years)	Percent of Required Services Provided
All Ages	23.7
3- 4	14.2
5- 9	56.2
10-14	61.7
15-19	42.5
20-24	13.3
25-34	9.8
35-44	7.5
45-54	5.8
55-64	4.7
65-74	3.3
75+	2.2



Although the dentist to general population ratio is about 1 to 2,000, in the Indian Health program there is only one clinician to about 3,380 people. The tremendous backlog of unmet dental needs further complicates this situation. Most of the deplorable dental conditions found among these people are due to a lifetime of inadequate dental care, a lack of understanding of measures that may be taken to prevent dental diseases, and inadequate dental resources.

Through the years there has been a marked expansion of corrective and preventive services provided. For example, during fiscal year 1970 Indian Health clinicians provided fluoride treatments to 99,703 patients compared to 48,842 in fiscal year 1964; and 3.189 in fiscal year 1958. The number of filled teeth per patient examined between the ages of 6-17 years of age has increased from 1.13 in fiscal year 1958 to 3.22 in fiscal year 1970. With only a 71.6 percent increase in dental officer staff in fiscal year 1970 over fiscal year 1958 there has been a 3,076 percent increase in total topical fluoride treatments provided, and 185 percent increase in filled teeth per patient 6-17 years of age treated. This increase has been accomplished primarily by the expanded and improved use of auxiliary personnel, improvement of the clinical facilities and training in efficient management of the dental clinic.

Plan of work

For 1972 the dental program of the Indian Health Service will continue to emphasize preventive services. Concurrent with this emphasis there will be a continuing program of bringing the children to a maintenance level of dental care. As resources permit, attention will be given to the dental needs of young adults to protect the care given them as children. Additional dental services will be provided to groups of Indian and Alaska native people through the utilization of recently constructed facilities. Services will be expanded to small and isolated groups where it is most feasible to assign full-time staff.

The 1972 request includes 19 additional dental personnel under mandatory increases to staff the newly constructed Albuquerque school health center.

An additional 14 dentists and 17 dental assistants are required to provide preventive and corrective services to about 91 percent or 146,000 of the estimated 161,000 children ages 3-20 years who would want dental services if they were available. Services would also be extended to young adults who have been maintained at a high level of oral health by the dental program during their school years.

It has been demonstrated that the effective utilization of dental assistants will increase the efficiency of the dental officers. Compared to working alone in a two-chair clinic, the productivity of a dentist with two assistants is increased by 51 percent.* In addition, a marked impact will be made in the preventive aspects of the program by increasing the number of auxiliary personnel who can provide preventive types of services. For these reasons, 20 dental auxiliaries are needed to assist the dental officers requested for fiscal year 1972.

In line with the above increase, the following table sets forth major practices planned for accomplishment in the direct services program during fiscal year 1972 compared to 1970 and 1971.

Yield and effort	1970	1971	1972
1. Oral Health Levels			
Tooth mortality in persons age 20-24 1/	2.62	2.57	2.39
Periodontal disease per 1,000 persons 2/	265	266	267
Dentures required per 1,000 persons 2/	458	454	422

2. Workload that will result in above levels of oral health	1969	1970	1971	1972
Patients treated	138,032	141,857	151,970	164,829
Percent of population treated	34.2	34.6	36.6	39.3
Total services provided	634,479	646,580	692,900	751,530
Topical fluoride treatments	96,029	99,703	106,860	115,902
Dentures provided	2,823	3,075	3,250	3,525

1/ The goal of the dental program is no more than six missing teeth per person at ages 65-70.**

2/ Age adjusted rates.

* The 1968 Survey of Dental Practice III. Income of Dentists by Type of Practice, Personnel Employed and Other Factors. JADA, Vol. 78, April 1969. (Table 12, p. 804)

** Department of Health, Education, and Welfare, Public Health Service, Indian Health Service. Dental resources criteria and program requirements for the Indian Health Service. Washington, Government Printing Office, 1969.

(c) Public health nursing--The 1972 estimate of 275 positions and $3,408,000 provides an increase of $95,000 over the 1971 estimate of 275 positions and $3,313,000.

Need for increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$48,000
Full year cost of 1971 new positions for staffing related to new construction (2 man years)	36,000
One additional paid day	7,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	4,000
Total mandatory increase	95,000
Total increase	95,000

The present health level of the Indian and Alaska native population and effort required to effect any significant progress in their health status clearly indicates the need for strengthening the public health nursing program. The public health nurse is the chief provider of health services at the community level. The activities of the public health nurse include case finding, health teaching, and follow-up services to provide continuity of care in the home, school, hospital, and clinic. The public health nurse makes her greatest contribution to improving the health level of the community by teaching good health practices to families in their own homes. Her effectiveness is largely dependent upon establishing and maintaining a relationship of mutual respect with families she serves.

Home health services to the Indian and Alaska native population are dependent largely upon the employment of public health nursing personnel. Case finding, health teaching, and follow-up services to provide continuity of care in the home, school, hospital, and clinic are public health nursing activities essential to an effective generalized community public health program.

Plan of work

Program efforts will be concentrated on improving team work not

only within the public health nursing group but with other staff as well, particularly the Community Health Representatives and other types of auxiliary personnel. Program efforts will be intensified in the following areas:

1. An attempt will be made to strengthen health teaching in homes, hospitals, clinics, schools and the community, with the goal of improving nutrition and general health status, home sanitation, dental care, mental health and prevention of illness and accidents.

2. Efforts will be further intensified to reach expectant mothers earlier in pregnancy and to follow them throughout the pre and post-natal period, to prevent complications of pregnancy and improve their general health status. Greater emphasis will be placed on family planning education.

3. Emphasis will continue in following newborn infants through home visits beginning as soon as possible following discharge from the hospital, in an effort to further reduce infant morbidity and mortality.

4. Efforts will continue to be aimed at raising the level of immunization in infants and children to prevent infectious disease.

5. Efforts will be aimed at increasing services to Headstart children, and to providing greater coordination with VISTA, OEO, tribal employees, etc., and by increasing guidance to the variety of their auxiliary personnel.

In FY 1972, public health nursing services will be provided to approximately 34,000 families. This remains essentially the same as fiscal years 1970 and 1971. The estimated number of public health nursing services to be provided in FY 1972 is 180,000 which compares to 170,620 in 1970 and 178,000 in 1971.

(d) Health Education -- The 1972 estimate of 99 positions and $1,490,000 provides an increase of $65,000 over the 1971 estimate of 99 positions and $1,425,000.

Need for Increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$27,000
Full year cost of 1971 new positions for staffing related to new construction (2 man years)	33,000
One additional paid day	3,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	2,000
Total mandatory increase	65,000
Total increase	65,000

Health education is concerned with the organized approach to all educational deficiencies related to specific diseases as well as to those of health and safety hazards. Its aims are to prevent the recurrence and spread of disease and to reduce the risk from disease and injury by providing the necessary learning experiences among the Indian and Alaska natives. This will not only increase knowledge about health and disease, but will foster attitudes and practices needed for wholesome and responsive livelihood.

The program is and will be providing services to approximately 50 percent of the service units.

The health education program of the Indian Health Service is designed to help the Indians and Alaska natives acquire the knowledge and attitudes which will enable them to use their own responsibility in initiating positive action in health matters thereby improving their personal, family and community health practices.

Plan of work

With the 1972 mandatory increase of $65,000, emphasis will continue to be placed on efforts to achieve greater involvement of the Indian and Alaska natives in their own health and welfare affairs in order to enhance:

1. community participation -- involve the Indian and Alaska natives in all health activities along with the health staff for the kind of interplay in which the learner participates not only in dialogue but also in actions and making decisions about his way of learning and living.

2. community acceptance and use of health care services and preventive resources more advantageously.

3. the development of decision-making skills among the Indian and Alaska natives.

4. the development of a learning atmosphere for joint inquiry and exploration between the provider and recipient of health services. Such health promotional activities will involve more completely other agencies and organizations that have potentials for contributing to a program of necessary magnitude to cause an impact on the problems.

5. opportunities for use of educational potentials in health program planning and operation.

6. coordination of activities to incorporate health instruction in the curriculum of schools- encourage the health instruction concept among teachers - tie in community education programs with school health projects to increase knowledge of wholesome living conditions.

(e) Field Medical Services -- The 1972 estimate of 1,137 positions and $23,848,000 provides an increase of 120 positions and $5,031,000 over the 1971 estimate of 1,017 positions and $18,817,000.

Need for Increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$171,000
Full year cost of 1971 wage board increases	45,000
Increased cost of supplies and materials	118,000
Full year cost of 1971 new positions:	
a. Nutrition and dietetics	80,000
b. Mental health	214,000
c. Staffing related to new construction (35 man years)	437,000
Full year cost of 100 CHR's trained in 1971	900,000
Salary increase from 3/4 to full annual salary for 185 Alaska native health aides employed in 1969	410,000
Increased contractual level for 310 CHR's employed in 1971	424,000
Increased contractual level for 100 CHR's in training	94,000
Increased cost for contractual services (includes utilities and communications)	65,000
One additional paid day	20,000
Staffing for the new Albuquerque School Health Center (4 positions)	40,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	13,000
Total mandatory increase (4 positions)	3,031,000
Program increases:	
Mental health program (76 positions)	1,250,000
Maternal and child health (including family planning) 40 positions	750,000
Total program increase (116 positions)	2,000,000
Total increase	5,031,000

The field medical services program, the medical arm of the field health services program, makes available a full range of health services to Indian and Alaska native communities in isolated areas, by providing ambulatory medical care and preventive health services outside of the hospital through a system of health centers, health stations and school health centers, and numerous satellite field clinics. Itinerant health teams make visits to villages, and visits are made to homes and schools to provide preventive and curative medical services and education in good health principles and practices.

Leading health problems are high infant and maternal mortality rates; high incidence of communicable diseases; accidents; and alcoholism and other mental health problems.

Speciality clinics are held at the health centers and health stations and in schools and communities for immunizations; tuberculosis and venereal disease case finding; control of trachoma, diabetes, otitis media and other diseases; health education; environmental health; mental health services; and family planning consultation and services.

Through the field medical services program, close working relationships are developed between the health teams and the Indian people in their homes and communities. Community health representatives provide a communications link between the Indians and the health staff and extend and increase the effectiveness of professional health services in their capacity of on-the-scene assistance to the health team. Better acceptance of care by the Indian and Alaska native people has resulted, and demands for services continue to increase.

Mental Health -- $1,250,000 and 76 positions

The mental health program has reached a point where its usefulness has been demonstrated, definite methods of work have been developed, and there are experienced people working in the field ready to direct an expanded program. To accomplish the above, an additional 76 positions and $1,000,000 is requested. These positions will include 43 Indian community mental health workers who will help bridge the gap between the professional and the patient and the community in such areas as patient identification and follow-up. These workers will also help to change Indian and non-Indian community attitudes, as well as to assist in training the non-Indian professional staff.

Thirty-three professional and supporting staff are necessary for implementation of a mental health plan that will extend basic services to all Indian people spread over vast geographic areas with no access to other mental health resources. The development of the mental health program to an adequate level is essential to raise the general health standards of the Indian people and to help them fulfill the potential worth of their society.

An additional $250,000 is requested to initiate and expand tribal programs in alcoholism prevention and control especially in those communities where the need is greatest, or where no funded programs exist.

Maternal and Child Health (Including family planning) -- $750,000 and 40 positions

There has been great improvement in the health of the Indian and Alaska native mothers and children during the last eleven years. Maternal mortality has been reduced from 82.6 (per 100,000 live births) in 1958 to 33.9 in 1968. Infant mortality has been reduced from 62.5 (per 1,000 live births) in 1955 to 30.9 in 1968. But despite these improvements both still remain much too high. In 1968, in the U.S. all races, the maternal death rate was 24.5 and the infant mortality rate was 21.8. As is usual, in developing cultures, the high infant mortality is overcompensated by high birth and fertility rates. Complications of pregnancy, or associated with pregnancy or delivery, occurred in 1968 in approximately one third of the hospitalized maternity patients. It is estimated that about 45 precent of pregnant women either do not receive prenatal care at all or receive it very late in pregnancy.

Of the approximately 420,000 Indian and Alaska natives to be served in fiscal year 1972 by the Indian Health Service, 18.7 percent or 78,600 are women in child bearing age; and 18 percent or 76,100 are children under 5 years of age.

The requested increase of $750,000 will be utilized in a concentrated effort to improve the health status of the mothers and small children through improving and expanding the maternal and child health activities of the IHS, with particular emphasis on family planning and the care of high risk mothers and babies. The use of indigenous Indian Health workers through contract with the tribes is an important component of the program. The role of these local workers will be as follows:

(a) to help identify high risk mothers and babies

(b) to help identify women in need of family planning services

(c) to assist in counseling mothers and prospective mothers in child health, family planning and responsible parenthood

(d) to make appropriate referrals

The requested resources of $750,000 and 40 positions in 1972 will permit a) the implementation of six tribally operated maternal and child health projects, with particular emphasis on family planning, using 18 local Indian community workers as described above; b) the addition of 40 professionals including obstetricians, pediatricians, nurse-midwives and nursing personnel, to increase the level of the maternal and child health services presently provided.

Plan of work

The 1972 request of $23,848,000 for field medical services encompasses ambulatory medical care and preventive health services provided at fixed facilities, outside of hospitals, and at numerous field locations as close as practicable to the widely scattered and isolated groups of Indian and Alaska native people.

The therapeutic services include diagnosis and treatment, referral of persons needing hospital care and follow-up of patients after hospitalization. The preventive health services include a vast range of activities such as prenatal and post-natal care, family planning consultation and services, well child clinics, school health, control of communicable diseases including immunization and screening and follow-up of cases and contacts, e.g., tuberculosis, venereal diseases and trachoma, early detection and prevention of chronic diseases such as diabetes, deficiency diseases and mental health. Associated with this activity are medical social services and epidemiology training.

The prevention and early identification of diseases will be accomplished by an increase in the number of scheduled general and specialty clinics that will be held in the present clinics and new clinics to be constructed. The new clinics will make the services more easily available to the Indians by being closer to where they live.

The number of outpatient preventive and therapeutic medical visits to health centers, health stations, satellite field clinics and schools will be increased from approximately 718,100 in 1970 and 725,000 in 1971 to 743,000 in 1972.

The increased services will also assist in the identification and coordination of activities with all community resources toward the prevention of accidents and alcoholism, and prevention and treatment of tuberculosis, venereal diseases, and mental disorders, and the early identification and correction of crippling conditions in children. The facilities in which these services are provided include 74 health centers (which include 27 school health centers) and more than three hundred other locations which include health stations and satellite field clinics.

The maternal and child health activities and family planning services will be improved and expanded by the implementation of 6 tribally operated maternal and child health projects emphasizing family planning, using 18 local Indian community health workers.

The addition of 40 professionals will increase the level of maternal and child health services presently being provided.

Thirty-three professional and supporting staff and 43 Indian community mental health workers will implement a mental health plan that will extend basic services to Indian people with no access to other mental health resources. Additional tribal programs in alcoholism prevention and control will be initiated and expanded where there is a great need and no funded programs currently exist. In attempting to provide only essential mental health services to all Indian communities, such as crisis intervention, treatment of the acute psychotic episode, consultation and certain outpatient services, and training and supervision for community mental health workers, in 1970, 20 percent of the need was met; in 1971, 40 percent of the need was met, and in 1972, 60 percent of the need will be met at present funding levels and those proposed for 1972.

These essential services are not a complete comprehensive mental health program, but are a valid starting point from which further growth can occur as additional resources become available.

The 410 community health representatives and 185 Alaska native health aides trained in fiscal years 1969, 1970, and 1971 will continue employment in 1972. The number of CHRs to be trained in 1972 will be 100 as compared to 125 in 1970 and 100 in 1971.

ITEMIZATION OF ESTIMATE
Field Health Services

Obligations by Object	Actual 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
11 Personnel compensation	$15,719,016	$17,576,000	$20,050,000	$+2,474,000
12 Personnel benefits	2,123,277	2,621,000	2,885,000	+ 264,000
21 Travel and transportation of persons	1,654,246	2,161,000	2,451,000	+ 290,000
22 Transportation of things	816,106	864,000	935,000	+ 71,000
23 Rent, communication, and utilities	931,703	1,129,000	1,206,000	+ 77,000
24 Printing and reproduction	73,393	74,000	76,000	+ 2,000
25 Other services	3,311,152	4,741,000	7,259,000	+2,518,000
26 Supplies and materials	1,986,842	2,360,000	2,679,000	+ 319,000
31 Equipment	580,744	644,000	765,000	+ 121,000
41 Grants, subsidies and contributions	350,000	---	---	---
42 Insurance, claims, and indemnities	1,846	---	---	---
Subtotal	27,548,325	32,170,000	38,306,000	+6,136,000
Deduct quarters and subsistence charges	-120,996	-121,000	-121,000	---
Net obligations	27,427,329[1/]	32,049,000[1/]	38,185,000[1/]	+6,136,000

[1/] Excludes reimbursements as follow: 1970 - $112,365; 1971 - $113,000; 1972 - $113,000.

INDIAN HEALTH SERVICES
3. Administration

Activity	Actual 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
Administration	$2,084,567	$2,265,000	$2,316,000	+ $51,000

The 1972 estimate of 128 positions and $2,316,000 provides an increase of $51,000 over the 1971 estimate of 128 positions and $2,265,000.

Need for Increase

The requested increase consists of:

Mandatory increase:	
Statutory salary promotions	$42,000
One additional paid day	5,000
Full year cost of P.L. 91-418 (increase in health benefit contributions)	4,000
Total mandatory increase	51,000
Total increase	51,000

The Indian Health Service headquarters staff, which is required to effectively direct a widely dispersed and extremely complex health service program, is funded under this title. This staff includes (1) positions specializing in the field of curative and preventive health, (2) staff engaged in such specialized fields as nutrition, medical records, medical social work, statistics, financial management, program planning, and general services.

The 1972 estimate of $2,316,000 for the administration activity provides for continuation at a level of operation in 1972 comparable to that of 1971.

ITEMIZATION OF ESTIMATE

Obligations by Object	Actual 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
11 Personnel compensation ..	$1,676,139	$1,857,000	$1,899,000	+ $42,000
12 Personnel benefits	163,880	196,000	205,000	+ 9,000
21 Travel and transportation of persons	91,774	90,000	90,000	---
22 Transportation of things	13,514	10,000	10,000	---
23 Rent, communication, and utilities	75,153	71,000	71,000	---
24 Printing and reproduction	1,055	1,000	1,000	---
25 Other services	35,866	19,000	19,000	---
26 Supplies and materials ..	16,134	13,000	13,000	---
31 Equipment	11,052	8,000	8,000	---
32 Lands and structures	---	---	---	---
42 Insurance, claims, and indemnities	---	---	---	---
Subtotal	2,084,567	2,265,000	2,316,000	+ 51,000
Deduct quarters and subsistence charges	---	---	---	---
Net obligations	2,084,567	2,265,000	2,316,000	+ 51,000

ITEMIZATION OF ESTIMATE
Department of Health, Education, and Welfare
Health Services and Mental Health Administration
Appropriation Title: Indian Health Services

	Actual 1970	Amount Available 1971	Estimate 1972	Increase (+) Decrease (-)
Obligations	$107,255,032	$122,729,468	$137,576,000	+$14,846,532
Unobligated balance lapsing	346,796	...	...	...
Total amount available	107,601,828 1/	122,729,468 1/	137,576,000 1/	+14,846,532
Transferred to "operating expenses, public building service," GSA	18,672	154,532	...	- 154,532
Transferred to "Facilities and Engineering Construction Agency"	10,500	67,000	...	- 67,000
Comparative transfer to "salaries and expenses, Office of the Administrator"	128,000	78,000	...	- 78,000
Comparative transfer to "Comprehensive Health Planning and Services"	24,000	24,000	...	- 24,000
Comparative transfer from "Departmental Management"	-59,000	...	...	...
Proposed transfer from "National Institute of General Medical Sciences" for pay increases	-4,464,000	...	...	...
Proposed transfer from "Higher Education Facilities Loan Fund" for pay increases	-1,731,000	-5,067,000	...	+ 5,067,000
Appropriation	101,529,000	117,986,000	137,576,000	+19,590,000
Obligations by Object				
11 Personnel compensation	55,699,907	63,780,000	67,860,000	+ 4,080,000
12 Personnel benefits	7,447,397	9,030,000	9,527,000	+ 497,000
21 Travel and transportation of persons	3,813,915	4,498,000	4,901,000	+ 403,000
22 Transportation of things	1,649,057	1,745,000	1,846,000	+ 101,000
23 Rent, communication, and utilities	3,907,903	3,945,468	4,169,000	+ 223,532
24 Printing and reproduction	218,246	228,000	231,000	+ 3,000
25 Other services	24,039,111	27,933,000	35,519,000	+ 7,586,000
26 Supplies and materials	9,125,409	10,249,000	11,934,000	+ 1,685,000
31 Equipment	1,739,109	2,088,000	2,356,000	+ 268,000
32 Lands and structures	26,418	...	...	...
41 Grants, subsidies, and contributions	350,000	...	...	...
42 Insurance, claims, and indemnities	5,651	...	...	...
Subtotal	108,022,123	123,496,468	138,343,000	+14,846,532
Deduct quarters and subsistence charges	-767,091	-767,000	-767,000	...
Total obligations	107,255,032	122,729,468	137,576,000	+14,846,532

1/ Excludes reimbursements as follow: 1970 - $1,283,042; 1971 - $1,550,000; 1972 - $1,550,000.

Indian Health Services

Summary of Positions and Average Employment

Positions

Activity	1970	1971	1972
Patient Care:			
Direct	4,364	4,702	4,709
Indirect	40	40	40
Total Patient Care	4,404	4,742	4,749
Field Health Services:			
Sanitation	332	332	332
Dental	294	331	381
Public Health Nursing	270	275	275
Health Education	94	99	99
Field Medical Services	831	1,017	1,137
Total Field Health	1,821	2,054	2,224
Administration	128	128	128
Total	6,353 1/	6,924 1/	7,101 1/

Average Employment

Patient Care:			
Direct	4,228	4,590	4,623
Indirect	36	36	36
Total Patient Care	4,264	4,626	4,659
Field Health Services:			
Sanitation	313	303	303
Dental	286	303	369
Public Health Nursing	245	257	259
Health Education	84	93	95
Field Medical Services	813	941	1,099
Total Field Health	1,741	1,897	2,125
Administration	122	122	122
Total	6,127 2/	6,645 2/	6,906 2/

1/ Excludes reimbursable positions as follow: 1970-54; 1971-54; 1972-54.

2/ Excludes reimbursable average employment as follow: 1970-54; 1971-54; 1972-54.

FUNDING 1961–71

Mrs. HANSEN. Please insert in the record the total funding the Indian Health Service has received for the last 10 fiscal years.

(The information follows:)

AMOUNTS AVAILABLE, 1961 THROUGH 1971—INDIAN HEALTH FACILITIES AND INDIAN HEALTH SERVICES

Fiscal year	Amounts available including supplemental	
	Indian health facilities	Indian health services
1961	$9,714,000	$50,271,000
1962	8,285,000	53,010,000
1963	9,335,000	56,836,250
1964	6,100,000	59,697,750
1965	8,835,000	62,940,000
1966	14,096,000	67,548,000
1967	14,489,000	75,536,000
1968	16,848,000	84,862,000
1969	18,156,000	91,710,000
1970	20,952,000	107,724,000
1971	18,715,000	[1] 117,986,000

[1] Excludes pending supplementals.

INCREASE FOR MAINTENANCE AND REPAIR

Mrs. HANSEN. Justify your requested increase of $2,599,532 for maintenance and repair.

