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**ELEPHANT PROTECTION ACT OF 1979  
AND THE  
INTERNATIONAL WILDLIFE RESOURCES CONSERVATION  
ACT OF 1980**

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**HEARING  
BEFORE THE  
COMMITTEE ON RESOURCE PROTECTION  
OF THE  
COMMITTEE ON  
ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE**

NINETY-SIXTH CONGRESS  
SECOND SESSION

ON

**H.R. 4685**

AN ACT TO PROVIDE FOR THE CONTROL OF THE IMPORTING  
INTO AND THE EXPORTING FROM THE UNITED STATES OF  
ELEPHANT AND ELEPHANT PRODUCTS, AND FOR OTHER  
PURPOSES

AND

SENATE AMENDMENT NO. 1680, THE INTERNATIONAL WILD-  
LIFE RESOURCES CONSERVATION ACT OF 1980

\_\_\_\_\_  
JUNE 30, 1980

\_\_\_\_\_  
SERIAL NO. 96-H53

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Printed for the use of the  
Committee on Environment and Public Works

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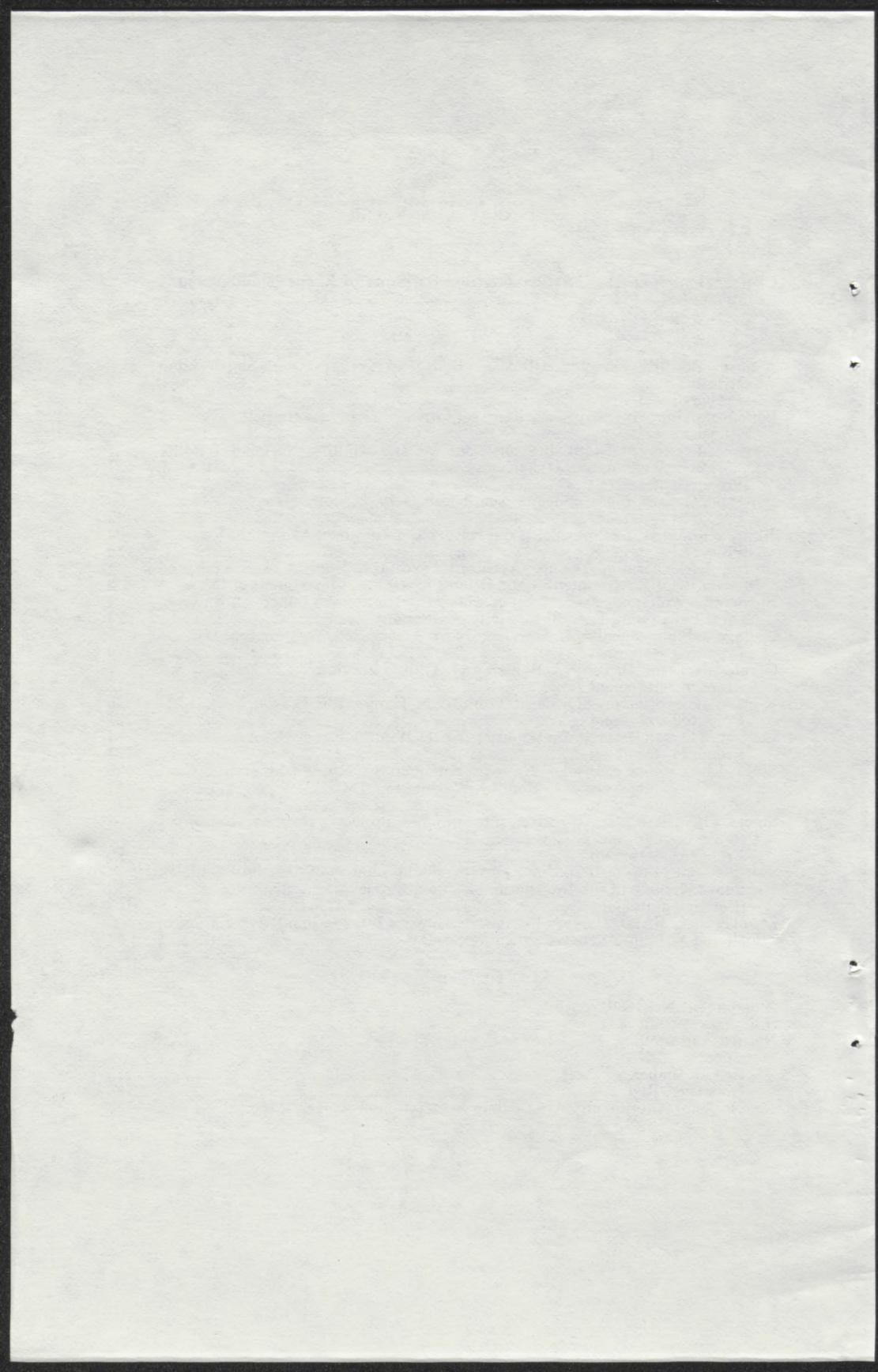
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# ELEPHANT PROTECTION ACT OF 1979 AND THE INTERNATIONAL WILDLIFE RESOURCES CON- SERVATION ACT OF 1980

MONDAY, JUNE 30, 1980

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON RESOURCE PROTECTION,  
*Washington, D.C.*

The subcommittee met at 9 a.m., in room 4200, Dirksen Senate Office Building, Hon. John H. Chafee presiding.

Present: Senator Chafee.

## OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Good morning, ladies and gentlemen. The hearing this morning will be on H.R. 4685, The Elephant Protection Act, and an amendment to it, No. 1680, the International Wildlife Resources Conservation Act of 1980.

We have a list of witnesses, and we will proceed in the order that this list is prepared. I don't believe Mr. Beilenson is here. When he comes in, we will take him. Meanwhile, we will proceed with the first panel. But first I would like to make several comments.

Last week, as you know, this committee reported out the superfund bill, which bill was in response to the mammoth hazardous wastes and spills problems in this country. Hazardous wastes represent the negative aspects of the industrial and chemical production success we have seen during the last 40 years. The superfund is a reaction to an already desperate situation as well as an attempt to abate environmental decline in the future.

The superfund bill means that we will spend hundreds of millions of dollars to recoup what we have already lost; in other words, to try to cleanup past wastes and to discourage spills in the future.

I would like to think that we don't have to wait for the last desperate gasps of our international wildlife resources to respond. Rather, we should immediately make this country's wildlife conservation expertise available on a systematic basis to other nations that would choose to have it. We should do it now before our efforts resemble too much of a plugging the leaky dam.

This is what this hearing is about today. We have a distinguished group of witnesses before us, which we will hear, to discuss ways in which our country can assist other nations in overall wildlife and habitat conservation as well as efforts to halt the decline of a particular species; namely, the elephant.

On March 5 I introduced the International Wildlife Resources Conservation Act of 1980. Senator Culver, who is chairman of the Resource Protection Subcommittee, joined me in this legislation. I might say this: There has been no stronger proponent of wildlife conservation than Senator Culver. I would like to publicly acknowledge his splendid work in this area.

A great deal of inspiration for this legislation came from the 2 days of hearings which this subcommittee held last November. The introduction of this measure in early March coincided with the launch of a broader world conservation strategy, with which many of you are familiar.

This legislation will enable the United States to assist more efficiently on a regular basis other nations to preserve and manage their wildlife resources and habitat. Among its features is an international conservation corps whereby experts from our research institutions, universities and government can, through the Department of the Interior's Fish and Wildlife Service, go to other countries to help them solve particular conservation problems and develop programs. Also—and I think this is one of the most important parts of the bill—it provides training opportunities in wildlife conservation here in the United States for foreign nationals in a diverse group of our institutions.

Finally, a small group of resource attachés will be stationed abroad in key regions—not all over the world, but just in key regions—to be sources of needed conservation information and to advise us at home on where conservation assistance is needed.

We have to remember that only a very few of the less affluent nations even have a wildlife agency. Hence, these attachés can play a crucial role in locating opportunities for conservation efforts. The Departments of Interior and State would work mutually to establish this attaché system.

We are looking forward to hearing our witnesses' views on the International Wildlife Resources Conservation Act as well as the Elephant Protection Act which has come to us from the House. I would point out to you that the Elephant Protection Act has passed the House and has come here. The hearing is on that and the amendment which is the International Wildlife Resources Conservation Act.

Now recently I received a copy of the report of the Secretary of State dealing with the world's tropical forests, and the policy strategy and program for the United States. This report was transmitted by the Secretary of State to the President. It was prepared by the U.S. interagency task force on tropical forests.

I have only had an opportunity to read the summary, but from what I have read, it appears to be a very well thought-out document. It is very gratifying to see how closely the wildlife resources conservation needs identified in that report from the Secretary of State to the President parallel those that we have identified during the process of drafting up title II of the bill before us today. That report stresses the very significant points as to the finding and purposes of this bill.

Now the provisions in title II, which I have just touched on—the training of foreign nationals, establishing an international conservation corps, and the stationing abroad of wildlife resource att-

chés—would contribute, in my judgment, directly toward attaining the goals identified in the Secretary of State's report and would seem to be in complete harmony with the policy of the United States, proposed by the Secretary of State in that report. So it is a pleasure to see the legislative and executive branches in such close pursuit of the same goals.

Now our first panel will consist of the administration. Congressman Beilenson is not here, as I understand it. As I say, when he comes in, we will take him at the conclusion of whatever panel we are dealing with.

The first panel consists of Leslie Brown, Senior Deputy Assistant Secretary for the Bureau of Oceans and International Environmental and Scientific Affairs of the Department of State. We appreciate your coming, Mr. Brown.

Mr. BROWN. Thank you, sir.

Senator CHAFEE. Mr. Lynn Greenwalt from the Fish and Wildlife Service, it is a pleasure to see you back here again.

Why don't we take this alphabetically. Why don't you start, Mr. Brown.

**STATEMENTS OF LESLIE BROWN, SENIOR DEPUTY ASSISTANT SECRETARY, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, DEPARTMENT OF STATE, AND LYNN GREENWALT, DIRECTOR, U.S. FISH AND WILDLIFE SERVICE**

Mr. BROWN. Thank you, Senator.

I am Leslie Brown, the principal Deputy Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. I am happy to be here this morning.

The Department of State is committed to integration of resource issues into traditional foreign policy decisionmaking, as evidenced by Secretary Muskie's recent statement calling the issues associated with resources, environment and population the "new dimension of national security." Thus, we share this committee's great concern for the future of wildlife and the ecosystems on which they depend.

Working closely with the National Park Service, U.S. Fish and Wildlife Service, Forest Service, Peace Corps and AID, the Department of State has endeavored to meet the challenge of title V of the Foreign Assistance Act to coordinate the activities of interested agencies to help other countries meet their natural resource requirements.

Our emphasis has been on ecosystem management, which you have just recognized in the U.S. interagency task force on tropical forests, cochaired by the Departments of Agriculture and State. They recently sent a report containing a proposed tropical forests policy, strategy and program for the United States to the President.

Internationally habitat loss such as that occurring with tropical deforestation, desertification and wetland loss is a devastating blow to the continued existence of numerous plant and animal species.

We agree with you, sir, we think the efforts on the tropical forests do dovetail nicely with what this committee is attempting to do.

We are here this morning to comment on H.R. 4685, a bill providing for control of the importing into, and the exporting from the United States of elephants and elephant products, and Amendment No. 1680 to H.R. 4685.

The administration opposes title I of H.R. 4685. My colleague, Mr. Greenwalt, will go into more detail on this since it touches more in his responsibilities than ours in the Department of State. But we believe that the Department of the Interior does have the authority within their elephant product regulations to encourage nations to become parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the CITES convention.

Senator CHAFEE. Did you oppose it in the House? Did you take a position over there?

Mr. BROWN. That I will have to check.

Yes, sir. We did oppose it in the House.

Senator CHAFEE. In the testimony over there?

Mr. BROWN. Yes.

Senator CHAFEE. Thank you.

Mr. BROWN. With regard to title II—that is Amendment No. 1680—the Department agrees with the findings and purposes but is not convinced on close examination that it is the best vehicle available for improving on-the-ground wildlife and habitat management overseas.

Rather, the Department of State believes that efficient use of existing mechanisms should be encouraged and that agencies, such as the U.S. Fish and Wildlife Service, should join with foreign affairs agencies, such as the Agency for International Development and the Peace Corps, in working cooperatively overseas.

For example, the National Park Service has recently detailed one of its employees to the Peace Corps office of programing and training where he is providing needed technical advice in the design of Peace Corps natural resource management programs.

United States bilateral science and technology agreements are another mechanism which might be used by the U.S. Fish and Wildlife Service. Currently the United States has government-to-government agreements with 25 countries and technical agencies have significant agreements with 48 countries.

I should note here that Dr. Frank Press, the President's science advisor, is planning this fall to go off to four African countries, with the express purpose of designing and signing cooperative agreements with the four countries. It seems to us this would be a good opportunity perhaps to explore the possibilities of some wild-life conservation programs.

Before commenting further, I would like to emphasize the Department of State's indebtedness to the Fish and Wildlife Service and National Park Service for the many instances in which they have provided us with invaluable assistance. The Department vigorously supports any necessary clarification of authorities the Department of the Interior believes it needs to aid foreign affairs agencies in providing mutually beneficial technical assistance in natural resource and environmental management.

We are concerned, however, that the amendment does not provide mechanisms for integrating proposed programs into related

activities of other agencies. Also, some sections propose approaches or programs which run counter to current administration financial and personnel management policies and procedures as determined by the Congress.

Senator CHAFEE. Could you illustrate what you mean by that?

Mr. BROWN. Yes, sir. I will go through a few of the provisions in my following remarks.

Senator CHAFEE. I see. Fine.

Mr. BROWN. Finally, there is nothing in this amendment to encourage countries to become parties to the Convention on International Trade in Endangered Species, which we believe is the most important international mechanism open to the United States for influencing other nations where wildlife is concerned.

The Department would like to call your attention to several issues which confront us in Amendment No. 1680.

First, the international conservation corps, section 204.

The proposal to assign U.S. personnel to a foreign government, international organization or institution for up to 4 years runs counter to the current administration policy of trying to control or reduce U.S. official presence overseas. This is one area in which the State Department must retain concurrence authority for any placement of U.S. citizens overseas under this section.

The difficulty encountered with current administration policy guidelines for employment comes with placement of permanent personnel overseas rather than temporary duty personnel. While temporarily assigned experts could be sent overseas immediately, longer term placements would require preparation including language and area competence training.

On Section 205, training of foreign nationals.

The State Department believes one of the most important uses of U.S. financial and technical assistance is for the development of natural resource administrative infrastructure in the poorest countries under the greatest resource pressure; that is, countries where our assistance is most likely to save wildlife or habitat. We should try to provide education and training in situ rather than in the United States because a student benefits most by learning about species and ecosystems he will be managing in the cultural and economic atmosphere in which he will have to work. Moreover, we believe more students can be reached per investment dollar if teaching is done on a regional basis. The regional wildlife training centers in Tanzania and Cameroon and the proposed center in Latin America make efficient use of donor support and are examples of institutions which should be supported.

On Section 206, regional wildlife resource attachés.

This proposal must be reviewed carefully in light of U.S. national objectives and priorities overseas. As I noted, the President has directed that resident official U.S. employment abroad be controlled and reduced to minimum necessary levels and to that end has established an overseas position ceiling for each agency. This is the so-called mode ceiling.

The Department of State is charged with monitoring and implementing these ceilings. Proposals to increase any agency's ceiling require the concurrence of the concerned U.S. Ambassadors, Assist-

ant Secretaries of State, the Office of Management and Budget, and the President.

We question the need for wildlife resource attachés. Science attachés currently are responsible for a broad range of international science issues, including those associated with environmental and natural resource management.

Currently the State Department assigns approximately 30 persons to science posts in Embassies. In cases where there is no science attaché, those functions are normally carried out by political and economic officers. The Department is now assessing the possibility of assigning science attachés to a few additional developing country posts.

The Department has received no indication that the reporting and attention given by current staffs to wildlife issues has not been adequate. Should the occasion arise where there is a need for more American expertise than present staff is capable of providing, it might be desirable to give the Ambassador the option of requesting assistance by U.S. experts assigned temporarily to the host country.

Section 208, the use of U.S. owned excess foreign currencies.

The State Department supports the work the Department of the Interior has done with its foreign currency authority, particularly in Egypt, where an Egyptian wildlife service has been established recently. We support efforts within the Department of the Interior to continue these programs.

However, section 208 as drafted presents certain difficulties for the Department of State. Section 208(3) provides that excess foreign currencies shall be used in preference to funds appropriated for purposes of the act and stipulates that "\* \* \* such foreign currencies shall be used in preference to funds appropriated or otherwise made available to the Secretary for the purposes of implementing this act." This provision is inconsistent with the provision in section 208(2) making the use of excess currencies "\* \* \* subject to the provisions of section 1415 of the Supplemental Appropriations Act, 1953, and is in direct contravention of section 1415, and section 508 of the General Government Matters Act, 1962."

Section 1415 limits use of U.S. owned foreign currencies to purposes provided for annually in appropriation acts. Section 508 provides that foreign currencies may be used for any purpose for which appropriations have been made, "only when reimbursement is made therefore to the Treasury from applicable appropriations of the agency concerned." Section 208(3) is inconsistent, therefore, with existing law.

Sections 208 (1) and (2) authorize the use of excess foreign currency for stated activities to be carried out under the act. If other elements of the act are construed as providing the authority to finance with dollars activities included in these sections, then it would appear that these sections are redundant, being already covered under existing law.

Section 104(a) with the authority to use foreign currencies of the Agricultural Trade Development and Assistance Act of 1954, as amended, and section 612 of the Foreign Assistance Act of 1961, as amended, authorize the sale of U.S. owned foreign currencies to agencies of the U.S. Government for payment of their obligations

outside the United States. We therefore suggest deletion of sections 208 (1) and (2).

Mr. Chairman, I should note that is a complicated, technical issue. I have brought with me our Department's expert, if there are any specific questions, and if you want to get into it in more detail.

Senator CHAFEE. Thank you.

Mr. BROWN. Section 209, The Advisory Council on International Wildlife Resource Conservation Policy.

We do not believe the establishment of another advisory council for wildlife purposes is necessary. Public meetings for the purposes of discussion and reporting should be encouraged but do not depend on creation of an advisory council. Opportunities for formal inter-agency discussions should be increased with the creation of the Subcommittee on Wildlife of the Committee on International Affairs, chaired by the Department of State. The recently established subcommittee which will be cochaired by the Departments of State and Interior is currently awaiting agency designation of representatives.

In conclusion, Mr. Chairman, the Department of State would support further discussions of existing programs in which the U.S. Fish and Wildlife Service might participate and ways in which its international program might be expanded within existing funding limitations. There are enormous natural resource management problems facing the world today. We do not believe, however, that the provisions contained in this bill are necessary to meeting the challenge those problems present.

That concludes my statement.

Senator CHAFEE. Thank you very much, Mr. Brown.

What I think I will do is to hear from Mr. Greenwalt and then I have some questions that I will direct to both of you.

#### STATEMENT OF LYNN A. GREENWALT

Mr. GREENWALT. Thank you, Mr. Chairman.

As indicated by Mr. Brown, his testimony has covered in large measure the concerns of the administration as it relates to those international affairs matters of an administrative and technical nature. I would like to confine my testimony, in the interest of time, largely to the question of the elephant bill.

The question to be raised is what is the best way to provide for the kind of encouragement necessary to get people in foreign countries, particularly in the case of the elephant in Africa, to do that which is necessary themselves to preserve this magnificent beast?

I will make an observation from H. L. Mencken who said, "There is always an easy solution to every human problem—neat, plausible, and wrong." The same might be said of most wildlife problems, and in particular the problems associated with the African elephant.

With the elephant, and indeed with all wildlife resource problems, we must be careful to direct our limited resource into areas that can be most beneficial.

While there is no doubt that poaching is a significant factor in the decline of some elephant herds, the simple fact of the matter is that whatever we do to regulate the import of elephant products into this country, it will probably have only a peripheral effect on

the elephants in Africa. The United States accounts for a relatively small percentage of the total ivory trade and an even smaller percentage in the trade of raw ivory. There is every indication that the trade could be redirected to other countries without substantially disrupting the market.

As you know, the elephant is already listed as a threatened species under the provisions of the Endangered Species Act, and the Secretary is authorized to promulgate such regulations as are necessary for the conservation of the species.

This existing authority enables the application or relaxation of restrictions as needed, providing the flexibility necessary to recognize changes in the status of elephants and provide sufficient protection to the species without unnecessarily hampering legitimate trade. Import of elephant products is currently governed by a regulation issued under the authority of the Endangered Species Act.

The African elephant is also listed on appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora—the aforementioned CITES—which requires that all exports of elephant parts or products from CITES countries be accompanied by documentation stating that the animal was taken in accordance with the management program of the country and that its export is not detrimental to the survival of the species in the wild. We believe the Endangered Species Act and CITES provide sufficient authority for us to address, to the extent we can address any wildlife poaching problem in another country, the problems with the elephant.

Our current elephant regulation is difficult to enforce and there has been valid criticism of it. To address these concerns, and to develop a rational regulatory scheme which will more effectively use our legal authorities to protect the elephant, we have taken two major steps. First, we commissioned a detailed study of the impact of the ivory trade on African elephant populations. Second, we participated in a meeting of technical experts called by the second conference of the CITES parties which addressed, among other things, control of the elephant ivory trade.

On the basis of these actions, we are convinced that proper conservation of the African elephant can be best achieved by a combination of technical assistance to help African nations deal with the difficult problems of habitat loss, conflicts in habitat use and control of poaching, coupled with concerted international controls on the ivory trade, particularly in unworked ivory.

The study on the impact of the ivory trade was conducted by Dr. Iain Douglas-Hamilton of Nairobi, Kenya, who is chairman of IUCN's African elephant specialist group and one of the world's most respected authorities on the African elephant.

In the report, he states that the most effective way to counter the illicit ivory trade is through united international action. Although he argued that a total ban on the importation of ivory products would be valuable because of its leadership effect, he also recommended that any regulations that were put into effect to control trade should be done in harmony with CITES. He further recognized that any direct effect resulting from a ban on the importation of ivory products into the United States would be slight. It is

clear that multilateral rather than unilateral measures are in order. Such multilateral measures are now taking place under CITES.

The meeting of technical experts, which occurred in Bonn, Germany, on January 29-31, 1980, made the following recommendations for adoption by the third conference of the CITES parties, to be held in New Delhi, India, on February 8, 1981:

That any imports of African elephant ivory by a party be authorized only if the party is satisfied that the ivory was legally acquired in and exported from the country of origin;

That permits or certificates for unworked or simply worked ivory be accepted only if they mention the actual country of origin;

That relevant information be exchanged among parties and between parties and the CITES secretariat, and if there is any doubt concerning the validity of an ivory export permit or reexport certificate, a copy of the documentation be submitted to the management authority concerned for clarification;

That the Technical Expert Committee on Harmonization of Permit Forms and Procedures study and promote the development of methods for the permanent marking and numbering of unworked elephant tusks, such numbers to be entered on the export permit and reexport certificates; and

That parties make every effort to encourage wider participation in the convention by nations trading in ivory which are not yet party to the CITES.

The Fish and Wildlife Service is revising our current special rules for elephants. We intend to revise the rule by requiring that importations of unworked ivory be made under a special permit. This would allow the Service to maintain close scrutiny of this aspect of the ivory trade. This permit would be in addition to any other permits required under CITES.

At the same time we intend to delete from our special rules those prohibitions primarily concerning interstate commerce. The Service could then concentrate its administrative and enforcement efforts on international trade involving the African elephant. We will not propose any major changes to the regulations on worked ivory. Such ivory will still have to originate in the wild in a country that is a party to CITES and be imported from a convention country.

Considering the relatively small role of the United States in the world ivory market, and considering the international program outlined by the meeting of technical experts, the Service believes the most effective use of its resources would be to focus on controlling ivory traded in the manner suggested by the draft resolution.

This would support the adoption of this international program by other CITES nations and, in the long run, would provide the best means to control the ivory trade. H.R. 4685 as approved by the House would disrupt the slow but promising progress we are making in developing a truly international method of controlling the trade in wildlife.

Furthermore, we are opposed in principle to H.R. 4685 because it establishes an artificially high priority for the African elephant. To concentrate our restricted resources on one species, when other species such as the black rhino, the grevies zebra and other species

in Africa and elsewhere are in greater danger of extinction, does not seem to be a wise allocation of resources. In the final analysis, the African elephant, like most other species in trouble, can be saved only by people who share its range and its habitat.

Through a program of technical assistance and training, supported by a reliable information network, we should encourage the use of preventive wildlife resource management and thus enable an eventual reduction in the use of curative or crisis conservation. It is much more cost-effective to enable a nation to manage its wildlife resources so that they do not become threatened or endangered than it is to rush in and save a species after it reaches that point.

Mr. Chairman, that concludes my formal testimony on that subject. As always, I would be delighted to answer any questions you may have.

Senator CHAFEE. Thank you very much, Mr. Greenwalt. I do have some questions here.

The problem, as I see it, Mr. Brown, is that international wildlife protection is a very low priority, and perhaps has to be, for the State Department. For instance, you indicated that the State Department does have scientists. Currently the State Department assigns approximately 30 persons to science posts in Embassies.

I just wonder how many of those 30 scientists are biologists, for example? How many of them are physicists dealing with international arms agreements as opposed to the areas that we are particularly concerned with here? Do you have any idea of that?

Mr. BROWN. I can certainly provide for the record the exact background of each of these science attachés. But I will say that they do span a fairly broad spectrum. Some of them are Foreign Service officers with long experience in some part of the diplomatic side. We do have physicists, chemists. We are about to send off a new science attaché to China who happens to be a professor of chemistry at the University of Southern California.

[The information referred to follows:]



## DEPARTMENT OF STATE

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL  
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

July 8, 1980

MEMORANDUM

TO : OES - Mr. Leslie H. Brown

FROM : OES/STS - Archelaus R. Turrentine *ART*

SUBJECT : Sciatts and Counselors' Academic Background

In response to your request for information concerning the educational background of Department of State employees serving abroad as Science Attaches or Science Counselors, I submit the following:

DOS-employed Sciatts and SciCounselors	= 25
Bachelors degrees	= 24
Masters degrees	= 21
Doctorate degrees	= 14

Therefollows an analysis of the degrees held:

<u>Bachelor degrees</u>	
Physical Science*	11
Mathematics	1
International Relations	1
Civil Engineering	1
Electrical Engineering	1
Mechanical Engineering	2
Chemical Engineering	1
History	1
Engineering	3
Business Administration	1
Education	1
<u>Masters degrees</u>	
Business Administration	2
Education	1
Engineering, Chemical	1
Engineering, Mechanical	2
Engineering, Civil	1

Engineering	1
History	2
Geography	1
Management	1
Physical Science*	6
Political Science	3
Doctorates	
Engineering, Mechanical	1
Geography	1
History	1
Law	1
Physical Sciences*	8
Political Science	2

\* Physical Sciences includes physics, chemistry, and biology. The Department of State's personnel records do not break Physical Science degrees down into the various categories.

OES/STS:BFemminella:bj

Mr. BROWN. But I don't really believe the background of the individuals is nearly as important as the tasks and tasking that we give them from Washington. In other words, in a given country, if wildlife is considered by the administration to be important, why that is what the Embassy is there to do. So I worry less about the specific experience of these people than I do to make sure we ask them to do the things we think are important for them to do.

Senator CHAFFEE. But human nature being what it is, Mr. Brown, when somebody has an expertise in chemistry or physics or wildlife biology, then they give the attention to that area, and also there is a priority that comes to an attaché as he is confronted with a series of areas where perhaps he might be helpful. So he concentrates on the ones from his experience he believes are most helpful.

You mentioned that you are trying to cut down the number of employees abroad. But there are certainly plenty of Americans stationed abroad. How many employees do you think there are abroad now from the State Department?

Mr. BROWN. Well, certainly thousands. The total Foreign Service membership is something on the order of 2,700, although a lot of them, of course, are serving here in Washington. By far, of course, the largest number of Americans abroad is U.S. military. But the Embassies, particularly the large ones, have people from Treasury, Coast Guard, Interior, AID, ICA. There is a large component.

And it is precisely that size that has worried not just this administration but previous ones to try to control who goes abroad and make sure functions we expect them to be performing are indeed priority functions. It is very expensive to keep an American abroad now. If you have to send a married man with a family, you are talking of housing allowances, you are talking of educational allowances, you are talking of a whole variety of legitimate but nevertheless rather costly extras. Therefore, there are good reasons for being very careful about establishing new administrative units abroad. If there is money to be spent, that money could be spent on programs.

Senator CHAFFEE. One of the points you made was that you already have the capability in the State Department to assign people abroad if they are required through the Department of the Interior. That is, specialists can be assigned to Government organizations abroad.

Am I correct in saying that the Secretary—I am talking about the Secretary of the Interior, where you borrow these people from—his authority is limited to assigning technical experts abroad only to foreign governments or organizations? For instance, he couldn't assign them to a university. Is that right, Mr. Greenwalt?

Mr. GREENWALT. That is my understanding, yes, sir. I think that is correct.

Senator CHAFFEE. Therefore, Mr. Brown in his testimony talked about the wildlife institutes in [Tanzania and Cameroon] and potentially in South America. Can we assign people over there to help in the teaching? Either one of you may answer.

Mr. BROWN. My understanding is that through AID, money is made available to reimburse the wildlife service, Interior, whoever it may be, who has something to teach. But I am not sure what the Interior authorities are.

As my testimony said, we would certainly support any clarifying authorities to make it possible for Interior to operate in areas where they cannot now operate. But through the various reimbursable systems, I think we can get hold of experts when we need them.

Senator CHAFEE. How about it, Mr. Greenwalt? What is your authority?

Mr. GREENWALT. Our authority is fairly limited. The most prominent authority we have in this connection is related to the Endangered Species Act. It provides only that while we can and in fact are encouraged by the act to engage in activities in foreign countries, we are able to use experts from within Interior only.

Said another way, we cannot bring people into the scene who may be more familiar with the problem than anybody in Interior really is. We have dealt with AID in a variety of ways over the years, usually on matters that relate to—one example that springs immediately to mind is for several years we have dealt through AID with the government in the Philippines in connection with the control of rats in rice crops, an obvious commercial and agriculture connection. We have periodically through AID dealt with foreign countries in the establishment of fishery programs. These have been relatively short-term assignments so far, as I understand, through AID and not through the country involved necessarily.

Senator CHAFEE. Also, they all have a commercial return. I am sure you are doing the fisheries because that will yield a greater crop of fish. You are trying to kill rats so they won't destroy the rice.

Mr. GREENWALT. That is essentially correct. In more recent times, through the authorities of the Endangered Species Act and the opportunity to use excess foreign currencies, we have been able to do some things that are far from the commercial that you imply; for example, the establishment of a very progressive, in my judgment, and effective program in Egypt, and a similar effort that is bearing fruit and potentially will do remarkable things for wildlife in India.

Senator CHAFEE. But that is only with endangered species.

Mr. GREENWALT. That is correct.

Senator CHAFEE. In other words, it seems to me the point we are trying to make here in this act that I would hope you both would give your attention to is that there is a lot of difference between an endangered species and the preservation of wildlife before you get to the point where species are endangered.

Mr. GREENWALT. I will say, Mr. Chairman—

Senator CHAFEE. Here in this wealthy country of ours we have enough trouble getting attention to the preservation of the ecosystem and the wildlife, which certainly takes a lower priority in a nation where people are merely trying to survive with adequate protein, and there is not much time and attention paid to it.

Mr. GREENWALT. I won't disagree at all, Mr. Chairman. I submit in some of those nations where people are merely trying to survive, in fact the opportunity to survive may lie in the wildlife resources.

Senator CHAFEE. But if you can only pay attention to endangered species, you are pretty limited in what you can do.

Mr. GREENWALT. I would agree with that. From my professional point of view it is clearly more effective than any dimension of measuring effectiveness to deal with problems before they become serious problems. I cite you the example of a continuing relationship we have had with the Republic of Mexico for almost a decade now in which there has been the nexus, the legal nexus, if that is the correct term. The authority for our being involved in Mexico is derived from the Migratory Birds Treaty and the Endangered Species Act. But at the same time we have been able by a diligent effort to respond to the wishes of the Mexican authorities by getting at some of the fundamentals: The establishment of refuge areas and the management of major water development and irrigation projects so they are compatible with and tend to support wildlife values in Mexico.

There is a plea that I detect and have detected over the years from a great many countries for assistance of some kind from the United States, the recognized leader in this field. And I believe that by using whatever authorities we can develop and through our continuing relationship with the State Department we have an obligation to respond to these pleas.

As this committee and I have had the opportunity to discuss in times past, Mr. Chairman, the things that go wrong with fish and wildlife and their supporting ecosystems in the other parts of the world have a profound effect on this country as well. I don't think we can ignore the opportunities, and we have abroad.

Senator CHAFEE. It seems to me you are saying just what we are trying to do in this bill. I am not arguing with you.

Mr. GREENWALT. I agree we are saying these things. I believe that there are opportunities that we may not have fully exploited. But however we arrive at that state of grace, I think the state of grace we have just described is one we must achieve and very quickly.

Senator CHAFEE. What do you have to say about that, Mr. Brown?

Mr. BROWN. I certainly would support what Mr. Greenwalt has said. I would also like to point out that a letter was sent to Senator Culver on June 26 from AID. One section of that letter I would like to read because the question of whether you were dealing only with endangered species has come up.

The AID letter points out that:

In 1977, section 118 was added to the Foreign Assistance Act of 1961, as amended, to authorize U.S. assistance for the development and strengthening of the capabilities of less developed countries to protect and manage their environment and natural resources, including maintenance of wildlife resources \* \* \*.

What this says is if there is money, there is at least one agency in the U.S. Government that has the authority, given a request from a needy country, to go far beyond the protection of endangered species. I read that authority as allowing them, for example, to establish game parks, to get help in training, to get help in buying equipment, and some of the most crying needs, which is quite apparent from the reporting we have had, of simple things like jeeps, four-wheel drive vehicles, fencing, helicopters.

So I think the mechanisms Mr. Greenwalt pointed out are really there. It is a question of finding the funds really to apply them.

Senator CHAFEE. Do you know whether AID has used this?

Mr. BROWN. Yes; they have.

Senator CHAFEE. It seems to me the reason Congress gets into what you might call specific grants as opposed to block grants is because they don't think something is being done. I am a believer in the block grant concept. I don't like categorizing things. But we do it because nothing is happening in an area where we are interested.

I greatly suspect that although this is a power AID has, they probably rarely use it.

Mr. BROWN. Well, attached to that letter, I might add, is an illustrative list of some AID activities. It starts off, for example, with a statement that training at the College of African Wildlife has been assisted and reinforced by a detail of personnel from the U.S. National Park Service and bringing staff to this country.

They are obviously active. There is always a question of course of priority, as you, yourself, pointed out. The problem of subsistence economies is survival—not only of wildlife but people. Given limited resources, you have to divide them up in some harsh, probably unpalatable manner, at least to somebody.

I do believe AID is getting more deeply involved in this activity. We would like to see them supported. I guess that is how I would put it.

[The letter referred to follows:]

JUL 1 1980

The Honorable James T. McIntyre  
 Director, Office of Management  
 and Budget  
 Department of State  
 Washington, D. C. 20520

Dear Mr. McIntyre:

In response to your March 19, 1980, request for Agency views on Senate Amendment No. 1680 to H.R. 4625, we offer our position in the enclosed proposed letter to Senator John Culver. We would appreciate your clearance of the letter so it can be introduced into the Record by the Department of State at hearings scheduled for June 30, 1980.

We will be pleased to answer any questions you might have regarding our position.

Sincerely,

Genta A. Hawkins  
 Assistant Administrator  
 for Legislative Affairs

Enclosure:a/s

AA/PPC/ENV:ACPrintz:man <sup>CP</sup> 6/25/80

Clearances:

GC:M.Williams <sup>CP</sup> Date 6/25/80  
 DAA/PPC:C.Paolillo <sup>CP</sup> Date 6/25/80

JUL 1 1980

The Honorable John C. Culver  
Chairman, Subcommittee  
on Resource Protection  
Committee on Environment  
and Public Works  
United States Senate  
Washington, D. C. 20510

Dear Mr. Chairman:

The Agency for International Development (A.I.D.) wishes to make known its views on Senate Amendment No. 1680 to H.R. 4685, the International Wildlife Resources Conservation Act of 1980, introduced by you and Senator Chafee on March 5, 1980. We would appreciate having this position entered into the record of the hearings on this bill. Our position is as follows:

Title I:

We share the concern of the Committee for the protection of the African elephant but we believe the proposed permit issuance approach will not be an effective method of controlling the trade in elephant products. We believe that increased support to elephant range States to properly develop their wildlife management institutional capacity would be a more appropriate approach.

Title II:

We are in full agreement with the principles set forth in Section 202(a) of the bill, and support the concept of sharing U.S. wildlife and natural resource management expertise with countries requesting such assistance. In 1977, Section 118 was added to the Foreign Assistance Act of 1961, as amended (the F.A.A.), to authorize U.S. assistance for the development and strengthening of the capabilities of less developed countries to protect and manage their environment and natural resources, including maintenance of wildlife

resources. The proposed amendment to H.R. 5685 does not change the President's authority under F.A.A Section 112 to respond to requests from countries. The enclosed list of A.I.D. activities demonstrates our commitment in the area of wildlife management and the success we have had in coordinating our efforts with those of other agencies. Therefore, we favor increased inter-agency coordination rather than the approach of Title II of the bill.

OMB concurs in the position taken in this letter.

We will be pleased to further discuss this position at your convenience.

Sincerely yours,

/s/ Genta A. Hawkins

Genta A. Hawkins  
Assistant Administrator  
for Legislative Affairs

Enclosures: a/s

AA/PPC/ENV:ACPrintz<sup>MA</sup>:mam:6/25/80

Clearance:

GC:M.Williams(Draft)Date:6/25/80  
DAA/EPC:C.Paolillo(CP)Date:6/25/80  
OMB:John Marcus(Phone):6/27/80

Illustrative Activities of A.I.D. in  
Areas of Wildlife Management

Through the Program of Man and the Biosphere (MAB):

- \* Training at the College of African Wildlife has been assisted and reinforced by detail of experienced U.S. National Park Service personnel to Mweka, Tanzania, for two months each. A.I.D. assistance will bring staff from the Wildlife College to this country.
- \* A Report on the status of endangered species in Thailand is being prepared under contract with U.S. Fish and Wildlife Service and the International Union for the Conservation of Nature. In addition to describing critical habitat requirements and the status of species, a prototype methodology is expected to emerge for other missions.
- \* Environmental guidelines for projects involving clearance of tropical forest areas in the Amazon Basin are being prepared by the World Wildlife Fund. This project will also develop training materials on methods of gathering basic information in tropical areas.
- \* The development of a training program on techniques for gathering and monitoring environmental baseline data is being carried out with USDA's International Training Office.
- \* Country Environmental Profiles: Thirty-one country reports are now completed or underway by the Library of Congress and the University of Arizona. Follow-up activities include the fielding of inter-disciplinary teams to update the information and to design the technical basis for mission prepared Country Development Strategy Statements and Annual Budget Submissions for environmental and natural resource activities.
- \* Watershed Management Training: Four regional training courses will take place over a two year span in Asian countries. A similar short course is available for LDC participants by USDA's International Training Unit at the University of Arizona.
- \* A policy level seminar in Mexico in April, 1980, sponsored jointly by the U.S. and Mexican MAB National Committees began a dialogue between decision-makers who often face

similar natural resource problems and may resolve them in different ways. Assistant Secretaries Robert L. Herbst of USDI and M. Rupert Cutler of USDA attended. Participants were also exposed to some new methods for determining multiple use natural resource policies.

- \* Support is being given for an Indonesian MAB rural ecology training program on the relationships between people and forests. This extends an existing project to provide supervised field studies of population groups that vary widely in their use of and attitudes toward natural resources.

#### Latin America and Caribbean:

- \* A.I.D. commissioned the World Wildlife Fund to study the feasibility of establishing a Latin American Environmental Training Institution. If established, it would be staffed by experts from LAC countries and would constitute a cadre of natural resource management expertise.
- \* A.I.D. provides support to the Tropical Agricultural Research Training Center (CATIE) in Costa Rica. It conducts applied research and offers training in a number of areas including watershed and wildlife management. This is accomplished in close cooperation with national institutions in Central America.

#### Asia Bureau:

- \* The Office of Endangered Species within the Department of Interior is working with A.I.D. to ensure that appropriate wildlife expertise is made available for the development of the Mahaweli Basin in Sri Lanka. A list of knowledgeable personnel was generated for consideration as advisors by the A.I.D. mission and the Government of Sri Lanka. Funds have been identified for strengthening the capabilities of the Government's wildlife department as part of the U.S. commitment to the project.

#### Africa:

- \* The A.I.D. mission in Uganda has shown interest in providing support to the wildlife department by acquiring equipment that would facilitate their rebuilding of the war ravished parks.
- \* Support is being given to the African Wildlife Leadership Foundation for the conduct of studies into the domestication of selected wildlife. The Foundation is the first environmental organization to be registered with A.I.D. as a Private Voluntary Organization.

Senator CHAFEE. Mr. Greenwalt, do you receive specific requests? You testified that you do, that you have these demands made upon you that you can't respond to. Yet Mr. Brown is saying AID can answer these. What is your answer to that?

Mr. GREENWALT. Our common problem I think, which Mr. Brown has alluded to, is the funding necessary. Many of the kinds of problems that come to my attention the Fish and Wildlife Service attempts to respond to insofar as we can, using funds presently available to us.

Some of the instructional examples that he used, instructors in wildlife institutes, we have provided these men and women on occasion and in accordance with our limited funds. Sometimes our requests become fundamental pleas, again of the kind that Mr. Brown refers to, like equipment.

I recall 7 or 8 years ago having a call from my office in Mexico from someone who indicated his greatest problem at that moment was the requirement for a set of tires for a four-wheel drive vehicle. We were able to make these available to him. I suspect it was not legal. I hope the statute of limitations has run on the action we took. But he got his set of tires for a four-wheel drive truck. I am not certain whether I have the authority to do that kind of thing. But the gamut has run from the very simple radio sets or binoculars to extraordinary needs for technical assistance of the most sophisticated kind.

We are simply not able to respond to each of these, let alone all of them, in any way that on balance in my judgment is consistent with the real need out there.

Senator CHAFEE. It seems to me, Mr. Brown—and I would like to have your thoughts on this—that there are some very, very major wildlife problems taking place in the world that in some instances aren't getting attention. Well, we just got this report now. Somebody is paying attention. I guess they have over the past several years. But something finally seems to be happening on the destruction of rain forests in Brazil. I am sure you spent a lot of time on that. I see the Government of Brazil is taking very, very drastic action.

But what we worry about is the African countries that have so many problems that they are of greater immediate priority. They are stamping out brush fires all over the place and can't pay much attention to this. Yet, in the long run, what is happening to the environment really could have more of an effect than the crisis they are responding to.

Now, that is our worry. How do you think that is being handled now, or are there any changes you would recommend?

Mr. BROWN. Well, you have certainly put your finger on what is a most desperate situation. A few months ago we were visited by Philip Leakey, who is the son of the famous Leakey family in Kenya. He is the Minister of Environment and Natural Resources in Kenya.

We talked at some length, in fact for a couple of hours, about what his problems were and how they might be dealt with. As you know, Kenya is in particularly difficult straits in part because it has an enormously high rate of population growth which is affecting the ecosystem in a very direct way.

One of the suggestions he made, and which struck us as being eminently sensible, was to try to convince the rural population that the protection of wildlife is in fact a money earner for them, tourism. Proper management of some wildlife species can also mean actual food for them. In other words, if you can manage herds of wild animals properly, you will usually have a culling process that you have to go through each year. But the main thing is to give the rural populations a stake in seeing that those animals are protected and taken care of.

That can only be done by the internal management practices and philosophies of the countries concerned. We can show them how to do it once the country concerned has made up its mind it is going to do it.

Again, this takes money. It takes money for tires, for fencing, for binoculars, for training game wardens, veterinarians.

But it seems to me that it is a dual problem. You have to convince the countries concerned that they have a stake in preserving that wildlife for a number of national—

Senator CHAFEE. But who does that? Here is Dr. Leaky who comes all the way to Washington, D.C., to see you, which seems to be a shame. There ought to be somebody he can talk to in the U.S. Embassy that pays attention to his problems.

Mr. BROWN. He certainly gets a lot of attention from the Embassy on this problem. I don't know whether he saw Mr. Greenwalt or not, but I know he was going all over the country talking to everybody from the National Geographic to people who make machinery for making charcoal. He has an enormous problem.

But I guess what I am trying to say is that in countries like Kenya they are not unaware of the problem. They are very acutely aware of the fact they have an irreplaceable resource that can mean income to the country concerned and to the people in it.

Now, it is a consciousness raising effort. It is a money support effort. There are a variety of ways we can get at this. I don't think any single solution will work. I think the nongovernmental institutions, particularly outfits like the National Geographic, the various wildlife organizations, the Smithsonian, there are any number of vehicles we have, and each one can attack some little bit of the problem. I don't see an overarcng solution to this bill or perhaps any other.

Senator CHAFEE. Thank you, Mr. Brown. The other witnesses I suspect will be testifying contrary to you.

Mr. BROWN. I am sure they will.

Senator CHAFEE. I am sure you have to leave. But if you could pay some heed to the testimony that they present, or possibly have somebody on your staff look over their testimony and pick up copies of it or stay or in some way get their testimony, I think that would be helpful, because then you can see what the other side is saying.

Mr. BROWN. I will certainly plan to stay for a while. We will pick up copies of the testimony.

Senator CHAFEE. Fine. Thank you very much.

Mr. Wolfgang Burhenne, who is Executive Governor of the International Council of Environmental Law from Bonn, Germany.

Mr. Burhenne, we appreciate very much your presence here. I understand you flew over. You have to fly back quickly.

Mr. BURHENNE. Yes.

Senator CHAFEE. Mr. Noel Brown, Director of the New York Office of the U.N. Environmental Programme. He is going to be on this program, too. Is Mr. Brown here?

Mr. BURHENNE. I believe he has to go to Geneva. Perhaps he is already gone.

Senator CHAFEE. You have to go to Bonn.

Mr. BURHENNE. Back to the work of the legislature.

Senator CHAFEE. That is a horrible prospect. [Laughter.]

Why don't you proceed, sir. We are grateful to you for coming.

**STATEMENT OF WOLFGANG BURHENNE, EXECUTIVE GOVERNOR, INTERNATIONAL COUNCIL OF ENVIRONMENTAL LAW, BONN, FEDERAL REPUBLIC OF GERMANY**

Mr. BURHENNE. Senator, I am pleased to address this committee. I am here as executive governor of the International Council of Environmental Law (ICEL) and as chairman of the Commission on Environmental Law, Policy and Administration of the International Union for Conservation of Nature and Natural Resources (IUCN).

I should tell you that I am a volunteer in this field. By profession I serve the federal and state parliaments of Germany as elected Secretary General of the Inter-parliamentary Working Center.

I have had the pleasure of testifying before the U.S. Congress several times in the past on various subjects. For example, I think the last time concerned computer privacy. I have been involved in the initiation and deliberation of legislation at the national level in my country and have been gratified that some of these initiatives have found the interest of certain Members of the U.S. Congress.

But my main efforts in the environmental field have been in the international sphere. This is both for international law per se and for the law of other nations. I have participated in the development of international conventions, including the African Convention on the Conservation of Nature and Natural Resources in 1968, the Convention of International Trade in Endangered Species of Wild Fauna and Flora in 1973, and the Convention on the Conservation of Migratory Species of Wild Animals in 1979. As a result, how could I not be extremely interested in this amendment to H.R. 4685?

In my experience, I have seen that national action for the conservation of natural resources outside of a country has no hope of success without international cooperation. So I believe that the proposal to extend U.S. involvement in international conservation is timely and that it deserves the strong support of the U.S. Congress.

Senator Chaffee in introducing the legislation made reference to the world conservation strategy developed by IUCN, calling it an attempt to mount a coordinated international effort to conserve natural resources. The strategy places great emphasis on the need for assistance to developing countries, including attention to the training of personnel, as being a requisite for effective conservation measures. A special resolution on assistance to developing coun-

tries, with special reference to training, has also been adopted at the diplomatic conference last year which concluded the Migratory Species Convention.

The delegation of the United States, one of the 58 member states of the Governing Council of the United Nations Environment Program, has participated in the unanimous vote in April of this year for the implementation of the world conservation strategy. In passing the kind of legislation before us, the U.S. Congress will take a significant step in the realization of one of the aims of the strategy.

I would furthermore submit that it is appropriate for the United States to take an international lead in this regard. The Federal Government has been perhaps reluctant to have such involvement especially through U.S. aid in the field of international wildlife conservation. It has often been heard from agencies such as AID and EPA that they have no mandate in this field, despite the fact that the economies of developing countries serve as a most critical link with the conservation of the natural resources.

The unspoken message that comes out of the bill is that the U.S. agencies had better become active in the conservation fields. This is especially evident when one considers that the application of this bill would occur in a large extent in the developing countries.

As Senator Chafee said, two major problems are deforestation and desertification. Attention to these is most drastically needed in the developing world. The task is to broaden the agency mandates taking into account that until now international assistance has been usually linked with the U.S. Foreign Assistance Act.

This bill is one of the most concrete steps I have seen being offered to the Congress on U.S. involvement in international conservation. I am aware of how hard it has been for conservationists to justify any concrete affirmative action in this field internationally. According to the agencies, I repeat, there always seems to be insufficient or unclear congressional mandates, since everything at the Federal level in the U.S. appears to function under the umbrella of distinct legislative authority, which is quite different in my country and many other countries. This bill would give the language and mandate which recognizes the goal and gives some framework for pursuing that goal.

It has not been long since Ed Muskie left this committee. When I mention his name, Senator, I will not speak about the letter President Carter has written to Chancellor Schmidt. I will stick to the subject.

In connection with this bill, I hope his new position as Secretary of State will give him the opportunity to broaden U.S. efforts on the possibilities of furthering international conservation.

Let me get into some of the details. It has been my impression that too much emphasis has been given until now on training programs for personnel on the ground, such as wardens, and not enough has been done to assist the other parts of the infrastructure; for example, the higher level of the executive hierarchy. In the developing world, there is a dearth of environmental lawyers, along with competent administrators and top people of government. Furthermore, the top people tend to quickly disappear into politics, into the private sector, into international organizations or

the United Nations family, often at the expense of the local conservation situation.

That is not to say anything against these people. We like to see them going into positions of more responsibility. Thus, the result is without proper backing at the higher levels of government, the best trained people at the front will lose their motivation.

I would consequently urge that the training of personnel pursuant to this legislation include administrators and lawyers as well as individuals working directly on the ground. For example, this is, I understand, along the lines of a proposal for a course at Tufts University on the implementation of the world conservation strategy which includes an examination of the policy and legal framework needed for implementation of such legislation at different levels.

Since I come from the legislature, I realize that accommodating this point does not necessitate any changes in the language of the bill since the provisions are certainly broad enough for this purpose. But, rather, I believe that maintaining it explicitly in the legislative history of section 205 would be desirable.

I mention this because of experience with previous programs and because the hearing before the subcommittee last November did not make it apparent that the coverage envisaged will be wider than the type of ground personnel presently being trained at Mweka, Tanzania, and Garoua, Cameroon.

Let me say again these are schools for wardens. The first was begun in Mweka, training wardens for English-speaking African countries. Later a second facility was built in Garoua for French-speaking trainees, also with the support of foundations, and organizations. That type of training is certainly important. But as I explained to you wardens cannot be effective without a competent executive structure behind them.

A further remark is necessary about the nature of the training programs required for lawyers and administrators. We have seen that the best results to date have been in instances where personnel with a good basic education have been able to benefit from exposure to experiences in a variety of other countries, regardless of the location. It is important that the trainee has the opportunity to study and to compare approaches to conservation law, policy and administration made in different parts of the world, with special emphasis upon those made in the neighboring countries in his region.

With this background, the trainee is able to evaluate the application of techniques for his country with its special requirements. It is not satisfactory that a trainee only becomes exposed, for example, to the United States or German experiences in only one of the developing countries. I have to say, not without experience, that so-called experts with one-sided training can do more harm than an elephant in a china shop.

The importance of adopting programs for local requirements can be readily seen in regard to previous efforts for the Islamic countries. Experiences to simply sell western ideals and mechanisms has certainly been seen to have a singular lack of success. A special statement to this effect has been made by Saudi Arabia in the last meeting of the UNEP governing council.

I would now like to briefly address other sections of the legislative proposal before us.

The provisions of section 204 provides an innovative concept for fostering international cooperation by arranging for the services of experts to directly assist developing countries. Collaboration with international organizations in the conservation field should be taken advantage of in this regard. The work of such experts should help developing countries, while also serving to improve the effectiveness of the experts at home due to their exposure to other systems.

From my point of view, I can imagine that this system will be extremely helpful in the areas of law and administration, with the benefit accruing to both the countries and organizations served, and for the assignees themselves as they gain relevant experience for later work.

The system outlined in section 206 could provide a very good opportunity for liaison but would be necessary only—and the Senator explained this already in the introductory remarks—for certain regions or for certain countries.

Concerning one proposed function, subsection 3, “acquisition and dissemination of reliable data or information concerning \* \* \* (b), statutes, orders, regulations, or other laws pertaining to the taking, collecting, import, export and other aspects of conservation.” I would like to mention that IUCN and ICEL have for several years been active in collecting, analyzing and computer processing such documentation. The IUCN environmental law information system (ELIS) has recently been selected for use in a project involving the CMEA countries, and we are hopeful it will soon also become the official environmental law data bank for the European Community.

ELIS covers all aspects of environmental law throughout the world but special emphasis has always been given to conservation. The availability of this documentation might consequently allow Embassies to devote more time to other priorities than the collection of documents.

As far as the council proposes in section 209, I am not sure that there are not already other means for effective coordination within the U.S. infrastructure.

I would like to close by again making a strong endorsement of the concept of a U.S. conservation responsibility to the world society and the catalytic role you could play by moving ahead in responding to environmental interdependence around the world. I think it is necessary to keep up this action, which may not be too popular before elections and in these hard economic times. But it often happens that the legislator has to take a position that does not please anybody, but is recognized as being correct given future necessity.

Thank you very much. I will be pleased to respond to any questions concerning my testimony.

Senator CHAFEE. Thank you very much, Mr. Burhenne.

It seems to me that the two principal points, as I understand them from your testimony, are, first, that amendment gives an official congressional mandate to the U.S. efforts in this area.

Mr. BURHENNE. Yes, sir.

Senator CHAFEE. And that in the international conferences that you have attended, you find that the U.S. delegation, even when it includes State Department people, say that they have no mandate to get involved in international wildlife conservation, and that this would give them such a mandate. Am I correct in that understanding?

Mr. BURHENNE. Yes; to an extent. On the one hand, the question of Federal-State competences are often raised, although this is not a point at issue here. What I was referring to was the actual programs of certain agencies, and in this connection especially mentioned AID and EPA.

Senator CHAFEE. Pardon?

Mr. BURHENNE. I mentioned especially in this connection AID and EPA.