Dr. JOHNSON. Yes, Madam Chairman. We have had a serious problem, as you know, with obsolete facilities, and you certainly have been in many of them. At one time it appeared possible that many of these might be replaced in some relatively near future, but as time has gone on, it is obvious that replacement is not going to come early, and so we have really said that we must take stock of our present facilities, and in a sense develop our strategy. What are we going to do to provide the best, safest care we can within our real world, which is our present facilities, and so we asked the Department of Health, Education, and Welfare's Facilities Engineering and Construction Agency to do a detailed survey for us of these facilities. This is an agency of the Department that has expertise in all of the fields that are important in doing this.

They came up with a series of studies covering about 95 percent of our facilities. They didn't get to everyone. They didn't get to St. Paul's, for example, but I think it is enough to give us a pretty good idea. Really what they did was confirm much of what we already knew but confirmed it in detail as to the very serious maintenance, repair, fire safety, other kinds of deficiencies within our facilities.

BACKLOG OF MAINTENANCE AND REPAIR WORK

Mrs. HANSEN. What is your total funding backlog of maintenance and repair work?

Mr. CHADWICK. Madam Chairman, the backlog of maintenance and repair of the kinds of things that we would do is $16,690,000. Let me

explain the kind of thing we would do. We have many facilities that are so obsolete and so deteriorated it would not be practical to bring them up to full service. If we did that, it would be $37 million. But to do the kind of work, to repair those that are now repairable, and to do what we call patchwork on those others until we can replace them, we have a backlog identified of the things we would recommend to do in management of $16,690,000.

Mrs. HANSEN. How long will it take you to completely reduce this backlog at your present funding level?

Mr. CHADWICK. Let me explain. We have an additional backlog buildup of $2.9 million a year, so the $2,600,000 that we are asking for, together with $1,535,000 we have in our base makes a total of $4,135,000; $675,000 of that amount is for fire safety projects that are not really maintenance and repair, so that would give us a net amount of $3,460,000 of maintenance and repair work, and if we assume then or know that our additional backlog of $2.9 million occurs each year, this amount would allow us to apply $560,000 to the backlog.

CHOCTAW HOSPITAL

Mrs. HANSEN. I was down on the Choctaw Reservation in Philadelphia, Miss., and at the tribe's request I went through their hospital. They have a supply room in which they have to store their sterile surgical supplies with their mops and other cleaning equipment.

Dr. JOHNSON. Right now, as you may recall, the pharmacy is in a house across the street.

Mrs. HANSEN. In a situation like this, wouldn't it be more feasible to construct a new hospital than to try to repair this facility?

Dr. JOHNSON. The shape of that hospital, Madam Chairman, is clearly that it needs to be replaced. It is not worth the effort.

Mrs. HANSEN. What would be the cost of replacing this facility?

Mr. CHADWICK. We would need for our population base a 41-bed hospital at Philadelphia, Miss., which would cost at 1972 price levels $240,000 to plan and $3,160,000 to build, for a total of $3,400,000.

Mrs. HANSEN. Are there any funds in the fiscal year 1972 budget to build a new hospital on the Choctaw Reservation?

Mr. CHADWICK. No, ma'am.

Dr. JOHNSON. May I point out that the Choctaw Tribe desires to have the facility out at Pearl River, which is out on the reservation, so when we talk about plans for Philadelphia, Miss., we are really talking about plans for a Mississippi Choctaw facility out at Pearl River. I am sure you saw that, where the new school, housing, and tribal headquarters are.

Mrs. HANSEN. The Choctaw Tribe is making progress with their housing and schools, but it did seem to me that their hospital was less than adequate.

You would need $240,000 for planning the construction of the Choctaw hospital?

Mr. CHADWICK. Yes, ma'am.

LAWTON HOSPITAL

Mrs. HANSEN. Congressman Steed of Oklahoma, who is a member of the Appropriations Committee has written me about the Lawton Hospital in Oklahoma. He has asked this:

> We have a new 80-bed hospital but it is usually half filled. Why? Because we are told that the hospital does not have enough staff to provide proper care to our people.

Dr. JOHNSON. Madam Chairman, this is one of the hospitals that when the new hospital was built, no additional staff was provided for it, and it is a larger hospital than the original one. Then, of course, we got involved in some personnel restrictions, and so forth, and so there was further erosion.

PERSONNEL RESTRICTIONS

Mrs. HANSEN. Does the Indian Health Service still have a limitation on the number of personnel that can be employed?

Dr. JOHNSON. No, ma'am; our only restriction now is basically one of funding. The major thing that is not being used there now, of course, is the pediatric ward. There is a 20-bed pediatric ward that is not being used.

Mrs. HANSEN. That is mentioned in Mr. Steed's letter.

Dr. JOHNSON. We are hoping that some of the resources in the maternal and child health sections of our requests before you might be used to at least expand somewhat the utilization of that pediatric facility.

Mrs. HANSEN. Are there funds in this budget to provide additional staffing of the Lawton Hospital?

Dr. JOHNSON. Only in part.

NEED FOR ADEQUATE FUNDING

Mrs. HANSEN. Let me hand you this letter, because there is a long list of grievances, and have you comment on them at this afternoon's session.

If you had a proper budgetary situation, I am asking this in the context of today's unemployment, and as we deescalate from the war, and if you were to begin a program to eliminate your backlog of repair and maintenance on those facilities that you consider worth saving, what would you say was the proper funding level per year and for how many years?

Mr. CHADWICK. Madam Chairman, we have done some studies on this backlog, and determined our capacity to use money within our existing staff and resources.

FUNDS REQUIRED TO ELIMINATE MAINTENANCE AND REPAIR BACKLOG

Mrs. HANSEN. But supposing you were not limited by existing resources or existing staff, what amount of funding would you need per year to eliminate this maintenance and repair backlog?

Mr. CHADWICK. If we were talking about the maintenance and repair backlog of the $16,690,000——

Mrs. HANSEN. I know you can't eliminate the backlog in 1 year.

Mr. CHADWICK. We could eliminate the backlog within the framework of your question in 3 years.

Mrs. HANSEN. If you had adequate funding?

Mr. CHADWICK. Yes, ma'am.

Mrs. HANSEN. How many hospitals would this bring up to an acceptable standard?

Mr. CHADWICK. We have 22 hopsitals that we have identified that need replacing. We would still need to replace 22 hospitals.

Mrs. HANSEN. I understand, but how many hospitals would this additional funding bring up to an adequate standard?

Mr. CHADWICK. We have 51 hospitals, and then this would make 29 adequate.

Mrs. HANSEN. If the maintenance is not done when it is needed then you are going to have to replace many more additional hospitals.

Mr. CHADWICK. Right.

Mrs. HANSEN. So this is a question of providing funds to save these facilities.

Mr. CHADWICK. You are also faced with a 12-percent cost index increase per year that we are currently experiencing.

Mrs. HANSEN. If the 41-bed hospital on the Choctaw Reservation will cost $3.4 million to construct, then what would 22 hospitals cost to construct?

Mr. CHADWICK. Replacement costs for the 22 hospitals as we now estimate would be $171 million.

Mrs. HANSEN. So if you don't maintain and repair your hospital facilities in the end your cost will be much greater.

Mr. CHADWICK. Approximately $20 million per year on cost index. Then you are going to add to the number.

GOVERNMENT POLICY REGARDING MAINTENANCE

Mrs. HANSEN. The Federal Government, for some reason, whether it be land or a hospital doesn't adequately maintain many of these facilities. This seems to me to be a very wasteful process. If I own a house, I certainly wouldn't let it deteriorate. I can't understand the philosophy of not adequately maintaining the lands and facilities of the Federal Government.

Mr. CHADWICK. The Phoenix Medical Center is a good example of that. We just finished it at a cost of $6,750,000. That doesn't need maintenance now compared with the others, but it still needs maintenance as you go along from here on.

Mrs. HANSEN. But if you don't establish a policy of adequate maintenance and repair in the end the costs are going to be greater. Dr. Johnson, supposing you had a fire in one of your facilities because of inadequate maintenance, and 20 patients were lost. The whole Nation would make sure that in the future your facilities were maintained at an adequate level.

Dr. JOHNSON. That is right.

Mrs. HANSEN. I can't see waiting until you have such catastrophies.

Dr. JOHNSON. No. I think, Madam Chairman, we have taken a very hard look.

Mrs. HANSEN. I know the problems you have.

NEED FOR IMMEDIATE AND CONSTANT MAINTENANCE AND REPAIR PROGRAM

Dr. JOHNSON. How do you handle limited resources? We have gone out and said we have got to at least get these old hospitals so that they are as fire safe as you can make an old hospital. As this committee knows, a year ago we asked you for permission to reprogram $1 million into fire safety, sprinkler system and fire detection projects just because of my real concern over what you are talking about. People can argue, and I have had Indian leaders, for example, say, "Why waste that money on this hospital?" because it obviously has to be replaced, and I have to say that we can't wait until some future day that none of us can even see to do that, because if a disaster happens here tomorrow, some of your people are going to be hurt.

They ask, "Why do you waste the money fixing up this old trap?" such as the Choctaw hospital in Philadelphia. Yet that is all we have to work with.

Mrs. HANSEN. How much longer is the life of a hospital facility if it has been adequately maintained?

Dr. JOHNSON. I am no expert in life service and maintenance.

Mrs. HANSEN. Mr. Chadwick?

Mr. CHADWICK. That is a difficult question to answer. Obviously a roof that needs to be repaired would deteriorate in a hurry. It is expected that a hospital has a 40-year life period when you build it. Without proper maintenance it could be cut reasonably to half that length or 20 years, but you are also not considering the awkwardness of operations and the problems of operation by not maintaining. To answer your question to the best of my knowledge, considering the average maintenance problem, it would reduce the lifespan of a hospital to better than half, if you had zero maintenance, or near zero maintenance.

Dr. JOHNSON. You have got to consider the effectiveness of the utilization during that period. For the years that you are stumbling around in an old, dilapidated hospital, the efficiency of your staff, the effectiveness of the service, this is a cost. It is a cost to the patient, to the staff, to the investment in health resources for people. I don't know of anybody who has ever come up with a figure on that, but certainly, Madam Chairman, as you go through a hospital like Crown Point, you can see obviously what the problem is.

(Discussion off the record.)

Mrs. HANSEN. The committee will adjourn until 1 p.m.

AFTERNOON SESSION

LAWTON HOSPITAL

Mrs. HANSEN. The committee will come to order.

Dr. Johnson, may we have your comments on the letter I received from Congressman Steed relative to the Lawton Hospital in Oklahoma?

Dr. JOHNSON. Unfortunately the basic statements they make there could be made for almost any one of our facilities. I believe we have testified to this committee before that our staffing pattern is signifi-

cantly less than any of the studies that we have done, the Michigan methodology study or the CASH methodology of hospital staffing, comparing the community staffing patterns. Any one that we have, clearly identifies the significant deficiency in staffing.

REQUEST FOR ADDITIONAL HOSPITAL STAFF

Mrs. HANSEN. Using this hospital as an example, how will the additional personnel you request in this budget help improve the deficiencies you have in staffing?

Dr. JOHNSON. The only personnel that I could specifically identify in this budget for Lawton would be four positions that are in the maternal and child health program increase. There are basically no hospital positions as such in this budget, nor are there any specific ambulatory care positions in this budget.

Mrs. HANSEN. If this committee wanted to increase the number of personnel at your hospitals so that these facilities were more answerable to the Indian needs, how many people would have to be added and in what areas?

Dr. JOHNSON. I think, Madam Chairman, there are two basic areas that are really critical. One is in ambulatory care. This is the outpatient clinics. You will remember in the chart we looked at this morning, the tremendous increase in outpatient visits. The employees that we have available for serving outpatients in our program, as I recall, Mr. Chadwick, is about half of an employee per thousand outpatient visits.

Mr. CHADWICK. The ratio of outpatient visits in our health centers is 1.0 employees per thousand. Those that are reached through our hospital system run 0.6 per thousand. This compares to the Veterans' Administration staff of 2.2 employees per thousand.

Dr. JOHNSON. A number of the things talked about, the long waiting times, the people who had to wait to get services on the wards and so forth are clearly the result of the problem that as pointed out there are two or three people who have to take care of the entire floor of the hospital. Support personnel are desperately short, because again when you are under constraints, you have got to try to maintain your nursing staff as best you can. In Lawton we have not been able to do that, obviously because the pediatric ward has not been open. This is not untypical.

Mrs. HANSEN. I understand. This seems to be a pervading problem.

Dr. JOHNSON. If you looked at the ambulatory care as one issue, and then the general hospital inpatient kind of support as the other, I think these would be the two areas where if we had an opportunity we would like to make some progress.

Mrs. HANSEN. Please insert in the record information on the current staffing of your hospitals, the amount of staffing capability you have, the current needs, and the amount of funds that you could properly handle.

(The information follows:)

HOSPITAL STAFFING

The current hospital full time employment is 4,597. Required staffing follows:

HOSPITAL HEALTH INPATIENT STAFFING

Analysis of the 1972 projected workload of 1,500 G.M. & S. ADPL would indicate that to adequately care for this workload and to raise IHS staffing level to that of the voluntary nonprofit short-term general hospitals in the United States, IHS would need an additional 1,025 inpatient personnel.

A reasonable additional increment that could be utilized in 1972 toward overcoming the staffing deficit would be 300 inpatient staff at a cost of $3,348,000.

AMBULATORY CARE

The significant increase in ambulatory services together with understaffing of IHS outpatient facilities has created a critical need for additional personnel. Analysis of workload projections and estimated man-years of employment for fiscal year 1972 results in an employee outpatient ratio of 1.19 for field clinics and 0.6 ratio for hospital outpatient clinics, as compared to Veterans' Administration system which shows an outpatient ratio of 2.1.

The addition of 350 positions at a cost of $3,906,000 for ambulatory care (150 in field clinics and 200 in hospital clinics) would improve the ratio for ambulatory care to 1.38 field health clinics and 0.75 for hospital outpatient clinics and would materially increase the quality of care.

INCREASE FOR LABORATORY QUALITY IMPROVEMENT

Mrs. HANSEN. Justify your requested increase of $250,000 and seven positions for laboratory quality improvement.

Dr. JOHNSON. Madam Chairman, of course the clinical laboratory is a very important part of the quality of medical care. The laboratory, of course, has shared the same sort of problem that the hospitals in general have, but we took a position, when the Congress passed the Clinical Laboratory Improvement Act of 1967, in which the Congress set certain national standards, standards of equipment, procedures, the direction of the laboratory, proficiency testing, and a series of things that are spelled out in the law, that Indian Hospitals should meet the national standard.

We went to the National Center for Disease Control in Atlanta, which is another sister agency of ours in HSMHA and asked them if they would review our hospital and clinics laboratory program against the national standard, because this national center has been designated as the agency in the Government to handle the licensing and overall testing of laboratories. They did this for us, and they identified, of course, the deficiencies, and they gave us a plan, a program that we should follow to bring our laboratories up to the national standard.

Mrs. HANSEN. How adequate is this increase of $250,000 for laboratory quality improvement?

Dr. JOHNSON. The $250,000 we are asking for here is about a fifth of what the basic need is going to be to bring these up to that standard. It is the first step.

Mrs. HANSEN. Do you have a planned schedule to bring this up to standard?

Dr. JOHNSON. Yes, we do.

INCREASE FOR CONTRACT MEDICAL CARE

Mrs. HANSEN. You are requesting an increase of $863,000 for contract medical care. What was the total amount you spent last year in contract medical care?

Mr. CHADWICK. Our obligations for this program last year, Madam Chairman, were $19,907,562.

Mrs. HANSEN. Does that include the supplemental?

Mr. CHADWICK. Yes, ma'am.

Mrs. HANSEN. How much have you programmed for this activity in fiscal year 1972?

Mr. CHADWICK. The budget before you this time is in the amount of $25,662,000. The amount for the current year, if we added a supplemental that we recently submitted, that is not reflected in the budget would be $23,105,000. We have $22,105,000.

Mrs. HANSEN. That is more than an $863,000 increase?

Mr. CHADWICK. We have $863,000 program increase above the mandatory increase level of cost index, and we have a slight adjustment of $113,000 reduction for a success story for 10 less tuberculosis patients.

Mrs. HANSEN. What is the need for this program increase?

Dr. JOHNSON. It is an attempt, Madam Chairman, to meet some of the most crucial backlog needs.

Mrs. HANSEN. Such as?

Dr. JOHNSON. In the letter from the Lawton Health Board, they talked about patients having to wait and not be able to get surgical procedures because there isn't any money. This $863,000 would help us take care of a few. They talked about the absence of eyeglasses for kids. This is another thing that this might again begin to help with a little bit.

OTHER CMC NEEDS

Mrs. HANSEN. This program increase of $863,000 isn't going to come near to meeting all of your needs in this area. Isn't this correct?

Dr. JOHNSON. If you look at specific things, for example, gall bladder disease, and I am sure we have talked about that before, a very wide-spread disease among Indian people, we have right now diagnosed this year 1,496 cases of chronic or acute cholecystitis. Of that number we have been able to provide surgery through the 6th of April to 286 out of these 1,496, which leaves us on our deferred list at this point with over 1,200 cases. We are talking about $1.3 million if we are going to have to go out and buy that, so the $863,000 is against that kind of backlog.

On eyeglasses we project our need to be about $500,000, so $863,000 would address itself to piece of that. These are examples. It is very difficult to be the doctor, of course, at Lawton who has to tell the patient, "We will have to defer your surgery." They and the patient are the ones who bear the brunt of this.

Mrs. HANSEN. Your hospital staffs are overworked and the nursing load is heavy. Many of the doctors themselves make the statement that at the end of a long day they don't feel they themselves have made the right kinds of judgments.

I saw doctors in the United States during World War II handling the same kind of heavy caseloads, and I saw the problems that resulted not only to the people but also to the physicians themselves. I don't think the purpose of our Government is to drive people to the state of mental turmoil, that must be theirs. There is no other profession in the world that could feel as badly about the results of under-treatment or under-diagnosis as this particular profession.

(Discussion off the record.)

INABILITY TO PROVIDE ADEQUATE SERVICES

Mrs. HANSEN. I think it is a tragic situation that in this country we are encouraging people to go to clinics to improve their health and yet we are not providing adequate services. This isn't the way to build the kind of service that you want to build, and to meet the situations that we are confronted with.

Dr. JOHNSON. That is very well put.

Mrs. HANSEN. You have spent the better part of a century trying to get the Indian people to participate in health services, and then by not providing adequate services you are destroying their confidence and hope in what you are trying to develop. This is the sad part of it.

TRANSFER TO THE OFFICE OF THE ADMINISTRATOR

Please explain the transfer of $69,000 in 1971 to "Office of the Administrator" for global community health career development program.

Dr. JOHNSON. Madam Chairman, this is a program that has been established by the Health Services and Mental Health Administration to train young health professionals in community health program management. I think "global" perhaps is sort of an expansive term.

It was not a program designed by our agency, although we have participated in this. We have several people from the Indian health program who are now participating in the program, and we will expect to get back these trained people into our program when they complete this particular training program.

FIELD HEALTH SERVICES—SANITATION FACILITIES PROGRAM—PUPLIC LAW 86–121

Mrs. HANSEN. Please give the committee a detailed description of the sanitation work you plan to do under authority of Public Law 86–121. You state in your justification that in surveys made during 1957 to 1964 that:

> One-half of the Indian families lived in one- and two-room houses; more than 70 percent hauled or carried water from potentially contaminated sources; more than 75 percent had grossly inadequate facilities for sanitary waste disposal.

Has this situation improved since 1964?

Dr. JOHNSON. Madam Chairman, in the next paragraph down, I think, we have results of a more recent survey that can be compared to the previous one. Originally we had half the families in those very small homes. It is now down to one-third.

Mrs. HANSEN. That is great.

Dr. JOHNSON. Instead of 70 percent hauling water, we are now down to 35 percent. Instead of 75 percent with the waste problem, we are down to 50 percent.

Mrs. HANSEN. Actually you have accomplished more in 3 years than you had accomplished in many previous years. Isn't this correct?

Dr. JOHNSON. I think this is true. The program started out on a very small basis in 1959, and it has been, I think, expanding very, very well. The last 2 years, of course, we have had this tremendous housing improvement program by Housing and Urban Development.

NUMBER OF AREAS HAVING ADEQUATE FACILITIES

Mrs. HANSEN. Please insert in the record for selected Indian areas the number of houses that have adequate water supply, sewage, heat, and refuse disposal.

(Information follows:)

INDIAN HOMES BY AREA
SHOWING SELECTED ENVIRONMENTAL CONDITIONS

The following Table provides information on the number of Indian homes by Area location, showing selected environmental conditions. The information is based upon Home and Premises Environmental Health Surveys performed at 36,061 Indian homes through January 1, 1971, and is projected to apply to the estimated total of 79,700 Indian homes. Numbers in the Table columns may not necessarily total 79,700 due to rounding of figures.

AREA	WATER SUPPLY			SEWAGE DISPOSAL		REFUSE (Stor., Coll., & Disposal)		HEAT (Adeq. to Maintain 70° F)		
	Good	Fair *1	Poor *2	Satis.	Unsatis.	Satis.	Unsatis.	Good	Fair *1	Poor *2
ABERDEEN	6290	3020	2570	7000	4900	2580	9320	5930	3110	2860
ALBUQUERQUE	3350	910	680	2520	2430	200	4750	1590	2410	950
ANCHORAGE	1280	3490	4160	1910	7020	480	8450	2370	4960	1600
BILLINGS	3120	770	1170	3280	1780	600	4460	3340	980	740
OKLAHOMA CITY	4930	5340	6270	6660	9870	1240	15290	3730	2980	9830
PHOENIX	5920	2830	1700	5630	4820	870	9580	3120	1310	6030
PORTLAND	2550	960	1220	3730	1000	940	3790	2610	1240	880
NAVAJO	5930	2400	8830	4680	12470	1580	15570	2410	7500	7240
TOTAL ALL AREAS	33370	19720	26600	35410	44290	8490	71210	25100	24490	30130

*1= Facility in need of minor repair

*2= Facility in need of major repair or replacement

Mrs. HANSEN. If you have sanitation facilities that are deficient, for example, in Taholah, these deficiencies will not only affect the Indian people but will also affect the conditions in the surrounding areas. The Indian people are not living on islands. Their problems are part of the total American problems. Today we hear various speeches on how to eliminate pollution. The very first step is to clean up the sewage, and supply clean water. It is just as basic as that. How many water systems on the Indian reservations and in the villages of Alaska are adequate?

Mr. GREEN. We have a good bit of detail of the type that you have been requesting, Madam Chairman, and we would be glad to furnish it for the record. The bottom paragraph on page 20 refers to the latest statistical analysis resulting from the latest survey, and I think the answer to the questions would be there.

SANITATION FACILITIES PROGRAM IN CALIFORNIA

Mrs. HANSEN. When the BIA testified before the committee the problem of the California Indians was discussed. Many of the California Indians on small rancherias are using the same water to wash, drink, and to dispose of their sewage. Since these Indian children are attending the public schools of California the level of public health in the State of California is also being affected. What is in your fiscal year 1972 budget to assist in alleviating the California Indian situation?

Dr. JOHNSON. It would only be that part of the budget that is related to housing, whatever number of houses they may build in California.

Mrs. HANSEN. How many Indian houses are going to be constructed in California this year?

Mr. GREEN. The details of the plans are not in our hands yet for the housing agencies, but it won't be very many.

Mrs. HANSEN. What is your estimate?

Mr. GREEN. I don't think more than 200 or 300 that we know about now.

Mrs. HANSEN. What is the total need?

Mr. GREEN. For housing? I am not informed of the housing need. I do have good information on the sanitation needs in California.

Mrs. HANSEN. How many Indian houses lack adequate sanitary facilities and how many of those Indian houses are in California?

Mr. GREEN. Again I can't answer.

Mrs. HANSEN. Please insert the information in the record.

Mr. GREEN. Yes, indeed. BIA has data on this.

Mrs. HANSEN. The BIA had some difficulty supplying statistics the other day at their fiscal year 1972 budget hearing.

(The information follows:)

SANITATION FACILITY REQUIREMENTS FOR CALIFORNIA

At the beginning of fiscal year 1971 the need for new and improved housing for Indians in California was estimate at 1,341 units. These satistics indicate that approximately 426 of this number can be brought to a standard condition by being furnished with water supplies and sanitary facilities and through repair and renovation. Nine hundred and fifteen new units are needed to rep'ace existing homes which are in such a poor structural condition that they cannot be repaired, and to house families which are presently living with relatives or in temporary shelters.

During fiscal year 1971 the housing agencies (HUD and BIA) plan to construct 82 new units and to renovate 20 units in California. When this work is completed, the unmet need for new and improved housing for Indians in California will be reduced to 833 new units and 406 renovations.*

During fiscal year 1972, HUD and BIA are planning to construct 184 new units and to renovate 62 existing houses in California for a total of 246 units. Of this number it is presently anticipated that water supply and waste disposal facilities will be required for approximately 189 units. Upon completion of this construction the unmet need will be reduced to 649 new units and 344 renovations.*

NUMBER OF INDIAN HOUSES REQUIRING REPLACEMENT

Dr. JOHNSON. We can talk, Madam Chairman, about the numbers of houses in total. For example, we have been able to identify that there are about 34,600 Indian homes that simply require replacement.

Mrs. HANSEN. Are these homes that need complete replacement?

Dr. JOHNSON. They can't be renovated. There is another 13,900 homes that need major renovation to be habitable. You add that to another 11,900 of unmet housing needs, families that are doubled up, and we are talking about over 60,000 houses.

Mrs. HANSEN. How many houses will be built or repaired to standard in fiscal year 1972?

Dr. JOHNSON. 8,000 out of the 60,000.

Mrs. HANSEN. So you are still going to have a deficiency of about 52,000 homes. Could the 13,900 homes that need major renovation be assisted under the BIA's self-help program?

Dr. JOHNSON. I believe so.

1972 PROGRAM FOR PUBLIC LAW 86–121

Mrs. HANSEN. Please give the committee a description of the sanitation work that you plan to do under authority of Public Law 86–121.

Dr. JOHNSON. Our program this year, of course, is limited to really three different things. I will ask Mr. Green for the details, but in our basic program for this year of sanitation construction, it is almost exclusively related to providing sanitation facilities for new homes built either by HUD or by the Bureau of Indian Affairs or some other tribal housing program. There are two small items in addition to the new construction, the $300,000 for Kotzebue, which is a piece of the several phased Kotzebue community system.

Mrs. HANSEN. How near is that facility to being completed?

Dr. JOHNSON. This will be the last major piece in that puzzle except for whatever new homes may be built later. The Bureau of Indian Affairs has, I think, $399,000 in their budget which is an essential part of this puzzle. Then there is about $445,000 in this budget for what we call emergencies, special projects, engineering studies, this type of thing that you can't project. Other than that our entire sanitation facilities construction budget is directed toward serving new homes to be constructed and homes to be improved under Federal programs this year.

Mrs. HANSEN. So the older homes are not going to be repaired? Is that correct?

*Note.—These estimates do not allow for increased housing needs which may occur during the intervening period due to normal population growth, in-migration, deterioration of existing housing, etc.

Dr. JOHNSON. With the exception of an occasional home that may be in a project area, and if we can bootleg some help to them, we will.

Mrs. HANSEN. When the BIA repairs homes in a particular area, do they work with the Indian Health Service to correct the sanitation facilities at the same time? Do you have funds to assist the BIA in their self-help program?

Mr. GREEN. Yes, Madam Chairman.

Mrs. HANSEN. So if this committee added funds to the BIA self-help program a coinciding increase would be needed in your sanitary program?

Dr. JOHNSON. Yes; in order to make the two fit.

DENTAL PROGRAM INCREASE FOR 1972

Mrs. HANSEN. You are requesting an increase of 31 positions and $400,000 for dental services. Where will these positions be located?

Dr. JOHNSON. The new dental positions, Madam Chairman, four of them will be in the Aberdeen area. Two at Fort Thompson, S. Dak., and two at Wanblee, S. Dak. I have a whole list if you want each of these.

Mrs. HANSEN. Please insert the list in the record.

(The information follows:)

1972 NEW DENTAL POSITIONS

Area and location	Number	Title	Grade
Aberdeen:			
Fort Thompson, S. Dak.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Pine Ridge, S. Dak.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Albuquerque:			
Zuni, N. Mex.	1	Dental officer	Full-04
Do	1	Dental asisstant	GS-4
Towaoc/Ignacio, Colo.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Acomita, N. Mex.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Billings: Browning, Mont.	1	do	GS-4
Navajo:			
Gallup, N. Mex.	1	Dental officer	SA-03
Do	1	do	SA-03
Do	1	Pedodontic specialist	Sr.-05
Do	2	Dental assistant	GS-4
Do	1	do	GS-3
Shiprock, N. Mex.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-4
Do	1	do	GS-3
Fort Defiance, Ariz.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Oklahoma:			
Tishomingo, Okla.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
Philadelphia, Miss.	1	Dental officer	Full-04
Do	1	Dental assistant	GS-4
Claremore, Okla.	1	do	GS-3
Phoenix:			
Keams Canyon (Oraibi), Ariz.	1	Dental officer	SA-03
Do	1	Dental assistant	GS-3
HPSC (Sells), Ariz.	1	Dental officer	Full-04
Do	1	Dental assistant	GS-3
Total positions	31		

DENTAL PROGRAM FOR LOWER ELWHA TRIBE

Mrs. HANSEN. What is the status of your dental program for the Lower Elwha Tribe at Port Angeles?

Dr. JOHNSON. I believe that the Lower Elwha Tribe is being served by a mobile dental unit, a dental trailer, and it goes for several weeks to each of a large number of reservation areas.

Mrs. HANSEN. According to the letter I received from you the dental trailer will be in that area for 2 weeks.

Dr. JOHNSON. Western Washington, of course, is one of the most difficult areas to serve in terms of dental, because you have so many small tribes.

Mrs. HANSEN. That is why the Small Tribes of Western Washington have banded themselves together. These are the tribes which are not large and do not have individual treaties. Are you in a position to serve them as a group?

Dr. JOHNSON. Yes.

Mrs. HANSEN. Does your budget provide funds to meet the dental needs of the Small Tribes of Western Washington?

Dr. JOHNSON. The budget has the same constraints for that group of tribes that we have for all other groups of tribes. In other words, we are not meeting the total dental needs of the Indian population in general. We are meeting about 24 percent of the identified needs for dental services of Indian people.

(Discussion off the record.)

Mrs. HANSEN. Have they given you an indication of what their dental care needs are?

Dr. JOHNSON. Yes. They have been working very closely with Dr. Lathrop who is our area dental officer in Portland, in trying to find ways to totally meet their needs. At the moment, as I point out, we have the mobile dental unit that can serve them. I think the next step out there really is to expand the use of the contract medical care program, dental program, because it is an area where with some parts of the Stoww area there are dentists.

Mrs. HANSEN. What is needed to expand the medical care programs of the STOWW?

Dr. JOHNSON. All that is required, of course, is the resource. In other words, if more funds were available, more contract dental care, then obviously more services could be provided to them. Then you could use the dental trailer in those parts of Western Washington area where there are no private dentists.

Mrs. HANSEN. Please insert in the record the medical and dental needs of the STOWW.

(The information follows:)

MEDICAL AND DENTAL NEEDS OF THE SMALL TRIBES OF WESTERN WASHINGTON

The small tribes of Western Washington (STOWW) consists of 16 tribes with a total population of 6,100. Of this total 3,500 are off-reservation Indians.

MEDICAL NEEDS

The IHS currently provides medical and dental services to 2,972 STOWW Indians at a per capita expenditure of $31.78. To bring this per capita expenditure up to the average per capita expenditure of $210 for all Indians in the Portland area would require an additional $539,670.

To provide this same level of medical and dental services to the off-reservation Indians not now receiving services would cost an additional $656,880.

DENTAL NEEDS

Currently, there are nine reservation groups within the scope of the dental program. In order to provide complete dental services to these groups, the following additional services are required:

1. Western Washington service unit:	
Direct services, travel	$16,000
CMC	52,000
Replacement mobile dental unit (to replace 10-year-old operatory unit)	30,000
2. Neah Bay service unit (lower Elwha):	
Direct services, travel	4,000
CMC	3,000
Total	105,000

To include the seven off-reservation groups within the dental program would require the addition of the following resources:

3 positions	$30,000
Mobile and dental clinic	30,000
Travel	20,000
Total	80,000

INCREASE IN 1972 FOR PUBLIC HEALTH NURSING

Mrs. HANSEN. You are requesting $3,408,000 for public health nursing. You are requesting no program increase for this activity in fiscal year 1972. How can you manage this program with the same amount of funding?

Dr. JOHNSON. Madam Chairman, it is a matter, I guess, of setting priorities for the program this year. Public health nursing, of course, is a very important and significant one. We have the same kinds of deficiencies in that program, but this just wasn't enough——

Mrs. HANSEN. What are your deficiencies in your public health nursing program?

Dr. JOHNSON. Public health nurses, of course, are primarily in the lower 48, because in Alaska——

Mrs. HANSEN. Are they widely scattered throughout the country?

Dr. JOHNSON. Yes.

Mrs. HANSEN. How many public health nurses do you have?

Dr. JOHNSON. Our total number of public health nurses is 143. The additional positions shown here of 275, the difference between 143 and 275 are practical nurses who work with them and chauffeur-interpreters, for example, that we have to have on Navajo and a few clerical positions. That is basically the public health nurse activity.

Mrs. HANSEN. Does this include the community health workers that this committee provided additional funding for last year?

Mr. CHADWICK. Are you talking about the community health representative? They are not included.

Mrs. HANSEN. This is a separate category?

Dr. JOHNSON. That is correct. I think the answer to your question as to how we have been able to survive in public health nursing without increases in this has really been because of the community health representative, because they are out doing much of the fieldwork that in the past the public health nurse had to do. They have been able to be of tremendous assistance to the public health nurse.

Mrs. HANSEN. You are providing service to approximately 34,000 families which is essentially the same number as in fiscal years 1970 and 1971. Do you feel that your community health representatives help to fill the gap in providing service?

Dr. JOHNSON. They help.

Mrs. HANSEN. But they aren't sufficient? Is this correct?

NEED FOR PREVENTIVE HEALTH PROGRAMS

Dr. JOHNSON. There is no real substitute for a well-trained public health nurse. I think we have found that many things that public health nurses have been doing in the past can be done by practical nurses whom we train in our training school up at Ship Rock, and that the community health representative can do certain other things so that the public health nurse has more of her time that she can focus on those highly skilled things that she needs to do. Obviously if you are only serving approximately half your number of families, you are not giving the total kind of comprehensive coverage you would like.

Mrs. HANSEN. If you had more public health nurses, for example, on the Navajo would it be possible to reduce the incidence of disease?

Dr. JOHNSON. I think all of our experience indicates that this kind of a focused approach has done it. I don't have any question that that would have a significant impact on improving the health status particularly of the mothers and the children that we have as our primary focus.

Mrs. HANSEN. What your chart so graphically shows, is that the first year of a child's life is a critical period.

Dr. JOHNSON. That is correct.

Mrs. HANSEN. If you have done a good job of training the mother when she has her first child you may have saved the lives of the children who will come afterward.

Dr. JOHNSON. I think that is true, Madam Chairman. Even perhaps as significant is the fact that the potential for this child for his whole life is really going to be developed within those first 5 years, and particularly within the first couple of years. Eighty percent of the brain is going to occur within the first 3 years of life. If he is sick, has malnutrition, if he is otherwise having problems, you may lose any hope for this child really to become a fully productive member of society.

Mrs. HANSEN. I used to be involved in public nutrition work. We found that if we caught a family in time, to teach them good nutrition practices a pattern was established that wasn't easily broken. But if you allowed them to escape during those learning years, poor nutritional patterns were formed. It becomes much more difficult to teach good nutritional practices beyond that learning age. This is why I am so concerned that you teach these practices before poor patterns are established.

Dr. JOHNSON. From my personal experience I had in my practice a number of Indian mothers and children, and I can recall the cases where the first child was practically raised by us in the hospital. You would work with the mother, and finally she would get into the habit patterns you talk about. The second child comes along and you don't have nearly that problem. Now some of these little kids, who were little then, are grown up, and they have children of their own. I go back and visit my first station, which was back in northern Minnesota, with these mothers who were little kids when I was there, and seeing their kids, it is just different. This is what gives you the hope and enthusiasm for the program, because you don't see the same kinds of problems with the little kids on that particular reservation that I saw when I went there 16 years ago.

Mrs. HANSEN. This is why I think it is so vital that you do as much as you can as quickly as you can, because this will save not only money but peoples lives.

Dr. JOHNSON. It is an investment, I believe.

Mrs. HANSEN. It is a good investment.

INCREASE IN 1972 FOR HEALTH EDUCATION

You are requesting $1,490,000 for health education. Again you are requesting no increases in this program activity. With this level of funding how much will be accomplished and how much of the need will this meet?

Dr. JOHNSON. Again, Madam Chairman, this is covering about half of the need that we would identify for health education. Again it has

been a matter of priority and as you say, making do. Here again the community health representative has helped, I think, to ease the strain on the health education people, but we are serving approximately half of the service units with this program.

Mrs. HANSEN. Aren't your problems also increased by the scattered living of the Indian people?

Dr. JOHNSON. Yes. You have been to Navajo, Madam Chairman?

Mrs. HANSEN. I have been to the Navajo Reservation and Alaska.

Dr. JOHNSON. If you are going to make a home visit, it is a pretty significant day's work to make home visits. With the Pueblos, of course, you can walk from home to home, but in the Dakotas on the Pine Ridge Reservation, you are talking about 50 or 100 miles to make a visit. It is not like in the big city.

Mrs. HANSEN. You have to spend the better part of a day reaching just a few people on the Navajo reservation, and you have to spend the better part of 2 days reaching the same number of people in Alaska.

Dr. JOHNSON. Plus the tremendous cost for the transportation in Alaska, because it almost all has to be by bush plane.

INCREASE IN 1972 FOR MENTAL HEALTH

Mrs. HANSEN. You are requesting a program increase of $1,250,000 and 76 positions for the mental health program. Does this program include any counselors for the Indian school dormitories?

Dr. JOHNSON. Our role in the school dormitory programs, Madam Chairman, is basically one of consultation to the teachers, to the guidance staff and to the councilors.

Mrs. HANSEN. Will this provide you sufficient staff to meet the mental health program needs?

Dr. JOHNSON. It permits us to have contact with all of the schools, and I think with the budget identified in 1972 that we have before you here, I am reasonably happy with the progress that we have made in the mental health program in just the last couple of years, I think we have gotten some excellent people in this program. We have focused on doing it in a somewhat different way than most mental health programs are done. That is that the programs really start in the Indian community. We don't have any national program for mental health. We have good people who go out and work within the Indian community, and really design a program which is highly individualized, tailored as it were to the cultural needs of these communities.

As you know, different Indian communities look at things in a different way, so we are able to and I think have created an awareness and an acceptance of the mental health program in the Indian community to a far greater degree than I had originally thought we were going to be able to. It is not a threatening program to the Indian community. It is one that they have accepted with great enthusiasm.

LOCATION OF NEW POSITIONS REQUESTED IN 1972

Mrs. HANSEN. Please insert in the record where the 76 mental health positions will be located.

(The information follows:)

1972 NEW MENTAL HEALTH POSITIONS—FIELD MEDICAL SERVICES

Area and title	Grade	Number
Aberdeen:		
Psychiatrist	CO	2
Medical social worker	GS–12	4
Mental health workers	GS–6	8
Albuquerque:		
Mental health workers	GS–6	5
Clerk	GS–5	1
Anchorage:		
Psychiatrist	CO	1
Medical social worker	GS–12	1
Mental health workers	GS–6	5
Billings:		
Psychiatrist	CO	1
Psychologist	GS–14	1
Medical social worker	GS–12	1
Mental health workers	GS–6	6
Navajo:		
Psychiatrist	CO	1
Psychologist	GS–13	1
Therapy aides	GS–4	8
Mental health workers	GS–6	2
Oklahoma:		
Medical Social Worker	GS–12	1
Mental health workers	GS–6	10
Phoenix:		
Psychologist	GS–14	1
Mental Health workers	GS–6	4
Clerk	GS–5	1
Portland:		
Psychiatrist	CO	1
Psychologist	GS–14	1
Medical social workers	GS–12	2
Mental health workers	GS–6	3
Clerks	GS–5	3
Tucson: Psychiatrist	CO	1
Total positions		76

MATERNAL AND CHILD HEALTH

Mrs. HANSEN. You are requesting an increase of $750,000 and 40 positions for maternal and child health. Again please insert in the record where these positions will be located.

(The information follows:)

1972 MATERNAL AND CHILD HEALTH NEW POSITIONS—FIELD MEDICAL SERVICES

Area, location, and title	Grade	No.
ABERDEEN		
Pine Ridge, S. Dak., nurse midwives	GS–11	2
Pine Ridge, S. Dak., clerk	GS–4	1
Pierre, S. Dak., clerk	GS–4	1
Redlake, Minn., clinic nurse	GS–7	1
Rapid City, S. Dak., clerk	GS–4	1
ALBUQUERQUE		
Area office, physician	SA–03	1
Area office, social worker	GS–12	1
ANCHORAGE		
Area office, obstetrician	SA–03	1
Area office, clerk	GS–4	1
BILLINGS		
Area office, clerk	GS–4	1
NAVAJO		
Kayenta, Ariz., pediatric nurse	GS–7	1
Crownpoint, N. Mex., clinic nurse	GS–7	1
Shiprock, N. Mex., general medical officer	SA–03	1
Tuba City, Ariz., family counselors	GS–4	2
Winslow, Ariz., clinic nurse	GS–7	1
Chinle, Ariz., clerk	GS–4	1
Ft. Defiance, Ariz., general medical officer	SA–03	1
Gallup, N. Mex., family counselors	GS–4	2
Kayenta, Ariz., PH nurse	GS–7	1
OKLAHOMA		
Lawton, Okla., clinic nurse	GS–7	4
PHOENIX		
Keams Canyon, Ariz., general medical officer	SA–03	1
Phoenix, Ariz., pediatrician	SA–03	1
Phoenix, Ariz., general medical officer	SA–03	1
San Carlos, Ariz., clinic nurse	GS–7	1
Phoenix, Ariz., general medical officer	SA–03	1
Phoenix, Ariz., clerk	GS–4	1
Keams Canyon, Ariz., social worker associate	GS–6	1
San Carlos, Ariz., social worker associate	GS–6	1
PORTLAND		
Yakima, Wash., pediatrician	SA–03	1
Yakima, Wash., PH nurse	GS–7	1
Yakima, Wash., clerk	GS–4	1
USET		
Cherokee, N.C., nutritionist	GS–11	1
Florida service unit, PH nurse	GS–7	1
HPSC		
Tucson, Ariz., pediatrician	SA–03	1
Total positions		40

FAMILY PLANNING PROGRAM

Mrs. HANSEN. How adequate is your maternal and child health program?

Dr. JOHNSON. Madam Chairman, again as you look at the strategy of developing the health program, we just felt that we needed to really focus in on maternal and child health. Talking about the program in its larger global sense, if you are not careful you lose the mothers and children in a sense, because the acute needs of sick people are always coming at you. When you have a hospital, as you pointed out, in Lawton, that is terribly busy, you spend all your time fighting fires and provide crisis medicine which in our opinion is not the best kind of medicine. So, we have simply got to put our fist on the table and say we are going to have to pull out some place within the program a focus for material and child health, which is basically a preventive program.

Mrs. HANSEN. Do you to any extent, demonstrate good maternal and child health practices to groups of mothers?

Dr. JOHNSON. We are doing it not only in terms of groups, but I think significantly here is the idea of seeing if we can't involve the community as an instrument for carrying out a part of this program.

Mrs. HANSEN. I think many communities are involved, from the number of letters I have received on this program.

Dr. JOHNSON. But to be involved in actually doing the things for their own people, that is the key to this one. It is sort of a multiplier effect. If you can get that community committed and working, and community people actually working in the program, it is just like a ripple on a river. It covers the whole reservation. That is why we wanted to focus on maternal and child health. Obviously this does not cover the whole problem. It is simply another attempt to begin to focus in and see if we can't with this attempt demonstrate clearly how things can be done better, and then hopefully from that point on we can expand this to other reservations.

Mrs. HANSEN. You need to expand this program to the reservations that have the greatest needs.

Dr. JOHNSON. That is correct.

Mr. HANSEN. Mr. McDade, do you have any questions?

Mr. MCDADE. No.

Mrs. HANSEN. Mr. Wyatt?

Mr. WYATT. No questions.

Mrs. HANSEN. Mr. Obey?

Mr. OBEY. No questions.

COMMUNICATION FROM THE GREAT LAKES INTER-TRIBAL COUNCIL

Mrs. HANSEN. I have received a letter from the Great Lakes Inter-Tribal Council, Inc. They want assistance to see that they receive sufficient health benefits from the Indian Health Service. The Great Lakes Inter-Tribal Council is made up of 10 reservations in the State of Wisconsin. They say, "the Indian Health Service is at present very limited in their present budgets to adequately care for the needs of the Wisconsin Indians and all Indians located on any Indian reservation in the United States." We discussed this problem earlier today. The letter goes

on to say, "The CHR people are doing an excellent job on the reservations, however, they are very under paid. The average cost of a CHR is $7,200. Of this, the mileage which is used up almost immediately is included." The letter continues, "To date, a total of 371 homes have been served by the Indian Health Service. By the end of the current fiscal year a total of 840 families will have received improved water supply and waste disposal facilities. * * * It should, however, be pointed out that many of these families were initially served with minimal facilities. * * *" Attached to this letter is a list of sanitary facilities construction in Wisconsin.

This list, however didn't include the number remaining to be served. I think Mr. Obey would be interested in these figures.

Dr. JOHNSON. Mr. Green just happens to have the last column for you. Would you like him to read it?

Mrs. HANSEN. Yes.

Mr GREEN. I can read the numbers vertically from the top 21, 50, 80, zero for Red Cliff, 110, 61, 85, and the last three are all zero.

Mrs. HANSEN. Then actually you do not have too many left to be served.

Mr. GREEN. No, but this is expensive country to work in. It is a very difficult area.

Mrs. HANSEN. What is the cost in that area per sanitary unit?

Mr. GREEN. Some of our costs in that area have gone as high, I think, as $6,000 per unit.

Mrs. HANSEN. What would you say would be the average cost per unit?

Mr. GREEN. It probably isn't that high, maybe $4,000. I had better get a better figure for you.

Mrs. HANSEN. Are there any funds in the fiscal year 1972 budget to meet these needs?

Mr. GREEN. We expect to be able to serve these homes in a housing project under our fiscal year 1971 budget.

HISTORY OF HEALTH PROGRAM IN WISCONSIN

Mrs. HANSEN. How adequate is your regular health care services in Wisconsin?

Dr. JOHNSON. Madam Chairman, perhaps to put in perspective of how Wisconsin Indians got to where they are, as you recall, back in 1953 when House Concurrent Resolution 108 was passed, the so-called termination resolution, the agency that was then handling health programs was under a directive and also administration policy to terminate health services as rapidly as possible.