Senator CHAFEE. And the other point that I got from your testimony is that as you see it, both through the efforts in the Cameroon and in Tanzania, enough wardens are being trained, but the gap, as you see it, in the foreign undeveloped nations in the administrators and those a little higher up, lawyers, who might undertake the legal battles in connection with this. You see a gap in that level of training. Is that correct?

Mr. BURHENNE. Senator Chafee, I will say there are gaps in both fields. There are also not enough people on the ground. But we have to see that the people on the ground can only be effective if there is a sufficient infrastructure behind them to support what they are doing outside. This is the fundamental point I would like to stress regarding training programs.

Senator CHAFEE. I wasn't quite clear on your testimony that the training should not be solely in the United States or Germany, but you mentioned in the Islamic countries as well. Did you mean the training of the administrators should take place in the Islamic countries, or we should be concerned also there and not just solely in Africa, which I suppose are Islamic countries, too.

Mr. BURHENNE. Senator, I think we have to see all of these aspects. But what I was especially saying is that we must be very careful with what I call the one-sided so-called expert who is perhaps an excellent man in his own country or is also an excellent man in one other country but has not enough overview, cannot see where there are problems and develop enough concepts to tackle the problems.

So I think that when we send out experts, especially in this field, we require top notch people with a wide range of expertise.

We have to train our own people to be good experts, to be able to be helpful, but on the other side we must help the developing countries themselves to train people in their own countries as well as letting them come to other parts of the world such as the United States and Germany. So I think we have to see all of these aspects.

I would only like to warn again against what we have often done in just exporting our knowledge in the belief that it is simply applicable to other countries.

Senator CHAFEE. I think you are absolutely right. We are very conscious of that in this bill, which provides for the people to come here and get training, which is a partial answer to that. We don't think that we know it all, that we know all the answers.

Is your nation developing any program similar to this? You mentioned that you have some of these foreign people come to your country for training. Are you still doing that in this particular area?

Mr. BURHENNE. Your bill deals with two aspects, secondment of personnel and training of foreign nationals. Regarding secondment within the Federal Republic of Germany a discussion is still being held on this possibility. Speaking for IUCN, I can express our gratitude for the support the United States through the Department of the Interior has provided in secondment of personnel to our organization. Similar support has been received from Canada and Sweden.

Regarding training programs. I have to say that my country has not put together a special program as proposed here, although some such training in Germany is carried out. Rather we are doing it more through development aid programs as a mother of course.

Senator CHAFEE. I suppose you have a language problem, particularly in Africa, where most of these countries are English-speaking countries—not all of them. But there are very few German-speaking countries, if any.

Mr. BURHENNE. No; none at all.

Senator CHAFEE. So therefore, when you bring somebody in and add a language problem to it as well, it presents a difficulty.

Mr. BURHENNE. Yes, Senator, it is true on the one side. But perhaps we have the advantage that we have to perhaps train our people more in foreign languages. We have had professors in Garoua and in Mweka working with quite good success.

So I don't think that the language problem is a major problem.

Senator CHAFEE. We want to thank you very much. Mr. Burhenne, for coming here and lending us your very helpful observations on this legislation. We are deeply grateful to you.

Mr. BURHENNE. Thank you very much.

Senator CHAFEE. I want to wish you Godspeed on your way home.

Mr. BURHENNE. Thank you

Senator CHAFEE. The next panel will be a conservation panel: Mr. Stahr from the Audubon Society; Mr. Blair from the Nature Conservancy; Mr. Stoel from NRDC; Mr. Ayensu from the Smithsonian; and Thomas Lovejoy from World Wildlife.

Gentlemen, if you will come forward. We have somewhat of a time problem here. There are two panels after you—well, one panel after you. They are debating on the floor a matter which I have to participate in. If you could limit your statements, that would be very helpful.

Why don't you proceed, Mr. Stahr? Is it Dr. Stahr or Mr. Stahr?

STATEMENTS OF ELVIS STAHR, SENIOR COUNSELOR, NATIONAL AUDUBON SOCIETY, WASHINGTON, D.C.; WILLIAM D. BLAIR, JR., PRESIDENT, THE NATURE CONSERVANCY, ARLINGTON, VA.; THOMAS B. STOEL, JR., DIRECTOR, INTERNATIONAL PROJECTS, NATIONAL RESOURCES DEFENSE COUNCIL, INC., WASHINGTON, D.C.; EDWARD AYENSU, DIRECTOR, OFFICE OF BIOLOGICAL CONSERVATION, SMITHSONIAN INSTITUTION, WASHINGTON, D.C.; AND THOMAS B. LOVEJOY, PROGRAM SCIENTIST, WORLD WILDLIFE FUND, U.S.A., WASHINGTON, D.C.

Mr. STAHR. I answer to both, Senator.

Senator CHAFEE. You are a Ph. D.?

Mr. STAHR. No, sir. I am an LL.D. and LITT.D. and SC.D. and a few others.

Senator CHAFEE. You are good enough for a doctor for us. Why don't you proceed, Doctor?

Mr. STAHR. Thank you. I will endeavor to talk fast.

Senator CHAFEE. Don't feel you have to do that. I have your statement, which is brief.

Mr. STAHR. I am adding a brief to it after hearing the administration testimony.

Senator CHAFEE. I think the more you can address the administration testimony, the better. But go ahead. We have some time.

Mr. STAHR. Mr. Chairman, I am really pleased to support today Senate Amendment No. 1680.

Not long ago National Audubon and other conservation groups, some of which are represented here again today, came before you to talk about the alarming decline of wildlife worldwide. Following that testimony and under your leadership and with the support of your chairman, Senator Culver, a first step has been taken and taken quickly to begin to address the threats to wildlife and the habitat on which it depends.

Senator CHAFEE. Yes. I think I should want the record to show the support of Senator Culver in this area. As you know, he is chairman of this subcommittee and has been outstanding in his support for wildlife conservation, as long as I have known him in this committee.

Mr. STAHR. I certainly concur.

We commend both you and your colleague in the House, Congressman Bonior, for initiating this small but vital first step which has the potential to stimulate large and successful further steps in countries with great wildlife resources. I think this legislation is at once imaginative and sensible.

Nearly every week there is a new report of rapid deforestation of the tropical rain forests or the swift depletion of magnificent elephant herds. It gives the elder conservationists among us grave cause to wonder about the future of the natural world. However, I am an optimist, and Senator Chafee must be also since he is willing to tackle it.

I can't resist adding here, as an aside, that this is the second time that Senator Chafee has shown particular courage and foresight in the Senate in the past 48 hours. Not everyone in this hearing room may know that on Saturday you, sir, led an important fight against the infamous pork barrel project called the Ten-

nessee-Tombigbee, a \$3 billion project which, if pursued much further, will levy a heavy cost not only on the American taxpayers, which is not the subject of this hearing, but also on American wildlife, which is at least related to the subject of this hearing.

Back in early March, 30 nations of the world joined together in announcing a world conservation strategy. The underlying premise is that conservation—of wildlife, of forests, of energy—makes not only biological sense but good political and economic sense as well.

On that same day, you Senator Chafee, introduced a bill, now Amendment No. 1680, based on that same premise. Thus, March 5 was a thrilling day for me. I would venture to guess it was such a day also for the author of this legislation, because many of us consider this to be a key American contribution to the world conservation strategy.

The major elements of the bill are just great. We heartily endorse the concept of sharing America's very considerable experience with wildlife resource conservation techniques. This bill would do that in four important, realistic ways, through, first, the establishment of an international conservation corps of experts in wildlife ecology who would be available to other nations upon request; second, the establishment of a system to train foreign nationals in this country in wildlife management techniques, a system which holds great practical promise of success; third, the plan to station up to 10 regional attachés, experts in wildlife and other living natural resources, around the world, which seems a very small thing that should have been done a long time ago; and finally, the creation of an advisory council made up of representatives of appropriate Federal agencies—for example, the National Science Foundation, the Smithsonian—and representatives of the States and the public, to monitor implementation of the act.

The authorization level, \$7 million for each of 4 years, should not in our opinion be reduced. That is actually an understatement.

I understand that some in the State Department may have reservations about this legislation. I want to make it clear that the concern of the National Audubon Society is a concern for wildlife perpetuation, and we will cheer on and support whatever department or agency takes a leadership role in addressing wildlife protection problems.

In this case we have seen little, if any, initiative by the State Department along the lines of what I would like to call the Chafee initiative. The Fish and Wildlife Service seems to us, based on much experience with them, very able to carry out the tasks assigned in this legislation, and we note that their work would be under the direction of the Secretary of the Interior and in close cooperation and consultation with the State Department. I will come back to that in a moment.

Of those to whom much is given, much is expected. America has already offered much to the world from its store of technological, industrial, agricultural, and organizational know-how. In the long run, our relatively new and sometimes painfully acquired ecological know-how may prove to be of the greatest value of all.

My years in government, in education, and in the environmental movement have led me to the conviction that the conservation and

wise use of natural resources is absolutely fundamental and literally vital to the future of the human race on Mother Earth.

Small investments in an international conservation corps, in natural resource attachés and in providing training to foreign nationals could be of incalculable but certainly very significant value to the most threatened, most precious, and least replaceable of all our natural heritage; namely, wildlife and its habitat.

We stand ready, Mr. Chairman, to follow your lead and help in every appropriate way to see that this legislation becomes law.

I arrived here just in time to hear Mr. Brown say that this would be an expensive program. I can't see how anyone who really understands the fundamental and irreplaceable importance of wildlife and natural habitat to the life support system of planet Earth and therefore to the people of the planet would call this small program expensive. Rather, as I said at the outset, it seems to me it is a small though vital first step.

The State Department apparently feels its role is to sit back and wait for foreign countries to request help for their wildlife and habitat on a high priority basis. At best, this assumes that foreign governments will automatically give the necessary high priority to wildlife perpetuation. That comes strangely from an administration and a Government which itself gives such low priority to the preservation of wildlife and its habitat. One need but look at the incredible slashing of the land and water conservation fund in the administration's most recent budget request. If the Government of a so-called advanced country can be so shortsighted, it is unreasonable for it to expect governments of hard-pressed developing countries to take the long view.

The beauty of Senate Amendment No. 1680 is that it encourages them in very practical ways to study and to appreciate more than they otherwise would the long-range importance of their irreplaceable wildlife and their natural ecosystems before it is too late, and it offers them help in doing so, rather than unrealistically waiting for them or for the U.S. Ambassador, who may or may not be himself an ecological ignoramus, to ask that this be given priority over other funds and programs which those countries indeed may desperately need for immediate problems.

For the administration to oppose this kind of bill on the shallow and superficial grounds set out in the State Department's statement seems to me quite honestly cynical and hypocritical.

As to the Fish and Wildlife Service, I have been around the Government a good deal and I think I can detect the aroma of OMB. I certainly suspect it in some of Mr. Greenwalt's statements.

Thank you, Mr. Chairman.

Senator CHAFEE. Well, Dr. Stahr, you came on strong.

There is one point I would like to ask you about, and that is in your fourth point of endorsing this about the advisory council. I listened to Mr. Brown on that. I am somewhat opposed to too many advisory councils. He indicated that way. He says that they have it. Of course, they don't involve quite so many elements. I do sort of wonder whether this constitutes just one more council. What do you think about that?

Mr. STAHR. I think indeed there can be too many advisory councils. There may even be too many already for the missions that

they are assigned. I do know quite a number have been abolished by the present administration. As a general principle, you can overdo anything and you can overdo having advisory councils. I think they should be limited to things that are very fundamental, literally of vital importance.

I would think that the subject you are dealing with here is such an area. And the Government has already shown that it really doesn't know how to deal with it. I think really in this case it badly needs advice.

Senator CHAFEE. Fine. Thank you. That is helpful from that point.

Mr. BLAIR?

#### STATEMENT OF WILLIAM D. BLAIR, JR.

Mr. Blair. Thank you, Senator Chafee. I offered just this morning, unfortunately, a written statement, but with your permission, Senator, what I would like to do is—in the interest of time—just to point out two or three points that I think may be most relevant to this discussion, all addressing the point that the conservancy enthusiastically endorses the intent and purpose of this bill, Senator, and most of the detail. I think there is really no other more important subject that the committee or sponsors of the bill could be addressing.

We refer in the statement to the world conservation strategy, which others have referred to this morning. I would just like to mention one point because it is useful as background to the larger point I would like to try to make.

But what we are losing here and around the world in the destruction of tropical rain forests and of other ecosystems—and I know you are aware of this, Senator, but not everyone is aware of it—is not just a species or two here and there. It is literally tens of thousands of species. We may even shortly be losing hundreds of thousands of species if small animals of various kinds are included. So the risks are very large.

I won't take a couple of pages to explain why those losses are important because I think you are familiar with the reasons. But I would like to go on from that to emphasize the point that you were making I believe, Senator, earlier when you talked about why Congress makes grants, bloc grants I believe is the phrase—

Senator CHAFEE. Categorical versus the bloc.

Mr. BLAIR [continuing]. As opposed to more narrowly focused efforts. We would like to suggest a somewhat parallel point here, that the highest priorities, it seems to us, abroad should not be stated in terms of the saving of one individual species or another species, however dramatic that may be, but of the saving of thousands of species, more or less en bloc, if you like, by focusing first of all on whole ecosystems, on biogeographic provinces, and on the plant communities in those provinces, rather than on one or two species, however conspicuous.

The conservancy, I might say, has been in the business, so to speak, of helping to save ecosystems in this country for 30 years now. One of the reasons we support the bill is that like my colleagues at this table and elsewhere, we came to the conclusion some time ago that it was really no use to try to save ecosystems

and natural diversity in one country if parallel efforts weren't made around the world. We hang together or we sink around the globe.

So we, too, in recent years have been asking ourselves what contribution, if any, we can make abroad to a global effort to save natural diversity?

We have come to very similar conclusions to those reflected in the bill, Senator. Our focus abroad began with projects—began with trying to help establish a park in Costa Rica or in other places in the Central American and Caribbean areas. But more and more we have come to think in terms of technical assistance and training. And as our international program expands, and our board of governors has decided that it shall expand fairly substantially, our focus is going to be more and more on technical assistance, I believe, and on helping foreign countries which are interested to establish the processes by which they can identify what they have—what kinds of ecosystems do they have and what their elements are and how many of them there are in a given biogeographic province and how many are protected now and where they are.

Many countries simply don't have the processes, as you know, Senator, for coming up with that kind of information. In many of our States around this country, we in the conservancy have helped to establish those processes. That is still going on.

We in this country are not a perfect example in this context by any means. But the conservancy believes that through this experience gained in helping our own States we may be able to offer useful technical assistance in that area to foreign countries.

Conversely, we believe through that experience of our own day-to-day operations around the country—trying to educate the public, trying to motivate people to saving ecosystems and individual species in their own backyards, we believe we can offer on-the-job training to some foreign nationals in some parts of the world that may be relevant to their needs when they go back to their country.

I will simply close on this note, Senator. I might comment on one seemingly controversial point on the business of attachés abroad.

I speak from a background of being perhaps one of the few conservationists who spent a good deal of his career in the State Department. I am reluctant to differ with my former colleague and friend, but I must say I agree totally with the implication of what I understood you to be saying. Our priorities are determined to some degree by our professional backgrounds. While I have a high regard for the contribution our science attachés have made around the world, particularly in developed countries, I think it is asking an awful lot of them to ask them to carry the main burden of this new task—the task described in your bill—in the developing world; and think that having a few specialists on the ground might make a big difference.

Thank you.

Senator CHAFEE. That is very helpful coming from you who have worked in the State Department for so many years.

I take it that the Nature Conservancy is now expanding from a national to an international organization or international interest. Have you been in that area for long?

Mr. BLAIR. We have been in the international area since around 1974, Senator. It has been, frankly, experimental. We have been asking ourselves how we can help. We have played a role. Michael Wright, who is in this room, now with the World Wildlife Fund, was the leader for the conservancy, in that, and did some very useful projects around the Caribbean area, in Central America, and in Canada as well, although our focus is primarily to the south.

But we have decided that we have to do more and do it better. And perhaps the project approach, while we are not giving it up, was not perhaps our best approach abroad; we came to feel instead that we ought to get more into the technical assistance field.

We are going to expand our overseas effort. We are devoting more resources to that. I don't want to imply we are going to become overnight primarily an international organization. We still have an awful lot to do in this country, with all of our allies here. We are going to be still primarily a domestic organization. But we will have a significant and I hope substantial effort overseas as well.

Senator CHAFEE. I am most impressed by that. I am familiar with your work in this country, and I want to pay tribute to you and to your organization and to the other organizations represented here, because it really is tremendously impressive what each of you have achieved. The Nature Conservancy just seems to me to be an ideal approach to getting the land and saving it, and then eventually some governmental or private organization, might come and take it over.

But you seem to have the ability of stepping in there quickly and getting into an area before it is gone in the immediate crisis that comes up. I am praising you and each of the others that are represented here that are so important to us.

Senator CHAFEE. Mr. Stoel, you may proceed.

#### STATEMENT OF THOMAS B. STOEL, JR.

Mr. STOEL. Thank you. I am Thomas Stoel, director of the international project of the Natural Resources Defense Council.

I appreciate very much this opportunity to present NRDC's views on your important initiative, the International Wildlife Conservation Act of 1980.

I have a longer prepared statement, but with your permission, I would like to have it inserted in the record and confine myself to much shorter remarks this morning.

Senator CHAFEE. That is fine. We will do that. (See p. 90.)

Mr. STOEL. As Mr. Blair has noted, the need for this bill is great and urgent. A leading authority, Dr. Norman Myers, has estimated that without decisive action, we will lose hundreds of thousands of plant and animal species in the tropical forests alone during the next 20 years. That is, by the end of this century.

However, adequate action to protect wildlife and wildlife habitat requires good data on the status of resources, adequate legislation, policies, institutions, programs, and trained staff. As we all know, many developing countries do not possess these capabilities. Your bill provides a way in which the United States can assist them in meeting these needs.

The bill correctly focuses on making technical expertise available to countries to improve their wildlife and plant management program. We strongly support its four major components: The conservation corps, training, improved information exchange, and a council to coordinate actions of Federal agencies.

The bill would expand upon and extend the approach already applied successfully by the Department of the Interior under its present programs located in the Fish and Wildlife Service and the Park Service. These programs are now limited by inadequate funding and congressional mandate. Your bill would correct these problems.

I would like to add that the location in the Interior Department seems to us clearly correct. NRDC has been working with U.S. AID on environment and development issues for several years. We and other organizations were responsible, I think, through our lobbying for the enactment of section 118 of the Foreign Assistance Act, which Mr. Brown referred to this morning, which indeed does contain the word "wildlife." However, I was somewhat amazed to hear his testimony that AID had vigorously utilized this mandate, because we have found AID most reluctant to get into the wildlife field. We have found very few examples of projects that AID has considered and almost none which AID has actually sponsored.

Senator CHAFEE. In his testimony, he submitted a letter from AID. He submitted in the letter to Senator Culver, a list of projects in which AID has been active in wildlife management. Did you see that letter?

Mr. STOEL. No, sir.

Senator CHAFEE. Let me just run over them and see if they ring a bell with you:

Training at the College of African Wildlife has been assisted and reinforced by detailed, experienced U.S. National Park Service personnel to Tanzania for 2 months each. A report on the status of endangered species in Thailand is being prepared under contract with the U.S. Fish and Wildlife. Environmental guidelines for projects involving clearance of tropical forest areas in the Amazon basin are being prepared by the World Wildlife Fund.

Mr. Lovejoy will be interested in this, and I will be interested in his response to that when you get to it. The development of a training program and the techniques for gathering and monitoring environmental baseline data is being carried out with the U.S. Department of Agriculture's international training office. Country environmental profiles; 31 country reports are now completed or are underway by the Library of Congress and the University of Arizona. Watershed management training; four regional training courses will take place over a 4-year span in Asian countries. They have several others: Latin America, Caribbean, AID Commission, the World Wildlife Fund to study the feasibility of Latin American environmental training institutions. I guess that is the counterpart of the ones in Africa.

This is their counter to what you are saying.

Mr. STOEL. Yes. I am familiar with most of those projects in general, Senator, although others at the table may have valuable insights into them. That would fit my description of a handful of projects, particularly those directly related to wildlife.

To its credit, AID is beginning to take up the tropical forest issue. But I think that after the first two projects that you men-

tioned, they begin to diverge from a strictly wildlife orientation, and that has been our experience with AID. You will also notice the two that are specifically wildlife oriented were done through the Interior Department, which is the approach in your bill. I think your bill correctly mandates Interior to do this directly. They have more motivation and more trained personnel than AID. AID tends to be staffed by economists and engineers, and it is very difficult to get their attention on these wildlife problems.

Senator CHAFEE. I think that is the point. I agree with you. I think that is the point we are trying to make. I think Mr. Brown's suggestion that people get interested in other than their own specific areas—after all, every area is critical and in many instances more immediately critical than saving the wildlife or saving the ecosystems. So therefore, these AID programs and the attachés are not committing an error when they neglect the wildlife and concentrate on digging deeper wells or increasing the fish catch or whatever it is. It is just that that is where their interests are. It is perfectly proper for them to follow those interests.

But if they had the long view that Dr. Stahr was talking about, they would see that digging a deeper well isn't necessarily the right thing to do.

Mr. STOEL. There are an enormous number of needs in the developing world. It is a matter of priorities. I think AID's priorities will always be strongly elsewhere, as you say. That is why it is so wise in your bill to give the mandate to an agency that would have the motivation to do this.

We would like to suggest some minor changes in the bill that might make it even more effective in accomplishing its objective. Our first suggestion is that the proposed conservation corps be modeled on the former Smithsonian/Peace Corps conservation program. That program emphasized putting relatively young scientists and wildlife managers in the field to work with counterparts in the host country. There are a number of projects of that kind that need doing. The experience of those in the conservation community in the United States was that that Peace Corps program was very effective on a low budget.

The Department of the Interior could design a program, recruit the researchers and provide technical backup, and then turn to the Peace Corps for language training and acculturation. We think this would be a desirable approach. We think it fits within the general framework of the bill.

Senator CHAFEE. I think Mr. Brown was suggesting that was already done. Can it under the existing Peace Corps?

Mr. STOEL. I think it could be done, as far as I am aware. But the Peace Corps, too, has different priorities. The Peace Corps/Smithsonian program, which provided through the Smithsonian a strong technical capability in the Peace Corps, was abolished several years ago, for reasons I am not fully cognizant of. But I think your bill could provide a strong mandate for the Interior Department, as well as additional money. I think in many cases these things could be done in theory under existing authorities, but in fact the will isn't there.

Our second suggestion is that the training programs be strongly oriented toward strengthening the indigenous capacities of the de-

veloping country. We feel while some training in the United States may occasionally be appropriate, the great majority of the training should take place in the developing world where the actual problems occur.

Senator CHAFEE. In other words, not bring them back here.

Mr. STOEL. Not very often, unless there is some unique ability we have to convey something here. We feel that the regional centers are the place where a lot of this training should take place, and also within the individual developing countries themselves.

Senator CHAFEE. Mr. Brown says it was expensive to bring them here. Then he said it was expensive to send our people over there.

Mr. STOEL. I think since trainees will outnumber instructors, it probably would be cheaper to do it over there, on the whole. Either way, there will be some cost. I would think it would be a net saving to do it in the region where the trainees are located, as well as having the great advantage of being able to go out on the ground and look at the problems rather than having to simulate them in the United States.

Senator CHAFEE. What do you think of the point Mr. Burhenne of Germany was making about there is always a need to train wardens, but in the relevant range of things there are enough wardens who are really being trained and the problem is the higher-ups, administrators, and lawyers, and so forth? Do you have any comment on that?

Mr. STOEL. I think that is something that the regional attaché program might help to elucidate. I think it varies from country to country, as Mr. Burhenne mentioned. There are some countries where there aren't enough wardens and others where there are. I do agree with him that in many cases it is institutional backup that is missing as much as anything else, that the United States is in a very good position to provide training for people at that level, and that this should not be overlooked in the bill. I think we will find it is a country-by-country situation as far as what is missing, and that flexibility would be a very good thing to have in the bill, until we find out in detail what the problems are.

Our third point, in terms of possible revisions in the bill, has to do with the program of attachés. We find very inadequate the State Department's response that science attachés could provide this kind of assistance. Our inquiries indicate that there are about 30 attachés and that the great majority are located in developed countries, and that most of the attachés are specialists in the so-called hard sciences, especially nuclear physics. This is hardly a background that suits people for providing assistance in the wildlife field. We feel that there is a great need for regional officers who would convey information and advice about wildlife matters.

However, we would strongly suggest that the bill allow—not mandate, but allow—these people to be based in Washington, with provision for frequent travel to the countries of the regions. Washington-based officers could take better advantage of the literature and expertise available here in the United States as well as being in closer contact with the agencies of the U.S. Government to whom they are reporting and providing liaison.

In some cases, too, I think you would find they would be in more direct communication with all of the countries in their region

because communication among countries of the Third World is often extremely difficult. Our suggestion is based on the fact that U.S. AID, which we have studied closely, has used both approaches, Washington-based and foreign-based, with respect to the location of its regional environmental officers who serve a somewhat analogous function of trying to define environmental projects for AID. Thus far, we have seen that the Washington-based officers have actually been more effective than those based in the regions themselves.

Furthermore, our inquiries indicate that basing the regional officers in Washington would achieve considerable savings. The State Department tells us that it takes about \$40,000 per year to support an American family outside the United States, and that this typically amounts to about twice the salary of the individual involved. So there would be considerable monetary savings by allowing people to be based in the United States where appropriate.

We also suggest that these officers be authorized and mandated to recommend very specific actions to correct problems of over-exploitation in wildlife and especially habitat destruction. We think this could be one of the most valuable functions, particularly in trying to direct the resources of aid agencies, including U.S. AID, thereby overcoming the aid agencies bias against wildlife projects, in part because they don't understand them.

Senator CHAFEE. Shouldn't that be covered currently? An AID project now has to have an environmental impact statement.

Mr. STOEL. It is a question, Senator, of project design. By the time an impact statement is done on the project, it is already pretty far along in design.

What happens at AID is that the personnel in the AID mission simply aren't familiar with wildlife problems in their countries. They aren't familiar with the country's own officials in the wildlife area. So when it comes time to figure out what the AID program should be for the next year, wildlife problems are not considered.

These regional officers could serve the function of reminding the AID missions that there are these wildlife problems and suggesting to them, in concert with host government officials, specific projects which would be suitable for AID funding. I think this would overcome the problem of getting these projects in the AID pipeline at all. The impact statements would come then at a later stage.

Senator CHAFEE. Fine. And the fourth one?

Mr. STOEL. Our final suggestion is that, while we believe there should be an advisory council because of the importance of wildlife problems, we feel that it should have a very concrete mandate in order not to become a superfluous body. We think this is particularly desirable in light of the attitude of the administration this morning. They might not give this high priority even after the bill gets enacted.

We would suggest, that the report which is to be delivered after 18 months be required to be very detailed, to recommend specific solutions to problems, and to recommend priorities for the expenditure of funds under the bill. Then the council will be focusing from the start on how this bill would be administered most effectively and will be rendering detailed advice on that question so it will feel it has a mission rather than being a paper body.

That concludes our testimony. I would be happy to answer any further questions.

Senator CHAFEE. Thank you very much, Mr. Stoel. That was helpful. Those were very specific and useful suggestions.

Mr. Ayensu?

#### STATEMENT OF EDWARD S. AYENSU

Mr. AYENSU. Thank you, Mr. Chairman. I am Edward Ayensu, Director of the Office of Biological Conservation at the Smithsonian Institution.

I am rather pleased to have the opportunity to appear before you today and to speak in favor of the principles embodied in the proposed International Wildlife Resources Conservation Act of 1980.