Mrs. HANSEN. Didn't the administration expect the various States to continue the Indian health services?

Dr. JOHNSON. This is correct. Wisconsin, Michigan, California, Florida were some of the States that were specifically looked at and told let's get the Federal Government out of business in these States.

I believe it was in 1954 that the last Indian hospital in Wisconsin, the one up at Hayward, was closed. There have really been very minimal services since that time.

Mrs. HANSEN. Is contract medicine available to the Indians in Wisconsin?

Dr. JOHNSON. There is a limited amount of contract medicine available to them; but here again, Madam Chairman, the program that we started with in 1955, when the program was transferred, was again under the ground rules that you simply continued what the previous agency had been doing, and that you not go out and generate any additional business, and so for many years really we did very little in Michigan or Wisconsin and California, and I could name a couple of others. We have obviously identified very clearly that the States did not in fact pick up these groups of people. I think California is perhaps your best example where the State government actually passed a resolution requesting the Federal Government to leave the State as far as Indians were concerned in 1953, that the State in fact would take care of it.

Mrs. HANSEN. They haven't done a very good job.

Dr. JOHNSON. A year ago that same legislature came back and said, "We didn't do it. Will you come back in," and they memorialized the Congress to come back in. Wisconsin hasn't been quite as obvious in asking us to come back in, but we have identified that there are simply no resources. The State is not meeting this, so we have been, whenever there is a little slack in the program, trying to improve the services in Wisconsin.

Mrs. HANSEN. The question that this committee has to ask is, what can be done as of the present moment to serve their needs when obviously the State isn't doing it? Please insert in the record a summary of what is necessary to provide adequate medical service to the Wisconsin Indian people. I am not blaming the Indian Health Service, because many times the States did say they would assume the operations of the Indian health facilities and then very little was accomplished.

(The information follows:)

PROVISION OF HEALTH SERVICES IN WISCONSIN

To provide health services program for 4,400 Wisconsin Indians on a contractual basis would require an additional $1,256,000. This program would include medical, dental, hospitalization, prescription, eyeglasses and public health nursing services.

Inasmuch as there is a shortage of medical, dental, and other health professional personnel in some areas of Wisconsin, an alternate program might be applicable, i.e., a limited, direct IHS medical and dental care program through a clinical system and a mobile dental unit, along with funds for contractual services to support hospitalization and emergency care and a program of contract health care services in areas where possible. The approach would entail an additional 13 positions plus $464,000 for the direct program and a balance of $800,000 for other contract health services to cover areas with contract health capabilities for a total approximating a totally contractual program.

AVAILABILITY OF CONTRACT HEALTH SERVICES TO NONRESERVATION INDIANS

Mrs. HANSEN. I have received a letter from Mr. and Mrs. Pete Peterson. They say, "Due to an act of Congress, Indians who live off the reservation do not qualify for any contract health services from the Division of Indian Health. We, as Skokomish, feel this is unfair. We live off the reservation because there is no available housing—and all the land is so tied up with heirs, et cetera, that it would be next to impossible to buy any."

They are asking for contract health services. What are you doing for those Indian people in this situation? You are having the same problem with the urban Indians, which is rapidly becoming an exploding issue. The day the BIA testified before this committee it was apparent that they have no feeling against helping the urban Indians. They said instead, correct me if I am wrong, that they felt in most instances their assistance to the urban Indian would be construed by the States as the BIA assuming all the responsibility for the urban Indians and therefore, give the States involved an excuse to not assume their responsibility in this connection. Do you have any solutions to the health problems of the urban Indians?

Dr. JOHNSON. Madam Chairman, that of course is a tremendously complex problem. I always like to go back and say, "How did we get into this business? How did we get into this problem that we are in," and maybe that helps us to see how we can get out of it. The programs originally were clearly identified for reservation Indians as part of the treaties, for example that they would go and live on Pine Ridge, then they would get rations, medical care, education and so forth.

Then as time has passed, even the Government itself has begun to change in its relationship to reservation people, by in fact encouraging them to "join the mainstream" through the relocation program, for example, where large number of people——

Mrs. HANSEN. If an Indian leaves the reservation and goes to a city under the BIA relocation program don't you have some responsibility to provide that Indian health services?

Dr. JOHNSON. If they go specifically under the relocation program, the Bureau has a health insurance plan that covers them for 6 months or something like that.

STATE RESIDENCY REQUIREMENTS

Mrs. HANSEN. I think every person who is on welfare in the State of Washington, be he white or Indian, is treated alike as far as the availability of medical services. But the problem arises when the Indians leave a reservation on their own and clustered in cities such as Minneapolis or St. Paul.

Dr. JOHNSON. That is right.

Mrs. HANSEN. In many cities the Indians are probably not receiving welfare assistance.

Dr. JOHNSON. Minnesota has residency requirements. That is my home State and when I was going to school I lived in the slums of Minneapolis where there are quite a few Indian people living now. There just are not health resources available for poor people.

Mrs. HANSEN. In Minnesota?

Dr. JOHNSON. That is number one. Secondly, an Indian tends to be a transient in a sense, they come from the reservation, they try to get a job, try to get ahead and then illness hits.

Mrs. HANSEN. The Indians also face a certain amount of discrimination because they are Indians. Also there are instances where States are interested in having the Indians return to their reservations.

Dr. JOHNSON. That is right.

PROBLEM OF HEALTH CARE FOR URBAN INDIANS

Mrs. HANSEN. The United States has a moral commitment to the Urban Indian whether we like it or not. What services can you make available to the Urban Indians under the present law and will the proposed health programs meet these needs?

Dr. JOHNSON. Certainly some of the new proposals for universal health insurance obviously would solve much of this problem. I think the family health insurance program that the President has proposed would cover many of these families.

Mrs. HANSEN. Aren't the families required to make a monetary contribution to receive health care under the proposals?

Dr. JOHNSON. It depends. There are so many different bills, and I am no expert on all——

(Discussion off the record.)

HEALTH CARE FOR INDIANS IN CALIFORNIA

Dr. JOHNSON. There were many resources available to Indian people in California, and by funding for them a community health representative program with the California Rural Indian Health Board, we were able to help the Indian groups in the rural areas of California discover and uncover and get made available to them health services that were already there. They have gotten the attention of county health departments, for example. As I pointed out earlier this morning, well baby clinics are now being moved out to the reservation. They are becoming responsive. In other words, these community health representatives have been advocates, the linkage really to bring health resources together with the people who need them. Many urban Indian people simply don't have that kind of a mechanism.

PROBLEM OF PROVIDING HEALTH CARE FOR URBAN INDIANS

Mrs. HANSEN. What can you do about providing health care for the urban Indians?

Dr. JOHNSON. Again this is my own personal belief, Madam Chairman. The administration here may want to have their own comments on it. Recognizing the problem of simply providing health services in a city as, say, the Indian Health Service does, would be an absolutely fantastically costly kind of job at this point in time. In the absence of knowing more precisely a lot of things that go on in the cities, because we have not been an urban oriented program, the President has said that our job is reservation Indians, and the Congress in a sense last year did too when they first put the pilot project in on the Senate side and then took it out in committee, we took it as an indication——

EXTENT OF URBAN INDIAN HEALTH PROBLEM

Mrs. HANSEN. The reason why that pilot project wasn't funded last year was because nobody knew the depth of the problem.

If it is necessary to have Indian health community services in cities, let's say so, and provide the wherewithal.

Dr. JOHNSON. That would be my feeling. If we could develop through some mechanism the kinds of health advocates, the kind of

community health representatives that the reservation people now have, who could be developed by some of the urban Indian centers, who with no money, I think, are really attempting to provide that service but they don't have the resources and they don't have the technical skills or back-stop support, they don't have the training in many instances to be able to do this, that if you could do that, several things would happen.

First of all, clearly you would have a focal point within the community for an Indian person who needed help to go to get the help. You would have knowledgeable people who know what doors in the community can be opened, who know what doors in the community should be open but aren't, and also know how to help to get the doors open.

Mrs. HANSEN. We would then also know the depth of the problem.

Dr. JOHNSON. In the process of doing this you would discover the gaps between what is available and what you need to have. I don't believe that we need any more studies or surveys. We already know how to farm better than we are doing.

Mrs. HANSEN. What would be the cost of this type of program in five cities the size of Minneapolis for 1 year?

Dr. JOHNSON. I would think in a city like Minneapolis we have probably 7,000 to 10,000 Indians. Basically they are in two different sections of the city. I would expect that you could probably do an awfully good job, including development of some resources to fill gaps for $150,000 to $200,000.

Mrs. HANSEN. Is there a similar need in other cities?

Dr. JOHNSON. Oh, yes. Again if you would look at some of the things, Minneapolis is a big city which has many resources. You can look at San Francisco, you can look at Los Angeles, you can look at Oklahoma City, Tulsa, all our large cities, Seattle certainly is another one, Portland to a lesser extent, they all have sizable centers. Then we have some smaller urban centers. I am thinking of places like Great Falls, Mont. That is another example where you have maybe 1,000 to 1,500 Indian people, but yet it is in a community of only 70,000. Here there is a different kind of issue and problem. If you look at Michigan, that is another place where most of the Indians are not reservation Indians. They are in the urban areas. They are in Lansing and in Detroit.

Mrs. HANSEN. I think last year if the proposed urban Indian pilot project had been more definitive in its goals it would have been received with greater enthusiasm. I think you have to attack the problem from a practical viewpoint, otherwise you are going to have nothing but problems.

DEPARTMENTS VIEWS ON HEALTH PROGRAMS FOR URBAN INDIANS

Mr. MILLER. May I make two points, Madam Chairman?

One, as I understand it and perhaps Dr. Johnson can comment further on it, the administration's statement about this problem has been that to the degree that special programs should be targeted at Indians in the city, it probably should be done through the OEO poverty programs.

Mrs. HANSEN. That is right.

Mr. MILLER. Possibly with them building in whatever health component is necessary.

Mrs. HANSEN. But look at the financial situation in OEO. Several of their programs are either being absorbed by other Federal agencies or discontinued.

Mr. MILLER. Yes; I am not sure what the funding situation is, but I assume that some funds are being devoted to carrying out this policy.

ROLE OF OEO IN HEALTH PROGRAMS

Mrs. HANSEN. There is a question in my mind as to the type of legislation you would need to initiate an Indian community health program in the large cities of America. If this program meets with success in a few cities then certainly, I think OEO could expand the program nationwide. I am going to be very frank about OEO. They have had some fabulous success in some of their Indian programs. They have also had some miserable failures in some of their other programs. The result is that the authorization for some OEO programs have met with some difficulties. Had the whole OEO program gone ahead with the same kind of success that the Headstart program had in the Indian areas, I don't think you would have any problems at all.

I think the problem is no one knows where OEO is headed at this point.

Mr. MILLER. But if you were to start someplace in three or four cities, as I suppose you would have a concept of a pilot program, I just wonder where you would go from there, because every city that had a welfare problem that included Indians would want to be in on it.

Mrs. HANSEN. That is exactly the problem. This committee understands the health needs but our problem is that the programs for urban Indian assistance goes beyond the perimeters of this committee's responsibility. Last year the committee felt that since the proposed urban Indian project was not definitive and considering the deficiencies in the BIA and Indian Health Service additional funds should be spent in those agencies rather than dilute those funds to reach out into a field that might be the responsibility of HEW, OEO, or some other welfare orientated agency.

Apparently because the Indian Health Service and BIA programs, have been more successful than related OEO or HEW programs the urban Indian is looking to the BIA and Indian Health Service for assistance.

Mr. MILLER. My view would be that to the degree more money is spent in the field of Indian health, it would be better in some of the areas that you have described.

Mrs. HANSEN. The committee completely agrees, because it didn't seem to us that an urban Indian program properly belonged under this committee's jurisdiction.

Mr. MILLER. The one other point I was going to make, it would seem to me inequitable for us to move into those urban areas which had refused to take care of their Indian population when there were lots of localities where the Indians were treated as equal to any other part of the population.

Mrs. HANSEN. I completely agree. Actually I would guess that such Western States as Oregon and Washington are treating the urban Indian as just Americans. They are not differentiating between a white man or an Indian.

Mr. Wyatt isn't that true in your State?

Mr. WYATT. I think that is right.

Mrs. HANSEN. It is true in the State of Washington. It would seem to me unreasonable, however, if an Indian, for example who lives in Shelton, Wash., which is 10 miles from the Skokomish Reservation couldn't use the health care facilities on a reservation.

Dr. JOHNSON. We have no residency requirements in terms of direct services. In other words, if we have a clinic or a hospital, Indian people who live off the reservation are permitted to use it. The problem that we get into, Madam Chairman, is when we get into contract health services, and here the matter is funding pure and simple. You have got to set priorities. The way the priorities are set, people are living off the reservations and they just don't get reached.

Mrs. HANSEN. That is the problem and it is intensifying. I think I have received more correspondence this year on the urban Indian problem than ever before. Apparently OEO has not reached these people.

PROBLEM OF OEO IS PROVIDING CONTINUITY

One of the problems with some OEO programs is that they are funded for a specific time and then are not continued. There is no continuity.

Mr. MILLER. This is the problem with a grant program in contrast to a direct operating program.

Mrs. HANSEN. The Bureau of Indian Affairs, in spite of the fact that it has been roundly criticized, still remains that agency of government that, over the years, has been assisting the Indian people.

You don't have to wonder whether the BIA scholarship program is going to expire or not. This is your problem with OEO.

ADMINISTRATION

Mrs. HANSEN. What assessments were levied against your agency in fiscal year 1970 and so far in fiscal year 1971 by the Department of HEW?

Dr. JOHNSON. I will have Mr. Chadwick answer that one unless Mr. Miller would like to.

Mr. MILLER. No.

Mr. CHADWICK. There were some taps as we call them.

Mrs. HANSEN. What did this involve?

Mr. CHADWICK. Mostly what we have is an arrangement whereby we buy services from the Department. For example, the central payroll and service and supply in HSMHA where they do computer work.

Mrs. HANSEN. What else is involved?

Mr. CHADWICK. Those are the two items. You see, they amount to approximately $1 million, but that is for services rendered us. This is not really in form of a tap. We mentioned this morning the global community health of $69,000. This was in HSMHA. Maybe I can read it better from the summary statement. We had an amount of $67,000 that was transferred to the Department when the Facility Engineering and Construction Agency was established. They are doing work on a department basis now for us.

Mr. MILLER. That was a functional transfer, not of the total function, but a piece of the function.

Mr. CHADWICK. We are really getting a service for it.

Mrs. HANSEN. Why don't you transfer those funds to the Indian Health Service and let them administer this function?

Mr. CHADWICK. Actually the main items involved——

Mr. MILLER. There is nothing to transfer because wherever the money is, it is for services rendered to the Indian Health Service. They buy it. For example, they do want to get their pay checks, and this is one of the services they buy.

Mr. CHADWICK. In the field of the Facilities Engineering and Construction Agency, this was a transfer of function. We mentioned to you the $69,000 for global training. We have $9,000 for library services in the Parklawn Building with HSMHA and we have $24,000 for a staff member in regional offices, so these are the real items.

CONTRIBUTIONS OF OTHER AGENCIES TO INDIAN HEALTH

Mrs. HANSEN. What is the purpose of having the staff members in regional offices?

Mr. MULDOON. Madam Chairman, during the last year the Health Services and Mental Health Administration has attempted to strengthen its regional offices. It was felt that since HSMHA is providing services to the Indians through its other programs and that we are providing some of these services to the Indians through the regional health directors, that it was reasonable to have the Indians help pay for some of those services to the extent of one individual.

Mrs. HANSEN. What type of assistance are your regional offices providing?

Mr. MULDOON. For example, part of the President's $10 million health program is coming out of other HSMHA programs. The National Institute of Mental Health is providing the Indians $750,000 for alcoholism; from Maternal and Child Health and Family Planning we are providing approximately $1,375,000. The Health Services and Mental Health Administration is also providing some funds for training and research grants which include Indians. For example, the NIMH is conducting a project to study the causes, consequences, prevalence and growth of Navajo alcoholism. HSMHA's Center for Disease Control is assisting the Indians through community demonstration projects to improve nutritional health through education, training and improving food supplies to the extent of $980,000 in 1971. Our regional medical programs also benefit Indians who live in a number of areas served by them.

ASSESSMENTS AGAINST IHS

Mr. CHADWICK. The other two items involved in 1970, you asked for each year, we provided $40,000 for the center for family planning program, and this year we have provided $37,845 for the family assistance program.

Mrs. HANSEN. You have your own family planning program?

Mr. CHADWICK. That would constitute the total of the type of thing you are talking about.

Mrs. HANSEN. Please explain your family planning program.

Mr. MULDOON. Family planning——

Mr. MILLER. No; it is not family planning. We have had to do some internal administrative planning, if we are to meet any possible effective date enacted by the Congress for the family assistance plan. If we are to meet that effective date, we have got to do some advanced planning. We have asked for help from those HEW programs which will benefit from the family assistance plan.

Mrs. HANSEN. What is the total HEW budget?

Mr. MILLER. Totally in Federal funds we had $21 billion in 1972.

Mrs. HANSEN. Please insert in the record a summary of assessments to the Indian Health Service.

(The information follows:)

SUMMARY OF CHARGES TO INDIAN HEALTH SERVICE

	Cost by fiscal year	
	1970	1971
Purchases:		
HEW [1]	$323,000	$518,000
HSMHA [2]	427,000	609,000
Subtotal	750,000	1,127,000
Other resources applied:		
Office of the Administrator [3]	26,405	31,824
Global community health	49,500	69,000
Center for family planning	40,000	
FECA, HEW	10,500	67,000
Family assistance program—HSMHA		37,845
Regional health organization		21,000
Miscellaneous	33,723	16,400
Employee details [4]	86,900	52,100
Subtotal	247,028	295,169
Total	997,028	1,422,169

[1] Includes processing of payroll checks, data processing, printing, personnel data system, mailroom.
[2] Includes automatic data processing of financial reporting, and printing.
[3] Include items such as exhibits, library, equipment.
[4] Nonreimbursable.

NONREIMBURSABLE DETAILS OF PERSONNEL

Mrs. HANSEN. To what extent have you been involved in nonreimbursable details of personnel, either in or out of your agency, during the past calendar year?

Mr. CHADWICK. The dollar value of employe details from our program on a nonreimbursable basis, Madam Chairman, for 1971 is $52,000 as opposed to $87,000 in 1970.

Mrs. HANSEN. Please insert a list of the agencies receiving the services and the amount involved in each instance in the record.

(The information follows:)

NON-REIMBURSABLE DETAILS

Agency receiving services	Cost by fiscal year— 1970	1971
DHEW, Office of Indian Affairs	$27,800	$21,100
DHEW, Deputy Assistant Secretary for Health		2,700
DHEW, Federal Assistance Streamlining Task Force	16,800	
DHEW, Task Force on Health Personnel	4,800	
HSMHA, Personnel Task Force	1,500	
White House	9,100	2,500
HSMHA, Center for Disease Control		25,800
DHEW, Office of the Secretary	6,300	
HSMHA, Emergency Health Service	14,200	
HSMHA, Division of Finance	800	
White House Conference on Food and Nutrition	5,600	
Total	86,900	52,100

Mrs. HANSEN. In what agencies are the nonreimbursable details of personnel working?

Mr. CHADWICK. Some were in the White House, some were in the Department, and some were in other programs and task forces.

Mrs. HANSEN. Such as?

Mr. CHADWICK. There have been a number of task forces, Madam Chairman, the Department had. I could give you a list of those.

(The information follows:)

COST OF IHS EMPLOYEES ON TASK FORCES

Agency receiving services	Cost by fiscal year— 1970	1971
DHEW (Federal Assistance Streamlining Task Force)	$16,800	
DHEW (Task Force on Health Personnel)	4,800	
HSMHA (Personnel Task Force)	1,500	
White House Conference on Food and Nutrition	5,600	
Total	28,700	

STAFF MADE AVAILABLE TO THE WHITE HOUSE

Mrs. HANSEN. The White House budget requests for personnel are considered by the Tresaury, Post Office, Government Operations Appropriation Subcommittee. The understanding last year was that the White House would include all of their personnel costs in their budget.

Mr. CHADWICK. Madam Chairman, you asked about 1970 and 1971. The White House detail I mentioned has been picked up by the White House.

Mr. MILLER. I wanted to make that point also. I believe what you said is absolutely correct. The White House, I understand, is issuing some kind of statement. I thought it was coming out this week, describing exactly what the ground rules are, but the way you describe them is correct. I understand they do have one loophole, or whatever you want to call it, and that is, where a particular office in the White House serves one part of the Government to a great degree, they may still be getting details from that agency. For example, I think Counselor Finch's office is still going to get some details from HEW.

Mrs. HANSEN. I can understand the White House borrowing personnel for a specific White House conference on a particular project. But I can't understand borrowing personnel on a continuing basis.

Your budget estimate for 1972 for administration is $2,316,000. Please insert in the record the allocation of administrative expenses you have made against program activities for fiscal years 1970, 1971, and 1972. This tabulation should indicate the amount of administrative expense allocated to each program activity.

(The information follows:)

ALLOCATION OF ADMINISTRATIVE EXPENSES

The headquarters staff of 128 positions is funded under the Administrative activity. The staff includes health specialists and support type staff such as statistical, financial management, program planning and general services required to direct the program. Because of the complexity of the health program and interrelationships between its various components, administrative expenses are not prorated to any of the program activities.

COMPARISON OF POSITIONS AND MAN YEARS

Mrs. HANSEN. It is noted you list 6,924 permanent positions in your justifications for 1971 with only 6,645 man-years of actual employment. Please explain the difference. Are these the phantom positions the committee discovered a few years ago?

Mr. CHADWICK. No. Last year for 1971 we were provided in the appropriation 571 new positions. Many of those positions were for opening new facilities this year that had opening dates during the year. For example, out of the field health activity where these were budgeted, the 233 positions would average only 140 man-years, with a 40-percent lapse. This is as we programed it to you and asked for that purpose. You will notice in dental and other places this year, you will see the remaining man-years for those positions coming in. The budget before you in 1972 has an overall lapse rate of only 5.7 percent. In other words, an average employment of 6,906 of 7,101 positions. I can assure you we do not have any of the phantom positions in the system.

Mrs. HANSEN. That was a revelation.

INDIAN HEALTH FACILITIES

Please insert pages 40 through 51 of the justification in the record at this point.

(The pages follow:)

Indian Health Facilities

Summary of Increases and Decreases

Appropriation, 1971		$18,715,000
Unobligated balance from prior years		7,582,712
Total available for obligations		26,297,712
Decreases:		
Hospitals	$2,816,073	
Outpatient care facilities	2,189,337	
Community facilities	506,700	
Sanitation facilities	18,998,262	
Personnel quarters	715,340	25,225,712
Carried into 1972		1,072,000
Increases (1972 appropriation request):		
Hospitals		220,000
Outpatient care facilities		119,000
Sanitation facilities		18,450,000
Total available for obligation		$19,861,000

ANALYSIS BY ACTIVITY

Amounts Available for Obligation

	Amount Available 1971	Fiscal Year 1972			Total Available 1972 compared to Total Available 1971
		Unobligated Balance From Prior Years	1972 Budget Requests	Estimated Total Available	
Hospitals..	$2,854,073	$38,000	$220,000	$258,000	$-2,596,073
Outpatient care facilities.....	2,276,337	87,000	119,000	206,000	-2,070,337
Community facilities	506,700	---	---	---	-506,700
Sanitation facilities	19,920,262	922,000	18,450,000	19,372,000	-548,262
Personnel quarters	740,340	25,000	---	25,000	-715,340
Total	26,297,712	1,072,000	18,789,000	19,861,000	-6,436,712

Obligations by Activity

	1970 Actual	1971 Estimate	1972 Estimate	Increase (+) Decrease (-)
Hospitals.....	$ 300,496	$2,816,073	$258,000	$- 2,558,073
Outpatient care facilities....	1,479,615	2,189,337	206,000	- 1,983,337
Community facilities....	1,445,300	506,700	---	-506,700
Sanitation facilities....	17,725,541	18,998,262	18,450,000	-548,262
Personnel quarters.....	503,426	715,340	25,000	-690,340
Total.....	21,454,378	25,225,712	18,939,000	-6,286,712

ITEMIZATION OF ESTIMATE

	Actual 1970	Estimate 1971	Estimate 1972	Increase (+) Decrease (-)
Program and Financing				
Total obligations.	$21,454,378	$25,225,712	$18,939,000	$-6,286,712
Unobligated balance brought forward..	-8,085,090	-7,582,712	-1,072,000	+6,510,712
Unobligated balance carried forward..	+7,582,712	+1,072,000	+922,000	-150,000
Appropriation.....	20,952,000	18,715,000	18,789,000	+74,000
Obligation by Objects				
11 Personnel compensation...	2,073,664	2,298,000	2,055,000	-243,000
12 Personnel benefits.....	98,169	111,000	97,000	-14,000
21 Travel and transportation of persons.....	145,597	157,000	123,000	-34,000
22 Transporation of things.....	305,373	345,000	298,000	-47,000
23 Rent, communications, and utilities..	79,672	90,000	82,000	-8,000
24 Printing and reproduction...	15,621	18,000	16,000	-2,000
25 Other services..	9,726,068	12,133,000	9,987,000	-2,146,000
26 Supplies and materials.....	2,184,505	2,466,000	2,220,000	-246,000
31 Equipment.....	503,141	468,000	482,000	+14,000
32 Lands and structures.....	4,877,268	6,632,712	3,579,000	-3,053,712
41 Grants, subsidies and contributions.....	1,445,300	507,000	---	-507,000
Total obligations .	$21,454,378	$25,225,712	$18,939,000	$-6,286,712

Appropriation Title: Indian Health Facilities

Highlight Statement

Successful conduct of the Indian health program which serves approximately 420,000 Indians and Alaska natives, requires modern, fully operative, functionally arranged facilities. Although considerable progress has been made in this direction, many serious inadequacies must yet be rectified. This inadequacy is a product of age, obsolescence, lack of facilities, and deferred maintenance.

Modern day Indians and Alaska natives are afflicted with serious environmentally related health problems that are not nearly so prevalent among the non-Indian population of our country. These health problems cause much illness, misery, and death. The lack of basic sanitation facilities, the widespread insanitary conditions, and the substandard and overcrowded dwellings are in large measure responsible for the high morbidity and mortality rates of the Indians.

The Indian Health Service assists in the provision of sanitation facilities for housing units being constructed or improved by the Department of Housing and Urban Development, the Bureau of Indian Affairs, and Indian tribes. The request for 1972 contains funds that will permit the Indian Health Service to construct sanitation facilities to serve an estimated 7,100 housing units. Also included in the request are funds that will permit the Indian Health Service to conduct site investigations, perform soil tests, and provide consultation and technical assistance for sanitation facilities to be constructed by the Housing Assistance Administration, Department of Housing and Urban Development through local housing authorities for an estimated additional 900 housing units.

In addition to the above, funds for an additional phase of the Kotzebue, Alaska, water and sewer project are included, as well as funds for special projects to provide sanitation facilities for Indian ceremonial areas and meeting places; to conduct necessary engineering investigations; and to correct emergency problems resulting from unforeseen conditions, and situations that are beyond the capabilities and resources of the Indians.

The 1972 request also makes provision for 52 projects at Indian health installations to assist in air quality control and pollution abatement.

Hospitals

Modernization and repair $220,000

$220,000 is requested in 1972 to correct the most serious air pollution situations existing at Indian Health Service hospitals. This action is in conformity with the President's Executive Order No. 11507 of February 4, 1970, which stipulates that "the Federal Government shall provide leadership in the nationwide effort to protect and enhance the quality of our air and water resources." The following 25 projects are primarily for correction to or replacement of obsolete incinerators at 21 Indian Health Service locations.

Area	Location	Rectifier	
Anchorage Area	Anchorage, Alaska	Refuse compactor & scrubber	
	Bethel, Alaska	Refuse compactor Afterburner	
	Kanakanak, Alaska	Refuse compactor	
	Kotzebue, Alaska	Afterburner Refuse compactor	
	Mt. Edgecumbe, Alaska	Incinerator	
	Tanana, Alaska	Refuse compactor Incinerator	
	Barrow, Alaska	Refuse compactor	
	Total Anchorage Area		$123,000
Billings Area	Browning, Montana	Incinerator	
	Harlem, Montana	Incinerator	
	Crow, Montana	Incinerator	
	Total Billings Area		$ 23,000
Oklahoma City Area	Clinton, Oklahoma	Refuse compactor	
	Talihina, Oklahoma	Afterburner Refuse compactor	
	Total Oklahoma City Area ...		$ 7,000
Phoenix Area	San Carlos, Arizona	Incinerator	
	Whiteriver, Arizona	Incinerator	
	Keams Canyon, Arizona	Incinerator	
	Parker, Arizona	Incinerator	
	Sacaton, Arizona	Incinerator	
	Owyhee, Nevada	Incinerator	
	Schurz, Nevada	Incinerator	
	Winterhaven, Calif.	Incinerator	
	Total Phoenix Area		$ 61,000
United Southeastern Tribes	Philadelphia, Miss.	Incinerator	
	Total United Southeastern Tribes		$ 6,000

Outpatient care facilities $119,000

$119,000 is requested in 1972 to correct the most serious air pollution situations existing at Indian Health Service operated health clinics. This action is in conformity with the President's Executive Order No. 11507 of February 4, 1970, which stipulates that "the Federal Government shall provide leadership in the nationwide effort to protect and enhance the quality of our air and water resources." The following 27 projects primarily are for correction to or replacement of obsolete incinerators at 27 Indian Health Service locations.

Area	Location	Rectifier
Albuquerque Area	Dulce, New Mexico	Incinerator
	Taos, New Mexico	Incinerator
	Santo Domingo, New Mexico	Incinerator
	Total Albuquerque Area	$18,000
Anchorage Area	Unalakleet, Alaska	Incinerator
	Gambell, Alaska	Incinerator
	Alakanuk, Alaska	Incinerator
	Selawik, Alaska	Incinerator
	Nulato, Alaska	Incinerator
	Yukatak, Alaska	Incinerator
	Total Anchorage Area	$24,000
Billings Area	St. Ignatius, Montana	Incinerator
	Heart Butte, Montana	Incinerator
	Hayes, Montana	Incinerator
	Rocky Boys, Montana	Incinerator
	Poplar, Montana	Incinerator
	Lame Deer, Montana	Incinerator
	Pryor, Montana	Incinerator
	Ft. Washakie, Wyoming	Incinerator
	Arapahoe, Wyoming	Incinerator
	Total Billings Area	$38,000
Oklahoma City Area	Shawnee, Oklahoma	Incinerator
	Chilocco, Oklahoma	Incinerator
	Total Oklahoma City Area	$12,000
Navajo Area	Chinle, Arizona	Incinerator
	Kayenta, Arizona	Incinerator
	Total Navajo Area	$12,000
Phoenix Area	Tucson, Arizona	Incinerator
	Total Phoenix Area	$ 8,000
Portland Area	Warm Springs, Oregon	Scrubber
	Toppenish, Washington	Incinerator
	Lapwai, Idaho	Incinerator
	Fort Hall, Idaho	Scrubber
	Total Portland Area	$ 7,000

Sanitation facilities $18,450,000

Provision of elemental sanitation facilities for Indian communities and homes is essential in the prevention of environmentally related diseases and is basic to the improvement of health. During the past eleven years the Indian Health Service has worked with Indians and Alaska natives in a cooperative effort to correct the gross insanitary conditions existing in their communities and homes. While progress has been made, the lack of safe available water supplies and waste disposal facilities continues to be a major deficiency in the Indian environment. This condition is in large measure responsible for the high incidence of preventable disease that still prevails among Indians and Alaska natives. For example:

1. Gastroenteritis ranked second among the leading reportable diseases for Indians in 1969; incidence rates for amebic and bacillary dysentery were more than 27 times higher than the rate in the general population.

2. The Indian infant death rate was 1.4 times as high as the general population in 1968. For infants who returned to their home environment after hospital birth and particularly for infants one month through eleven months of age, the death rate was about three times that of comparable age groups in the general population. This condition is in large part associated with the lack of sanitation facilities in the Indian home and extremely crowded living conditions.

3. In 1969, approximately 30 percent of the Indian patients discharged from hospitals were treated for infectious diseases (respiratory, other infective and parasitic, and skin diseases) and their residuals. Most of these are associated with lack of running water, insanitary conditions, and an overcrowded home environment.

ENVIRONMENTAL CONDITIONS

Contributing to these health problems is the widespread scarcity of water available to Indians and Alaska natives for even elemental household purposes. Thousands of Indians on many reservations still haul water for home use for distances of a mile or more. In such instances, use of water for domestic purposes is as low as one to three gallons per capita per day as compared to many times this amount for families in the non-Indian population. Contaminated streams, irrigation ditches, stock ponds, and unprotected wells and springs are often the only available supply. The excessive amount of time which Indians and Alaska natives must thus expend combating the rigors of their environment is another

contributing factor to the continuing impoverished conditions under which they live.

The lack of adequate facilities for the disposal of human and other household wastes also contributes to the health problems of the Indian and Alaska natives. The absence of these facilities results in (1) spread of micro-organisms responsible for diarrheas and dysenteries; (2) insect and rodent infestations both in Indian homes and communities; (3) contamination of foods and domestic water supplies; and (4) general nuisance conditions.

INDIAN PARTICIPATION AND TRAINING

Public Law 86-121 enables the Indian Health Service to help alleviate the substandard environmental conditions that have been described. This law authorizes construction of domestic water supplies, waste disposal facilities, and other sanitation facilities for Indian homes, communities, and lands. The Indian Health Service administers the program with the participation of Indian tribes, Alaska native groups, and State and local health agencies. Participation by the Indians in project execution is stressed and tribes are trained and assisted in assuming responsibility for continued operation and maintenance of completed community sanitation facilities. Education and training activities are also conducted to assure utilization, protection, and maintenance of household sanitation facilities.

Sanitation facilities for Indian people include one or more of the following features: individual home and/or community water systems; individual home and/or community waste disposal facilities; and drainage facilities.

The results of these efforts have produced an increasing awareness by the Indian people of the advantages of adequate sanitation facilities. This has been demonstrated by the many requests from the Indian people for assistance under this program and by the substantial contributions of labor, money, and materials made by them. Indian governing bodies have shown a willingness to adopt the necessary measures which are required for continued operation and maintenance of completed facilities. These measures include establishment of tribal utility organizations, appointment of responsible maintenance personnel, collection of water and sewer charges, and adoption of sanitation ordinances and/or regulations. Each of these actions embraces new concepts in Indian self-government.

CONSTRUCTION PROGRESS

Since the inception of this program in 1960 through fiscal year 1970, 1,131 sanitation projects have been undertaken. These include: 927 construction projects (361 of which were associated with Federal and tribal housing projects) and 204 engineering investigations, emergency works, and other special projects. Of the 1,131 projects undertaken, 826 are completed or in operation, 297 were underway as of January 1, 1971, and 7 were in the final planning stages. One

project has been deferred pending development of plans for relocation of the Indian village.

The fiscal year 1971 appropriation of $18,450,000 includes $1,500,000 for projects to serve families on 20 reservations and $450,000 for special projects. This will enable improved sanitation facilities to be made available to approximately 675 Indian and Alaska native families. Also included is $16,500,000 for the construction of facilities which will serve approximately 7,100 new housing units being constructed under Federal and tribal housing programs and for technical services relating to sanitation facilities being built by local housing authorities for approximately 900 additional new housing units. With the completion of all projects authorized or planned through fiscal year 1971, both running water and an adequate means of waste disposal will have been provided for approximately 52,200 Indian homes. Including the 1972 program, approximately 60,200 homes out of a current estimate of 80,800 existing Indian homes will have been served. Many of those homes were provided sanitation facilities in the early years of this program and therefore now require upgrading. Furthermore, additional homes are being provided for new families and to replace existing grossly substandard housing. For example, the Bureau of Indian Affairs estimates that 34,600 existing Indian homes are in need of replacement or major renovation. This number, combined with homes required for approximately 11,900 Indian families now sharing a house with another family, reveals a total current need of 46,500 new Indian houses. These factors combine to make the future requirements for sanitation facilities larger than 20,600 - the difference between the current estimate of 80,800 existing homes and the number provided with improved sanitation facilities through FY 1972.

WORK PLANNED FOR F.Y. 1972

Sanitation Facilities for New or Improved Housing Constructed by Other Agencies

The request includes $17,705,000 to assist Federal and tribal housing programs during F.Y. 1972 which will permit the construction of sanitation facilities to serve an estimated 7,100 housing units. It will also permit the Indian Health Service to participate in the provision of sanitation facilities for approximately 900 housing units that will be served by sanitation facilities constructed under the Department of Housing and Urban Development programs. In accordance with a mutual agreement with the Department of Housing and Urban Development, the Indian Health Service is responsible for construction of all off-site facilities required to serve the housing units. The Indian Health Service is also responsible for conducting site investigations, soil tests, and providing construction inspection of sanitation facilities for all new housing built by Indian housing authorities. The agency responsible for house construction provides interior fixtures and plumbing. Sanitation facilities located on the house lot are constructed by local housing authorities when the housing project comes under programs of the Department of Housing and Urban Development. The Indian Health Service constructs these facilities for homes included under programs of the Bureau of Indian

Affairs. Where feasible from engineering and cost viewpoints, existing Indian homes adjacent to the housing units are also served.

Other Sanitation Facilities Construction Proposed for 1972

Kotzebue, Alaska -- $300,000 is included to provide for the construction of an additional phase of the overall city water and sewer systems project. These funds, coupled with funds being requested by the Bureau of Indian Affairs, will represent the Federal complex share of the new systems.

Special Projects

The request includes $445,000 that provides for: Construction of facilities for Indian ceremonial areas and for tribal buildings used for community gatherings; investigation and planning funds for urgently needed construction projects for which additional technical information is necessary before a solution can be recommended; correction of emergency problems related to Indian sanitation facilities such as occur from severe drought conditions, floods, failure of well casings and pumping equipment; and other unforeseen conditions which may require provision of materials, supplies, and equipment for completing the construction or repair of sanitation facilities serving Indian and Alaska native communities.

The following table reflects the number of homes included in projects for FY 1970 through FY 1972:

Number of Indian Homes Benefited

	Fiscal Year		
	1970	1971 Est.	1972 Est.
Projects to assist Federal and Tribal Indian housing programs			
(a) New and improved homes (HUD, BIA, Tribal and other)	3,601	7,100	7,100
(b) Existing homes benefiting from improved facilities	1,309	-	-
(c) Technical services furnished to HUD	1,861	900	900
Subtotal	6,771	8,000	8,000
Regular projects for existing homes			
(a) Both water and waste	1,630	435	-
(b) Improved facilities	1,760	240	-
Subtotal	3,390	675	-
Total	10,161	8,675	8,000

1972 REQUEST SUMMARY

ALL AREAS -	Assistance to Federal and tribal housing programs	$17,705,000
KOTZEBUE, ALASKA -	Community water and sewer line extension	300,000
ALL AREAS -	Special Projects: To serve Indian ceremonial areas and community buildings; for engineering investigations; emergency works; supplies and equipment; and unforeseen conditions.	445,000
		$18,450,000

UNOBLIGATED BALANCES

Mrs. HANSEN. Please insert in the record your unobligated balances as of June 30, 1970.

(The information follows:)

INDIAN HEALTH FACILITIES

UNOBLIGATED BALANCES AS OF JUNE 1970 AND YEAR OF APPROPRIATION

Project & Location	Project description	Unobligated balances as of June 30, 1970
Hospitals:		
Claremore, Okla	Plan 60-bed hospital	93,000
Phoenix, Ariz	Complete 200-bed hospital	58,295
Tuba City, Ariz	Plan 125-bed hospital	300,000
Philadelphia, Miss	Plan 30-bed hospital	80,000
Harlem, Mont	Plan replacement 30-bed hospital	88,000
Bethel, Alaska	To complete foundation rehabilitation study	9,000
Gallup, N. Mex	Construction of dental area	270,954
Kotzebue, Alaska	Rehab. foundation completion	32,300
Mount Edgecumbe, Alaska	Complete construction of incinerator	66,881
Talihina, Okla	Shop-incinerator	60,935
Tanana, Alaska	To complete sewage plant	8,890
Cass Lake, Minn	Improvement to dietary area and relocation of OB ward	59,000
Anchorage, Alaska	To complete space arrangement	23,735
Do	Emergency generator	72,000
Mount Edgecumbe, Alaska	do	32,000
Talihina, Okla	To complete water tower	17,639
Clinton, Okla	Water tower	35,000
Lawton, Okla	Access road	142,000
Albuquerque, M. Nex	Water main	10,000
Harlem, Mont	To complete fire deficiencies	1,786
Shiprock, N. Mex	Plan expansion	42,000
Rosebud, S. Dak	Plan alterations	28,000
Fire and safety projects	(1)	1,000,000
Whiteriver, Ariz	Plan alterations	27,000
Browning, Mont	do	19,000
Miscellaneous projects	To complete on-going projects	11,658
Total hospitals		2,589,073
Outpatient care facilities:		
Albuquerque, N. Mex	Construct school health center	592,000
Fort Wingate, N. Mex	To complete center	5,159
Many Farms, Ariz	To construct center	457,000
Wanblee, S. Dak	To complete health center	7,199
Fort Berthold, N. Dak	To complete construction of health center	13,955
Alakanuk, Alaska	To complete construction of health station	4,872
Beshbitoh, Ariz	do	127,391
Dilkon, Ariz	do	127,391
Lapawai, Idaho	do	12,456
San Felipe, N. Mex	do	2,659
Sanostee, N. Mex	do	127,391
Wellpinit, Wash	do	10,852
Whiteshield, N. Dak	Construct health station	60,113
Kaibeto, Ariz	To complete construction of health station	3,774
Selawik, Alaska	do	4,445
Teec Nos Pos, Ariz	To complete construction of school health center	89,446
Neah Bay, Wash	To complete construction of health center	148,210
Rock Point, Ariz	To complete construction of health station	128,960
Red Water, Miss	Construct health station	143,000
Noorvik, Alaska	To complete construction of health station	96,869
Savoonga, Alaska	do	102,382
Toppenish, Wash	To complete construction of ambulance storage	8,460
Misceallaneous projects	To complete on-going projects	2,353
Total outpatient care facilities		2,276,337
Personnel quarters:		
Beshbitoh, Ariz	To complete construction of 5 units	90,199
Dilkon, Ariz	do	90,199
Fort Berthold, N. Dak	To complete construction of 14 units	19,661
Many Farms, Ariz	Construct 13 units	254,030
Sanostee, N. Mex	To complete construction of 5 units	90,199
Tuba City, Ariz	Construct 5 units	141,285
Wagner, S. Dak	To complete construction of 3 units	2,908
Window Rock, Ariz	To complete construction of 2 units	8,202
Teec Nos Pos, Ariz	To complete construction of 6 units	8,639
Neah Bay, Wash	To complete construction of 3 units	27,040
Miscellaneous projects	To complete on-going projects	7,978
Total personnel quarters		740,340
Grants to Comm Facilities	Fairbanks, Alaska out-patient clinic	506,700
Sanitation Facilities	Water and waste disposal	1,470,262
Grand total		7,582,712

[1] Represents reprograming approved by House and Senate Subcommittee on Appropriations.

CONSTRUCTION FUNDS IN RESERVE

Mrs. HANSEN. Are any of your 1970 construction funds still in reserve?

Mr. CHADWICK. We have none in reserve, Madam Chairman. We have some moneys that have not been apportioned for certain construction projects, because the projects aren't ready. We have certain planning moneys for hospitals we mentioned this morning for which we don't have the construction in sight and we haven't asked for an apportionment of funds to plan them.

Mrs. HANSEN. Are any of your 1971 construction funds still in reserve?

Mr. CHADWICK. None.

Mrs. HANSEN. Were any of your construction funds placed in reserve?

Mr. CHADWICK. Initially, Madam Chairman——

Mrs. HANSEN. For what period of time were they placed in reserve?

Mr. CHADWICK. The half million dollars provided by the Congress for regular sanitation was in reserve for some months this year.

Mrs. HANSEN. Why?

Mr. CHADWICK. This was an expenditure action by the administration.

Mrs. HANSEN. That item is for pollution control. You are supposed to have all pollution control projects underway or completed by December 31, 1972.

Mr. CHADWICK. Then the Congress appropriated $45,000, I believe it was, for alterations for a clinic in the Albuquerque Sanitorium. We were fortunate for a change, and had some savings in one of our construction projects, and had that many dollars in savings, so we were asked to use those, rather than to apportion the new money in the amount appropriated by the Congress.

Mrs. HANSEN. If I had known you were going to have savings the committee could have appropriated those funds for other projects.

Mr. CHADWICK. Madam Chairman, it is unusual for us to have savings in the construction bids we have been getting.

Mrs. HANSEN. What happened to cause you to have savings?

Mr. CHADWICK. We were able to award several of the health centers in the Navajo area on a group basis with prefab construction, and in this case we got a very favorable bid. We did that and tried to go back next time for a bid on prefab and on that occasion it was more than the others, but in this particular time with this group bidding, we got a good bid on it.

Mrs. HANSEN. How many contracts were awarded through this group type of bidding?

Mr. CHADWICK. We awarded either three or five in a common bid. I can get you the details on that.

Mrs. HANSEN. This is a good example of something that could be applied to help the situation in the Trust Territory, where there are problems of operating under an appropriation ceiling. How much did you save?

Mr. CHADWICK. We saved all together several hundred thousand dollars in the total.

Mrs. HANSEN. Can't you award more of your contracts on this basis?

Mr. CHADWICK. We are planning on this basis, Madam Chairman.

Dr. JOHNSON. We were fortunate that we had several construction projects appropriated at one time so that we could do that.

Mrs. HANSEN. If your planning and design is completed on several construction projects and funds are appropriated you can award group contracts?

Mr. CHADWICK. That is correct. We had others that overran. The sum of our program has not been net savings.

Mrs. HANSEN. The reason I asked this question is the committee is always looking for better ways to handle the appropriations for construction projects. We would like to save as much as we can and still complete the construction projects as rapidly as possible.

NEW CONSTRUCTION TECHNOLOGY BY HEW

Dr. JOHNSON. I think, Madam Chairman, the letter that you just received from the Department relative to Tuba City is an example of an attempt by the Department's new construction agency to apply some of this new management technology in the construction business. The problem of constructing and getting appropriations in concert with planning has frustrated all of us. It is their belief now with this new three-phase, design-construct type of approach that they are using, that they can collapse the time that it takes from about 4 years down to 33 months, if we can have the planning and appropriations coming in in an appropriate sequence.

Mrs. HANSEN. The BIA used to request their planning, design, equipment, and construction funds all at once. What happened was that their planning wouldn't be completed and every year they had large carryover balances. The temptation, of course, is to cut the budget but this would be disastrous, because the needs are still there.

How long does it take you to design a facility?

Dr. JOHNSON. They have a specific timetable. Mr. Chadwick, you can probably give that.