Mr. Chairman, I have four short papers that I would like to ask your permission to enter into the record, and also there are a few points in the testimony that I have already handed out that I will delete for brevity in my presentation. But they are rather crucial, and if at all possible, should be left in the record.

Recognizing the growing need to assist other nations in developing their expertise in environmental education and methods of assessing biological resources, the Secretary of the Smithsonian Institution, S. Dillon Ripley, established the Office of Biological Conservation some 2 years ago to help meet these needs in an appropriate way and within the competence and modest resources of the Institution.

Mr. Chairman, I would like to note that you have already heard about the Smithsonian/Peace Corps program that is now defunct. The establishment of this office just 2 years ago does not mean that the Institution's interests in this matter were just recently initiated. The Institution has been in this field for many years, and we do have an immense reservoir of environmental information at hand that is conservation-oriented. The output of the Institution's scientific bureaus shows that this is the case.

Analysis of the characteristics of tropical ecosystems, the spread of deserts, inventories of endangered plant and animal species, baseline studies of temperate terrestrial and aquatic environments, propagation of rare and endangered animals, these are all topics that are being studied at the present time under the auspices of the Institution and are relevant to problem-solving for the diminishing wildlife resources of the world.

A major initiative that the Smithsonian has undertaken includes the development of compilations of baseline information on certain critical areas of the world. I will give you two short examples of the types of things that we are doing.

In the case of India, for example, we have concentrated on the state of Gujarat, and in this area we know that the fate of the Asiatic lion is inextricably associated with the future of the Gir Forest. Problems of handling the semiarid regions of this area are of concern to us.

A different approach is obviously necessary in alleviating the mass deforestation of, for example, the wet tropical lowland forests of North Borneo where logging is decimating the habitats of many birds and other forms of wildlife. We have been developing exten-

sive information on these areas which may help the governments concerned to review the present conditions and to insure that their natural resources are better handled.

Mr. Chairman, you know that a number of the decisionmakers in the developing countries which contain abundant wildlife resources and habitats often voice the opinion that since industrialization is a visible key to economic prosperity, they should suffer no interference with plans to intensively utilize tropical forests for agricultural land, export lumber, or local industrial fuel in order to help build capital in the same manner that the resources of north temperate countries were exploited in the course of development by the highly industrialized societies.

Methods have to be found whereby the developing, habitat-rich nations can be encouraged to see the advantages of having a late start in development so that their economic planning can include wildlife resource conservation on the ground floor, and painful ecological disasters resulting from mismanagement can be averted from the beginning.

In keeping with that concept, it will be seen that U.S. expertise would be a modest but necessary investment toward the global integrity of living natural resources and ecosystems. It would be, in a sense, repaid in full from countries faced with problems which might not have occurred had the opportunity and encouragement to take measures to avoid environmental mistakes been tendered to them.

We are particularly gratified to note in the legislation at hand that the need to integrate wildlife conservation with the social, economic, and agricultural development of the Third World is fully recognized. Time and again it has been our experience that the need to protect wildlife and its habitats must be judiciously interwoven with plans for economic growth in developing countries, particularly those nations within the pantropical zones of the world, if it is to have a permanently beneficial effect. Conservation must be made compatible and integrated with development and can no longer be an isolated undertaking.

We are thus very pleased that the proposal includes wild varieties of cultivated plants in the definition of wildlife resources, for on a strictly practical basis the host countries will quite likely be giving very early opportunities to help conserve those varieties. Also, wild populations of plants locally used in traditional medicine are steadily gaining priority on the agendas of developing countries which are likely to ask the U.S. Government to share its expertise.

A good number of endangered plant species are used today in traditional pharmacopoeias, and if the World Health Organization is to fulfill its pledge to improve the overall health of the world's population by the year 2000, these food and medicinal plants must be the subject of intensive research, in addition to the species that are rare in nature, but more securely detached from the scrutiny of an everyday more impoverished world.

Mr. Chairman, in the midst of this array of problems it is now recognized that the dwindling diversity of the world's plant and animal species must be preserved for future options as sources of new and improved medicines, foods, industrial oils, insecticides,

horticultural species, as well as for their value in scientific studies, amenity plantings, watersheds, and in counteracting erosion.

In the past few years, the true yam—*Dioscorea*—was discovered to contain large quantities of diosgenin, which is a hormone used as a starting material for birth control preparations. Before then, people had to kill a great many cattle to remove a few cc's of this chemical from the adrenal cortex to obtain this. Now we know that you can get large quantities of diosgenin from these tropical plants. And who knows? In our search for interferons, antiviral agents against cancer, we may eventually find the answer to this very expensive drug in some common plant in the tropical forest ecosystem. So we must be very careful in handling them.

Senator CHAFEE. Good point.

Mr. AYENSU. I want also to draw your attention, sir, to the large body of knowledge that exists in the United States today which could be of tremendous help to developing countries. Five years ago I cochaired a U.S. National Academy of Sciences panel that produced a document on "Underexploited Tropical Plants with Promising Economic Value." This document received wide publicity in the developing nations—and I might add, in this country as well—and has resulted in the protection and preservation of species that were once thought to have no economic value. Species such as the winged bean, buffalo gourd, jojoba and guayule are being grown on a commercial basis today.

Another panel that I had the honor of chairing for the National Academy of Sciences will soon publish a monumental document on "Firewood Crops: Shrub and Tree Species for Energy Production." This document, in my estimation, is going to be hailed by all developing countries, since 1.5 billion people or more than one-third of the world's population depend on wood for cooking and heating.

Since 86 percent of all the wood consumed annually in the developing countries is used for fuel, and of this total at least one-half is used for cooking, it is essential that recommendations for fast-growing trees be made to enable the establishment of woodlots as a source of renewable fuel energy.

The situation of the dwindling forests in a number of developing countries is getting so desperate, Mr. Chairman, that hedges around homes are being poached for fuelwood and even wooden scaffolding is being stolen from construction sites to offset fuel shortages for cooking and heating.

I know this for a fact because I have seen them do it and have photographs to prove it.

Senator CHAFEE. I wouldn't want to be up on top. [Laughter.]

Mr. AYENSU. The National Academy of Sciences document contains various recipes to arrest this unfortunate situation. It is my hope that the use of this document will make it possible for remaining tropical forests to be left undisturbed while replanting takes place in areas that are otherwise considered as wastelands.

Senator CHAFEE. What tree did you come down upon as providing rapid growth and good heat?

Mr. AYENSU. The leucaena is one of them. It is a legume. It grows rather rapidly. There are other trees such as the eucalyptus. You may probably know there are about 400 species of eucalyptus.

People normally select any eucalyptus to grow and they don't do very well in various climates.

Specialized knowledge on the various species could make it possible for you to get selected species that would grow up to 3, 4 feet within 2 years. This knowledge is available in this country and could be very effectively used.

Senator CHAFEE. Fine.

Mr. AYENSU. Mr. Chairman, I just recently visited Kenya. While we were there, in the Tsavo National Park, I was rather pleased to observe the Kenyan Government has made strenuous efforts in the last 2 years to eliminate organized poaching of the wildlife. As a result, it seems the population of some of the animals is beginning to come up again.

Senator CHAFEE. Rhinoceros, too?

Mr. AYENSU. As a matter of fact, the rhinoceros situation is very special. But I was told by two of the game wardens that since they actually stopped the organized poaching, which was done on a very big scale, the few animals around there are being given the type of care they think they need to continue to breed.

But more vigilant protection mechanisms must be instituted in order to sustain effective conservation programs there.

I am sorry to report that the situation in adjacent Uganda is very bleak. A number of Ugandans that I have had the chance to discuss this subject with have told me in no uncertain terms that they lack the expertise within their own country to deal with this matter, and they would be delighted to obtain external professional help to train wildlife conservationists for their country. I have no doubts that other developing countries would welcome a practical contribution from the United States toward the conservation of their wildlife resources.

Brazil, which you mentioned earlier, Mr. Chairman, has already established a program to develop ecological stations within the country by a special environmental agency as an important link to the second plan for scientific and technological national development of Brazil.

Recently I talked to the Secretary of the Environment in the Ministry of the Interior in Brasilia who informed me the main objective of the Brazilian program is to protect the natural environments and especially sizable representatives of the chief ecosystems within the country. The universities are also being included in this whole program, and they are being equipped to participate in the program generally.

Equally satisfying is the involvement and the positive responses which the Government of India, for example, has recently injected into the Silent Valley controversy. Mr. Chairman, for those who are not familiar with the Silent Valley affair, may I take just a moment to explain.

There has been a long struggle by the Indian and international conservationists to get the state of Kerala and the Government of India to reconsider the proposed hydroelectric dam contemplated for the Silent Valley. This is south India's last remaining area of untouched tropical forest. Prime Minister Indira Gandhi is most sympathetic to the campaign to save the Silent Valley and she is

currently struggling to create a balance between development and conservation.

In closing, Mr. Chairman, I would simply state that the combination of short-term and long-term benefits that will accrue from appropriate use of U.S. expertise in conservation will add immensely to the stature of this Nation in the field of international relations and in securing a renewed global heritage.

Thank you, Mr. Chairman.

Senator CHAFEE. Thank you very much, Mr. Ayensu. That was very helpful. Obviously you have had a wide, wide experience in this area, and we are grateful to you.

What do you think about the suggestion made by I guess it was Mr. Brown that the conservation corps that is anticipated in my bill could be really done by the Peace Corps now?

Mr. AYENSU. Mr. Chairman, the Peace Corps program that the Smithsonian Institution had was eventually abolished, and the truth of the matter is there were no funds to handle the program. I was particularly involved in it, not only in terms of concepts but even in selecting the individuals who went abroad. It was a rather effective program.

Senator CHAFEE. That was the program of the Smithsonian?

Mr. AYENSU. The Smithsonian and Peace Corps organization. It worked very effectively. I thought the program was going to grow, but, unfortunately, various constraints made it lapse. But personally I think it is the type of program I would like to see developed at even a much higher energy level. Although the attachés in the Embassies are there, from my own limited experience, I would prefer to make sure of specific development, answering to the ingredients which are covered in this bill, instead of calling on the State Department science attachés to do the job alone.

Senator CHAFEE. Dr. Stahr?

Mr. STAHR. Senator, I think I remember a little of what happened with that Peace Corps/Smithsonian program. It brings out a point which I think is very important in the proposed legislation. They simply got a new Director of the Peace Corps Office about 3 years ago, 3½ years, who felt that ecology has no relation to human welfare and the Peace Corps ought to be busy working on human problems. He or she—I think it was a she; it doesn't matter—just abolished it.

That is the kind of thing that I think can happen unless there is some kind of mandate to give this work validity and funds.

Senator CHAFEE. Thank you very much.

Dr. Lovejoy?

#### STATEMENT OF THOMAS E. LOVEJOY

Mr. LOVEJOY. Mr. Chairman, I welcome the opportunity to testify on behalf of the International Wildlife Resources Conservation Act of 1980, which I should note that the board of directors of the U.S. World Wildlife Fund endorsed in a formal resolution at a recent meeting.

I am here in the place of Lee Talbot of the International World Wildlife Fund who, unfortunately, could not be here today because of rather pressing reasons related to his election as the new director general of the IUCN.

I would like to submit my formal testimony and just hit a few points that have come to me in the course of the morning.

[See p. 124.]

I find it hard to understand how anyone, especially how the Department of State can be critical of a special initiative to protect biological resources in a world where the short term usually receives attention over the long term, where economics generally hold sway over the environment, and where the physical and medical scientists so dominate that the National Science Board of this country contains not a single environmental scientist, and also when the problem of international biological resources is so acute that we are now in the last years in which very much can be done about it.

Over the last weekend I participated in a meeting of an ICUN specialist group on captive propagation of endangered species. It is an approach to conservation which has been used in this country to help the whooping crane, the Puerto Rican parrot and hopefully soon the California condor. It is a last-minute effort and it is generally a very expensive one.

I would hope that this bill will limit the number of cases in which that sort of action might be necessary.

You asked me to explain a bit about two projects that the World Wildlife Fund is involved in with AID, one of which involves production of some environmental guidelines and developing training materials with respect to the Amazon basin, which is funded in part through AID's contribution to the Amazon Basin program. The second project, ultimately perhaps more ambitious in terms of AID, involves a feasibility study for training needs in natural resource management in Latin America.

I think it is significant that in both cases these projects are carried out in cooperation with the Department of the Interior, that in both cases AID went beyond AID for expertise in trying to deal with these questions.

To be fair to AID, there is increasing interest in environmental problems. But once again, the economic tends to dominate. It is often a struggle to get their attention. And in most instances when an environmentally oriented project does receive their attention, it tends to be much more related to development concerns than it is to protection of wildlife resources per se.

One point I would like to raise is that the agencies which fund research which might be relevant to advancing the protection of international wildlife resources tend to neglect an important middle ground. Those agencies which fund applied research have a rather narrow definition of what applied research is and those which are concerned with funding basic research, such as the National Science Foundation, similarly have a very narrow view of what basic research is all about.

There is a middle ground where research needs to be done, where information needs to flow from the pure sciences to the applied ones and to applied science management. There are relatively few agencies or initiatives which fill this gap. I think the bill has the potential to do some of this.

A comment or two about the wildlife attachés. I would simply endorse the remarks that have gone before about the inadequacy of

scientific attachés in filling this role. I think they must be viewed as important lightning rods to attract information from developing nations, to pass it on to appropriate agencies in Washington, and, similarly, to pass back into those countries the details of laws and regulations in this country which may be relevant to immediate law enforcement problems in this country but also ways and models which might be followed by those nations.

I think they also can be viewed as performing an important catalytic role in identifying issues which can then be acted on by the other aspects of this bill.

With respect to the international conservation corps, I have little more to add except that the Smithsonian/Peace Corps program was highly effective. Many times in traveling in developing nations I have seen what an enormous difference that program made. It is indeed unfortunate that it died the way it did.

Senator CHAFEE. I am not sure how it did die. Dr. Stahr has indicated that it did. How did the Smithsonian get into it? I don't quite understand.

Mr. LOVEJOY. The Smithsonian was contracted to sort of perform a role of, you might call it, an ecological marriage broker. Requests would come in from developing nations for Peace Corps volunteers with specific expertise. The Smithsonian was contracted by the Peace Corps to identify individuals who could fill these roles most effectively.

Senator CHAFEE. That is the thing Dr. Stahr has indicated was killed off.

Mr. LOVEJOY. Yes.

Senator CHAFEE. So when you talk of the Peace Corps in this area, you are talking about the Smithsonian/Peace Corps.

Mr. LOVEJOY. Exactly. As he indicated, the Director of the Peace Corps at that time could not see the relationship between the environment and basic human needs.

I would like to comment a bit about the criticisms of placing people overseas at a time when the Government is trying to cut back. I think the number of individuals involved in the attaché program, for example, is really insignificant compared to the total, much as the dollar value of this bill is insignificant compared to the overall activities of the U.S. Government.

I simply find that with respect to the whole program generally that isolationism is an inappropriate response to a rapidly deteriorating world environment.

Senator CHAFEE. Are you talking now of the attachés or are you talking of the so-called Peace Corps? Mr. Stoel wasn't objecting on a financial basis. He just thought they could be more effective back here.

Mr. LOVEJOY. I don't disagree entirely with his point of view. The attachés would have to travel a great deal whether they were based locally or in the United States. They would have to make contact back and forth. The major saving would be if they had a U.S. base. They then would not qualify for certain allowances.

I don't think we are talking about a large number of attachés to begin with in any case.

Finally, I guess I would just sum by saying I view this bill as a very important initiative in aiding the situation in which develop-

ing nations find themselves in seeming to have to choose between environmental concerns and addressing the problems of widespread poverty. It is an inappropriate choice to have to make because ultimately if biological resources are degraded, a nation will arrive at an irremediable state of poverty, which economics and the physical sciences can do little about.

Thank you.

Senator CHAFEE. Each of you gentlemen have discussed title II. Now the next time I suspect we will direct some attention to title I; namely, the so-called elephant bill that comes from the House. Do any of you have any thoughts on that, pro or con?

Mr. LOVEJOY. I would agree with Mr. Burhenne that by and large individual species conservation initiatives by nations in which those species don't occur is not a very efficient way to go about things.

At the same time, I think we are talking about the largest animal that walks the earth. It has an important symbolic value, much as the act in its entirety has important symbolic value.

In any case, as World Wildlife Fund specializes in, if you go about saving the species in its natural habitat, you are ending up saving a lot of other things at the same time.

Senator CHAFEE. Yes.

Mr. BLAIR. Senator, I agree with that. I would just like to reiterate the point that I don't think I made very well in trying to condense my formal testimony.

It is a question of priority, it seems to me. If you save the tropical rain forest—and I am not a scientist here; I am quoting what the scientists tell me—depending on what kind of a tropical rain forest it is and where it is, nevertheless the odds are that you are probably saving thousands of species, not just one.

So we would say that is the first place to put your money—into the saving systems. The reservation I was trying to express to the bill was to its focus on—and this may be more a matter of terminology than substance—what it calls wildlife. The use of the word wildlife in the title and thereafter is going to mean to a lot of laymen just a few highly visible, threatened animal species. I understand that this is not the intended meaning; if you read the fine print, it isn't necessarily so. Hopefully the legislative history will take care of that, and make the broader intent clear. Because a lot of people are not concerned about ecosystems, or the broad concept of living resources, or what have you. I hope we will have in mind the priority that should be attached to saving important large examples of ecosystems that are threatened anywhere, whereby a lot of species can be protected in a single action.

Having said that, I agree with Dr. Lovejoy's point. The elephant, like the whale, is so conspicuous that it has a symbolic value and is especially important.

Mr. STAHR. May I concur with Mr. Blair and Mr. Lovejoy. They have said better than I could what I feel about it.

Mr. STOEL. I also, on behalf of NRDC, concur.

Senator CHAFEE. Let me see if I do know what you have said. I understand that you think that if you save the ecosystem or the forest or whatever it is, you are going to save the elephant or the

lion and lots of others, and that that is where the emphasis should be.

But at the same time, an elephant is a very conspicuous animal. Nobody is going to argue with that. [Laughter.] But what are you really saying? Let's try it again.

Mr. BLAIR. May I take one more shot, Senator? Then I will withdraw from the field.

I think we are trying to have it both ways basically because none of us wants to be responsible for seeing the elephant go. But to come back to my example, if I may, just for a second—and I am thinking of how to put this best—we can get more bang for the buck, let's put it that way, if we can get South American countries, for example, to focus not only on ocelots or one or two other glamorous threatened species but to focus on their ecosystems and the fact they have whole families and communities of both plants and animals, all of which, or at least many of which are threatened and many of which will perish if we do not save large representative examples of those ecosystems, rather than focusing on one species within an ecosystem.

Senator CHAFEE. Now we have this bill before us. It has titles I and II. Are you for the bill?

Mr. BLAIR. I am going to speak for myself on that. I would hate to see the elephant die. Therefore, I would say, reluctantly, to be sure, let's go along with the elephant, too. But I would hate to see that treatment applied only to the glamorous and threatened single species.

Senator CHAFEE. See, we have a problem here. You heard the Government testimony on title I, that this is an effort that encompasses a very small part of it. We, as a consuming nation of ivory, by taking this action we are not really going to solve the problem, because we are such a tiny part, we are not working within a multinational approach to the problem. The Government says that we can do it through CITES and other efforts. That is a better approach than this. Therefore, the Government is opposed to title I.

Mr. BLAIR. If we are forced to take a choice, Senator, we will take your approach rather than title I.

Mr. STAHR. I would prefer not to have to make the choice. I think clearly title II is more important if only one title can be enacted. However, I don't feel reluctant in supporting title I, because I think we can turn the glamour, if you will, attached to the elephant to good account in preserving and perpetuating many other species, simply because of the drama and the intensity of the focus on it.

The Audubon Society has always been habitat and species perpetuation oriented, and we have occasionally singled out some for special attention—the whooping crane, most recently the California condor—and we have supported the efforts to stop the commercial killing of whales.

So it would ill behoove us to say we don't think the elephant should get particular attention. I repeat, if we can only have one title, which I see no reason why there should be only one, but if there could only be one, then title II does have the greatest impact over the long run.

Senator CHAFEE. Dr. Ayensu, is the elephant a threatened species?

Mr. AYENSU. Having visited the areas where elephants used to live, one could say that yes, they were mutilated quite a lot just for the ivory, particularly, but in rather organized poaching programs.

Last month, as I was saying, I was in Tsavo National Park and I saw only one elephant with fully developed tusks. The rest of them were all little babies. This in my judgment, says something about the plight of the elephant per se.

Senator CHAFEE. I am not sure what it says. You mean they are killing them?

Mr. AYENSU. They have been killing the elephants.

Senator CHAFEE. Killing the elephants, but the little elephants are coming along?

Mr. AYENSU. The Government in the last 2 years has tried very hard to make sure that they weren't poaching in this particular area, and baby elephants are developing again. But one could see what would happen if the vigilance that was applied during the last 2 years were diminished. Poachers would just kill the rest of them off, too.

Senator CHAFEE. I have heard some suggestion that the governments themselves in order to prevent the poaching and killing of the elephants are anesthetizing them and then cutting off their tusks. Have you ever heard that one, Tom?

Mr. LOVEJOY. No. I have heard it suggested for the rhinoceros.

Senator CHAFEE. Was it for the rhinoceros?

Mr. LOVEJOY. Yes.

Senator CHAFEE. Thank you very much, gentlemen.

[Subsequent to the hearing the following letter was received from Mr. Blair:]

# The Nature Conservancy

1800 North Kent Street, Arlington, Virginia 22209  
(703) 841-5300

July 1, 1980

The Honorable John H. Chafee  
3105 Dirksen Senate Office Building  
Washington, D.C. 20510

Dear Senator Chafee:

It was a pleasure to testify yesterday before the Subcommittee on Resource Protection on your important international conservation bill. Your interest is very timely and most welcome.

I would like to restate one point I expressed poorly at the hearing. U.S. international conservation assistance will be most effective if it helps foreign nations to view their native lands, flora and fauna in terms of physiographic provinces, ecosystems, and communities, and to systematically identify and protect representative examples of each province, to start with; then of each ecosystem within the province; and ultimately, if possible, of each plant community with its associated animal life. In this way, the largest number of living species and landforms will most quickly and economically be protected. In fact, it may be that the only practical way to deal with the rapid disappearance of the natural world in developing countries is through the establishment of major reserves, each of which protects a number of ecosystem types and a great many constituent species, all in one tract. There are just too many species, especially in the tropics, for a one-by-one species approach aimed at the better known animals except for truly special cases. (The elephant, for its symbolic value, as we agreed yesterday, is one exception.)

As presently drafted, your legislation has a variety of purposes (e.g. research, training, enforcement) any one of which could theoretically consume most of the authorized appropriations without saving much land. Thus, I believe it appropriate that the overall goal of the legislation should be:

"to assist foreign nations in classifying, identifying, protecting, and maintaining, in order or priority, representative examples of their physiographic provinces, ecosystems, terrestrial and aquatic communities, and the habitats of rare species of plants and animals."



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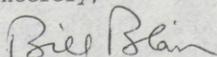
This language directs the program toward an explicit objective and suggests a comprehensive, systematic approach to the problem at hand. Without such an approach, I believe that the international program could be criticized as superficial or haphazard.

The recommended goal also provides a yardstick by which program results can be measured. Five years from now you will be able to ask the program administrator: "How many different major ecosystem types have been identified in Venezuela? How many of the different types have been adequately protected?" Without such specific accountability, your intent could easily be frustrated and the prospects for survival and growth of the program reduced.

In conclusion, I admire your willingness to tackle the international conservation issue. The problems are exceedingly complex, and I am sure we will have to learn as we go along. I believe your legislation, however, can be a significant first step. From it we will learn and improve. If my colleagues and I can be of further assistance, please call on me.

With best wishes,

Sincerely,



William D. Blair, Jr.  
President

Senator CHAFEE. Our next panel is Christine Stevens, Dusty Zaunbrecher, Michael Berger, Gerard Bertrand and Wayne King.

I think we have one more panel after this, plus we have to permit Mr. Beilenson, if he shows, time to testify. So if we could make these statements somewhat brief. If we are plowing ground that has been plowed before, if you could indicate your support or nonsupport for certain areas, that would be helpful. I just have to get over to the floor rather shortly.

So without restricting anybody unduly, if you could make an attempt to do that, that would be appreciated.

Mrs. Stevens, we are delighted to have you here again. You are a regular in this room.

**STATEMENTS OF CHRISTINE STEVENS, SECRETARY, MONITOR, WASHINGTON, D.C.; R. L. "DUSTY" ZAUNBRECHER, LEGISLATIVE COUNSEL, INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES, WASHINGTON, D.C.; MICHAEL BERGER, ASSISTANT DIRECTOR, FISHERIES AND WILDLIFE, NATIONAL WILDLIFE FEDERATION, WASHINGTON, D.C.; GERARD BERTRAND, MASSACHUSETTS AUDUBON SOCIETY, LINCOLN, MASS.; AND WAYNE KING, DIRECTOR, FLORIDA STATE MUSEUM, GAINESVILLE, FLA.**

Mrs. STEVENS. Thank you very much. Can I get these items up to you? If I could just submit my statement, I won't read it.

Senator CHAFEE. Fine. (See p. 129.)

Mrs. STEVENS. What you have there is a very good document from the ICUN, and I have marked a few parts that I think are particularly significant.

One of the points is just what you have been talking about; namely, that the elephant, protection of the elephant, helps other

wildlife, too. By reason of their size, they require more territory than most species, and they are to be found in a number of very different types of habitat. If you conserve the elephant, you incidentally conserve other species and their ecosystems. The spinoff will be very considerable.

I note that the World Wildlife Fund in Switzerland raised \$1 million for elephants.

I think the point brought out that elephants are popular is very significant. But they are also in terrible trouble.

Senator CHAFEE. Mrs. Stevens, Congressman Beilenson is here. Since this panel is just starting, I wonder, without leaving the table, if perhaps we could permit him to go on, and perhaps this gentleman here could just step back and let Congressman Beilenson come in for his statement, because I know he has other duties.

Mr. BEILENSEN. Mr. Chairman, it is very kind of you. I wouldn't at all mind hearing the panel, and just testifying very briefly thereafter.

Senator CHAFEE. That is fine with us. The panels take awhile.

Mr. BEILENSEN. I will stay, if I might.

Senator CHAFEE. Thank you very much.

Go ahead, Mrs. Stevens.

Mrs. STEVENS. Now I turn to page 7 where you will find that when permits from 35 countries were examined, more than one-half were found to be invalid. Most of the ivory going on the Sabena flights is probably poached and smuggled out of Tanzania, with export permits from Peru, which is not a CITES party and has no elephants. In other words, when people talk about regulation, saying it can all be done by CITES, in theory it could, but in practice it is not happening.

Turning now to page 10, we note: "The greatest long-term threat to existing elephant populations in Africa is loss of their habitat, as agriculture, ranching or forestry take over. The most important short-term threat for perhaps a majority of these elephants is human predation for ivory." Between 1970 and 1977, Kenya lost more than half of her elephants, and there was a further decrease of 25 percent between 1977 and 1978.

Even where things are improving, for example in Senegal, in Nicola Caba National Park, which is one of West Africa's few successes, yet poaching remains intense all year around despite combined operations by the national park rangers, police and army.

In the Congo, the same thing. Most of the ivory was illegal in origin.

In Zaire, even when the Government started to take some action, it only led to the greatest massacre yet of Zaire's elephants; tens of thousands killed in the first 7 months in 1978, until the President came to hear about the killings and ordered a moratorium on all ivory exports. At the IUCN conference in Ashkhabad, the Zaire delegation appealed to the nations to stop importing the Zaire ivory. But South Africa, a CITES party, is apparently continuing to do so.

Here on page 13 where you see references to the Senate's consideration of this legislation, there is not a single country in West or

Central Africa which is exporting ivory in accordance with the provisions of CITES.

Then if we turn to page 14, "Civil War Hits Chad Wildlife," we see elephants have suffered the most. And even when we get into the rhino horn, which is something that we can't really do anything about in the United States because as far as I know, it is not coming into this country, nevertheless, in West Germany it is the ivory traders who are involved in this illegal trade.

You see this rhino horn was caught at the border. It was going to a West German ivory trader. It is worth \$18,000 a kilogram. Then it appeared that the horns were for another resident West German ivory trader, and there was an ad in a Bangkok publication saying, "Rhinoceros horn powder for men" offered for sale by a Mr. H. Heisling, Post Office Box 125, Munich, West Germany.

Moving from the elephants to your extremely important and absolutely essential piece of legislation, they tie together in our opinion. I should state that I speak for a number of monitor groups, including the Society for Animal Protective Legislation, the International Fund for Animal Welfare, American Society for the Prevention of Cruelty to Animals, Center for Action on Endangered Species, International Primate Protection League, Washington Humane Society, Let Live, Friends of Wildlife, Humane Society of the United States, and the Massachusetts Society for the Prevention of Cruelty to Animals.

We all hope that both title I and title II will be acted upon favorably. We think they are both extremely important and that one will help the other, both substantively and also politically.

There was reference made to Dr. Douglas-Hamilton. I would just quote from a June 24 Christian Science Monitor report which comes from Kampala, Uganda, from a special correspondent saying: "If we do not move fast, we will not be able to reverse this trend in which so many elephants are dying," Dr. Douglas-Hamilton told me in his home this week. "But the cost is so tremendous and the Uganda authorities need all the help they can get."

Another quick quote. A senior official in the Uganda National Park Service said this week that "elephants in Uganda are now facing genocide. Of 35,000 elephants living wild left in Uganda in 1973, less than 1,500 are still alive today," says Dr. Erago Drona. "That number is diminishing fast through uncontrolled poaching." Dr. Drona has appealed to the Uganda Government to take steps to empower local officers to arrest poachers and consider poaching a more serious crime than it has up to now.

I did also submit to you the Journal Afrikana. On the very first page is a guest editorial by Ole Saibull, Minister of Natural Resources and Tourism in Tanzania, which is very important from the standpoint of both title I and title II.

He speaks about how this smuggling developed. It started when local residents, mostly of Arab and Indian descent, discovered they could make a comfortable living and even become rich dealing with ivory and rhino horns. He says that without help from the outside world, the elimination of poaching and smuggling in East Africa will be an impossible task.

Then he speaks of the smugglers and traffickers and fat middlemen who connect poachers to overseas buyers. These chains must be broken somehow and broken decisively.

The elephant part is a very decisive bill because it has the specific requirements for permits and makes it possible for the United States to refuse to allow ivory in when it is judged that the exporting country has not sufficiently controlled the taking and export.

We believe that CITES will move forward in this area and that if the United States has acted, it will be an excellent precedent. After all, this is the Washington convention. That is what it is known as in the rest of the world. We call it CITES.

I think if both title I and title II are passed, it will have the most benefit and influence.

The elephant bill has taken 3 years to get to the point where it is now. All the types of opposition that existed to begin with have virtually been eliminated. For example, the piano manufacturers and safari clubs have had their particular concerns taken care of and now support the bill. The only people who don't like it that we can find are ivory traders themselves. There are some very unpleasant reasons for that.

One last thing I would want to read. Dr. Lovejoy mentioned the resolution of the World Wildlife Fund which supports titles I and II, and the final paragraph is, the World Wildlife Fund, "urges the prompt enactment by the Senate of the House-passed bill regulating the importation of ivory and stresses the importance of the financial and regulatory provisions of this bill if we are to relieve the pressure from the ivory trade and thereby to help halt the traffic aspects of the decline of the African elephant."

I would also like to say I hope that both title I and title II can move rapidly. We are close to the end of the session. There is strong public support for this legislation, and we urge favorable action as quickly as possible.

Thank you.

Senator CHAFEE. Thank you very much, Mrs. Stevens. I appreciate your testimony. You believe in pictures. I must say pictures are very convincing.

I suppose the trouble in Uganda is there is no government. That is one of the difficulties.

Mr. Zaunbrecher?

We do have some time constraints here, so if you could perhaps submit your testimony for the record and then extrapolate from there.

#### STATEMENT OF DUSTY ZAUNBRECHER

Mr. ZAUNBRECHER. My statement is relatively short.

I am Dusty Zaunbrecher, legislative council for the International Association of Fish and Wildlife agencies. We are a voluntary association consisting of the fish and wildlife agencies of the 50 States, the provinces and the Federal Governments of the United States, Canada, and Mexico.

We appreciate this opportunity to comment on proposed legislation intended to facilitate the worldwide sharing of wildlife resources conservation capability.

I would like to state at the outset that the association has reviewed the proposed international wildlife conservation program and for the reasons stated below opposes enactment of some of the major provisions of the legislation.

My testimony is meant to be constructive, however, and the association would be very pleased to work with the chairman and committee staff in the interests of correcting the deficiencies we see in the proposed legislation.

The experience of our association with international treaties and programs initiated by the United States to carry out our international treaty obligations has been problematic. We find in many instances that good purposes are easily undermined in the international arena where decisions are based on less than the best scientific and wildlife management recommendations.

We have found that accountability is an important factor to our interests where international obligations are concerned. Our interest in this legislation is to assure that only the best scientific and wildlife management capabilities are made available to other nations under an international conservation program.

We believe that the U.S. Government should be involved in encouraging other willing countries to establish sustainable resource conservation programs and that the U.S. system of wildlife resource management has much to teach and share with less developed countries. Members of our association have on occasion instituted exchange and technical assistance programs with our South American neighbors in the area of wildlife conservation.

We strongly support the provisions in the legislation to train foreign nationals in the field of wildlife conservation and administration. If international cooperation in this area is to be realized, we feel it is important that the other nations involved are committed to the purpose of rational, scientific wildlife and resource management. That commitment, we believe, must originate from within the foreign government and not be imposed upon it by the United States acting through an international conservation force.

Section 205 which sets forth the guidelines for the training of foreign nationals we believe is an important step in the direction of orienting cooperating governments to the benefits of wildlife conservation and management.

Senator CHAFEE. So you are for that part.

Mr. ZAUNBRECHER. Yes, sir.

Senator CHAFEE. All right.

Mr. ZAUNBRECHER. Section 206 which authorizes a system of regional wildlife resource attachés, while having merit in our view for the dissemination of information worldwide, should be more carefully thought out. Some of the functions of regional attachés are stated to include, but are not limited to, functions which may be relevant to United States obligations or authorities in the field of wildlife conservation. There are many such obligations on the part of the U.S. Government pursuant to treaties and international agreements which affect our governmental members directly.

The Convention on International Trade in Endangered Species of Flora and Fauna is an example of a treaty which includes important U.S. obligations regarding management for individual species,

data gathering and decisions regarding the sufficiency of data on certain species, and the export of wildlife products.

In many cases the legal responsibility for the management of the species in question falls on the state agencies, including the gathering of scientific information on which to base trade decisions.

We believe that implementation of any U.S. worldwide initiative, which involves such obligations, should be limited to personnel employed by U.S. agencies specializing in the conservation of fish and wildlife and state fish and wildlife species.

We oppose the provisions of section 204 which authorizes nongovernmental organizations competent in the field of wildlife conservation to be detailed to foreign governments at the request of an international conservation organization.

Senator CHAFEE. You say we couldn't get somebody from a university and send them?

Mr. ZAUNBRECHER. Yes, sir. But we would like perhaps their qualifications to be better spelled out. I believe my association would be more comfortable if we had assurances that the people who would be giving advice to foreign governments had some on-the-ground experience in wildlife conservation and were more experienced wildlife managers, rather than conservation philosophers or strictly—

Senator CHAFEE. I assume from a wildlife organization?

Mr. ZAUNBRECHER. Yes, sir.

Senator CHAFEE. All right. I got your point. Thank you. Go ahead.

Mr. ZAUNBRECHER. Along the same lines, we would like to obtain clarification of the whole range of duties and functions of regional wildlife resources attachés and the qualifications of these secretarial appointees. We believe the qualification for these positions stated as qualified in the field of wildlife conservation is totally inadequate to assure that the U.S. contribution to foreign wildlife conservation represents the best wildlife management expertise we have to offer.

In the area of accountability, the association seeks assurances that regional wildlife resource attachés and all personnel detailed to foreign governments are under the direct supervision of and are directly accountable to the Secretary of the Interior acting through the Director of the Fish and Wildlife Service rather than the Advisory Council on International Wildlife Resource Conservation Policy, created in section 209. We feel this distinction is important—

Senator CHAFEE. I think that would be true, wouldn't it? I think that the advisory group is indeed advisory. I don't think they would have line responsibility for either the attachés or the Fish and Wildlife employees, or the people that were sent over by Fish and Wildlife. I am not sure you have a legitimate worry there.

Mr. ZAUNBRECHER. We would like some assurances in the legislation. It may be the intent of it, Senator.

Senator CHAFEE. All right.

Mr. ZAUNBRECHER. We feel this distinction is important so that our advice to foreign governments is consistent with official U.S. positions on international wildlife policy matters.

Finally, the association opposes section 211 of the proposal, the program to conserve the African elephant, as an undesirable precedent in the area of international wildlife conservation strategy.

Senator CHAFEE. That puts you at odds with Mrs. Stevens.

Mr. ZAUNBRECHER. Yes, sir, apparently it does. She said it is not the first time we have been at odds.

Senator CHAFEE. Proceed.

Mr. ZAUNBRECHER. We are not convinced that the provisions in the section will have any direct beneficial effect of management of the species and believe that legislating on a species-by-species basis should be avoided.

In summary, we support the concept of technical assistance to other nations in the management of fish and wildlife resources; the training of personnel in this country and on the ground. We think this is an important adjunct to the negotiation and implementation of international agreements.

Thank you.

Senator CHAFEE. I might ask some questions when we get through, but thank you very much. We will take Mr. Berger now of the National Wildlife Federation.

#### STATEMENT OF MICHAEL BERGER

Mr. BERGER. Thank you, Mr. Chairman. I am Michael E. Berger, assistant director for wildlife and fisheries of the resources defense division within the National Wildlife Federation. I would like to say that we appreciate the leadership of you and Senator Culver in the whole arena of international wildlife matters. The holding of earlier hearings and the introduction of this legislation and these hearings we sincerely appreciate.

We believe as the world's human population continues to increase, so do demands placed on renewable and nonrenewable resources. This increasing population and its need for food, clothing, shelter, and space is the root cause of many wildlife problems today.

We know that wildlife cannot survive without habitat, and the tragic reality of deforestation and desertification is ample evidence that we are losing the habitat battle.

This legislation recognizes the problem as well as the social and political difficulties of its solution. The legislation puts forth a partial solution by assisting foreign nations in improving their wildlife management and habitat protection capabilities. The proposed programs are a most positive step. Not only are such measures needed, they are crucial.

Let me address the international conservation corps for a moment. As you have heard previously today, it is not an entirely new concept. The Smithsonian/Peace Corps program was one that worked very effectively before. There was never a shortage of requests for these volunteers. I don't think there will be any shortage of requests from foreign nations where there are volunteers of the international corps program, either.

What I would suggest is that provision be made in the legislation to permit recent college graduates and others at less than mid to high government level positions or researchers or professors to

participate in the program as well. I think you can get more people on the ground for limited funds than are available.

I am not saying the kinds of people envisioned in the legislation as written should not be there. I am saying it should be expanded to include these others as well.

Senator CHAFEE. You know, I should have asked a question of Mr. Lovejoy, but I will ask it of you. Are we as good as we think we are? You say we certainly have one of the most sophisticated advanced systems in the world. Is the United States considered to be the leading nation in wildlife conservation and training.

Mr. BERGER. Yes, sir.

Senator CHAFEE. What I worry about in this act is a concept which has been voiced by others of avoiding the ugly American image of us going abroad and telling others how to do things.

Mr. BERGER. I do think that is something we have to be careful of, of appearing to other nations as if we have all the answers. We don't have all the answers.

But I think the people of this country, along with people in other countries as well, working together, can provide answers, are able to examine situations on the ground in foreign countries and arrive at innovative solutions, because they do have the training and the skills and the background and a large bag of tricks, if you will, from which to pull a variety of solutions.

I am not saying they are going over and saying, "This is the only way to do it." I think it has to be a two-way learning process, where we learn from the foreign governments, the foreign people, learn of their problems and help them to adapt solutions to those problems.

Senator CHAFEE. Mr. Lovejoy?

Mr. LOVEJOY. Yes, sir.

Senator CHAFEE. What do you say about the status of conservation training in the United States and awareness vis-a-vis the rest of the world? For instance, I would suspect the Germans probably have done pretty well, although they operate in a much more limited area, and the British must have been involved in this for many, many years. How does our training rate as you see it?

Mr. LOVEJOY. I guess my answer to that is that there probably is a small number of other nations which are in the very front rank in terms of expertise in wildlife management and in training. But if one looks at it in terms of sheer numbers of people being trained in wildlife management, and in sheer numbers of tropical biological specialists, the United States is way out in front.

For example, 20 or 30 years ago probably the British and the Dutch and the French held an edge in terms of the numbers of really sophisticated tropical biologists in the world. But that is no longer true.

Senator CHAFEE. Thank you very much.

Why don't you proceed, Mr. Berger?

Mr. BERGER. We also believe that the members of the conservation corps need to be well-informed conservationists with ready access to scientific and technical information. Therefore, we would support their employment as personnel of the Department of the Interior.

We would also recommend that this legislation or the report insure that they have access to the facilities and expertise of the Smithsonian Institution.

Concerning the placement of attachés, again we suggest that because of their role as information brokers and collectors and providing liaison with conservation and management communities in foreign nations, that they be qualified professionals employed by the Department of the Interior.

Our greatest fear is that these up to 10 people will shortly be overwhelmed with the quantity of work and requests for their time and expertise. I think we should be aware that shortly there will be a need to expand that number.

Concerning financial assistance for the education and training of foreign nationals, we believe that would certainly be beneficial, because the more administrative and technical skills possessed by foreign wildlife personnel, the more sound and meaningful foreign conservation programs should be. However, as you are aware, the financial cost of educating these people in the United States is significant. We would encourage the continued education of people at the local centers in Africa and elsewhere, and we would also like to see the international conservation corps personnel be made available to the countries to assist them in setting up conservation education programs at conservation centers in those countries or in the design of education programs that could be used in the schools. We think in this way a limited number of personnel could do a great deal of good with a great number of people.

You and Senator Culver have introduced this legislation as an amendment and second title to the Elephant Protection Act. It seems a little surprising that it does contain a separate section that deals with elephant conservation. However, the federation feels that wildlife management programs should be designed by professionals using the best scientific data available and in relation to changing local needs and circumstances, we therefore favor the comprehensive approach proposed in the amendment rather than the detailed criteria of H.R. 4685. We do recognize the forces impacting African elephant populations at present and feel the special attention focused by your amendment is justified.

I will stop my testimony there, Mr. Chairman. I would be glad to answer any questions that you may have.

Senator CHAFEE. Yes. Just one comment that you made here, that you want them supervised, the attachés. I think you said you want the attachés supervised by the Department of the Interior. That would violate a concept that has long been built up, that whenever you have anybody overseas, that they fall under the direction of the Ambassador in the country in which they work. So we wouldn't want to go around that.

Mr. BERGER. Perhaps supervise was a poor choice of words. But that they come from the Department of the Interior or that they be professional wildlife biologists is our concern, Mr. Chairman.

Senator CHAFEE. All right. That is a good point. Thank you.

Mr. Bertrand, your statement is——

Mr. BERTRAND. I am not going to read it, Mr. Chairman.

Senator CHAFEE. Not that there are not pearls of wisdom in it, but I think perhaps if you could take excerpts from it, that would be helpful.

I always say that to everybody and everybody says "yes" and then they proceed to read their statements. So if you can take the excerpts from there—

Mr. BERTRAND. Mr. Chairman, I am turning it face down in front of me so I can't read it.

Senator CHAFEE. All right. I am not sure that is always safe, either. I have stood in the course of my political career next to priests and ministers giving an invocation for many, many years. I do peek down to see whether their invocation is written out. I always take much greater assurance if it is written out because I know it will end sometime; whereas, if it is not written out, it is far more dangerous.

But nonetheless, go ahead and we will take a chance.

#### STATEMENT OF GERARD A. BERTRAND

Mr. BERTRAND. Mr. Chairman, my name is Jerry Bertrand. I am currently president of the Massachusetts Audubon Society. This is the oldest and largest State conservation organization in the United States.

Senator CHAFEE. Are you in fact what we normally call the executive director? Are you paid?

Mr. BERTRAND. President and chief executive officer.

Senator CHAFEE. So you are an employee of the organization?

Mr. BERTRAND. That is correct.

Senator CHAFEE. Thank you.

Mr. BERTRAND. I am not here in that capacity, however. I believe I was invited because of my past decade's experience in the international area. As Chief of International Affairs for the Fish and Wildlife Service for the past 2 years, I have been actively involved in carrying out the conservation programs that you have been discussing today.

During the last decade I have traveled as a professional biologist to more than 50 countries and worked with about one-third of our science attachés around the world.

Senator CHAFEE. Fifty countries?

Mr. BERTRAND. That is correct, sir.

Senator CHAFEE. That is a lot.

Mr. BERTRAND. That is a lot.

Senator CHAFEE. That is a lot of countries.

Mr. BERTRAND. I have spent probably one-third of my time, total, overseas in the last 3 years.

Senator CHAFEE. Are you married?

Mr. BERTRAND. That is one of the reasons I am now in Massachusetts, sir.

I am speaking here from personal experience in having worked with and seen what is needed in many countries and from my knowledge of the State Department workings and personnel.

First of all, let me say, Mr. Chairman, that what we are doing internationally is a drop in the bucket. You have heard today from a good number of people who have told you some of the things the

Smithsonian, Fish and Wildlife, the AID, and so on, are doing. The fact they can tell you about them is indicative of where we are.

We are doing almost nothing internationally to address and solve the problems facing us. We have small projects in a variety of countries. We do not have programs and we are not addressing the real issues or in any way meeting the needs.

I can tell you in my own experience in the last 2 years we have daily requests that have come when I am abroad for assistance, or weekly and monthly requests that come into the office for specific attention to individual countries or projects which we just can't meet. We simply do not have the money or the personnel.

We should in fact look at what we are talking about here. Your bill, as I understand it, would cost somewhere in the neighborhood of a maximum of \$10 million annually. This is about one-third, the tail section, of a modern fighter plane. We spend \$144 million in this country annually advertising cat and dog food. Our response to the world wildlife situation should be at least one-fourteenth of that.

We are talking about a very small thing. As Elvis Stahr said, this is one small step. It is absolutely inconceivable to me how anyone could oppose our taking that first step.

Sir, in my dealings with the State Department, I can tell you from my personal experience that they cannot respond to the sorts of problems we are talking about. I have had very good relationships with a number of science attachés. If they are personally interested in wildlife, they can be an enormous help. But it is not their primary purpose. It is not their primary function.

The reason we have science attachés abroad is to keep track of the technologies being developed in other countries, particularly, as you stated, toward armaments and nuclear proliferation and trying to keep track of where those countries are, and then to act for technology transfer for our own technological developments. They are not interested in wildlife and cannot be. They don't have the time, much as they might be interested, for doing the sorts of things this bill addresses. It can't be done by the small staff that they have to work with. Most of them are trained as physicists. I met some chemists. I have never met a biologist in an Embassy who is a professional biologist working as such. I have been to a good many Embassies. I have never met one. There may be some, and I look forward to seeing what Mr. Brown puts in, but I have never met one.

In addition, these sorts of things are not the mainstream in which science attachés are involved. In addition, in areas where there are not science attachés, wildlife responsibilities go to the commercial and economic consulars.

Our interest couldn't be farther from what they consider to be their job description. They are much more interested in promoting trade rather than seeing that it is appropriately regulated.

Another thing I would say, sir, is concerning the AID mandate. AID does have the mandate to go ahead and get involved with wildlife and parks. But if you might remember, they vigorously opposed that amendment when it came up for a vote here in this Senate and were against it very strongly and have not implemented it yet.

Senator CHAFEE. They opposed what?

Mr. BERTRAND. They opposed the amendment to the Foreign Assistance Act that added wildlife and parks to their mandate of things AID could work on. AID opposed that.

Senator CHAFEE. That was some years ago.

Mr. BERTRAND. It was some years ago. But what I am saying is that was the attitude the State Department held at the time.

It is understandable that they have not taken vigorous steps to make this one of their major goals.

Sir, you talked earlier about overriding our interests over the economic interests. I don't think this is possible or proper. What conservationists are asking for is some appropriately small amount of what we do overseas be directed toward parks, wildlife and conservation generally. Right now we are talking about less than one-tenth of 1 percent, and somewhat smaller than this, going conservation.

Senator CHAFEE. One-tenth of 1 percent of what?

Mr. BERTRAND. Of the total amount of money we have, sir, involved in foreign assistance, how much of that goes into something that has to do with development of environmental quality or parks or wildlife? Very, very small.

What we are talking about is saying to you that perhaps somewhat more than that, in the order of a few percent, ought to be going in. It is still a small amount of money, but a lot more than now.

I think that is what your bill does, and I strongly support it. I think it is absolutely necessary we take this initial step.

Let me say just a word about what the attachés might do, because that is something on which I do have information and about which I feel fairly strongly.

I think environmental attachés are important because, No. 1, they can keep track of and assist foreign countries in developing wildlife programs and projects, telling them where things are available. You have heard that the United States has the best wildlife management and education system in the world. I think that is correct. It is geared to a large extent toward game management, but this is changing as well. I think there are major steps being made in that area. Having someone available who knows what is going on from the professional sphere could provide on-the-ground direct information to foreign governments.

In addition, that person could help our own government in its activities abroad. We have many of AID projects. For instance, we have a project that is being developed to irrigate the Rajasthan Desert in India. There is no one in India from the United States standpoint who can assist AID in looking at the environmental consequences of that action, who can look at the different effects of our policies within that country, or evaluate it and provide information to the State Department.

Senator CHAFEE. Who draws up the EIS in that situation?

Mr. BERTRAND. Oftentimes they are done by contract, teams of people coming from the United States, descending on a country and working in that country for an intensive short period of time. Dr. King points out they are frequently engineers. That is correct.

Senator CHAFEE. What happens to the EIS? They submit it to the host country? What becomes of it? The host country must examine it, and the EIS says this is what is going to happen. Then they make the judgment on whether to proceed. Is that correct?

Mr. BERTRAND. The EIS is developed to satisfy our laws, not the policies and needs of foreign countries. That is the first point.

The second point is it is submitted to foreign governments, but oftentimes they have no one that can evaluate it. The people they submit it to are people who are helping develop the project in the first place.

You are talking about an objective outside check within foreign countries. To a large extent there is none.

Senator CHAFEE. An EIS is just information.

Mr. BERTRAND. That is what it is supposed to be. It should be a decision document in the sense that the information is available early enough on to allow you to change your plan if in fact it is warranted.

Senator CHAFEE. I wonder what its history is, the EIS, with the projects, if anybody reads them.

Mr. BERTRAND. Tom Stoel probably knows a lot more about them and probably can give you more on that than I can. I know of specific ones and have seen the history of some of them. There are lots of horror stories that can be dredged up. I think things are changing, but I don't know how much.

Senator CHAFEE. What point does EIS come in at, Mr. Stoel?

Mr. STOEL. Sir, AID began the EIS process only as a result of a lawsuit by environmental groups, which was settled in 1976. I would say up to very recently they have been in a developing vein with respect to that process. It has not worked terribly satisfactorily.

Of course, in theory the EIS ought to be prepared at a very early stage of the process. In fact, as happened domestically here in the earlier period, the EIS's were often prepared later and on a separate track from the decisionmaking process.

I am happy to report the AID is about to issue some regulations that will turn the situation around. There has been some steady improvement over the years. I would say up to now the EIS only occasionally has influenced the design of a project at the early stage, as Dr. Bertrand has pointed out. If they do not include a wildlife specialist on the team that does the studies for the EIS, then it is not adequately going to address wildlife concerns in any case.

Senator CHAFEE. It would be pretty hard to have an EIS without having somebody involved in wildlife.

Mr. STOEL. Well, the teams are often very small. They are drawn from consulting firms, many of which are oriented, as they say, toward engineering. In some cases they have omitted biology specialists. It just depends on case to case.

Senator CHAFEE. Fine. Thank you.

Mr. BERTRAND. Mr. Chairman, if I could point out to the committee, a hearing before this Subcommittee on Resource Protection on November 7, 1979, touched on these issues, and Mr. Printz of AID indicated that the EIS process began in AID 3½ years ago under court order. It was going forward, but it was not completed yet.

So what I am saying is that attachés can help.

Senator CHAFEE. All right.

Mr. BERTRAND. In addition, there are a number of international treaties and organizations to which the United States responds and is responsible for. The Endangered Species Act requires the Secretary of the Interior to monitor the global status of wild flora and fauna and determine which species are threatened and endangered. Currently this information is gathered in Washington, D.C., far from where the species are located and where the information is.

The Convention on Trade in Endangered Species of Wild Fauna and Flora places a similar responsibility on the Fish and Wildlife Service. The Lacey Act requires the Fish and Wildlife Service to assure wildlife products are obtained in a lawful manner from the country of origin. Oftentimes we don't have the up-to-date laws at hand to determine whether or not that is true.

The Pelly amendment of the Fish and Marine Protection Act of 1967 mandates the trade embargoes against countries acting in gross violation of the international conservation agreements. We don't know that unless we have people on the ground. Right now we don't have people there.

Executive Order 12114 requires the Federal agencies consider the environmental effects of actions abroad. This is the AID problem. We don't have people evaluating and monitoring them.

Without belaboring this, I think the environmental attachés have many jobs they can do, and the problem is not to try to find something for them to do but, rather, to make sure they are able to concentrate on the sorts of things this bill envisions, because these people will be very valuable to AID officers, ambassadors, or people working in foreign countries.

Mr. Chairman, I will bring up one more point and then stop. I ask to have my statement placed in the record in its entirety.

Senator CHAFEE. Yes. (See p. 142.)

Mr. BERTRAND. Section 203 has a definition of the term conservation. Education is not included as part of that definition. I know the bill taken as a whole has education as one of its prime objectives. I think, however, that the conservation definition should include education specifically.

Mr. Chairman, one more point I would say, and that is on the international conservation corps. In the 25 or so countries I have been to within the last 2 years specifically, we have been asked numerous times to have undergraduate level biologists, professionally trained wildlife biologists, come to countries to work with park directors or come in and do a wildlife survey or help them in wildlife censusing.

We in the United States and the Federal Government, in the conservation community, don't have the money to be able to send these people abroad and don't have a system worked out to respond to that. I think an international conservation corps could be extremely helpful. I can think of where 25 or more people could be placed in India alone doing specific projects which would be of benefit to the host country and provide these people with experience and good will for the United States. I think people on the ground can do much to help our image which is not good around the world.

One of the areas where it is not damaged is wildlife conservation. We have a good image in that area. It is a nonpolitical area which doesn't arouse animosities. We can send wildlife people into countries where Americans are not generally welcome. Wildlife people can go in and help and begin building the bridges again that have fallen apart in many places.

Mr. Chairman, I think the bill you have developed is an excellent one. I applaud you for your efforts and actions and strongly support it. I hope you are able to get passage of this bill very quickly.

Senator CHAFEE. Thank you. I appreciate it.

Mr. King?

#### STATEMENT OF F. WAYNE KING

Mr. KING. Thank you, Mr. Chairman.