Mr. CHADWICK. They are starting this idea saying they can plan a facility in 12 months, but what also occurs in the system they have, when they know the structure they are going to build, and have what we would refer to originally as the blueprints for the foundation, they will be building that foundation while they are doing the blueprinting and the specific plans for the next section.

Mrs. HANSEN. Actually the planning, design, and some construction can be done simultaneously.

Mr. CHADWICK. Right, they are building and planning simultaneously.

Mrs. HANSEN. So you have actually shortened the process.

SAVINGS IN COST RESULTING FROM NEW HEW TECHNOLOGY

Mr. CHADWICK. Yes; and when you consider that this saves a 12-percent cost index per year, that in itself when you run into the multimillion-dollar projects is significant.

Dr. JOHNSON. There is another savings in here, too. That is that in this new concept, they really come up with a program of require-

ments or performance specifications which then can be used for any similar kind of construction. In other words, if you are talking about building at Tuba City, much of what you have done in the design for Tuba City can be used at Crown Point.

Here, again, you have got the potential of saving the down time in design as well as collapsing the time that it takes you to get from design to construction, all of which means saving considerable money.

Mrs. HANSEN. I think your construction procedures need to be carefully studied.

Dr. JOHNSON. We are very optimistic that this new agency and some of the new thoughts that they have developed can help us considerably in our construction problem.

UNOBLIGATED BALANCES BY PROJECT

Mrs. HANSEN. Please insert in the record a tabulation by individual project of all construction projects having an unobligated balance as of June 30, 1970. This tabulation should indicate the name of the project, the location, the amount of the unobligated balance, and the year in which the funds were appropriated.

(The information follows:)

INDIAN HEALTH FACILITIES—Unobligated Balances as of June 1970 and Year of Appropriation

Project and location	Project description	Unobligated balances as of June 30, 1970	Fiscal year of appropriation
HOSPITALS			
Claremore, Okla	Plan 60-bed hospital	$93,000	1967
Phoenix, Ariz	Complete 200-bed hospital	58,295	1968
Tuba City, Ariz	Plan 125-bed hospital	300,000	1965 and 1967
Philadelphia, Miss	Plan 30-bed hospital	80,000	1967
Harlem, Mont	Plan replacement 30-bed hospital	88,000	1967
Bethel, Alaska	To complete foundation rehabilitation study	9,000	1968
Gallup, N. Mex	Construction of dental area	270,954	1968
Kotzebue, Alaska	Rehabilitate foundation completion	32,300	1968
Mount Edgecumbe, Alaska	Complete construction of incinerator	66,881	1968
Talihina, Okla	Shop-incinerator	60,935	1968
Tanana, Alaska	To complete sewage plant	8,890	1966
Cass Lake, Minn	Improvement to dietary area and relocation of OB ward.	59,000	1969
Anchorage, Alaska	To complete space arrangement	23,735	1969
Do	Emergency generator	72,000	1969
Mount Edgecumbe, Alaska	do	32,000	1969
Talihina, Okla	To complete water tower	17,639	1969
Clinton, Okla	Watertower	35,000	1969
Lawton, Okla	Access road	142,000	1970
Albuquerque, N. Mex	Water main	10,000	1970
Harlem, Mont	To complete fire deficiencies	1,786	1970
Shiprock, N. Mex	Plan expansion	42,000	1967
Rosebud, S. Dak	Plan alterations	28,000	1967
Fire and safety projects	(1)	1,000,000	(1)
Whiteriver, Ariz	Plan alterations	27,000	1967
Browning, Mont	do	19,000	1967
Miscellaneous projects	To complete ongoing projects	11,658	
Total, hospitals		2,589,073	
OUTPATIENT CARE FACILITIES			
Albuquerque, N. Mex	Construct school health center	592,000	1968 and 1970
Fort Wingate, N. Mex	To complete center	5,159	1966
Many Farms, Ariz	To construct center	457,000	1968
Wanblee, S. Dak	To complete health center	7,199	1967
Fort Berthold, N. Dak	To complete construction of health center	13,955	1968
Alakanuk, Alaska	To complete construction of health station	4,872	1968
Beshbitoh, Ariz	do	127,391	1968
Dilkon, Ariz	do	127,391	1968
Lapwai, Idaho	do	12,456	1967
San Felipe, N. Mex	do	2,659	1968

Projectand location	Project description	Unobligated balances as of June 30, 1970	Fiscal year of appropriation
Sanostee, N. Mex	do	127,391	1968
Wellpinit, Wash	do	10,852	1967
Whiteshield, N. Dak	Construct health station	60,113	1968
Kaibeto, Ariz	To complete construction of health station	3,774	1966
Selawik, Alaska	do	4,445	1968
Teec Nos Pos, Ariz	To complete construction of school health center	89,446	1970
Neah Bay, Wash	To complete construction of health center	148,210	1970
Rock Point, Ariz	do	128,960	1970
Red Water, Miss	Construct health station	143,000	1970
Noorvik, Alaska	To complete construction of health station	96,869	1970
Savoonga, Alaska	do	102,382	1970
Toppenish, Wash	To complete construction of ambulance storage	8,460	1970
Miscellaneous projects	To complete ongoing projects	2,353	
Total, outpatient care facilities		2,276,337	
PERSONNEL QUARTERS			
Beshbitoh, Ariz	To complete construction of 5 units	90,199	1968
Dilkon, Ariz	do	90,199	1968
Fort Berthold, N. Dak	To complete construction of 14 units	19,661	1968
Many Farms, Ariz	Construct 13 units	254,030	1968
Sanostee, N. Mex	To complete construction of 5 units	90,199	1968
Tuba City, Ariz	Construct 5 units	141,285	1968
Wagner, S. Dak	To complete construction of 3 units	2,908	1968
Window Rock, Ariz	To complete construction of 2 units	8,202	1969
Teec Nos Pos, Ariz	To complete construction of 6 units	8,639	1970
Neah Bay, Wash	To complete construction of 3 units	27,040	1970
Miscellaneous projects	To complete ongoing projects	7,978	
Total, personnel quarters		740,340	
Grants to community facilities	Fairbanks, Alaska, O/P Clinic	506,700	1970
Sanitation facilities	Water and waste disposal	1,470,262	1970
Grand total		7,582,712	

[1] Represents reprograming approved by House and Senate Subcommittees on Appropriations.

PREPARATION OF PLANNING AND DESIGN WORK

Mrs. HANSEN. Who does your planning and design work?

Mr. CHADWICK. This is done jointly now by both BIA, which is our contracting agency for this, and the FECA organization in the Department has in itself some planning expertise that they do for us. They can be closer with this, and we are looking forward to this development. We can get some good staff work out of them and we are looking forward to it.

Dr. JOHNSON. A combination of inhouse support from the Facilities, Engineering, and Construction Agency, plus a private architectural firm.

Mrs. HANSEN. Is this a satisfactory arrangement?

Dr. JOHNSON. As I said, we are very excited by the possibility of using this approach on Tuba City, and on any hospital right now.

Mrs. HANSEN. How are the costs computed, as payment for your planning and designing work?

Mr. CHADWICK. Madam Chairman, the costs are computed. We used to have a program in which we would pay 4.5 percent to BIA for certain sized projects and 6 or 7 percent for others, depending on the level of dollar magnitude of the project. The architect would be some 6 percent, and the combination of the sum of those parts, and supervision during construction, would range anywhere from 11 to 12 percent. Under the new system that we were just talking about, that

FECA was going to do, for example, I told you this morning that in Philadelphia we would need some $400,000 for planning. If they did it on what they call the fast track method, they would do some $200,000 worth of planning by private architect along with their staff. Then the remainder of their planning would be blended in with their construction costs on a building-as-you-go basis.

We don't have a clear figure because there is a sense in which the remainder of the planning would lose its identity. We can't give you a clear answer because this is our first experience on this point as to how this will work out.

Mrs. HANSEN. When will you have clear answers?

Mr. CHADWICK. We could provide it from the things we learn in doing Tuba City, if you would.

Mrs. HANSEN. Please insert the information in the record.

(The information follows:)

PLANNING COSTS FOR THE TUBA CITY HOSPITAL PROJECT

Planning activities for the FECA three-step development process (fast track) is in two phases. The first is for development of performance requirements and design through preliminary drawings. The cost for this work is negotiated for through an A/E design contract. Recent experience has indicated an estimate cost of approximately $300,000, or 3.2 percent of this total project cost. The second phase of design is for completion of design and is accomplished concurrently with construction and the cost is borne by the low bidder for construction based on his proposal to satisfy the performance requirements. Specific cost information for this phase of design is not available for the Tuba City project at this time. Our estimate is that it will be approximately 2 percent of the construction cost, or approximately $180,000.

DETERMINATION OF CONSTRUCTION PRIORITIES

Mrs. HANSEN. How do you draw your priorities for construction projects that are to be included in the budget estimate?

Dr. JOHNSON. It is basically on the basis of the current utilization of the facility, for example, such things as its age, its obsolescence, the degree of overcrowding, for example, the basic structure, is it something that is basically a sound structure that you can work in for a few more years, or is it one that is a frame structure, which is obviously unsafe. As you look back at the hospitals that we have replaced, for example, you will see that most of our wooden frame hospitals have now been replaced, or at least partially replaced. In places like Redlake, Minn., for example, at least the patient area is in a new fire-safe building. The outpatient clinic and support services are still in a wooden building.

White River is another example where we have patients in a safe part of the building but the outpatient and the rest are still in a frame building. I guess the safety of the building or the patient safety within the facility, plus the current pressure upon that facility for services, in other words, if it is terribly overcrowded, and Tuba City is an example of one of those, just a terribly overcrowded facility moves it up on the priority list.

CONSTRUCTION PRIORITIES FOR THE NAVAJO

Mrs. HANSEN. You also have to consider that in Alaska and on the Navajo you have shifting populations due to, in Alaska, movement

of villages to locate good fishing areas. On the Navajo, the populations are shifting because they are trying to build community centers to help assist in developing industries. Do you take these factors into consideration in your planning for your long-term structures?

Dr. JOHNSON. Yes. I think the Navajo is a good example where our long-term planning for the Navajo is not hospital by hospital, but for the Navajo Nation as a totality, and looking not only at the hospitals of the Indian Health Services within the Navajo, but other hospitals. Where there may be contract facilities such as the mission hospitals, so that you come up in a sense with a State plan, as it were, for the Navajo Nation, and then sit down with the Navajo Health Board to look and say, "These are the facilities we have now, these are the population projections over the next 5 or 10 years." The Navajo has a fairly sophisticated planning organization in economic development, so they say, "We expect to bring in this kind of an industry into Ship Rock or Tuba City, and we expect this kind of shift," then identifying the total needs for hospital facilities within the reservation. Then we jointly determine with the tribe, with the Health Board, their priority for which of the many that ought to be replaced should we do first, second, third and on down the line.

CONSTRUCTION PRIORITIES FOR ALASKA

Mrs. HANSEN. Are you essentially going through this same process in Alaska?

Dr. JOHNSON. In Alaska it is essentially the same mechanism, except you have not had, up until now, an overall native focus until the Health Board was established a couple of years ago, and that is basically a subdivision of the Alaska Federation of Natives. There is a Health Board up there again that can look at this. Here again, remembering that Alaska is short on health sources of any kind, and the Indian Health Service up there is about one-third of the medical resource in the entire State of Alaska——

Mrs. HANSEN. How much medical or health care is provided to the Alaska natives by the State of Alaska?

Dr. JOHNSON. The State of Alaska provides them with the inpatient mental health services. The State of Alaska makes a significant contribution to crippled children services. They are also making a contribution in terms of State public health services. We do have a contract with the State for, for example, public health nursing services, but not for the total amount that they give to the natives. In other words, we have a shared relationship in terms of the State public health contracts. I think those would be the major arrangements that we have.

Mrs. HANSEN. How adequate are the hospital facilities within the State of Alaska?

Dr. JOHNSON. Alaska I guess is not untypical, in that they have some hospital bed short areas and they have some where there is a surplus. I think what happens in the few small villages where you have a public hospital in Alaska, in order to build any kind of a size at all, you may have more beds than you might need at that point. They build in anticipation of growth and sometimes the growth doesn't occur.

There are certain other places where the local facility is terribly insufficient for the need. Maynard McDougall Hospital in Nome is,

I think, an example of a hospital which is totally inadequate to serve the needs of the population in that particular area. So there is a mixed focus in Alaska as I guess you would find most any place.

We tried to design our hospital programs, our whole program in Alaska really, in concert with the State health department, where we have very close working relationships and with the comprehensive health planning agency for the State of Alaska, with the idea that with very scarce resources in this frontier kind of State, that we must not duplicate, we must be sharing and helping each other. We will carry the State's flag for some purposes and they will carry ours for others, and it is, I think, a very realistic way of making the most efficient use of your resources.

Mrs. HANSEN. Do you consult with the Geological Survey on where the earthquake faults are?

Dr. JOHNSON. I wish we had done that before they built at Anchorage in the first place.

Mr. MCDADE. Would you yield at this point?

Mrs. HANSEN. Yes.

STATUS OF SANTA FE HOSPITAL

Mr. MCDADE. Doctor, our colleague, Congressman Lujan from New Mexico, has discussed with the committee his concern over the hospital at Santa Fe. Are you able to give us a report of the status of that hospital?

Dr. JOHNSON. Santa Fe is one of the 22. Santa Fe is an old hospital that is functionally obsolete. It is one that we prefer not to spend any significant amounts of money on in rehabilitating. It clearly should be replaced. Santa Fe is the facility that this last year, when we were survey by the Joint Commission on Accreditation of Hospitals, was denied its accreditation. We lost the accreditation of that hospital, and we lost it basically because of the physical plant. Santa Fe is not the only hospital where we have lost accreditation because of the physical plant. It is just another one of those hospitals within the 22.

Mr. MCDADE. He shares the viewpoint that it ought to be replaced, and I am wondering whether or not you can give the committee any indication at all of any kind of time frame for replacing that particular facility?

Dr. JOHNSON. Mr. McDade, honestly I can't. The last hospital that we had funds for construction was Phoenix, and that was in 1966–67. We haven't had funds to build a hospital for 5 or 6 years now, and as we talked earlier about Tuba City, that has been in the planning stage for how long, Mr. Chadwick, 5 years?

Mr. CHADWICK. We had an initial increment for planning Tuba City in 1964, to do a feasibility study, and then some more planning money was appropriated in 1965.

COST OF NEW HOSPITAL AT SANTA FE

Mrs. HANSEN. What is the estimated cost to construct a new hospital in Santa Fe?

Mr. CHADWICK. Madam Chairman, the cost of a hospital in Santa Fe, our current estimate for planning and construction would be $6,570,000 at today's prices. It would be an 80-bed facility.

Mr. McDade. In how many steps? Could you break that figure down for us any further?

Mr. Chadwick. Yes, in the planning under the basis that we explained earlier, with the fast track method, would require $170,000, and then the following year, if you are on a time basis, would require the construction money of $5,400,000. If you add years, you would add 12 percent of that index each year.

ACCELERATION OF CONSTRUCTION OBLIGATIONS

Mrs. Hansen. You had an unobligated balance of $7.5 million at the end of 1970, yet you estimate an unobligated balance of only $922,000 at the end of fiscal year 1972. What will account for this accelerated obligation of construction funds?

Mr. Chadwick. Madam Chairman, through March we have obligated $12 million this year. That is out of the $7,583,000 and the $18,753,000 appropriation. Out of that amount that was obligated, we have new housing construction which, in the phasing of building homes, usually occurs in the latter part of the year. Specifically, of the $19,920,000 total available in sanitation construction, we estimate that all of that but $922,000 will be obligated. The remainder we have obligated, for example, under our clinics that we told you about earlier, $1.5 million of the $3 million that was available. We have others scheduled for obligation. We were able to make that award we told you for several facilities at one time. We may have some additional increments of planning money, unobligated for the hospitals that we told you earlier, we will not be planning right now, in the amount of a few hundred thousand dollars. Hence, our estimate would be revised by some several hundred thousand dollars in unobligated funds more than we had in the budget, but we will in the main be able to do what we said in the budget.

FUNDING OF OEO COMMUNITY HEALTH AID PROGRAMS

Mrs. Hansen. I have received a letter from Congressman Abourezk. He says:

For the past several years OEO has been funding community health aid programs for Indians. Following a series of meetings on the health affairs of American Indians, OEO, and the U.S. Public Health Service have agreed that the success of the community health aid program justifies the complete spin-off of these programs to the Indian Health Service. However, in recent years these programs have been reduced. Further with the transition to IHS now separated for fiscal year 1973 the question of funding past June 1971 is very much in question. It is my understanding that the Indian Health Service does have an interest and capability to assume these programs for fiscal year 1972. However, to do so would require $1,072,000 in funding. In my review of this program I feel, (1), it has proven to be tremendously successful, (2), involves greater participation of Indians solving their own health programs, (3), involves greater understanding between the Indian people and the Indian Health Service, and (4), provides needed medical assistance in an area noted for its almost total lack of medical facilities.

In recognition of this it would be tragic if the program had to be substantially or totally cut back during fiscal year 1972. Therefore, I am very interested in seeing that funds be made available to enable the Indian Health Service to assume the program this year. I would be deeply appreciative if you could look into this matter for me. Furthermore, I would like personally to testify at such a meeting.

May we have your comments in this connection?

Dr. JOHNSON. Madam Chairman, the community health representative program that we testified earlier had been so successful and that this committee has supported since 1969 was really started out of these community health aid programs that were funded by OEO. For example, the first one was done at Pine Ridge, S. Dak., which is in Congressman Abourezk's District. The Indian Health Service supplied the trainer and the initial supervisor. We detailed to the tribe a public health nurse who served as the supervisor of the community health aids at this pioneer project. The second one was done at northern Cheyenne in Montana. I was out there at that time. Here again we in the Indian Health Service provided the total training for this group of community health aids. It was really out of the Pine Ridge plus the northern Cheyenne programs that the whole concept for the community health representative was developed.

The understanding, of course, with OEO is that they are the innovators, and once something becomes clearly defined as a useful procedure, it then becomes a program to be spun off, as it were.

Mrs. HANSEN. Is the $1,072,000 figure for this program mentioned in Congressman Abourezk's letter an accurate figure?

Dr. JOHNSON. No, that figure is a little off the total cost of a full year for us to operate these programs. There are 108 CHA's, or community health aids identified in the OEO program.

Mrs. HANSEN. Please insert in the record the total cost to operate these programs.

Dr. JOHNSON. I will be glad to.

(The information follows:)

The correct cost for the Indian Health Service to fund the OEO aid program is $972,000 in fiscal year 1972.

DEVELOPMENT OF A SOLID WASTE DISPOSAL SYSTEM AT TAHOLAH

Mrs. HANSEN. I have a letter from our old friends, the Quinaults. They say, "The Public Health Service had moneys appropriated in 1970 to develop a solid waste disposal site for the Taholah community along with the equipment to maintain and collect refuse. This was tied in with the sewer system project last year, because of the increasing construction costs all the moneys went into the sewer project."

They estimated the cost to be $38,500 for the solid waste disposal site. Are there any funds in the fiscal year 1972 budget for this project?

Dr. JOHNSON. Madam Chairman, there is no specific money in our budget for solid waste. Again as one has looked at priority, and we just talked about the problem——

Mrs. HANSEN. You couldn't have a higher priority project.

Dr. JOHNSON. Our funding basically in the sanitation program has been in providing water and sewer and there is a tremendous need, as you have identified, for solid waste for all of these programs.

Mrs. HANSEN. Is the $38,500 figure they mention in their letter the correct figure?

Mr. GREEN. This figure is probably obtained from a 1968 engineering study which was done on that particular problem.

Mrs. HANSEN. Wouldn't the $38,500 provide for a good start on this project?

Mr. GREEN. Just about, yes. It might have to be higher now because that was 2 or 3 years ago. The amount that we had in the project on water and sewers for the solid waste item was only $3,500. The amount available was enough to finish up the water and waste project. We didn't have enough money to go around.

Dr. JOHNSON. You could give a new figure.

Mrs. HANSEN. Please insert in the record the estimated cost of such a project.

(The information follows:)

SOLID WASTE DISPOSAL PROJECT ON THE QUINAULT RESERVATION

A pilot project for solid waste disposal has been considered for the communities of Taholah and Queets on the Quinault Indian Reservation in Washington. The estimated cost of establishing such a project would be $43,000. The project would include necessary equipment, disposal site preparation, and training for personnel. The resulting system would provide for twice weekly collection of solid wastes from both communities and disposal in a sanitary landfill. It is anticipated that the Quinault Tribe would provide the necessary land area for the disposal site.

Dr. JOHNSON. We have long needed a pilot project to determine really reasonable ways of handling solid wastes.

Mrs. HANSEN. I think this would be an ideal area in which to initiate a solid waste pilot project.

Dr. JOHNSON. We will be delighted to proceed.

PROBLEM OF ARMY ENGINEERS REPLACING HOUSES AT BONNEVILLE

Mrs. HANSEN. You have another problem concerning the Yakima Indians who are living in Cook and Skamania County. I understand the Army Corps of Engineers at the time of acquisition of Indian lands for the construction of the Bonneville dam promised the Indians that they would build them houses in return for the ones which were destroyed. As I understand this has never been done. There are many Indian people in this area living in inadequate housing without proper garbage and sewage disposal facilities. There is no drinking water for the community. It would seem to me that the Army Corps of Engineers should correct this situation. I have received a long letter from the BIA in which they state that it would cost $212,000 to correct this situation. I think the Army Corps of Engineers should include in their fiscal year 1972 budget funds to correct this situation. Please insert in the record a report on this problem.

Dr. JOHNSON. I will be glad to.

(The information follows:)

YAKIMA INDIANS AT COOK, SKAMANIA COUNTY, WASHINGTON

The Little White Salmon (Cooks) "In-lieu" fishing site is one of the five sites purchased by the Corps of Engineers under the authority of acts passed March 1945 (59 Stat. 22) and June 8, 1955 (69 Stat. 85), to compensate for the flooding

of previously used fishing sites resulting from the construction of the Bonneville Dam on the Columbia. The Cook's site like the other sites was acquired for the use of all Indian tribes that have treaty fishing rights in the Bonneville Pool and was not set aside for the exclusive use of any particular tribe. It was never intended that the site be used for permanent residence by the Indians.

As soon as the sites were acquired some Indian people began to move on to the fishing sites, a few as year-round residents, while others lived on them only during the fishing season. Some constructed buildings, others moved into the fish drying sheds, and a few brought in trailer houses. No permission was requested or granted for any such occupancy by the Corps of Engineers or the Bureau of Indian Affairs which later was given responsibility for the land. On October 22, 1964, a meeting was held involving Corps of Engineers, Tribal, BIA, PHS and the Wasco-Sherman Health Department representatives relative to the unsanitary conditions on the "In-Lieu" fishing sites. At the request of the tribal groups the Indian Health Service in November 1964 conducted a survey of sanitation conditions of the sites including the Little White Salmon (Cooks). The findings and recommendations of the Indian Health Service were forwarded to the Portland Office of the Corps of Engineers, and State and District Health Departments. Following this report the Bureau of Indian Affairs negotiated contracts for the weekly removal of garbage and refuse from the Little Salmon (Cooks) site. In addition members of the BIA field staff periodically inspected and performed routine maintenance, such as removing abandoned vehicles, repairing water facilities and cleaning outhouses. In spite of these efforts the general cleanliness of the site needs improvement and there are a few old car bodies which have accumulated.