Mr. Chairman, first of all, I would like to apologize. I spent a good part of last week in Switzerland at the ICUN, and on flying over here last night, like Wolfgang Burhenne, rushing to get to the meeting, unfortunately my luggage with the prepared statement got off somewhere in Atlanta. I would like to, with your permission, sir, submit my statement by mail tomorrow.

Senator CHAFEE. That is fine. (See p. 151.)

Mr. KING. But there are a few points I would like to make. Although I am director of the Florida State Museum, I was really invited here I believe for an entirely different reason. That is I am deputy chairman of the Survival Service Commission. That is part of the International Union for the Conservation of Nature and Natural Resources, the part that is concerned with the conservation of species. In addition, I worked from 1967 to 1979 as director of conservation for the New York Zoological Society.

Mr. Chairman, I am delighted with title II as introduced by you and Senator Culver. I commend you for it. I view this as a very welcome initiative on the part of the U.S. Government.

Unfortunately, I wish it had come a lot sooner. I find a great deal of parallel in the provisions of this bill and what is happening internationally in the nongovernmental conservation area. Many of the things that you have proposed in this bill, for example the international conservation corps, are exactly comparable to what we see being done in nongovernmental organizations and intergovernmental organizations such as ICUN and UNEP and others, where experts, be they wildlife biologists, botanists, zoologists, whatever professional that can provide information to foreign governments, are being sent out with private funding, are being sent out on grants, in order to study particular wildlife problems in the field and suggest solutions.

I will just give you a very quick idea of some of the things that are going on. I will mention first the New York Zoological Society simply because I was involved with that organization for 12½ years.

The zoological society operates an average of 30 conservation projects in 15 to 20 countries every year. They have been involved with conserving species and with habitats. They are responsible at the present time, for example, for conserving the rhinoceros of Africa, jaguars in Brazil, and bear in Peru, elephant in Africa, monkeys in Latin America, and on and on. They have also been

responsible for the establishment and development or expansion of more than three dozen national parks and wildlife refuges around the world: The Amboseli National Park in Kenya, the Serengeti, and the Nyiraha in Tanzania, Chepewha in Nepal, Hubsta in Pakistan and eight parks and reserves in Argentina, just to name a few.

Similarly, the Frankfurt, Germany, Zoological Society is funding dozens of projects in Africa, Asia, and Latin America and is responsible for the development of the world famous Serengeti Park in Tanzania.

The London Society operates wildlife conservation projects in several dozen nations. For example, they have a project going on right now to save the mountain gorilla in Rwanda.

The African Leadership Foundation operates projects throughout Africa. The International Council for Bird Preservation spearheads efforts to conserve birds around the world.

There are many, many other nongovernmental conservation organizations that could be cited. Probably the most active and most widely known is the International Union for the Conservation of Nature and Wildlife Resources, and its partner, the World Wildlife Fund. These two organizations spend somewhere between \$8 and \$10 million a year on various aspects of international wildlife conservation.

These are only two, but I would like to point out that the amounts of money these two organizations are spending already are in excess of the budget proposed in title II. It is impossible to name a wildlife or habitat problem or issue that ICUN or the World Wildlife Fund is not involved in. Most of their work closely parallels provisions of title II. They put a multitude of wildlife botanists, biologists and zoologists and environmental planners into the field to study wildlife and habitat problems and propose solutions.

This is exactly comparable to the provisions in section 204 which would provide an international wildlife conservation corps.

Almost every ICUN world wildlife project involving an ex parte expert also includes on-the-job or university training for a local counterpart. This is similar to the provisions for training foreign nationals contained in section 205 of your bill.

The ICUN maintains a roster of more than 2,500 cooperating scientists, ecologists, educators, lawyers, governmental officials, and planners to provide expert advice and also provide contact at the regional, national, and local level around the world. This is roughly analogous to the regional wildlife resource attachés proposed in section 206 of your bill; and also, because of the feedback that these scientists give us, it is also comparable to the Advisory Council on International Wildlife Resource Conservation Policy, which is provided for in section 209.

Yet despite these many nongovernmental efforts, much, much more needs to be done by the international wildlife conservation arena. The U.S. Government should be involved.

Everybody I think is aware that we can assist these countries in conserving their wildlife and conserving it before it becomes endangered. But there are very few people who look to the benefits that we would derive from such a policy. Other witnesses already today touched on this, but you don't have to tell many of these people in

other nations what this means. They are very cognizant of it. They lack personnel, trained experts to help give them the answers to their problems. You don't have to convince people in Zambia, Kenya, or Tanzania of the importance of this. The foreign exchange they get from wildlife tourism is a major part of their income.

Nepal values its national parks for these protected wildlife habitats which also provide the only grass thatch available to villagers within 50 miles, since surrounding forests were cut down by an international development scheme to clear land for farms. They also see the rivers silting up from erosion where the upstream hills and mountains were denuded.

But beyond these benefits to the foreign government, foreign nations, foreign people, we have a very direct interest in this country. For example, most of our agricultural crops are derived from wild plants native to other parts of the world. Wheat and barley originated in Europe, potatoes from South America, coffee from North and Central Africa, and I could go on. But the wild varieties of these croplands are invaluable to us today because they serve as a source of genetic material that we can use in developing drought and disease resistant hybrids.

Our agricultural experts are constantly searching the wild for more materials they can use in these breeding programs. Similarly, livestock. A chicken, for example, is the red jungle fowl domesticated. Goats came from Cyprus, the cattle from Europe. And if man had not domesticated the cow before the oryx became extinct, we might not have beef on our table today. Luckily there are other species of cattle in Asia and Africa today. They are subject to experiments to produce a more——

Senator CHAFEE. We really are running a little short here, Mr. King.

Mr. KING. What I am leading up to simply is to say that while the various nongovernmental organizations are active, a lot more needs to be done. I think that the provisions of your bill, title II, are to be welcomed. They are very needed. The State Department, the Agency for International Development, the Forest Service, National Academy of Sciences, many others operate programs for the assistance of wildlife programs. They are small programs, and we need more. I welcome your bill.

Senator CHAFEE. Thank you.

You seem to take a different view from Mr. Zaunbrecher who said he thought the only people we should hire are those who are working either for a State Fish and Wildlife Service or for the National Fish and Wildlife Service. You indicated that there is a good deal of talent with the New York Zoological Society, wherever it might be. Do I understand you correctly on that?

Mr. KING. I don't think that we are that far apart. He was asking that we send qualified people overseas. That is exactly what I am saying.

But I would not agree that we send over people whose sole background is in wildlife biology. Wildlife biology as a study in this country is aimed primarily at game species. That is changing, and changing rapidly. But there is that remnant.

In many of these developing countries, their wildlife may include such things as grasshoppers and hummingbirds and wild fruit-bearing trees. These wildlife biologists cannot by training address those needs.

What I think we have to do is yes, we want professionals, absolutely. Wildlife biologist qualifications, great. If not, we want professional botanists, ecologists, et cetera.

Senator CHAFEE. What is your view on title I?

Mr. KING. I came to address title II, but since you brought up title I, I would take exactly the same tact as the earlier panel. If both titles cannot be passed, if it comes down to a choice of one or the other, title II is by far more important, and we support that.

However, the elephant is a symbolic animal. It has a great deal of importance to the American public, the European public, the consuming nations, if you will—to some extent anyway. So I think we can support title I also. But it is clearly the second priority.

Senator CHAFEE. The last minute, Mr. Bertrand.

Mr. BERTRAND. I would second that. I think your title is the one that is preferable because it is much broader in terms of potential impact.

But in trying to protect the elephant, if you can protect the elephant's habitat and all those species that have to live in that habitat, since it is such a wide-ranging species, you have really saved quite a lot. If you can save the elephant in that context, you have really saved an ecosystem. Given the choice, I agree with Mr. King. I hope there is no choice here.

Senator CHAFEE. Thank you very much, gentlemen, and particularly Mr. King coming back from Europe for this. I hope you locate your luggage.

Congressman Beilenson, who has been very patient. We appreciate that.

Mr. BEILENSEN. I have been learning a lot.

Senator CHAFEE. We are delighted to have you here. We look forward to your testimony.

#### STATEMENT OF HON. ANTHONY C. BEILENSEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BEILENSEN. Thank you very much, Senator. I will be very, very brief. I shall, if I may, read my statement because that will insure my brevity.

Senator CHAFEE. Fine.

Mr. BEILENSEN. I would like to say at the outset, Mr. Chairman, I liked the comments and remarks of the last two gentlemen and the Chair's response to them.

I do thank you very much for letting me testify before you today on a matter that has been of great concern to me personally for a good many years.

I would like to preface my remarks by saying that I wholeheartedly support the whole bill, both the title which consists of the Elephant Protection Act as passed by the House of Representatives and the title which is the International Wildlife Resources Conservation Act. The two parts complement each other very nicely. I believe they are consistent one with the other.

I will just make a few remarks, if I may, about the elephant bill today since that is the one I was involved with over on the House side.

Mr. Chairman, as you may know, I have been concerned with the plight of the elephant for a very long time. I authored legislation in the State of California when I was a State senator there which banned the importation and sale of ivory and other elephant products within that State.

At the Federal level, I have worked closely with the chairman, committee members and staff of the House Merchant Marine and Fisheries Committee over the past 4 years to devise methods to combat the escalating and appalling destruction of the African elephant.

In fact, in 1977-78 I introduced a bill that would ban all elephant imports into this country. That didn't pass. But the testimony taken at those hearings on that bill excited a lot of interest and concern on the part of the House committee and the African elephant was put on the threatened list by the Department of the Interior in an attempt to assure the United States ivory demand would not encourage the poaching and other elephant slaughter that we heard so much about in the testimony of those hearings. Imports were to be allowed only from countries which were members of the Convention on International Trade in Endangered Species. It is sad and unfortunate that, as witnesses testified before the Merchant Marine and Fisheries Committee, the regulations have been ineffective and in many cases unenforced. And we speak to quite some length on that in the report by that committee which covers the reporting out favorably of the Elephant Protection Act.

We have worked very hard to devise another and hopefully better way to insure that our Nation's desire for luxury items does not cause the destruction of stable elephant populations and to establish a system whereby those countries who are successfully managing their elephant populations are recognized and encouraged.

The bill that passed the House this year and is presently title I of your bill contains a section which provides for assistance to nations needing help in developing elephant conservation programs required by the bill in exchange for export permits.

Another section limits the ports of entry to two rather than eight, to New York and Seattle, in order to aid the Fish and Wildlife and Customs Services in enforcement of the requirements of the act.

Thus, the bill establishes incentives for other nations to do a better job of managing their elephant populations by limiting imports to those who currently have or develop good programs. It also helps those nations that need some help to do so. We also aid our own agencies to do a better job of enforcing our regulations.

Mr. Chairman, you have before you an act which is the result of a great deal of work and a great deal of concern on the part of the other House of Congress—after a good number of hearings, a 1,000-page commissioned study by the Department of the Interior, and a great deal of discussion. It is an issue about which many of us care a great deal. We hope very much it will receive your favorable consideration during this session of the Congress.

Senator CHAFEE. Thank you very much, Congressman Beilenson. We are aware of the effort and time and effective contribution that you have made in this area. I want to pay tribute to you for it.

As you know, the State Department is opposed to both title I and title II of this legislation. Mr. Brown testified earlier. I asked him whether they had opposed your bill in the House; that is, the administration. He said, "yes."

The basis of their opposition seems to be twofold. One, that we, the United States, are a very small part of the total picture. I think they use figures like 2 percent of the total trade in ivory ends up in the United States. And the other point is that they don't like this what you might call unilateral approach by the United States. They prefer to do it in a multilateral approach under CITES or some other system such as that.

I wonder if you have any response to those particular questions which I am sure you have dealt with before.

Mr. BEILENSEN. There are all kinds of responses one might have, Senator. One becomes impatient after a while. We have been working on this particular matter of elephants alone rather than the broader picture which you have concerned yourself with in your bill over a 4-year period.

We are not all convinced necessarily that our approach is the best one or the only one that will work. It is the one which we have come up with because other things that have been suggested by others in the administration just haven't worked. The existing law hasn't been implemented well or enforced well enough. Clearly something needs to be done.

That was our best effort in trying to come up with something that perhaps would work. We were concerned specifically about elephants because we started with them, but I think a special case can be made for them, as the last two witnesses on your last panel made.

There is a particular problem with respect to elephants. The ivory trade has been so profitable that the number of elephants is, of course, dwindling at a very great rate, down from about 5 million a decade ago to only 1.2 or 1.3 million now—not simply because of loss of habitat but also because of poaching.

Second, we are, of course, ourselves, also involved in the ivory trade. I am not sure what percentage that is. I think it is a good deal more than 2 percent.

Senator CHAFEE. I am not sure. There were some statistics. Maybe it is 5 percent. Whatever it was.

Mr. BEILENSEN. Obviously we should contribute to whatever bilateral or multilateral efforts are being made in any of these fields with respect to any or all of these endangered creatures.

But at the same time we are to proceed as quickly as possible to do something as quickly as possible, to the extent we can.

I think your title is a superior effort to do something useful in a wide range of endangered species. We are very supportive of that one. We simply had focused originally on elephants, and we were trying to do the best job we could, which is also title I of your bill.

I think it is also fair to say that although we might be only a fractional percentage or share of the market with respect to any particular species, be they elephants or anything else, clearly what

we do is recognized and is reacted to elsewhere. I think Mrs. Stevens in her testimony had some information—I am not sure she got to it today in the oral testimony—about our impact on international whaling being a good example of this, even though we ourselves are not heavily involved—at least for some years we have not been involved in that trade. There was even reaction in European importing markets simply because of the passage by the House of our elephant bill, because of some of the testimony at that time.

So people do pay attention to what we do and do not do. I think by our actions we should encourage, if possible, other people to join us in our efforts to be of help in this particular matter.

Senator CHAFEE. Thank you.

One other point that I would like to ask you about is in title I, as I understand it, the Secretary has to make findings on the adequacy of the other country's conservation programs for elephants. How would you envision that being carried out?

Mr. BEILENSON. I can't give you a very good response to that.

Senator CHAFEE. One of the arguments we get is we are treading in dangerous waters here, for the United States to be making an objective determination—or subjective, perhaps—determination on how well another country is doing in handling its own resources. It puts us in somewhat of a position of how well are we doing in handling our management and protection of the wolf, for example, in the States.

Mr. BEILENSON. Any way you go there is some response. As I mentioned, a few years ago I started earlier with a bill that would have banned all imports of ivory. We would be simply washing our hands of that. We would not import anymore.

At the same time, we wouldn't have any input in helping others manage their herds or anything. We think this way, H.R. 4685, is a better one. We do make those decisions that are perhaps subjective and perhaps objective, perhaps a little of both.

At the same time also, in section 15 of our bill we direct the Secretary of State to establish programs to assist nations in protecting habitat of all the elephants and conserving elephants and developing elephant conservation and management programs.

On the one hand I think we are being as useful and good about it as we can. I say "as we can about it"; we want to help preserve this, but we are well aware of problems you all have in respect to managing and preserving these herds, and we are willing at the same time to help you do it. Model funds perhaps to encourage others to come along with additional amounts.

So we are being helpful at the same time instead of saying we are not going to help you; we are not going to import any. Since we are offering help, at the same time I think we are perfectly willing to say, "You have to measure up to certain standards," which in fact some countries probably already do and, hopefully, a handful of additional countries will. Those countries will thereafter enjoy some trade of ivory products with the United States. We hope this will have other countries pay some heed to us and help them develop a manageable ivory trade and at the same time preserve some large herds of elephants, which are clearly going to be benefi-

cial to those countries, not only for trade purposes but also for tourism purposes.

For those countries, too, we don't mean, obviously, to sound paternalistic about it. In those countries, if the elephant herds and the herds of other native species eventually disappear entirely, it would be disastrous.

Senator CHAFEE. Thank you very much, Congressman Beilenson. We appreciate your taking the trouble coming over here.

Mr. BEILENSEN. We thank you very much for listening to us and also being so kind as to include our bill as title I of yours. I think the whole thing together would be a very big step forward in this whole area. We can all be very proud of it.

Senator CHAFEE. I am optimistic that yours has passed and I am optimistic we can get this through this year and go to conference with it and then get the conference report passed.

Mr. BEILENSEN. I wish you well. I would like to offer my services to be of whatever help I can.

Senator CHAFEE. Thank you very much. I appreciate it.

Now the final panel is Marion Van Slooten, immediate past president of the Safari Club International, and John Hallagan, consultant, American Ivory Association.

You gentlemen have truly been patient.

Mr. Van Slooten, you may go first.

**STATEMENTS OF MARION VAN SLOOTEN, IMMEDIATE PAST PRESIDENT, CHAIRMAN, LEGISLATIVE AFFAIRS COMMITTEE, SAFARI CLUB INTERNATIONAL, TUCSON, ARIZ., AND JOHN HALLAGAN, CONSULTANT, AMERICAN IVORY ASSOCIATION, WASHINGTON, D.C.**

Mr. VAN SLOOTEN. Thank you, Mr. Chairman.

I am Marion Van Slooten, the immediate past president of the Safari Club International and currently the chairman of the legislative affairs committee.

I have prepared this written statement, Mr. Chairman. Your staff has it. So I will just hit the highlights of it for the record.

Senator CHAFEE. That would be very helpful. I have your complete statement here. It will be entered in the record, plus the addendum to it. We look forward to getting your thoughts. (See p. 159.)

Mr. VAN SLOOTEN. We are concerned as an international organization in the conservation of wildlife, and it is almost immediately recognized that one of the major obstacles to the development of effective wildlife development and conservation programs is the absence of sufficient funds in African nations which can be directed toward these efforts.

It is our contention that if wildlife species do not represent an economic value to the landowner or farmer or country on whose land or general vicinity that species may roam, then that species will likely be viewed as nothing more than vermin or a dangerous pest.

The economic benefit received from sport trophy hunting and its fees represents the very incentive needed to persuade the landowner or farmer to help manage the wildlife populations in that area and protect the species from an otherwise imminent and irrespons-

ble slaughter. In other words, sport trophy hunting benefits species by giving economic value, which in turn stimulates conservation methods.

As one African rancher told me, "As soon as the price of game exceeds the price of my cattle, I will have a game ranch instead."

Sport trophy hunters are an important source of revenue for wildlife conservation and management programs. Along that line, I will submit to your staff the most recent copy of Safari in which we have an interview with the manager of the Tanzania wildlife corporation.

In questioning him, he says two things which are of concern. The question is, "Do you feel that Tanzania has its poaching problem under control?"

Well, I wouldn't say that we have our poaching problem entirely under control, but we have been able to contain it. We aren't much worried about people who poach for meat, but we are very much worried about those who poach commercially. We have a well-established antipoaching unit. Our biggest problem, of course, is elephant and rhinos.

We also questioned him about the revenue generated by sport hunting in Tanzania which had been closed from 1973 to 1977, the sport hunting. He indicated that, "During the first year of our operation, which was 1978, our revenues were \$5 million, and last year about \$7 million in foreign exchange."

In order to assist these African nations in generating funds for elephant conservation programs and for concerting the programs, the House Committee on Merchant Marine and Fisheries specifically exempted from the provisions of H.R. 4685 the importation of elephant tusks taken by sport hunters.

One report showed that in 1977 sportsmen took only 577 elephants. In this regard, it should be noted that Ian Parker, an author and recognized authority on the African elephant, estimated that approximately 65,000 elephants die each year as a result of human influences, including sport hunting. Other estimates are much higher. The total take of 577 elephants produced \$784,750 in license fees and taxes and a total contribution from sport hunting safaris of \$9 million to the economies of those countries. That is an average of \$14,000 per elephant.

Included in my presentation is a letter from David Peddie, biologist with the game department of Zimbabwe. In it he states, "The elephant is of vital economic importance to the country whether from management programs or from safari hunting, and it is this fact which preserves its present status."

Senator CHAFEE. Mr. Van Slooten, I concur with you in the point you are making here. The point you are making is that the international sport hunting of elephants provides a return for the nations involved in these very steep license fees—and they must be steep—and thus it gives an incentive for that nation to protect the species.

Mr. VAN SLOOTEN. Correct.

Senator CHAFEE. I think that is a valid point. I think that the point you make on page 5, "The most immediate threat to the African elephant is the unregulated and uncontrolled international ivory trade," that in other words, the threat doesn't come from legitimate hunters who pay their fees; it comes from the illegal market for ivory poaching.

Mr. VAN SLOOTEN. That is correct, sir.

Senator CHAFEE. I concur with that. I think the points you make in your testimony are well made. That, of course, is covered by the legislation, the House legislation, isn't it, the point you are raising?

Mr. VAN SLOOTEN. That is correct. We are concerned about the amendment I think that has been offered in the Senate to include trophy hunting in the overall bill.

Senator CHAFEE. Let us take a look at that.

Are there any other points you would like to make?

Mr. VAN SLOOTEN. No. I have made the points. As I say, you have my testimony and the copy of the magazine which your man took which has three items that might be of interest to you. These are fairly well up-to-date.

On page 8 we have an account on the rhino, which we feel is in very a very delicate and desperate situation. On page 38 we have a reference to our operation watchdog, which the Safari Club has initiated at the present time in both Kenya and Tanzania in order to assist the rhino, because it would appear the rhino is on the very edge.

Senator CHAFEE. Edge of extinction?

Mr. VAN SLOOTEN. Pardon me?

Senator CHAFEE. The edge of extinction?

Mr. VAN SLOOTEN. We feel that if you read the figures of the rate at which the rhino has been depleted, even in the national parks—and last year I hunted in Tanzania. The wildlife group there told us they have no control on the poaching of rhinos. Specifically, the poaching of the rhino and also the elephant, which you saw evidence of both, has gone to the modern aircraft. They use helicopters. They use tranquilizers. Consequently, the poaching units have no way of combating them.

We make an additional point, which is not in your record that I gave you, the fact that we estimate that sport hunters are putting into the South African area where we hunt a total of something like \$30 to \$35 million annually, which includes, of course, all of the photography and things that sportsmen buy when they are out, besides the trophy hunting. We feel we are making a very definite economical assistance to those game departments and their major problems.

Senator CHAFEE. Of course, the rhino wouldn't be affected by the ivory.

Mr. VAN SLOOTEN. I understand that.

Senator CHAFEE. That is separate. I am discouraged to hear what you said. I listened to Dr. Ayensu's testimony where he said he thought in Kenya—I guess he said Kenya—that the rhino seemed to be doing all right. But your testimony at least for Tanzania was much more discouraging.

Mr. VAN SLOOTEN. It is very discouraging, because when the rhino is gone, the poacher is going to turn to the next most economic one, and that is the elephant. He has already done that.

Senator CHAFEE. Let's hope we can get this thing under control. Thank you very much, Mr. Van Slooten.

Mr. Hallagan?

## STATEMENT OF JOHN B. HALLAGAN

Mr. HALLAGAN. Thank you, Senator Chafee.

Since no one has discussed elephants and ivory, I would like to direct my comments there.

There have been a number of revisions of Senate Amendment No. 1680, which I believe is a fine piece of legislation. I endorse the approach you have taken to the African elephant conservation in section 211.

You have my written testimony. I would like to make a few points, please.

Before implementing further elephant conservation efforts, we should try to determine exactly what we have accomplished over the last 4 years in regulatory and legislative efforts here in the United States. The net effects are difficult to determine, but I think it is safe to say the African elephant has not benefited as much as many would like to believe.

The main effect of these actions has been to cause a great deal of instability in the international ivory market, which is very unfortunate, because due to this instability, we may see detrimental effects on African elephant conservation in Africa.

This instability evolved from efforts to ban or regulate the trade in ivory which resulted from publicity proclaiming the impending demise of the African elephant as a species. A number of researchers have spent a great deal of time over the last several years trying to get to the bottom of this. Some conclude there are severe population problems in Africa with African elephants. Other research indicates that the African elephant is generally secure as a species. The trouble spots generally are Zaire and Uganda.

The goal of African elephant conservation should not be to conserve all elephants extant. That is a very naive approach and probably impossible to achieve. We should concentrate our efforts on establishing sound national park systems in African countries, because it is here that we will be able to conserve the habitat and species.

The main problem is that instability has driven the price up to a level now which is way beyond what many people can afford or wish to pay. There is no justification for it. Currently raw ivory sells for approximately \$60 to \$70 per kilogram. Last year the high was \$80 to \$90. In 1973 the price was about \$12 a kilogram. As recently as 1976 you could purchase ivory for \$18 to \$25.

Now it is easy to see an increase in price of this magnitude may increase the incentive for poaching in Africa and may also increase the incentive to kill elephants and take their habitat.

The export of ivory from Africa has increased slightly over the last several years, following a large increase in the early 1970's, which approaches the previous high levels of the early 1900's. Throughout history ivory has been a popular trading commodity in Africa. That is being ignored in many studies of trade. Monetary currencies are not honored across country lines as they are in many other countries. Therefore, you need a commodity to facilitate foreign exchange. Ivory is often used.

The ivory trade in the United States, as Mr. Greenwalt stated earlier, is small. The amount of ivory used in the United States could probably easily be absorbed by other countries.

This is not the salient point here. The point is that the United States is often seen as an indicator of future international action. Banning the trade in the United States or a proposal to ban the trade has contributed extensively to the instability I mentioned previously.

What I would like to see is stability returned to the international trade. The best way is through CITES. Currently there are four regulations that will be discussed at the CITES convention in February. These include regulations to upgrade recordkeeping; also, to institute a standardized permit system which will be very important in the international trade of elephant ivory and other wildlife products; and also to try to get each country to institute a similar regulatory program on the ivory trade.

In closing, I would like to emphasize several concepts. High quality habitat is the key to viable wildlife populations and therefore habitat conservation should be assigned a high priority in wildlife conservation programs.

Second, the United States should not appear to dictate conservation policy to other African nations or other Third World nations. This will only foster resentment. Recent examples are the American policy on the leopard and the ivory trade. Developing countries wildlife conservation must be balanced with the needs of the people living in those countries.

In some cases wildlife resources will be utilized and in other cases they will be completely rejected.

The International Wildlife Resource Conservation Act of 1980 can make an important contribution toward the conservation of the world's invaluable wildlife resources by directly aiding in the conservation of wildlife habitat in developing countries.

As Malcolm Coe, a zoologist, stated in last week's Science magazine:

The National Parks of Africa and their wildlife represent a world asset which it is the responsibility of the developed world to support with funds. Yet at a time when the developed world is faced with a severe economic recession, there is a danger of complete withdrawal of funds for wildlife in developing countries.

I think it would be truly unfortunate if a species or type of habitat is lost simply because there are no funds.

Thank you.

Senator CHAFEE. What is ivory used for in the United States besides piano keys?

Mr. HALLAGAN. It is not used for piano keys much anymore. Plastic is used now. Some custom pianos use ivory keys.

Senator CHAFEE. What is used now?

Mr. HALLAGAN. On pianos?

Senator CHAFEE. Yes.

Mr. HALLAGAN. Plastic polymer.

Senator CHAFEE. What would happen if we just banned all ivory coming into the United States?

Mr. HALLAGAN. There are two kinds of ivory, first of all. There is worked and then raw ivory.

The effects of a ban on either would be different. If you ban raw ivory, it would affect approximately 3,000 artisans in the United States who depend on raw ivory for their livelihood. They are mostly small cottage industry type people—carvings, custom works,

knife handles, pistol drips, and different forms of art. Also there is a fairly large market in Alaska for elephant ivory which they use in place of walrus tusks.

Worked ivory imports is another matter. Worked ivory imports in the United States have averaged about \$7 million over the last couple years. Last year it was slightly less. If you ban worked ivory, you would affect a similar number of people. Most worked ivory imports are also imports of other objects from the Orient, which is where most worked ivory originates—jade and different gem stones.

Depending on percentage of ivory to these other things that they import, it is difficult to determine what the economic fallout would be from that. But I anticipate you would put quite a few business people out of business.

Senator CHAFEE. What is the American Ivory Association?

Mr. HALLAGAN. It is a trade organization.

Senator CHAFEE. You are a consultant to them?

Mr. HALLAGAN. Yes; I am.

Senator CHAFEE. Full time?

Mr. HALLAGAN. Half time.

Senator CHAFEE. Who belongs to it?

Mr. HALLAGAN. The American Ivory Association is a trade association which represents people involved in just about all areas of ivory consumption and use in the United States. This would include artisans, raw ivory importers, worked ivory importers, quite a large number of ivory collectors of what is called Ensuki from Japan, small ivory importers.

This association was formed about a year and a half ago, 2 years ago, because of legislative action here in Washington which threatened to do away with a number of businesses, and also the collectors were quite upset, too.

Senator CHAFEE. Thank you very much for your testimony. We appreciate it. We will take it under advisement.

Mr. HALLAGAN. Fine. Thank you.

Senator CHAFEE. Thank you, both of you.

That concludes the hearing. I appreciate everyone coming.

[Whereupon, at 1:15 p.m., the subcommittee was recessed, to reconvene subject to the call of the Chair.]

[Statements submitted for the record, H.R. 4685, and Senate Amendment No. 1680 follow:]

STATEMENT OF LYNN A. GREENWALT, DIRECTOR, U.S. FISH AND WILDLIFE SERVICE,  
BEFORE THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, SUBCOMMITTEE  
ON RESOURCE PROTECTION, ON H.R. 4685 AND SENATE AMENDMENT NO. 1680,  
LEGISLATION INVOLVING INTERNATIONAL WILDLIFE ISSUES, JUNE 30, 1980.

Mr. Chairman, I am pleased to be here today to discuss H.R. 4685 and Senate Amendment No. 1680.

Let me say at the outset that both these pieces of legislation reflect legitimate concern for the status of wildlife world-wide. As the effects of burgeoning human populations and rapidly developing technology encroach into even the most remote areas of our globe, pressures on the already diminishing wildlife resource will increase dramatically. As we learned at the hearings held by this Subcommittee last November, the problems we in the global conservation community face--desertification, deforestation, habitat loss and poaching, to name only a few--are serious ones. The one encouraging note in those hearings was that those testifying, who represented a wide spectrum of views in the conservation community, were in agreement on the importance of the issue and the urgent need for corrective action.

Since those hearings, the International Union for the Conservation of Nature and Natural Resources, working with the United Nations Environment Programme and the World Wildlife Fund--all respected and highly competent organizations in the field of international wildlife conservation--have published a "World Conservation Strategy." This probably is the most comprehensive such document now in existence. Information in the "World Conservation Strategy" amplifies concern over most of the problems and supports many of the possible solutions discussed at that November hearing.

Mr. Chairman, it requires neither an alarmist nor an extremist to recognize that the global energy crisis and continuing population growth are quite

likely to make major changes in the manner in which man plants, fertilizes, cultivates, harvests, husbans, and distributes those plants and animals he uses for his food, fiber and medicine. This situation is complicated by the alarming rate at which cropland is being lost. The United Nations estimates that, if current rates of land degradation continue, close to 1/3 of the world's arable land will be lost within the next 20 years. As the cost of producing and distributing agricultural products increase, so will their price to the consumer. While such increases are troublesome to those of us in the so-called "developed nations," they can be catastrophic to persons in other parts of the world.

It would be irresponsibly naive not to recognize that this combination of events will place tremendous pressure upon existing social and political relationships, as well as the globe's wild flora, fauna and the habitats upon which they depend. However, those very resources, if managed properly, can provide a continuing, sustainable source of food, fiber, medicine and foreign exchange for many nations who desperately need these commodities--if managed properly. The logic of doing all we can to encourage wise management of these resources is apparent. The only question is: What is the best approach to provide this encouragement? In brief, we oppose the approach taken in H.R. 4685, as passed by the House.

Mr. Chairman, H. L. Mencken once said, "There's always an easy solution to every human problem--neat, plausible and wrong." The same could be said of most wildlife problems, and in particular the problems associated with the African elephant. With the elephant, and indeed with all wildlife resource

problems, we must be careful to direct our limited resources into areas that can be beneficial.

While there is no doubt that poaching is a significant factor in the decline of some elephant herds, the simple fact of the matter is that whatever we do to regulate the import of elephant products into this country, it will probably have only a peripheral effect on the elephants in Africa. The United States accounts for a relatively small percentage of the total ivory trade and an even smaller percentage in the trade of raw ivory. There is every indication that the trade could be redirected to other countries without substantially disrupting the market.

As you know, Mr. Chairman, the elephant is already listed as a "threatened species" under the provisions of the Endangered Species Act, and the Secretary is authorized to promulgate such regulations as are necessary for the conservation of the species. This existing authority enables the application or relaxation of restrictions as needed, providing the flexibility necessary to recognize changes in the status of elephant and provide sufficient protection to the species without unnecessarily hampering legitimate trade. Import of elephant products is currently governed by a regulation issued under the authority of this Act.

The African elephant is also listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which requires that all exports of elephant parts or products from CITES countries be accompanied by documentation stating that the animal was taken in accordance with the management program of the country and that its export is not detrimental to the survival of the species in the wild. We believe the Endangered

Species Act and CITES provide sufficient authority for us to address, to the extent we can address any wildlife poaching problem in another country, the problems with the elephant.

Our current elephant regulation is difficult to enforce and there has been valid criticism of it. To address these concerns, and to develop a rational regulatory scheme which will more effectively use our legal authorities to protect the elephant, we have taken two major steps. First, we commissioned a detailed study of the impact of the ivory trade on African elephant populations. Second, we participated in a meeting of technical experts called by the Second Conference of the CITES parties which addressed, among other things, control of the elephant ivory trade.

On the basis of these actions, we are convinced that proper conservation of the African elephant can be best achieved by a combination of technical assistance to help African nations deal with the difficult problems of habitat loss, conflicts in habitat use and control of poaching, coupled with concerted international controls on the ivory trade, particularly in unworked ivory.

The study on the impact of the ivory trade was conducted by Dr. Iain Douglas-Hamilton, of Nairobi, Kenya who is Chairman of IUCN's African Elephant Specialist Group and one of the world's most respected authorities on the African elephant. In the report, he states that the most effective way to counter the illicit ivory trade is through united international action. Although he argued that a total ban on the importation of ivory products would be valuable because of its leadership effect, he also recommended that any regulations that were put into effect to control trade should be done in

harmony with CITES. He further recognized that any direct effect resulting from a ban on the importation of ivory products into the U.S. would be slight. It is clear that multilateral rather than unilateral measures are in order. Such multilateral measures are now taking place under CITES.

The meeting of technical experts, which occurred in Bonn, Germany on January 29 - 31, 1980, made the following recommendations for adoption by the Third Conference of the CITES parties, to be held in New Delhi on February 8, 1981:

- that any imports of African elephant ivory by a Party be authorized only if the Party is satisfied that the ivory was legally acquired in, and exported from, the country of origin;
- that permits or certificates for unworked or simply worked ivory be accepted only if they mention the actual country of origin;
- that relevant information be exchanged among Parties, and between Parties and the CITES Secretariat and, if there is any doubt concerning the validity of an ivory export permit or re-export certificate, a copy of the documentation be submitted to the Management Authority concerned for clarification;
- that the "Technical Expert Committee on Harmonization of Permit Forms and Procedures" study and promote the development of methods for the permanent marking and numbering of unworked elephant tusks, such numbers to be entered on the export permit and re-export certificate; and;
- that Parties make every effort to encourage wider participation in the Convention by Nations trading in ivory which are not yet Party to the CITES.

The Fish and Wildlife Service is revising our current special rules for elephants. We intend to revise the rule by requiring that importations of unworked ivory be made under a special permit. This would allow the Service to maintain close scrutiny of this aspect of the ivory trade. This permit would be in addition to any other permits required under CITES. At the same time we intend to delete from our special rules those prohibitions primarily concerning interstate commerce. The Service could then concentrate its administrative and enforcement efforts on international trade involving the African elephant. We will not propose any major changes to the regulations on worked ivory. Such ivory will still have to originate in the wild in a country that is a Party to CITES and be imported from a Convention country.

Considering the relatively small role of the U.S. in the world ivory market, and considering the international program outlined by the "Meeting of Technical Experts", the Service believes the most effective use of its resources would be to focus on controlling ivory traded in the manner suggested by the draft resolution. This would support the adoption of this international program by other CITES nations and, in the long run, would provide the best means to control the ivory trade. H.R. 4685 as approved by the House would disrupt the slow but promising progress we are making in developing a truly international method of controlling the trade in wildlife.

We also are opposed in principle to H.R. 4685 because it establishes an artificially high priority for the African elephant. To concentrate our restricted resources on one species, when other species such as the black rhino, the Grevy zebra and other species in Africa and elsewhere are in greater danger of extinction does not seem to be a wise allocation of resources.

In the final analysis, the African elephant, like most other species in trouble, can be saved only by people who share its range and its habitat.

Through a program of technical assistance and training, supported by a reliable information network, we should encourage the use of "preventive" wildlife resource management and thus enable an eventual reduction in the use of "curative or crisis" conservation. It is much more cost-effective to enable a nation to manage its wildlife resources so that they do not become threatened or endangered than it is to rush in and "save a species" after it reaches that point.

With respect to Senate amendment No. 1680, however, the Administration recommends against its enactment. We believe that existing authority rests in the State Department and AID to accomplish most of the goals of the amendment. We understand that AID has a Program of Man and the Biosphere that provides wildlife resource assistance to some developing countries. The growing urgency of the problem however, requires that such efforts be better coordinated with wildlife resource conservation priorities in the future.

The Fish and Wildlife Service is also participating in a number of programs overseas, including providing technical assistance as is envisioned by the creation of the International Conservation Corps. We discussed many of these projects in our November 7, 1979 testimony before this Committee. We are currently reviewing our technical assistance authorities to determine what additional authority may be necessary.

As the State Department points out in their testimony, the President has directed that resident official U.S. employment abroad be controlled and reduced to minimum necessary levels. We therefore cannot support the authorization of ten new regional wildlife resource attaches. The Administration also cannot support the creation of another Advisory Council. The President has pledged to reduce the number of such councils and to establish administratively any such necessary bodies.

That concludes my prepared statement Mr. Chairman, I will be pleased to answer any questions you might have.

# The Nature Conservancy

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STATEMENT OF WILLIAM D. BLAIR, JR.  
PRESIDENT, THE NATURE CONSERVANCY  
ON THE PROPOSED INTERNATIONAL WILDLIFE RESOURCE CONSERVATION ACT  
OF 1980 (CHAFEE-CULVER AMENDMENT TO H.R. 4685) BEFORE THE SENATE  
SUBCOMMITTEE ON RESOURCE PROTECTION JUNE 30, 1980

I appreciate the opportunity to appear before this Subcommittee today to testify on conservation of the world's natural ecosystems and of the plant and animal species which are their living components. I know of no subject of greater significance for the future well-being of the American people as well as the other peoples around the globe.

The World Conservation Strategy paper recently published by the International Union for Conservation of Nature and Natural Resources, the United Nations Environment Program and the World Wildlife Fund has clearly documented the central fact: that human activity is progressively reducing the capacity of this planet to sustain life, while rising human numbers and consumption are making increasingly heavy demands on that capacity.

Life-support systems essential to human survival and development are being destroyed or depleted at an accelerating rate:

- The forests which help to moderate climate, cleanse our water, limit flooding and protect the soil are being devastated around the world.
- Billions of tons of irreplaceable soil are being lost every year through deforestation and poor land management.
- Close to one-third of the world's arable land will be



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destroyed in the next 20 years, by U.N estimate, if current rates continue.

- Coastal and freshwater wetlands, among the most productive acres on earth and the indispensable basis of most of the world's fisheries, are being destroyed around the world.

At the same time, and largely as a result of the loss of habitat through these and other man-made trends, tens of thousands of the world's plant species and hundreds of thousands of the world's large and particularly small animal species are threatened with probable extinction in the short remainder of this century. This is serious, because we do not know how many, or which parts, of this large fraction of the flora and fauna of the globe may be indispensable to the continued functioning of vital ecosystems--those associated with pollination, for example, or natural pest control.

Nor do we know how great a loss may be entailed in the death of any one of those species, most of which have never been investigated by science. How many undiscovered penicillium funguses, for example, may be lost, unknown?

The ecologists who founded the predecessor organization to The Nature Conservancy in the late 1940's were among the first to recognize and take practical steps to counter these disturbing trends, in the United States. For 30 years, the Conservancy has worked for the preservation of natural diversity through the identification and protection of some of the most important of our remaining natural lands. Now a national organization with more than 80,000 members, we have been responsible for saving more than 1.6 million acres of ecologically significant land in 50 states, Canada and the Caribbean, and we now own and manage the largest private sanctuary system in the country,

with approximately 700 preserves.

While nearly all of the Conservancy's activity to date has taken place in the United States, and while there remains a great deal of this work for us and others to do within our borders, it has been clear for some time that preservation of species and natural systems on American territory will ultimately mean little if there is not an adequate and parallel effort made elsewhere. The consequences of spreading deserts, shrinking forests and fields, and depleted fisheries, food bins and gene banks abroad will be felt by Americans as well as by others, regardless of our own performance. Accordingly, since 1974, the Conservancy has begun to seek ways in which we might make an effective if modest contribution to encouraging and stimulating natural-land conservation efforts in other countries. In the past year we have decided to increase these up-to-now largely experimental attempts.

While our earlier efforts have been primarily project-oriented, resulting in a Conservancy role in the creation of a small number of parks and reserves in neighboring countries, we anticipate that our international program in future will focus increasingly on providing technical assistance and training to organizations and individuals dedicated to similar goals. In particular, we will offer (and we are presently offering) assistance in organizing and conducting biological community and species inventory processes, to help other countries locate and enumerate the natural systems and elements they have, and to assess more effectively their priorities for the use and/or protection of those areas and species. We also expect to offer on-the-job training in matters relating to the acquisition and management

of ecologically significant natural land, and to developing community interest and support for those activities.

In this focus on technical assistance we share the approach of the bill proposed by Senator Chafee with Senator Culver. For all the reasons I have described, we welcome the intent of this bill and support the concept of assistance in this area to other countries.

I am somewhat concerned that the concentration in the bill on "wildlife"--which to many people means animal life--may be interpreted in practice as referring primarily to the relatively few most familiar endangered animal species. Our first task should be to encourage other countries to preserve viable examples of each of their physiographic provinces, plant communities and aquatic systems--in other words, all major ecosystems--which in turn will include and protect the great majority of species. In some countries, a concentration on habitat for one or two threatened species could mean almost literally overlooking the forest for a few trees. In the case of tropical rain forests, for example, it seems likely that only the early establishment of large reserves and parks in a number of nations can save literally thousands of animal and plant types.

I would note that some provision for pre-assignment language training for some members of the proposed International Conservation Corps may be helpful. And I would call attention to the existence of relevant training facilities in other countries--such as the Tropical Agronomy Center in Costa Rica and the College of African Wildlife Management in Tanzania--which I hope would be utilized for the American-sponsored training of foreign nationals along with American training institutions and facilities.

To conclude, Mr. Chairman, the Conservancy is in favor of the establishment of an international program conducted by the Department of the Interior to help other nations identify and preserve examples of their ecosystem types and species habitats. In our judgment the present bill represents a small but useful step toward a global objective of fundamental importance.

# Natural Resources Defense Council, Inc.

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Testimony of the  
Natural Resources Defense Council, Inc.  
Before the Subcommittee on  
Resource Protection

I am Thomas B. Stoel, Jr., Director of the International Project of the Natural Resources Defense Council (NRDC). I appreciate this opportunity to present the views of NRDC on Amendment Number 1680, the International Wildlife Resource Conservation Act of 1980. NRDC is a non-profit environmental organization with 45,000 members in the United States and at least 20 foreign countries. Since its establishment ten years ago, NRDC has worked for sound conservation of wildlife and plant resources both here and abroad.

I would like to begin by thanking Senator Chafee and the bill's other sponsors for this important initiative. As you know, the world's wildlife and plant resources are under tremendous and growing pressure due to habitat loss and overexploitation. Many species have already succumbed. No matter what we do, a great many more will be lost. Unless strong action is taken, the rate of extinction will reach tragic proportions. Once a species becomes extinct, it is gone forever. That species, and the myriad ecological, scientific, economic, and esthetic purposes which it served or could have served, can never be recreated. Your bill allows us to do something to prevent this tragic waste.

The need for immediate action is overwhelming. In his book, *The Sinking Ark*, Dr. Norman Myers estimates that we are now losing one species per day somewhere in the world. Dr. Myers estimates that in less than ten years, one species per hour will become extinct. The greatest loss will be in the tropics, where both forested and arid lands are under severe pressure from growing human populations. The tropical moist forests are the richest terrestrial biome; while they make up only about 6% of the world's land surface, they harbor an estimated 40% of all terrestrial species. But these incredibly rich forests, home to thousands of species of trees and orchids, as well as animals including apes and smaller monkeys, many of the great cats, and numerous birds, crocodiles, and snakes, are being decimated. In a recent study prepared for the National Research Council, Dr. Myers estimates that most of the lowland forests of Southeast Asia and the forests of West Africa, the Caribbean, Central America, and coastal areas of Colombia, Ecuador, and Brazil will be severely degraded or converted to other uses by 1990. Most of the rest of the Asian tropical forests and much of the Amazon will suffer the same fate by the year 2000. The inevitable result will be the extinction of hundreds of thousands of forest species.

Other habitats are also undergoing rapid degradation. The semi-arid plains of the Sahel are becoming full deserts under the pressure of unwise stock raising and cultivation. The oryx, antelope, elephant, and cheetah which formerly roamed these lands are being forced out. Mountain environments, once heavily forested, are being reduced to bare rock as the vegetation is stripped to supply fuelwood or to make way for crops. The impact on two langurs, the snow leopards, gaur, kashmur stag, black-necked crane, and several pheasants is already serious.

Numerous species are also threatened with imminent extinction by overexploitation. These include the African elephant, rhinoceros, some spotted cats, some parrots, and crocodiles.

Conservation of the world's wildlife and plants is vitally important. These species are the gene pool upon which we must rely to improve our agricultural crops and to find new sources for food, fiber, medicines, industrial materials, and energy. Furthermore, wildlife conservation is intimately tied to conservation of soil, water, and other natural resources. Wise use of these resources is

the key to sustainable economic development, a fact recognized in the World Conservation Strategy published recently by the United Nations Environment Programme (UNEP), the International Union for Conservation of Nature and Natural Resources, and the World Wildlife Fund. Yet fulfillment of this goal is often beyond the means of developing countries. Wise resource management requires good data on the status of resources, and adequate legislation, policies, institutions, programs, and trained staff. Your bill provides a way in which the United States can assist developing countries in meeting these needs.

The International Wildlife Resource Act correctly focuses on making technical expertise available to countries which want to improve their wildlife and plant management programs. We strongly support its four major components: a conservation corps, training, improved information exchange between the United States and foreign countries, and a Council to coordinate actions of Federal agencies. The bill would expand upon and extend the approach already applied successfully by the Department of the Interior under its present programs, located in the Fish and Wildlife Service and the Park Service. These programs are now limited by inadequate funding and Congressional mandate. The International Wildlife Resource Conservation Act corrects these problems. In addition, the bill allows nations to draw on relevant expertise wherever it may be found: in Federal or State agencies, universities, or international non-governmental organizations. One such organization, the International Union for the Conservation of Nature (IUCN), counts among its members many of the acknowledged experts on wildlife management in both the United States and the developing countries. It is, therefore, particularly capable of providing data, expertise, and advice.

NRDC suggests some minor changes in the bill to assure its effective and economical implementation.

First, we suggest that the proposed conservation corps be modeled on the former Smithsonian-Peace Corps conservation program. Young scientists and wildlife managers, working with counterparts from the host country, could carry out important field research. Among the subjects might be inventories of species of fauna and flora in a particular area; studies of their life histories and ecological relationships; development of management plans

for preservation or sustainable exploitation of certain species or areas; and analysis of the economic and social benefits obtained from an area in its natural state. The Department of the Interior should design the program, recruit researchers, and provide technical backup. It might contract with the Peace Corps for language training and acculturation. Such a program would provide vital data to the host country, help train host country personnel, and give the researchers unparalleled opportunities for field research. Furthermore, these benefits would be gained at little cost.

Second, NRDC suggests that the training programs be designed to strengthen the indigenous capacities of the developing countries to manage their own living natural resources. Technical assistance in the form of equipment, publications, instructors, etc., should whenever possible be provided to existing regional training centers, such as those at Mweka, Tanzania, and Garoua, Cameroon. Establishment of similar centers in Asia and Latin America should be encouraged and assisted. Developing-country universities should receive assistance, and there should be support for on-the-ground assistance through international organizations such as IUCN. These actions will enhance the recipients' abilities to manage their own resources and encourage regional cooperation.

Third, NRDC concurs in the need to improve official relationships between the United States and other countries in the area of wildlife conservation. Science attaches currently are not active in this field. Most of the 30 attaches are located in developed countries and are specialists in the hard sciences, especially in nuclear physics. There is a need for regional officers who will convey information and advice about wildlife protection legislation, management programs, and activities which affect wildlife habitat. For example, full implementation of the Lacey Act requires the U.S. to possess current information on foreign wildlife legislation.

However, we suggest that the bill be revised to permit these people to be based in Washington, with frequent travel to the countries of their region. Washington-based officers may be better able to take advantage of U.S. resources and expertise, in and out of government. They will be in closer touch with those in the United States Government to whom they report, and would be able to consult more readily with fellow wildlife experts. In

some cases, they would be in more direct communication with all the countries of their region, since communication among countries of the Third World is often very difficult. The Agency for International Development has used both approaches -- Washington-based and foreign-based -- with respect to the location of its Regional Environment Officers. Thus far the Washington-based officers have been more effective. Moreover, basing the regional officers in Washington would achieve considerable savings by eliminating the need to support American families abroad.

We also suggest that these officers be authorized to recommend specific actions to alleviate problems of overexploitation and especially habitat destruction. These recommendations would be directed both to the host-country government and to U.S. AID and other aid agencies. Too often, aid agencies are staffed by engineers and economists with little interest or expertise in wildlife matters.

Fourth, we suggest that the bill ensure a meaningful role for the Advisory Council on International Wildlife Resource Conservation Policy by describing its duties more precisely. For example, the report to be delivered to the Congress 18 months after enactment of the bill should be required to be detailed and to recommend specific solutions to the problems it identifies. The Council should be empowered and encouraged to recommend priorities for the expenditure of funds authorized under this Act and other relevant legislation. Finally, the Council should function as a forum for alerting U.S. agencies to the impact of their foreign operations on wildlife and plants and habitats critical to their survival.

## Statement of

Edward S. Ayensu

Director, Office of Biological Conservation

Smithsonian Institution

Thank you, Mr. Chairman:

My name is Edward S. Ayensu, and I am Director of the Office of Biological Conservation at the Smithsonian Institution.

I am pleased to have the opportunity to appear today and to speak in favor of the principles embodied in the proposed International Wildlife Resource Conservation Act of 1980. I would like to ask, Mr. Chairman, your permission to enter into the record four short articles that I have written which are relevant to the objectives of the proposed legislation in addition to my testimony.

Recognizing the growing need to assist other nations in developing their expertise in environmental education, management, and methods of assessing biological resources, the Smithsonian's Secretary, S. Dillon Ripley, established the Office of Biological Conservation two years ago to help meet these needs in an appropriate way within the competence and modest resources of the Smithsonian.

Since the time when protection was first extended to United States plants under the Endangered Species Act of 1973, the Institution has been in a pivotal position in the national endangered species and conservation programs. The Report on Endangered and Threatened Plant Species of the United States which the Smithsonian prepared as a result of the 1973 Act and presented to Congress is considered the most authoritative reference work on the subject in this country and abroad.

An immense reservoir of environmental information is at hand through the conservation-oriented research output of the Smithsonian's scientific bureaux. Analyses of the characteristics of tropical ecosystems, the

spread of deserts, inventories of endangered plant and animal species, baseline studies of temperate terrestrial and aquatic environments, propagation of rare and endangered animals: all these topics are being studied at the present time under the auspices of the Institution, and are relevant to problem-solving for the diminishing wildlife resources of the world.

A major initiative that the Smithsonian has undertaken includes the development of compilations of base-line information on certain critical areas of the world. For the state of Gujarat, India, in which the fate of the Asiatic lion is inextricably associated with the future of the Gir Forest, problems of management in semi-arid regions will need to be explored. A different approach will be necessary to alleviate the mass deforestation of the wet tropical lowland forests of North Borneo, where logging is decimating the habitats of many birds and other forms of wildlife. We have been developing extensive information on these areas to help the governments concerned to review the present conditions of stress to their resources.

Decision-makers in the developing countries which contain abundant wildlife resources and habitats often voice the opinion that, since industrialization is a visible key to economic prosperity, they should suffer no interference with plans to intensively utilize tropical forests for agricultural land, export lumber, or local industrial fuel in order to help build capital in the same manner that the resources of north-temperate countries were exploited in the course of development by the highly industrialized societies.

Methods have to be found whereby the developing, habitat-rich nations can be encouraged to see the advantages of having a late start in development so that their economic planning can include wildlife resource conservation on the ground floor and painful ecological disasters resulting from mismanagement can be averted from the beginning.

In keeping with that concept, it will be seen that United States expertise would be a modest but necessary investment towards the global integrity of living natural resources and ecosystems. It would be, in a sense, repaid in full by the elimination at the outset of potential foreign aid requests from countries faced with problems which might not have occurred, had the opportunity and encouragement to take measures to avoid environmental mistakes that developed countries have experienced, been tendered to them.

We are particularly gratified to note in the legislation at hand that the need to integrate wildlife conservation with the social, economic, and agricultural development of the Third World is fully recognized. Time and again it has been our experience that the need to protect wildlife and its habitats must be judiciously interwoven with plans for economic growth in developing countries, particularly those nations within the pantropical zones of the world, if it is to have a permanently beneficial effect. Conservation must be made compatible and integrated with development, and can no longer be an isolated undertaking.

We are thus very pleased that the proposal includes "wild varieties of cultivated plants" in the definition of "wildlife resources", for on a strictly practical basis there will quite likely be very early

opportunities to help conserve those varieties by the host countries. Also, wild populations of plants locally used in traditional medicine are steadily gaining priority on the agendas of developing countries which are likely to ask the United States government to share its expertise.

A good number of endangered plant species are used today in traditional pharmacopoeias, and if the World Health Organization is to fulfill its pledge to improve the overall health of the world's population by the year 2000, these food and medicinal plants must be the subject of intensive research, in addition to the species that are rare in nature, but more securely detached from the scrutiny of an everyday more-impooverished world.

As pointed out by Dr. Clifford Russell,<sup>1</sup> the developing countries do share certain problems with the industrial nations, such as environmental pollution, waste disposal, automobile congestion, combustion residuals, and high noise levels. On the other hand, there are certain problems which generally are features of the developing countries: tropical deforestation, desertification, fuelwood shortage, conservation of spectacular exotic species of wildlife, and man-made impoundments that clog with aquatic weeds and encourage the spread of diseases such as bilharziasis.

In the midst of this array of problems, it is now recognized that the dwindling diversity of the world's plant and animal species must be preserved for future options as sources of new and improved medicines,

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<sup>1</sup>Russell, Clifford S. 1975. Environment and Development. Biological Conservation 7(3):227-234.

foods, industrial oils, insecticides, horticultural species, as well as for their value in scientific studies, amenity plantings, watersheds, and in counteracting erosion. Before the true yam, Dioscorea, was discovered to contain large quantities of diosgenin, which is a hormone used as the starting material for birth control pills, many cattle had to be slaughtered in order to extract diosgenin from them for this product. Who knows whether the search for interferons, anti-viral agents against cancer, may eventually lead to some tropical plants that have not yet been chemically investigated!