The Bureau of Indian Affairs recently developed a preliminary cost estimate of $43,500 for the construction of sanitation facilities for the Little White Salmon (Cooks) site. The facilities considered include a sewage treatment plant, restroom building and fixtures, water pump, power transformer and site preparation for the treatment plant and restroom. The above estimate together with estimates prepared for facilities at other "In Lieu" sites total $211,200. This amount did not include $24,000 which the BIA estimates would be necessary on an annual basis for personal services, repair and upkeep of equipment, electric power, vehicle rental and other operational costs.

Although the Bureau of Indian Affairs has prepared the above estimates, an official of that agency has expressed the view that construction of facilities will not solve all of the problems associated with the use and maintenance of the Little White Salmon (Cooks) and other fishing sites. Most of the problems are attributed to the maintenance of permanent residences on sites which were not intended or suitable for such use. The Indian Health Service concurs in this view.

The BIA advises that there are no current plans for the development of new housing at other locations for the families residing on the Little White Salmon (Cooks) or other fishing sites. This is apparently due to the preference of the residents to live near the river and the fishing sites. In the event that a housing project is developed for these Indians under the housing program of the Bureau of Indian Affairs or other Federal agencies, the Indian Health Service is prepared to provide sanitation facilities assistance under the provisions of Public Law 86–121, the Indian Sanitation Facilities Construction Act (25 U.S.C. 2004a).

1972 AIR POLLUTION PROJECTS

Mrs. HANSEN. You list in your justification several areas in which you plan to modernize existing hospital facilities. Are these all routine repairs?

Mr. CHADWICK. These are air pollution projects, Madam Chairman.

Mrs. HANSEN. Your total request for correcting air pollution on these various facilities is $220,000. Is that correct?

Mr. CHADWICK. Yes, under that activity, Madam Chairman. Under outpatient there is another $119,000 for the same type of thing.

Mrs. HANSEN. Will the $339,000 you request for these activities eliminate all of the air pollution at your hospital facilities?

Mr. CHADWICK. Madam Chairman, it does not.

Mrs. HANSEN. How much will it cost to eliminate the air pollution at your hospital facilities?

Mr. CHADWICK. $215,000. May I explain what happened here? When we developed the budget, the amount of $339,000 did meet all of our needs then under the existing criteria.

Mrs. HANSEN. Who developed the criteria?

Mr. CHADWICK. This was issued by the Bureau of the Budget circular. Since the time that we started out with this budget for 1972, the circular criteria was changed. Then under the new definition, which occurred subsequent to our budget, which didn't give us the opportunity to provide for it, we would need another $215,000 for a total of $554,000.

Mrs. HANSEN. Are you planning to propose a budget amendment to eliminate this pollution?

Mr. CHADWICK. No, ma'am, we don't have an amendment for this.

Mr. MILLER. I would guess, Madam Chairman, with the criteria issued later, they plan to send it up, and we will probably send it up in 1973. I doubt they are going to try to do it all in 1 year with heightened criteria.

Mrs. HANSEN. Do you have the capability to accomplish this in 1 year if funds are added to your budget?

Mr. CHADWICK. Yes, we could because these are small items in each location. Not much is involved. It is a matter of working with refuse and our incinerator types of things with some minor adjustments.

Mrs. HANSEN. I don't think the Indian Health Service should be contributing to the pollution of the Nation.

1972 SANITATION FACILITIES REQUEST

You are requesting $18,450,000 for sanitation facilities. May we have your comments in this regards.

Dr. JOHNSON. The money identified in the 1972 budget for sanitation, Madam Chairman, provides for water and sewer services for the 8,000 new and improved homes to be constructed by the Department of Housing and Urban Development, Bureau of Indian Affairs, and the various local Indian housing authorities.

In addition to that, it had the $300,000 item to assist in the final completion of the Kotzebue water and sewer system, and the sum of $445,000 for the special projects, emergency supplies, unforeseen conditions, engineering investigation, that type of thing.

SELF-HELP PROGRAM

Mrs. HANSEN. Are there funds in your sanitation program to assist those homes that are under the BIA self-help program?

Mr. GREEN. Yes.

Mrs. HANSEN. How many of those homes will be assisted?

Mr. GREEN. 1,000.

Mrs. HANSEN. How many homes is the BIA assisting in their self-help program?

Mr. GREEN. They tried to do the full number. This is the BIA effort and we keep in step with them.

Mrs. HANSEN. As I emphasized this morning, if the committee increased funds for the BIA self-help program, a corresponding increase is also needed in your program. Isn't that correct?

Dr. JOHNSON. That is correct.

Mrs. HANSEN. Please insert in the record the amount of funds and personnel that would be required if 500 and 1,000 more units were improved. There are some areas where possibly you can save the homes, if the self-help program were broadened.

(The information follows:)

BIA HOUSING PROGRAM

[Effect on IHS budget of incremental increases in the BIA housing improvement program in States other than Alaska]

Increment	Estimated IHS construction cost	Additional staff requirements	Funding required for additional staff
Plus 500 units	$1,300,000	16	$216,000
Plus 1,000 units	2,600,000	32	432,000

Mrs. HANSEN. Also insert in the record your total backlog of sanitation facilities needs to serve Indians and Alaskan Natives and the locations of the homes that will be served.

Mr. CHADWICK. The locations are subject to change. We can give you the locations that were reflected in the budget, and if there were a change in geography, we would have a difference in our program.

(The information follows:)

BACKLOG OF SANITATION FACILITIES NEEDS TO SERVE INDIAN AND ALASKA NATIVES

According to the BIA Area Housing Inventory there is a need for about 60,400 new or improved Indian homes. About 34,600 of these are required as replacements of grossly substandard homes, 11,900 are needed for new families, and an additional 13,900 units require major renovation. Obviously, the housing program will have a major impact on the need for sanitation facilities at existing homes. Since it is not possible to determine accurately the number and location of existing homes that will be eliminated by the housing programs, the ultimate number that will need to be provided with sanitation facilities and the total cost of these facilities cannot be accurately judged. However, order of magnitude estimates can be provided. There are 28,600 existing Indian homes that have not yet been provided with sanitation facilities by the IHS program. In addition, it is estimated that about 15 percent, or 7,800, of those homes supplied in the earliest years of the program with only a hand pump and privy now require more modern facilities. Assuming none of these two groups of homes were to be replaced by any of the housing programs—which, of course, is not realistic, since many will be—the cost of providing needed sanitation facilities for them would be about $156,500,000: ($133 million for those not yet served at all, and $23,500,000 for those needing upgraded facilities). The cost of facilities for the 60,400 new and improved homes, computed independently, would be about $233 million. Thus, the total realistic cost, at current prices, lies somewhere between the $233 million and the sum of that figure and the $156,500,000. It will, of course, be possible to refine these figures as the program proceeds and final decisions are made on just which housing units need to be scheduled in any given year for either replacement or renovation.

INDIAN HEALTH SERVICE

PLANNED DISTRIBUTION OF FISCAL YEAR 1972 HOUSING UNIT STARTS REQUIRING IHS SANITATION FACILITIES ASSISTANCE

State	IHS area	BIA area	Estimated [1] number of units requiring IHS participation	Estimated [2] IHS cost
Alaska	Anchorage	Juneau	401	$4,000,000
Arizona	Navaho and Phoenix	Navaho and Phoenix	1,120	2,260,000
California	Phoenix	Sacramento	189	382,000
Colorado	Albuquerque	Albuquerque	48	97,000
Florida	Sarasota	Seminole and Miccosukee	37	75,000
Idaho	Portland	Portland	110	222,000
Iowa	Aberdeen	Minneapolis	10	20,000
Kansas	Oklahoma	Anadarko	87	175,000
Michigan	Aberdeen	Minneapolis	37	75,000
Minnesota	do	do	190	384,000
Mississippi	Sarasota	Choctaw	110	222,000
Montana	Billings	Billings	580	1,170,000
Nebraska	Aberdeen	Aberdeen	113	228,000
Nevada	Phoenix	Phoenix	265	535,000
New Mexico	Albuquerque and Navaho	Albuquerque and Navaho	1,361	2,750,000
North Carolina	Sarasota	Cherokee	70	141,000
North Dakota	Aberdeen	Aberdeen	475	960,000
Oklahoma	Oklahoma	Anadarko and Muskogee	1,866	2,128,000
Oregon	Portland	Portland	58	117,000
South Dakota	Aberdeen	Aberdeen	363	733,000
Utah	Phoenix and Navaho	Phoenix and Navaho	18	37,000
Washington	Portland	Portland	254	513,000
Wisconsin	Aberdeen	Minneapolis	150	303,000
Wyoming	Billings	Billings	88	178,000
Subtotal			8,000	17,705,000

[1] On Apr. 12, 1971, the Assistant Secretary of DHUD advised IHS of a planned revision of the above distribution which would provide for 1,200 unit starts in Alaska during fiscal year 1972. Because of the 4 to 1 cost ratio of serving Alaska units over those of the lower 48 States, a complete revision of the distribution plan will be required if the proposed Alaska plan is adopted.

[2] IHS cost estimates for housing support are based on preliminary information on housing project locations supplied by the Federal housing agencies. More accurate cost estimates will be possible when actual construction sites are selected.

INDIAN HOUSING NEEDS BY BIA AREA OFFICE [1] (as of July 1, 1970)

BIA area	Units needing renovation	Units needing replacement	Additional families needing new units	Total
Aberdeen	887	3,985	2,361	7,233
Albuquerque	1,264	1,752	2,410	5,426
Anadarko	1,152	1,280	1,423	3,855
Billings	1,021	1,275	405	2,701
Juneau	281	8,437	1,008	9,726
Minneapolis	606	1,349	65	2,020
Muskogee	1,208	4,310	1,497	7,015
Navaho	4,555	5,026	848	10,429
Phoenix	1,254	4,775	995	7,024
Portland	1,053	1,114	641	2,808
Sacramento	426	855	60	1,341
Cherokee	157	443	153	753
Seminole	0	26	35	61
Miccosukee	3	6	10	19
Total	13,867	34,633	11,911	60,411

[1] Based on BIA Consolidated Housing Inventory (July 1, 1970).

SANITATION FACILITIES—SPECIAL PROJECTS

Mr. HANSEN. $445,000 is requested for special projects. What is involved in this request?

Mr. GREEN. That is a sum of money which is available to us principally to take care of emergencies such as fire or a well giving out,

which requires us to go in and rebuild the structure at a time when we did not have anything else in the budget for it. That is one use of the money.

Another use of the money is in the preparation of advanced engineering studies for large areas, so that we can economize on the time and in the expenditure of later funds, by getting the best possible designs. We have sometimes been able to go outside to consulting engineers to get them to do some of this advanced engineering work for us.

Mrs. HANSEN. In your justification you say you also plan to construct facilities for Indian ceremonial areas and for tribal buildings used for community gatherings.

What is involved in this regard?

Mr. GREEN. This is an item that we felt should be covered because these centers of Indian population were not, in many cases, supplied with even a safe water source. It really didn't make much sense to get water in the homes and then have the Indian people come together and get sick at one time; so we have a little bit in there for that. We have done only two or three projects like that, it doesn't really cost very much, usually, for this kind of project.

TRAINING FOR HEALTH CARE AT TAHLEQUAH, OKLA.

Mrs. HANSEN. I have received a letter from Mr. W. W. Keeler, the Principal Chief of the Cherokee Nation, regarding health care at Tahlequah, Okla. He points out in his letter that the proposal for a training facility for health service personnel in Northeastern State College utilizing the Indian hospital facilites is particularly constructive. He says, "Indian power development is a most important consideration." May we have your comment in this regard?

Dr. JOHNSON. Madam Chairman, Chief Keeler, I think, is identifying the opportunity of having a college and the Tahlequah hospital on essentially the same campus. Some of the things we are doing on the Navajo, we are working with the Navajo community college in health careers training which I think are good examples. I have one problem with Tahlequah. Again that is one of our poorest hospitals in terms of physical facility. It is terribly overcrowded. Our ability to participate there, I think, would have to be very limited, because of the physical plant that we are dealing with.

Mrs. HANSEN. How much is it going to cost to replace the Hastings Indian Hospital?

Mr. CHADWICK. The Tahlequah Hospital, Madam Chairman, would be again in the vicinity of some $4 million as it now stands. We do not have a planning program for Tahlequah.

Mrs. HANSEN. Is it on your priority list?

Dr. JOHNSON. It is one of the 22.

Mrs. HANSEN. That doesn't mean it has a high priority.

Mr. CHADWICK. No; it really doesn't have immediate priority. Specifically the Congress has provided an increment of planning money for certain other hospitals, Tuba City, Claremore, Zuni, that would really make Tahlequah a considerable distance away even if we were budgeting money currently for hospital construction.

SANITATION FACILITIES FOR PAPAGO RESERVATION

Mrs. HANSEN. I have also received a letter from Congressman Udall regarding a situation on the Papago Indian Reservation. Apparently the Indian Health Service is not currently in a position to assist.

Dr. JOHNSON. Is this for sanitation facilities?

Mr. GREEN. We have a total estimate of need in the Papago Reservation of $1.3 million for sanitation facilities.

Mrs. HANSEN. What would the $1.3 million accomplish?

Mr. GREEN. That would take care of all the unfinished work. I should also point out it would bring up to date some of the very early facilities that were very, very modest in extent, and which are now no longer sufficient to meet the requirements of the people there.

Mrs. HANSEN. Attached to Congressman Udall's letter is a letter from Mr. Chadwick on this same subject. It says, "The estimated cost of providing facilities to these sites based on current construction costs is approximately $200,000."

Dr. JOHNSON. Is this a specific group of sites rather than the total reservation?

Mr. GREEN. That is a specific project There are many projects in my list.

Mrs. HANSEN. Mr. Chadwick's letter continues, "* * * there are currently a total of 118 Indian homes in the named locations which are without on-premise running water and an adequate means of waste disposal."

Dr. JOHNSON. This would be part of the backlog of existing homes for which there is no provision in the budget before you.

SANITATION FACILITIES FOR GILA RIVER

Mrs. HANSEN. What are the existing sanitation facilities on the Gila River Indian community?

Mr. GREEN. The Gila River Reservation, as well as the Papago Reservation, has some of the earliest projects that we put in, and many of them badly need to be upgraded. We have, through the Gila River model cities plan, in which we have participated some, a pretty good idea of the total requirements for sanitation facilities in this reservation, and while the figure I will give you, Madam Chairman, is subject to some change, depending on how far EDA and other agencies might participate in this model cities plan, that figure is $3.836 million.

Mrs. HANSEN. The Governor of the Gila River Indian community has sent me some questions concerning a model health delivery system for this community.

The questions follow:

It is noted that two engineers and two construction foremen would be hired for the duration of construction. How long a period do you anticipate construction would take place?

Mr. GREEN. If the construction were anywhere near as large as the $3.8 million plus that I just mentioned, this would have to be expended, even if we got all the money at once, over a period of years, in at least 2 or 3 years.

Mrs. HANSEN. Would you anticipate that the utilities project would be self-supporting?

Mr. GREEN. Yes, we have reason to believe it would be, because of the history they have of collection of their fees now.

Mrs. HANSEN. Can it be expanded to include other utility operations?

Mr. GREEN. I am not sure what they have in mind, but I would think so, because they are fairly well organized.

Mrs. HANSEN. Will personnel requested under this plan be used only in a categorical sense as shown in the overlay or will they be expected to cross-categorize and function in various ways?

Mr. GREEN. I am not sure I should be the one to answer that. As far as my kind of people are concerned, at least, the people would, in fact, cross-categorize and work in a general way.

INTEGRATION OF NIAMA RESEARCH PROGRAM AT GILA RIVER

Mrs. HANSEN. Is the proposed integration of the NIAMA research program into the patient care feasible from the patient care standpoint? Will it add to or detract from the research effort? Will it facilitate the application of knowledge gained in the research effort?

Dr. JOHNSON. The National Institute of Arthritis and Metabolic Diseases has had a field research station on the Gila River Reservation, it was there when I was there in 1959, so it has been over 10 years. Actually there is a small temporary building attached to the hospital that is used as the base for this group. The things that they are studying, I think, are of critical importance to the Indian people. We talked about gall bladder disease several times, Madam Chairman, the tremendous burden that that makes upon the health of the Indian people. One of the very early things they have done is try to develop the epidemiology of what it is that is creating this tremendous incidence of that disease. We have got another thing going for us right now in the new Phoenix hospital. As you recall, the fifth floor of that hospital is also a clinical research center developed by that same institute, and so you have field research on the Gila River Reservation, plus the very sophisticated clinical research that is going on in the Phoenix Medical Center.

If we can put these together, if we can find the key to the tremendous incidence of gall stones in this group of people, you will cut down the morbidity and the mortality significantly, as well as of course making a tremendous contribution to the general public.

Another disease that the National Institute is studying down there is diabetes. The Gila River community has the highest incidence of diabetes of any population that has ever been identified.

Mrs. HANSEN. Why?

Dr. JOHNSON. That is one of the things we are trying to find out. We don't know. We know that it is there. There are a number of things about Indian populations, particularly in the Southwest, that are quite unique. The incidence of coronary heart disease is extremely low, as is the incidence of primary carcinoma of the lung.

We did a study of some 15,000 admissions to the Phoenix Medical Center and didn't find a single case of primary cancer of the lung in a Southwest Indian. We found a few in Midwest of Indians but not Southwest Indians. In that same series we didn't find a single case of peptic ulcer.

Mrs. HANSEN. Has this always been the case?

Dr. JOHNSON. We don't know. It is only as I say in the last 10 or 15 years that we have really been seriously studying. In the development of a health program you have to have a data base. You have to know what are the issues before you. This is one of the things that we started out very early, to develop the data base, and then as we see these high incidences of diseases, we say then let's focus some intelligent work to see if we can't find the key to solve some of these problems. No one else is particularly worried about some of the problems that we are facing.

The Governor of the community has been very supportive of this, because in the process of doing studies, we are also providing significant service to the Gila River community. It is, I think, a beautiful example of how a community, a health delivery system, and a research institute can put together a package that has some reasonable hope of coming up with good answers to some of these up to now unsolvable problems.

NECESSITY OF EMERGENCY HEALTH SERVICE COMPONENT AT GILA RIVER

Mrs. HANSEN. The Governor's last question is, "Do you feel that the emergency health service component is necessary? Will the proposed program meet the needs of the people?"

Dr. JOHNSON. What the Governor is talking about there, Madam Chairman, is the problem that we find in not just Indian communities, but whenever you are working in a disadvantaged group, the problem of how do you get the people who need services and the people who provide services together. Gila River is a large reservation. There are limited roads.

Mrs. HANSEN. What is the population of the Gila River Community?

Dr. JOHNSON. I think the population of Gila River is about 8,500. They are scattered over a large area. They go from the southern outskirts of the city of Phoenix all the way down almost 30 miles toward Casa Grande. Much disease that is preventable or could be handled early simply doesn't get to the medical facility. The other thing that they have, which I think also addresses itself to this, is the idea of community service centers, where they plan to have five districts and to put together the human resources kinds of activities in these service centers out among the population. I think that concept plus the idea of transportation, a transportation system, would give us a beautiful opportunity to see how you can improve the health of people by being able to get the people needing services and the delivery system closer together. I think their proposal is a reasonable proposal, and certainly one that we have worked with them to develop.

ADMINISTRATIVE PROVISIONS

Mrs. HANSEN. Please insert page 1 of the justifications in the record at this point.

(The page follows:)

ADMINISTRATIVE PROVISIONS, HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

SEC. 1001. Appropriations contained in this Act, available for salaries and expenses, shall be available for services as authorized by 5 U.S.C. 3109 but at rates not to exceed the per diem equivalent to the rate for GS–18.

SEC. 1002. Appropriations contained in this Act available for salaries and expenses shall be available for uniforms or allowances therefor as authorized by law (5 U.S.C. 5901-5902).

SEC. 1003. Appropriations contained in this Act available for salaries and expenses shall be available for expenses of attendance at meetings which are concerned with the functions or activities for which the appropriation is made or which will contribute to improved conduct, supervision, or management of those functions or activities. (Department of the Interior and Related Agencies Appropriation Act, 1971.)

INDIAN HEALTH PROGRAMS IN OKLAHOMA

Mrs. HANSEN. I have also received a letter from Congressman Edmondson on the subject of the entire Indian health programs in Oklahoma. What would you say are the major Indian health problems in Oklahoma presently and how well are you meeting the needs?

Dr. JOHNSON. Madam Chairman, if we look at the problems of Oklahoma, I will be repeating some of the things I said this morning when we talked about Lawton, because Lawton is one facility which in all respects but one mirrors the problems. The one where it is different is that Lawton is a good facility. It is a new hospital.

We have the problem of staffing, both basic hospital staffing, and particularly the staffing related to ambulatory care. We have had a problem over time of being able to gear up our supply system to be able to get enough in the inventory so that you can be economical in your purchases.

We have a very fine supply system developed, but we have always had a problem getting enough in inventory in the first place to make it work.

Certainly the problems of sanitation in the existing homes in that area have been a very critical concern to the Indian group in Oklahoma.

INCREASE IN WORKLOADS

Mrs. HANSEN. I am quoting from a letter attached to Congressman Edmondson's letter from Dr. Bailey concerning W. W. Hastings Indian Hospital:

> In fiscal year 1967 the outpatient department visits provided by the service unit was 19,200 compared to 47,000 in the fiscal year 1970. The number of personnel at Hastings Hospital in fiscal year 1967 was 80; in fiscal year 1970 the number of personnel was 80. Since 1967 the equipment level has been constant. Our average monthly expenditure for drugs for the last year has been $9,000. Even at this level there was a critical shortage of drugs and supplies.

What causes your shortages of drugs and supplies?

Dr. JOHNSON. Mr. Chadwick, can you give any specifics on the problems that we have identified there?

ACCEPTANCE OF INDIAN PEOPLE OF PROGRAM IN OKLAHOMA

Mr. CHADWICK. Yes. Madam Chairman, going back to some statements of this morning, the acceptance of the Indian people of these programs, since 1967 the Indian people have substantially changed in Oklahoma from accepting the program to one of demanding the program, and the volume has been tremendous.

Mrs. HANSEN. But your personnel level has not kept pace with the increasing demands.

Mr. CHADWICK. The personnel has not kept pace. As a matter of fact, we mentioned this morning Lawton to the committee, the Congress provided 300 positions last year to repair the losses that had occurred in the past several years. Lawton got 10 of those positions, which brought them back to where they are, at the level we were talking about this morning. I was just in Oklahoma a week ago, and reviewed their total program with them, as we do for various places.

In the supply level, if you were to bring Oklahoma on a par with their workload and inventory levels, you need inventory at a level of one-third of your issues for the year, because you turn your inventory three times a year. In other words, you have that much supply. On that basis, if they were fully funded for supplies, it would take some $400,000 for the Oklahoma area alone. This compares with the $1.5 million for the total system. In other words, Oklahoma being one of the total, the degree in Oklahoma is greater, as you can see, $400,000 compared to a grand total of $1.5 million.

Mrs. HANSEN. So actually the Indian health needs in Oklahoma are greater in proportion to the needs in the rest of the Nation?

Mr. CHADWICK. Yes, because the demand has grown in a more rapid manner, if you will.

Mrs. HANSEN. What do you have programed in the way of drugs for Oklahoma for fiscal year 1972?

Mr. CHADWICK. In Oklahoma we have programed for the coming year—well, this year, $1 million worth of supplies, $1.2 million to be exact, hence the $400,000 associated with that figure. The demands and program growth next year, with price index, we have a 6-percent index increase in the budget for supplies.

Mrs. HANSEN. In fiscal year 1972?

Mr. CHADWICK. Yes; that which has been provided for in the budget, would add $150,000 to that figure, so in 1972, if they meet the full need of the demand, would be better than $1.3 million. They have met that need in the past in two ways. No. 1, by issuing part prescriptions rather than total, and they have met it substantially by reducing some staff, because a physician is not a complete physician without drugs and medicine, so they have been sort of meshing the two together in this manner. I would say that their feeling is and the Indian people in the Oklahoma area have staffed it out as their most critical need right now, because their staff isn't complete without these drugs and medicines.

If you ask about their other pressing needs, it is in the ambulatory staffing side of the house.

Mrs. HANSEN. Please insert in the record the Indian Health Service drugs, supplies, and personnel deficiencies in Oklahoma.

Mr. CHADWICK. Yes.

(The information follows:)

SUMMARY OF DRUGS, SUPPLIES, AND PERSONNEL DEFICIENCIES IN THE IHS OKLAHOMA CITY AREA

IHS inventory shortages indicate a $400,000 gap in the supply purchasing level for all Indian hospitals in the Oklahoma City area.

Furthermore, understaffing in IHS hospitals and clinics has been a significant problem for some time. Several factors which have created additional requirements include advances in the delivery of routine, diagnostic, curative and preventive services resulting in substantial increases in the number of clinical

services provided at our hospitals and clinics. In addition, for the period 1962 to 1970 outpatient visits in IHS have increased by 60 percent.

The increase in both supply and demand factors has created additional needs for hospital personnel. Analysis of the 1972 projected hospital workloads in Oklahoma of 171 G.M. & S. ADPL would indicate that for IHS to adequately care for these workloads and to raise the staffing level to that of the voluntary nonprofit short-term general hospitals in the United States, IHS would need an additional 83 inpatient personnel at a cost of $926,000.

Further analysis of the 1972 projected Oklahoma hospital workloads of 147,526 outpatient visits would indicate that for IHS to adequately care for these workloads and raise the staffing to an acceptable level, IHS would require 221 additional outpatient personnel at a cost of $2,466,000.

In addition, analysis of the 1972 projected Oklahoma field medical services workload of 80,000 outpatient visits would indicate that for the IHS to adequately care for these workloads and to raise the field medical services program to an acceptable level, an additional 74 field medical services personnel would be needed at a cost of $826,000.

(Discussion off the record.)

PATIENT WORKLOAD REPORTING SYSTEM

Mrs. HANSEN. Dr. Bailey goes on to say:

A computerized survey of disease patterns has been imposed upon the service unit with no additional people to run the survey and no local justification. Based on time spot checks a conservative estimate of personnel time devoted to this form is about 33 hours per week of nursing and medical reports and 3 hours per week of physician time. This is a luxury we cannot afford.

May we have your comment in this connection?

Dr. JOHNSON. I think they are talking, Madam Chairman, about our data system. One of the things that is extremely important, if you are going to have a rational program, is to know what your problems are, what kind of diseases you are going to serve, what kinds of things you are meeting and what is not being done. The system that we have had, and one of the reasons why our program has been able to make the kind of progress it has, is that we plan and operate the program based on fact, not on clinical judgments or on the impressions that staff may have as to what their problems are. I have gone into Oklahoma, for example, and using this system that some of the young physicians think is a burden to them, I have known more about what their program was than they have. I have been able to ask them some questions and had them begin to face up to some problems going on within their own hospital that they weren't aware of.

(Discussion off the record.)

PROBLEM OF ORDERING EQUIPMENT

Mrs. HANSEN. Dr. Bailey's letter continues:

One physician in this hospital is scheduled to leave in a few weeks was given a few days to request equipment which would be utilized by another physician whom he never met. Under these conditions effective utilizations of funds is virtually impossible. The problem is compounded by the fact that equipment which can be obtained through mandatory sources are ordered ahead of those which can be obtained only on the open market. This is apparently done without regard for priority or cost versus impact on patient care. The result is that crucial, essential smaller items are not obtained while larger more nonessential items may be. An example of this is a right angle lens for a bronchoscope. We have two very acceptable bronchoscopes with other instruments for removing tissues for study, etc. However, we have no right angle lens.

He goes on and explains why they require right-angle lenses:

In brief we have equipment which is needed and should be used quite frequently but is essentially useless to us because a small component is missing. The surgeon who left in June ordered this component last spring. I have discovered only this week after searching for the reasons why it did not arrive; that it was not ordered because it could be obtained only on the open market. The cost of transporting one patient to a private hospital and contracting a private physician to perform bronchoscopy would pay for the right-angle lens many times. Yet we still do not have the right-angle lens.

Dr. JOHNSON. I think, Madam Chairman, that is purely a local problem.

IHS EQUIPMENT REPLACEMENT SYSTEM

Mr. CHADWICK. We do have a good equipment replacement program.

Mrs. HANSEN. That was my understanding.

Mr. CHADWICK. The way we do it, we have computer information that we have had for many years, that tells us the time that equipment should be replaced. Rather than just replacing it because it tells us to visually inspect the equipment to see if it, in fact, needs replacing. Some of the issues brought out here—it is not the doctor who decided to buy that. The criteria that we use throughout the system indicates that. I would also add, a lot of this minutia that was in this letter was the subject of discussions last week, and it will not be, I don't believe, the occasion to need to write another letter.

INADEQUATE CARE RESULTING FROM INSUFFICIENT FUNDS AND STAFF

Mrs. HANSEN. Dr. Bailey continues:

The effect upon young physicians being forced to deliver inadequate and unacceptable care is sobering. Of more immediate concern is the effect upon the patient. A brief review of any sample of our outpatient charts tells the story all too vividly. With the terrible press of time and numbers, patients tend to get what they ask for. Consequently, patient after patient has been placed on one drug after another until a patient with little actual organic disease will often be on five, six, or seven toxic drugs.

That practice is not confined to Indian hospitals and to public medicine.

Dr. JOHNSON. What he is really pointing out very well is the sort of thing that you were talking about earlier, Madam Chairman, about the problem of physicians who are terribly overworked; who don't have the helping hands with them. I practiced this way because there was no alternative. I was the only physician. If 170 patients came through my doors that day, I saw all 170. I think you do the best you can for them, but it is not the way we were trained to practice medicine. It is not the way we would like to say medicine should be practiced. The question was raised this morning about physicians coming into the program, and so forth. I think this is one of our problems in recruiting, and certainly this is a key factor in the retention of physicians who simply get frustrated with never seeing any resolution to this terrible burden of patients. They would like to be able to spend 10, 15, or 20 minutes, whatever it might take to completely work up the patient during an outpatient visit, but if you have got the waiting room filled—and as Mrs. Wauneka and others have pointed out the long waiting lines—the doctor cannot spend the time.

Mrs. HANSEN. I had a complaint from Congressman Edmondson that they couldn't get an adequate supply of drugs at some of your hospital facilities in Oklahoma.

Mr. CHADWICK. As I mentioned, we do have some real problems in the supply level and the shortage in dollars has caused some further imbalance in some locations versus another, where we had some bad situations.

Mrs. HANSEN. Oklahoma has one of the larger Indian populations and I think they have genuine problems.

USE OF CIVIL DEFENSE MEDICAL STOCKPILES

Mr. MCDADE. Do you know about that stockpile of medical supplies that Civil Defense has?

Mr. CHADWICK. Yes, sir.

Mr. MCDADE. Are you able to get any of that at all?

Mr. CHADWICK. We have looked into that, and we were not successful.

Mr. MCDADE. It is a shame. There is an awful lot of it just rotting.

Mr. MILLER. If we could I would like to pursue your question for the record a little bit because I am not clear as to why that occurred. I would like to supplement the record on it, because I know that that is a program of HEW, but it comes before Mr. Steed's subcommittee, and I know they are awfully eager to distribute those supplies. I don't know the reason for this apparent difficulty. It may be that they are not appropriate supplies for the Indian health program. That may be the answer, but I would like to have an opportunity to pursue that and provide a reason for it.

(The information will be supplied to the committee at a later date.)

Mrs. HANSEN. Thank you very much, Dr. Johnson. As usual you and Mr. Chadwick are almost as informative as an encyclopedia. We do appreciate your problems.

Dr. JOHNSON. Thank you. We appreciate the interest of the committee.

○

LIST OF WITNESSES

	Page
Adams, E. J	489
Arnold, R. K	1
Atherton, C. H	425
Baker, R. L	436
Blitzer, Charles	518
Boorstin, D. J	518
Bradley, James	518
Brown, J. C	489
Chadwick, H. V	978
Challinor, David	518
Cliff, E. P	1
Cowan, R. S	518
Cowden, T. K	1
Deinema, J. W	1
Droege, R. F	1
Green, R. S	978
Guidice, C. W	958
Hall, B. B	978
Hayes, L. D	489
Jameson, J. F	518
Johnson, Dr. E. A	978
Lerner, Abram	518
Miller, Charles	978
Muldoon, W. E	978
Nelson, M. M	1
Nelson, T. C	1
Read, B. H	454
Reed, T. H	518
Rigg, J. B	436
Ripley, S. D	518
Robertson, Robert	958
Schultz, E. W	1
Walton, William	425
Warner, W. W	518
Wheeler, T. A	518
Whipple, F. L	518
Wing, Dale	958

INDEX

C

Page

Commission of Fine Arts 425–436

Georgetown waterfront 434
Hirshhorn Sculpture Garden 432
J. F. Kennedy Center 435
Pennsylvania Avenue development 435
Subway 430

F

Federal Metal and Nonmetallic Mine Safety Board of Review 436–454

Administrative support 441
Authorizing legislation 442
Fatalities 450
Health problems 454
Obligations 442
Positions 448
Travel expenses 449
Uranium mining 447

Forest Service, Department of Agriculture 1–424

Acquisition of lands for Cache National Forest 360
Acquisition of lands for national forest, special act and to complete land exchanges 327–330
Acquisition of lands for Superior National Forest 360
Acquisition of lands for Uinta National Forest 359
Acquisition of lands for Wasatch National Forest 359
Administrative and supervision costs 410
Administrative provisions 361
Aircraft 370
Motor vehicles 366
Alaskan pipeline 421
Assistance to States for tree planting 331–333
Budget summary material 65
California earthquake damage 12
Construction and land acquisition 275–316
Blanchard Springs 87
Cave Run project 80
Communications systems 306
Corvallis Laboratory 308
Deferrals 77, 80, 82
Denver fire center 305
Experimental housing units 304
Improvement of existing structures 308
Jasper, Ark., site acquisition 306
June Lake project 80
Lakewood, Wis., site acquisition 307
Language change 315
Limitation on use of campgrounds 298
Macon, Ga., laboratory 309

Forest Service, Department of Agriculture—Continued
Construction and land acquisition—Continued Page
Mount Rogers National Recreation Area 87
Pollution abatement 309
Princeton, W. Va., laboratory 309
Recreation facilities 81
At reservoirs 298
Recreation-public use areas 295
Redbird unit 315
Rhinelander, Wis., laboratory 308
Service and storage buildings 306
Timberline Lodge project 81
User fee revenues 299, 300
Contributions of national forests to the economy 87, 98
Comptroller General's reports:
Allocation of roads and trails construction funds 387
Restrictions on the use of motorized equipment in wilderness and similar areas 402
Contingency fund for emergencies, provision in budget for 12
Cooperative range improvements 316–17
Department of Natural Resources 65
Economic importance of national forests 87, 98
Employment:
Grades GS–14 and GS–15 409
Nonreimbursable details of employees 386
Unfilled positions 409
Environmental protection and pollution control 13, 20, 160, 163
Construction for pollution abatement 309
Cost of 21
Fees 299, 300, 303
Forest protection and uitilization 101
Appropriations, expenditures, and receipts 29
Commercial forest lands 15
Cost of national forest management and protection, compared with revenue 29
Crime investigations and responsibilities 62
Compensating local governments 65
Study of law violations 63, 64
Demands for wood and wood fiber 17, 37
Emergency rehabilitation work 6
Export law, antisubstitution clause in 45
Export of logs 43, 44
Export of lumber 44
Forest land management 101–207
Allowable cut, new program 180
Fighting forest fires and forest fire protection 187
Aerospace fire control research 193
Bureau of Land Management cooperation 193
Control program 5
Detection of fires 24
Disaster repair 10
Education program at visitor centers 56
Emergency rehabilitation work 6
Fire control under Clark-McNary Act 59
Firefighting cost per acre 195
Fires in 1970 5
Funds from Bureau of Land Management 5
Losses 188
Man-caused and lightning fires 8, 57, 194
California 64
New techniques 190
Presuppression activities 6
Recruiting firefighters 195
Reprograming funds for emergencies 7
Grazing fees 57
Historical and geological, botanical and archeological work 175

Forest Service, Department of Agriculture—Continued
Forest protection and utilization—Continued
Forest land management—Continued
Insect and disease control:
Forest insect research laboratories—204
Gypsy moth control—197, 203, 206
Use of pesticides—198, 201, 206
Land exchanges—186
Litterbugs—175
Managing national forest recreation—174
Mineral claims, leases and permits—186
Nationwide system of trails—175
Range resource management—180
Reforestation and timber stand improvement program—14, 15, 18, 33, 173
Acres reforested, 1967–71—177
Budget for 1967–71—34
Douglas-fir seed—173
Financing of—36
Snoqualmie National Forest, replanting on—173
Release and thinning—179
Sales administration and management—171
Soil and water management—182
Reconnaissance survey—183
Surveillance of management activities—183
Watershed restoration—183
Soil and water resource analysis—185
Thinning and salvage—171
Visitor information service—176
Wild and scenic river studies—174, 185
Wildlife habitat management—176
Forest research—23, 32, 207–261
Animal damage losses—256
Auburn, Ala., forest science laboratory in—247
Bald eagle program—239
Bark utilization research—249
Construction—24, 37
Corvallis forest science laboratory—248
Environmental quality and timber production and utilization—248
Fire research—256
Funding level—37, 238, 250
Missoula, Mont., forest utilization research at—241
Pollution at Madison Laboratory—247
Pollution by forest industry—244
Pollution caused by forest fires—244
Recreation research program—240
Slash burning—243
Structural Testing Laboratory, Madison, Wis—249
Timber cutting practices in Bitterroot—245
Urban forestry research—238
Urban trash, recycling of—242
Washington, research in State of—245
Wildlife habitat research in Lake States—239
Willamette Valley program—241
Housing starts:
In United States and Japan—44
Increase in—17
Timber needed for—42
Import of wood products—43
Litter cleanup costs—55, 303, 304
Log contracts, extension of—424
Logs, rafting of—45
Mineral kind development for family recreation—408
Mining activities—14, 60
Receipts from—31

Forest Service, Department of Agriculture—Continued
Forest protection and utilization—Continued Page
Olympic National Forest 409
Prices for timber 42
Recreation areas, administration of 64
Recreation receipts 59
Reprograming of funds 7
Revenues and expenditures 29, 93
State and private forestry cooperation 22, 261–275
Payments to States 274
Supply of timber 41
Under contract 41
Timber cut and sold 14, 17, 18, 93
Use charge 58
Watershed management 14
Wildlife habitat management and recreation 32
Forest roads and trails 19, 318–327
Comptroller General's exception to allocating construction funds 387
Outlays, increase in 327
Reduction in funds to States 327
Reprograming of funds 323
Reserve, fund 326
Unobligated and unexpended balances 326
Job Corps Conservation Centers 90
Lapses, personnel 410
Payment bond problem 421
Per diem and mileage rates 413
Permanent appropriations 370
Public relations activities, reduction in 166
Film production 170
Travel, foreign 415
Trust funds 382
Visitors to NPS facilities 13, 290
Working capital fund 377
Youth Conservation Corps 93, 334
Allowances to enrollees 336
Coordination with Interior Department 340
Evaluation of 358
List of camps 357
Number of enrollees 358
Supervisory cost 338, 356
Work-education projects 336

I

Indian Health services and facilities 978–1126
Acceptability of health care 1017
Administrative provisions 1121
Alaska:
Expansion of HUD programs in community centers 990
Hospitals in 989
Availability of experience to other agencies 1018
Choctaw hospital 1061
Civil defense medical stockpiles, use of 1126
Community health workers 991
Contract medical care 1067
Contributions from other agencies 1088
Cost of health care 998, 1012, 1013
Program to reduce hospital costs 1013, 1014
Dental program 996, 1009, 1073
Lower Elwha Tribe 1074
Facilities 1091–1121
Air pollution projects 1114
Bonneville Dam, replacing of houses at 1113
Construction priorities 1108
Construction technology, new 1105
Gila River 1119
Impounding of funds 1104

Indian Health services and facilities—Continued
Facilities—Continued Page
Obligations, acceleration of 1111
Planning and design work 1107
Santa Fe Hospital 1110
Sanitation facilities 1115
Papago Reservation 1119
Special projects 1117
Self-help program 1115
Tahlequah, Okla., training for health care at 1118
Solid waste disposal system at Taholah 1112
Unobligated balances 1103, 1106
Family planning 996, 1008, 1080
Funding 1961–71 1060
Global community health career development program 1068
Great Lakes Intertribal Council, communication from 1080
Health education 1077
Highlights of health program 986
Hospital admissions 986, 999
Hospital efficiency 1016
Hospital staff, increase in 1065
Hospital utilization rate 995, 1007
Houses requiring replacement 1072
Infant mortality rate 988, 990, 1002
Justification material 1020
Laboratory quality improvement 1066
Lawton Hospital 1062, 1064
Maintenance and repair 1060, 1062
Maternal and child health 1079
Mental health 1078
Navajo health status and facilities 993
Nonreimbursable details of personnel 1089
Nonreservation Indians, availability of contract health services to 1082
Office of Economic Opportunity, role in health programs 1086, 1111
Oklahoma, health programs in 1122
Outpatient visits 987, 988, 1000
Paramedical personnel, use of 1014
Positions 1059
Preventive health programs 1076
Public health nursing 1075
Public Health Service hospitals, closing of 985
Recruitment of physicians 1018, 1019
Revenue sharing 985
Sanitation facilities program 1068
Areas having adequatee facilities 1069
California, program in 1071
Program under Public Law 86–121 1072
Services performed by other offices and agencies 1087, 1088
Tubeerculosis death rate 991, 1004
Urban Indians, health care for 1084
Wisconsin, health program in 1081

N

National Council on Indian Opportunity 958–977
Accomplishments 970
Allowances for Council members
Consultants 972
Housing 962
Indian involvement in budget process 971
Institutional development and economic services contract 976
Membership of advisory committee 972
National Congress of American Indians contract 976
Review of interdepartmental funding requests 971
Stanford research contract 976
Urban Indian problems 962, 977

Page

National Gallery of Art 489–517
Acquisitions 515
Art education 512
Building alterations and improvements 513
Building, progress on new 504, 511
Contemporary paintings 510
Donations of works of art 509
Exhibitions, cost of 491, 514
Extension service 507
Hours open, evening 505
Photographic archive 512
Positions, new 507
Postal rate increase 505
Private funding 491
Procurement specialists 517
Protection of art objects 506
Protective equipment 513
Publications fund 509
Quality of collections 516
Restoration of art objects 512
Supplemental appropriation 504
Vandalism 506, 513

S

Smithsonian Institution 518–958
Accessions and gifts 525
Assistance to other museums and institutions 555
Board of Regents, membership of 545
Concessions 543
Construction:
Joseph H. Hirshhorn Museum and Sculpture Garden (*See also* Salaries and Expenses) 932
Completion of building 946
Withholding of further appropriations, effect of 943
National Air and Space Museum 947
Building redesign 534
Cost of construction 948
Expenditures for planning 948
History of efforts to construct building 948
Parking facilities 951
Construction and improvements, National Zoological Park 918-927
Contracts and grants to 956
Exhibits, significant 955
Information retrieval 536
Inquiries received 553
Installations, list of 545
Justification material 555
Knowledge for man's progress, use of 767
Magazine "National Associates" 527
Museum program and related research (special foreign currency program) 888–918
University of Washington study 916
West Pakistan project 916
National Museum Act 533
Persons responsible to Board of Regents 540
Plans for the future 521, 534
Policymaking process 537
Private financing 538
Audits of 540
Balance sheet 541
Decline in 552
Representatives on Government advisory boards 545
Restoration and renovation of buildings 927
Funds in reserve 931, 932
Lamont Street Library modifications 928

Smithsonian Institution—Continued
Restoration and renovation of buildings—Continued
National Museum of History and Technology bicentennial facility — Page 927, 931
Renwick Gallery — 927
Unobligated and unexpended balances — 928
Salaries and expenses — 562–874
Academic and educational programs — 864
Administrative support and interagency research — 771
Advisory commissions, membership of — 804
American Revolution Bicentennial — 528, 535, 850
Accomplishments and plans — 853
Responsibility of Museum of History and Technology — 852, 857
American College Theater Festival — 847
Anacostia Neighborhood Museum — 849
Animal Health Department — 793
Animals of the sea — 760
Crown of thorns starfish — 762
Seal herds — 760
Archives of American Art — 527, 843
Buildings management department — 873
Center for Short-lived Phenomena — 782
Global monitoring — 783
Center for the Study of Man — 780
Indian encyclopedia — 781
Changing climates and man's adaptations — 764
Conservation Analytical Laboratory — 845
Cost of library materials, increase in — 765
Crystallography Laboratory — 764
Department of Living Vertebrates — 791
Gift animals — 792
Education of the general public — 759
Electronic data processing, application of — 764
Elementary and secondary education program — 864
Environment and behavior research — 770
Environmental science program — 528, 758, 770, 774, 858
DDT, effects of — 531
Mercury levels in seafood products — 528
Environmental studies — 758, 775
Exhibitions program, major — 859
Facilities operation support — 769
Festival of American Folklife — 528, 846
Fire in History and Technology Building — 846
Freer Gallery of Art — 842
Joseph H. Hirshhorn Museum and Sculpture Garden — 806
Additional personnel requested — 809
Charges made against and responses thereto — 840
Comments in Congressional Record concerning — 833
Conservation, preparation, and restoration — 808, 810, 821, 872
Construction (*See* this title)
Design, revision of — 946
Donation of Mr. Hirshhorn for construction — 828
Equipment — 828
Legislation proposed — 826, 827
Liability if project terminated — 822, 826
Sculpture garden, alternative plans for — 822
Construction cost — 843
Title to collection — 811
Value of collection — 815
Mail costs — 846
Museum support deficiencies — 757
National Air and Space Museum — 777
Kitty Hawk command module — 778
National Collection of Fine Arts — 795, 801
Subway, effect of — 796
National Museum Act — 860
National Museum of History and Technology — 795, 798

Smithsonian Institution—Continued
Salaries and expenses—Continued Page
National Portrait Gallery 802
Sale or exchange of paintings 803, 805
National Zoological Park 784–791
Operations and maintenance of 790
Obligations by objects 953
Office of Environmental Science 774
Chesapeake Bay Center for Environmental Studies 775
Model community action program 777
Office of the Registrar 845
Office of the Secretary 873
Orientation film and publications 801
Origins of oceanic ecological systems 763
Pacific Science Center 780
Positions, number of 952
Positions, vacant 757
Promotions 757
Radiation Biology Laboratory 772
Cooperation with Atomic Energy Commission 774
Light reaching the mall, decrease in 772
Research awards program 865
Research scholar program 801
Scientific Research Department 793
Space missions, information resulting from 767
Study of deteriorating fresh water habitats 759
Telescope, development of large optical 765
Terrestrial biology studies 763
Tropical Research Institute 768, 769
Work performed for other agencies 773
Science Information Exchange 536, 874–888
History of 885
Termination of National Science Foundation funding 885
User income 887
Visitors to 519, 553, 778, 954

Woodrow Wilson International Center for Scholars 454–489
Administrative expenses 457
Advisory Committee and panels 487
Appointment of fellows and guest scholars 458, 470, 478
Availability of funds until expended 481
Benefits from program 481, 486
Guest scholars 480
Ocean studies 482
Private funds 478, 480
Quarters 471
Trustee appointments 486