Mr. Chairman, I want to draw attention to a large body of knowledge that exists in the United States today which could be of tremendous help to developing countries. Five years ago I co-chaired a U.S. National Academy of Sciences panel that produced a document on Underexploited Tropical Plants with Promising Economic Value. This document received wide publicity in the developing nations and has resulted in the protection and preservation of species that were once thought to have no economic value. Species such as the Winged Bean, Buffalo Gourd, Jojoba and Guayule are being grown on a commercial basis today.

Another panel that I had the honor of chairing for the National Academy of Sciences will soon publish a monumental document on Firewood Crops: Shrub and Tree Species for Energy Production. This document, in my estimation, is going to be hailed by all developing countries, since 1.5 billion people, or more than one-third of the world's population, depend on wood for cooking and heating.

Since 86 percent of all the wood consumed annually in the developing countries is used for fuel, and of this total at least half is used for

cooking, it is essential that recommendations for fast-growing trees be made to enable the establishment of woodlots as a source of renewable fuel energy.

The situation of the dwindling forests in a number of developing countries is getting so desperate that hedges around homes are being poached for fuelwood, and even wooden scaffolding is being stolen from construction sites to offset fuel shortages for cooking and heating. This NAS document contains various recipes to arrest this unfortunate situation. It is my hope that the use of this document will make it possible for remaining tropical forests to be left undisturbed while replanting takes place in areas that are otherwise considered as wastelands.

I would like to call special attention to the resource conservation activities of major organizations such as the World Wildlife Fund-U.S., which share their expertise in a number of developing countries.

In addition to my duties at the Smithsonian Institution, I have had the honor of serving as the Secretary-General of the International Union of Biological Sciences, which is the largest biological union in the world today. This organization has made the conservation of natural biological resources one of its most important objectives. Throughout my travels in the conduct of my official involvement with this organization, I have been made painfully aware of the need to address the problems of wildlife conservation around the world.

Just last month I had the opportunity of visiting one of the most important wildlife parks, the Tsavo National Wildlife Park of Kenya.

I was very pleased to observe that, because of the efforts the Kenya government has made during the past two years to eliminate organized poaching of wildlife in the country, the animal populations, particularly elephants, leopards, rhinos and zebras, are well on the road to recovery. More vigilant protective mechanisms must be instituted in order to sustain effective conservation programs there.

I am sorry to report that the situation in adjacent Uganda is very bleak. A number of Ugandans with whom I have had the pleasure of discussing this subject have stated, in no uncertain terms, their concern for the lack of expertise within the country and the need to obtain external professional help to train wildlife conservationists for their country. I have no doubts that other developing countries would welcome a practical contribution from the United States towards the conservation of their wildlife resources.

Countries such as Brazil have already established a program to develop ecological stations within the country by the Special Environmental Agency as an important link to the Second Plan for National Development and to the Second Plan for Scientific and Technological National Development of Brazil. During a recent visit to Brasilia, the Secretary of the Environment in the Ministry of the Interior informed me that the main objective of the Brazilian program is to protect the natural environments and especially sizable representatives of the chief ecosystems within the country. The university systems and other research institutions within the country are being equipped to participate in this program.

Equally satisfying is the involvement and the positive responses which the Government of India has recently injected into the Silent Valley controversy. Mr. Chairman, for those who are not familiar with the Silent Valley affair, may I take just a moment to explain. There has been a long struggle between the Indian and international conservationists to get the State of Kerala and the government of India to reconsider the proposed hydroelectric dam contemplated for the Silent Valley. This is South India's last remaining area of untouched tropical forest. Prime Minister Indira Gandhi is most sympathetic to the campaign to save the Silent Valley, and she is currently struggling to create a balance between development and conservation.

In closing, Mr. Chairman, I would simply state that the combination of short-term and long-term benefits that will accrue from appropriate use of United States expertise in conservation will add immeasurably to the stature of this nation in the field of international relations and in securing a renewed global heritage. Thank you.

### CONSERVING THE AFRICAN ENVIRONMENT

In their eagerness to adopt technological advancements on a global scale, many of the developing countries have become somewhat careless in handling their environmental problems. The infrastructure of the world's ecosystem, which spans the continents, has been weakened by the environmental mistakes that have been made in the name of progress, resulting in severe deforestation, soil erosion, and pollution of air and water. Africa cannot afford the duplication of these mistakes *ad infinitum*, but rather should refrain from the mistakes made by many developed countries. The continent should take advantage of its late start in technological development and make use of the relatively clean slate that it is enjoying as a result of historical circumstances.

Nonrenewable resources in Africa today are being used up with amazing rapidity, and various estimates indicate that within the next 40 years or so, most of these resources may be depleted or deteriorated to an alarming degree. To counterbalance this trend, it is obviously the renewable resources which Africa should be aiming to develop to their fullest potential. Using the vast array of forest trees, well organized programs could be developed to sustain a continual demand for firewood as an energy source.

The biological treasure house of Africa will provide many underutilized plant species which can add proteins and vitamins to a preponderantly starchy diet, and also supply new herbal medicinal plants. Similarly, fish and game animals, serving as rich sources of protein, can be used to augment diets. Intensive agricultural practices will require attention to postharvest losses and spoilage of the carefully nurtured crops, both old and new.

The positive beneficial impact of new hydroelectric schemes on the African economy must be carefully weighed in advance so that increased power, transportation, and fishing capabilities are not outweighed by the spread of water-borne diseases and choking weeds into the newly man-made aquatic environments.

Developed countries are already locked into using conventional nonrenewable energy sources such as oil and coal. In Africa, the advantage of a later start in the energy field can be used in the careful development of solar energy. African nations can attain a leadership role in investing in the development of solar energy, and be in the forefront of expanding the horizons of this "new" energy source. Due to its unlimited supply, increased use of solar energy will account for decreased expenditures and save much money in the long run.

The rapid development of the continent has mandated the conservation of our natural, renewable resources, the plants, animals, and the sun. While some progress is being made, we must acknowledge that current technological handicaps and limited trained manpower supply can be overcome by joint cooperation with the sizable number of people who have specific good will and purpose for Africa.

To date we have not been exploiting our natural resources as efficiently as we should, and the time has come to develop better organizational capabilities to handle the complicated yet useful procedures required in manipulating these resources for the eternal well-being of the continent.

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Encounters with jungles are endlessly surprising. Even I, born and raised in the humid tropical zone of West Africa, and a lifelong student of the jungles of Asia, Africa and Latin America, still feel a stranger in this type of vegetation; at every outing the forest shows a different face, with that first sight of intricate vines indicating an awaiting tangle of interwoven relationships.

Epiphytes and parasites seem to have commanding roles among vibrant communities of organisms. The eye adjusts to the low light levels, and mosaics of hue reveal the exquisite nature of animals and flowers that depend on filtered light to exhibit their radiance. The buzz of symphonic music made by bees and wasps, with percussion from the crackling vegetation, always disturbs the visitor's nerves. And where snakes, bloodsuckers and other crawling organisms abound it is hard not to feel fear. Here then, is mystery, excitement, unimaginable diversity: the essence of the magnificence of nature.

The area covered by jungles or tropical rain forests is just one twelfth of planet Earth; yet the population is more than a half of the earth's fauna and flora, which is estimated to be ten million species. Our current knowledge shows that, for example, 70 to 85 per cent of the nearly one million species in the insect world is confined to the tropics. Some of these regions contain the most primitive forms of the flowering plants, and intricately adapted behaviour patterns between plants and animals that evolved since the Cretaceous eons ago are on display.

Most jungle happens to be located in the economically disadvantaged countries, where medical improvements coupled with improving pre- and post-natal care continue to contribute to excessive population growth—paradoxically the greatest single impediment to social and economic progress. Naturally the developing countries look upon their forests as God-given resources to be exploited in pursuit of industrial and economic independence.

But during the past half-century mankind has been steadily foreclosing on the future of the jungles. We are currently witnessing a dramatic escalation in the destruction and transformation of rain forests into cleared land and timber; the rate of removal is now estimated at 150,000 square kilometres a year. After deforestation comes the devastation of erosion, with deep, meandering gullies washing away layers of top soils that took millions of years to accumulate.

Who is going to suffer most for these seemingly senseless acts?

I would not suggest that the world's vegetation should be untouched; rather that there should be judicious management, and that endangered plant and animal species should be conserved in appropriate areas for future study. For here are inestimably important genetic resources with large potential to increase the value of our foods, medicines and industrial products. A number of individuals, forward-looking governments and non-governmental organizations now share these concerns, questioning the processes which, in the name of development, cast doubt on the survival of a sprawling variety of organisms.

This book comes at an appropriate moment to recap on the state of our knowledge of the tropical rain forests, whose structure and inhabitants are even now so little understood. Here are the facts of this majestic habitat. And here are the questions that make the jungle the most mysterious of all natural worlds.

Smithsonian 9(8); 122-129 (1978).  
Edward S. Ayensu

## Calling the roll of the world's vanishing plants

*New international Red Data Book reveals how  
grazing, logging, development, pollution  
and other pressures could doom many species*

While the plight of endangered creatures such as blue whales and whooping cranes is widely appreciated, it is less well known that from 20,000 to 25,000 of the world's plant species face extinction. Today botanists are trying to locate, identify and protect these species; it is an enormous task, complicated by considerations involving law, land use, economics and large doses of human emotion. In many parts of the world the flora is so little known that the exact status of a given plant is difficult to determine. In 1973, at an international conference on endangered species, some countries, out of national pride, proposed for endangered status native plants that proved to be common, even weeds; rectifying this situation at later meetings involved delicate diplomatic maneuvering.

More recently, the International Union for the Conservation of Nature and Natural Resources (IUCN) appealed to botanists around the world to supply accurate information about endangered species in their countries. The IUCN's Threatened Plants Committee, of which I am the chairman for North America, has assembled these data for a new publication to "highlight the growing and continuing threats to the world's natural ecosystems and the diversity of species they contain." This *Plant Red Data Book* is being prepared in London by the secretary of the Threatened Plants Committee, Grenville Lucas, and should be available by the end of the year. Although it will cover only 250 of the thousands of species the IUCN feels need protection, these species include some of the plants that are in the gravest danger, or are particularly spectacular, useful or interesting.

The plants listed in the book have become endangered for a wide variety of reasons—overgrazing by domestic or feral animals, herbicide spraying, fires, cutting for timber or firewood, damage by off-road vehicles (SMITHSONIAN, September 1978), forest clearing and collecting by plant fanciers. (Ironically, no plant has become threatened because we eat it—societies maintain their important food plants through careful stewardship.)

### *The case of Furbish's lousewort*

Today the most celebrated of all endangered plants is an unprepossessing member of the snapdragon family (left), Furbish's lousewort (*Pedicularis furbishiae*), which was named for Kate Furbish, an American turn-of-the-century botanical artist of considerable repute. After a careful search, the U.S. Army Corps of Engineers has located only about 1,000 individual plants—all of them along a 120-mile stretch of the St. John River in northern Maine and a much shorter stretch of the river in New Brunswick. The surviving louseworts occur in the area of the proposed

Dickey-Lincoln hydroelectric project, which, if constructed, would inundate them. Because of the special protection endangered plants and animals have been given in the United States, the future of the Dickey-Lincoln project has been called into question.

The case has aroused intense emotion, both on the part of the environmental groups who want to see the dam halted—the free-flowing St. John not only provides a riverbank habitat for the lousewort but runs through a beautiful 140-square-mile wilderness area—and of proponents of the dam. The feelings of the latter were articulated in a letter to the editor of *Time*: "For heaven's sake, the species was thought extinct anyway—let's make it official and drown it under a few billion gallons of water." It appears now that the dam will be built—but with special conservation measures to save the plant.

### *Invasion by subdivisions and rookkrans*

Other American plants are endangered by much smaller development projects. One such is the Dehesa beargrass or San Diego nolina (*Nolina interrata*), a lovely relative of the lily that bears a flower stalk about five feet high (right). Only about 150 individual plants are known to exist, and they are all distributed along the margins of two or three small gullies in San Diego. Since the locality has recently been designated as a residential area, the chances are that this elegant plant will be lost forever.

It is not only in the United States that plants are under pressure. The temperate Cape flora of South Africa, dominated by heaths and proteas—flowers that look like roses made of porcelain—is one of the most varied and spectacular in the world. Yet it has been estimated that approximately 1,500 species in the Cape flora are threatened. One of the rarest proteas, *Mimetes hottentotica*, is being invaded and ousted by weedy Australian trees such as hakeas and rooikrans.

Even more disquieting is the illegal trade in South African cycads. These plants are so coveted by collectors that recently a specimen of *Encephalartos woodii* was stolen from the Durban Botanic Gardens and is said to have sold for \$65,000. Another endangered cycad, *Encephalartos barteri* (p. 126), is being destroyed because it has a seed from which a hallucinogenic drug can be extracted—thieves even stole seeds from a specimen in Great Britain's Royal Botanic Gardens at Kew.

The African violet (*Saintpaulia ionantha*), widely known as a house plant, is exceedingly rare in its native habitat, the damp cliffsides of eastern Tanzania. There its precarious existence is threatened by the removal of forest trees that normally provide the shade in which it grows best.

Indeed, throughout the tropical regions of the world the forests are being cut down at an alarming rate. Exploitation on this scale could, in the opinion of many ecologists, ultimately affect global climate. The disappearance of these lush but fragile ecosystems could alter the amount of carbon dioxide in the air, the rates of vaporization of moisture, and the albedo—the amount of solar radiation reflected by the atmosphere—and thus could trigger major changes in the entire biosphere.

Rain forests contain many particularly vulnerable, rare and famous species that are disappearing before the ax. A number of the striking displays of rhododendrons that used to grace the Himalayan foothills have been so depleted that there are now much grander displays in the Royal Botanic Garden at Edinburgh, Scotland. In the Himalayan orchid jungles, many endemic, epiphytic orchids used to be safely supported by specialized microclimatic conditions. The effects of primary forests being clear-cut for timber, along with pressures of urban and agricultural expansion, as well as collecting by commercial plant hunters, are doom-ing extensive, beautiful populations.

The rain forests of eastern Australia, along the coast of Queensland and New South Wales, are threatened by a number of activities, including replacement of native forests by monocultures of the hoop pine (*Araucaria cunninghamii*), itself an Australian species. A relative of the Australian araucaria that is native to Chile and Argentina, the monkey puzzle tree (*A. araucana*), is being rapidly reduced by the demand for it in the manufacture of plywood. The gigantic Chilean larch (*Fitzroya cupressoides*) may become extinct in ten years, as stands of this tree are being cut

at a fantastic rate; all the remaining forests of southern Chile are potential wood pulp for foreign—generally Japanese—paper companies.

Japan, the world's largest importer of wood products and pulp, is expanding its industrial timber operations into the forests of Brazil, Borneo, Malaysia, Sarawak, Indonesia and New Guinea. The chronic and desperate desire for wood and wood by-products is now threatening the Sumatran home of the world's largest flower, *Rafflesia arnoldii* (pp. 128-129). This rare parasitic plant, which grows on the forest floor attached to roots of tropical grapevines, has a flower that can be three feet wide. Its habitats are dangerously near the Japanese timber concessions, and it suffers another threat from the trampling feet of curiosity seekers.

The islands of Malaysia and Indonesia are the home of many species closely related to tropical fruit trees such as the durian, breadfruit, citrus, mango and banana. It is important to save these plants in order

to investigate them for the characteristics of fruit quality and disease resistance that their genes may carry.

More research into the biology of declining plants is urgently needed. A case in point is the endangered *Lodoicea maldivica*—the coco-de-mer or double coconut—which grows in only three reserves on Praslin Island in the Seychelles (p. 127). Its reproductive habits and life history must be studied in the field in order to find methods of cultivating it (I am inclined to doubt that it can be successfully bred in botanical gardens without further research). The double coconut has an excessively low rate of fruit production, and though some researchers have predicted that it will die out even if left undisturbed, I am confident that scientific knowledge, combined with determination, can save this curious plant.

It is impossible to calculate the potential value of the genetic material carried by such plants. Let us consider the origin of wheat, the world's most widely

and intensively cultivated crop (an estimated 381 million metric tons this year). The genetics of one of the common wheats known as Wild Emmer indicates that it comes from a cross between a wheat called Wild Einkorn and a wild grass, possibly *Aegilops speltoides*. This hybrid is cultivated in such places as Ethiopia, Yugoslavia and southern India. Had *Aegilops*, the wild grass, been wiped out, the loss to mankind would have been incalculable.

It is obvious that for agriculturalists to breed stronger, disease-resistant varieties, obscure species that could be useful as parental stock must be rescued from possible extinction. To this end a National Seed Storage Laboratory was established in 1958 at Fort Collins, Colorado. It houses more than 100,000 samples of all sorts of seeds, and has a capacity for more than 500,000. There are seed banks in Mexico that store wheat and corn, a bean bank in Colombia, a bank for pearl millet and pigeon pea seeds in India, and a rice bank in the Philippines.

As populations grow in developing countries, pressures increase on forest and savanna lands. Overgrazing by domestic animals, in particular, is causing deserts to encroach upon grasslands. In North Africa, overgrazing results in the creation each year of 247 million acres of new desert.

Some 1.5 billion people, more than a third of the world's population, depend on wood for cooking and heating. Eighty-six percent of all the wood consumed annually in the developing countries is used for fuel. At least half of this is for cooking.

Pressure on the forests because of demands for firewood is a serious factor in India, central Africa south of the Sahara, Central America, the Andes and the West Indies. Trees are renewable resources and certain fast-growing species can be ready for firewood harvesting in five or six years. But most developing countries do not have adequate reforestation programs. In the mountains of Nepal it takes a whole day to gather a supply of firewood, and in some areas of West Africa a villager has to walk 15 miles to find wood.

The need is so great that wood is poached from officially protected forest preserves. In West Africa people cut each other's hedges at night, and remove scaffolding from building sites. Where wood does not exist at all, as is now the case in parts of India, the Near East and Africa, people burn dung as an alternative—some 400 million tons of it annually. Formerly, much of it was used as fertilizer to enrich the soil.

Drought and famine are again this year gripping the Sahel belt of West Africa. With so little vegetation left, even the majestic baobab tree (*Adansonia digitata*) has become vulnerable (pp. 124-125).

The baobab is virtually the botanical symbol of the hot African countries, and traditionally has been protected by taboo because of its prominence in African religious beliefs. At the mouth of the Senegal River the French botanist Michel Adanson, for whom the genus is named, found trees with European names carved in the bark from the 14th and 15th centuries, and some specimens are reputed to have lived for 5,000 years. The baobab's spongy, swollen trunk can be as much as 100 feet in diameter and serves to store water; its imposing stature and shape make it recognizable even on a distant horizon. Unfortunately, these great trees are now being stripped and mutilated by people desperate for fuel.

Last year, I encountered an unusual case of preservation of a firewood species during a visit to China—a country that now takes the conservation of flora very seriously. At the Peking Duck Restaurant in the Chinese capital, the wood of *Zizyphus jujuba* is used in the cooking and smoking of the delicious meat in order to bring the duck's bouquet to perfection. Because of its value in preparing this feast, the source of the wood is kept a closely guarded secret, known only to the elite restaurateurs, so that the trees will not be cut down indiscriminately (p. 125).

China recently has established several floral reserve areas and Japan, too, is now taking stringent measures to preserve her few remaining natural habitats of native plants.

The flora of the heavily populated Japanese islands has suffered great damage in the past. Indeed, island ecosystems in general are particularly vulnerable to destruction. The Hawaiian Islands are a good example. The progenitors of the present-day Hawaiian flora arrived at infrequent intervals over thousands of years, and in the isolation of the islands speciated into new plant forms, of which 97 percent exist nowhere else in the world. In these islands plants assumed special characteristics. Some developed shallow roots to spread horizontally throughout the thin soil. Others developed without defensive thorns or spines—so common among plants in similar mainland habitats—since mammalian foragers and trampers were absent. Weird-looking plants emerged with leaves confined to dense rosettes at the tips of spindly branches; some families, such as the violet, which are small herbaceous plants elsewhere, evolved into tree-sized giants.

Then the native Polynesian Hawaiians and the European colonists arrived. Human occupation has resulted in logging, massive erosion, introduction of troublesome exotic weeds and fast-growing exotic trees such as the *Eucalyptus*, overgrazing by feral goats and swine, and massive land clearing. Overall, more than 50 percent of the native Hawaiian flora is endangered, threatened or already extinct.

Throughout the world there has always been a demand for stimulating brews that will restore flagging spirits, cure diseases and increase sexual appetites. The ginseng root (SMITHSONIAN, February 1976) has long been believed to be a source of such powers, and recently there has been an upsurge in its use—and price. The ginseng of world commerce comes from two plants, one Asiatic, the other North American. The Chinese are great users of ginseng tea, and on my first trip to China in 1975 I noticed a comfortable supply of ginseng products in local shops. But on my return visit last year, the shops were bare owing to the insatiable demands of Japanese tourists who had been purchasing all the ginseng in sight.

In 1977 the United States exported 380,000 pounds of ginseng valued at \$26.5 million. Of this, about half came from farms in Wisconsin and about half from the wilds, where the plant has been depleted.

Many other plants, of course, are used for their therapeutic values and this has a twofold effect on the world's flora. On the one hand, the demand for herbs, particularly in parts of Africa and Asia, has brought some plants near extinction. On the other hand, the growing evidence that herbal medicine is not without scientific foundation has made it imperative that no plant species should be wantonly destroyed without analysis of its chemical constituents.

Recent studies of Latin American orchids, for example, may offer new insights into the aging process. Bees that visit the orchids collect chemicals from them, which they store and possibly metabolize. It is now known that the male bees that collect these fragrant compounds live longer than males that do not. Do the compounds, then, control aging in some way? If the orchids disappear, we may never know the answer.

Even the simplest plant may have a future importance that we cannot predict. Recently, we have learned that certain species of lichens, which are healthiest in pure, uncontaminated air, often shrivel up and die from pollution. Thus they have become useful indicators of atmospheric problems.

Pollution is detrimental to many plants. Some of it originating in the United States is now blowing across the Atlantic Ocean to the extremities of Western Europe. Similarly, England's locally manufactured pollution is wafted eastward; Scandinavians believe it may affect their vegetation. This eastward chain reaction, if heavy metals and chemical particles fall onto orchards and croplands, could reduce European food production.

Conservation of the world's flora requires a commitment to preservation of natural landscapes and perpetuation of natural vegetation. This commitment is being made by a number of governments, and also by ordinary people who are simply trying to combat the degradation of their homelands. Last year in India, in order to resist the felling of a forest, the people of the Alaknanda River Basin in Uttar Pradesh peacefully demonstrated against the cutting by joining hands around the trees to ward off the loggers. The forest was subsequently saved.

The celebrated British tropical botanist, E. J. H. Corner, related a comparable incident in Australia: "A few years ago, not a national park but a car park was planned in Sydney. It would have necessitated the felling of some stately trees of the Moreton Bay fig [*Ficus macrophylla*]. It was not the officials, however, that saved them, or an august body of scientific representation, but the labourers of the Builders' Federation who threatened to strike if the trees were cut."

Saving the world's plant resources calls for more protection and management, more research, and an increasing level of public awareness about our vanishing heritage. The *Plant Red Data Book*, it is hoped, will help to generate that awareness.

Endangered Plants Used In Traditional Medicine

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Introduction

Traditional societies have always considered their medical practitioners as influential spiritual leaders who handle both the routine and extraordinary medical problems of the society. Using magic and religion as two pivotal rites in their employ, the traditional medical practitioners help to conceptualize the ultimate reality of their culture and all the activities they embody. The concept of disease has always been personified to such an extent that its treatment is either handled with man's hidden spiritual powers and/or the application of plants that have been found to contain healing powers.

Generally we can identify three types of medical practitioners, and the extent of their use of medicinal plants varies. The herbalists are those who enjoy the prestige and reputation of being the real traditional medical professionals. The divine healers are those whose practice depends upon their purported supernatural powers of diagnosis. On occasion they also administer medicinal plants that are supposed to have special spiritual powers. The witch doctor on the other hand, is the practitioner who is credited with the ability to intercept the evil deeds of a witch or to exorcise the evil spirit that possesses the patient. Here again plants thought to have exorcising powers are used as part of the treatment.

It is most refreshing to observe that after many years of benign neglect the World Health Organization (WHO) has now developed a programme to promote and develop traditional medicine throughout the world. The reasons for the promotion of traditional medicine are set forth in Technical Report Series 622 as follows "Since traditional medicine has been shown to have intrinsic utility, it should be promoted and its potential developed for the wider use and benefit of mankind. It needs to be evaluated, given due recognition and developed so as to improve its efficacy, safety, availability, and wider application at low cost. It is already the people's own health care system and is well accepted by them. It has certain advantages over imported systems of medicine in any setting because, as an integral part of the people's culture, it is particularly effective in solving certain cultural health problems. It can and does freely contribute to scientific and universal medicine. Its recognition, promotion, and development will secure due respect for a people's culture and heritage". The current WHO initiatives will certainly go a long way in integrating traditional medicine into primary health care.

In the face of initiatives towards the promotion of traditional herbal medicine by the WHO and public and private organizations, the world's forests are being depleted at an alarming rate by business concerns that see no harm in human mismanagement of the environment. The mentality of people of such persuasion rides on the assumption that if man exploits his resources to the limit, he will adapt to new situations or find new resources. The unfortunate reality is that every acre of natural vegetation that is indiscriminately destroyed before it is explored, may rob mankind of yet another medicinal plant that could be the key or the foundation to the cure of one of the ailments that elude us today.

There lately has been much concern over the way in which the traditionally attributed values of products from endangered animal species, such as musk deer glands and rhinoceros horn, are causing depletion of the species. The glands of musk deer may fetch U. S. \$200 each (Putman, 1976), and rhinoceros horn U. S. \$675 per kilogram (Inskipp and Wells, 1979); both products are said to cure impotence or have aphrodisiacal properties. The potential for endangering populations of certain primates used in advanced medical research has also received much attention.

Comparatively little regard, however, has been given to members of the plant kingdom which are potentially or actually useful in traditional medicine, but whose numbers may be declining rapidly due to habitat destruction or over-exploitation. These are the endangered and threatened plant species of traditional medicine. Some species such as American ginseng (Panax quinquefolius) are vulnerable due to mass harvesting, while others are congeners (members of the same genus) in highly valuable medicinal groups, such as Catharanthus.

Apart from the known plants used in various healing systems, the needed exploration of the field - particularly in the tropics where most developing countries are located - has barely commenced. The tropical regions of the world are believed to contain nearly two-thirds of all organisms. With a rather rich vegetation still awaiting study, special effort should be made to collect and name the novel species, and subject samples to phytochemical analysis to determine the extent of activity and subsequent utility (cf. Ayensu, 1978, 1979, 1980).

#### Catharanthus coriaceus

Catharanthus coriaceus, a highly restricted endemic of Madagascar, where the flora as a whole is acutely threatened by grazing and burning, is the most endangered species in the genus (Lucas and Synge, 1978). Although no phytochemical

research has yet been done on C. coriaceus, it is a potentially important species since its close relative the Madagascar periwinkle (C. roseus) is of well-known value for alkaloids which have actual clinical effect in the treatment of cancer. The alkaloid "vincristine" derived from C. roseus, which sells for U.S. \$100,000 per pound, has led to a remarkable decrease in mortality among young leukemia patients in the United States, and the compound "ajmalicine" is widely used in Europe for the treatment of heart diseases (Vietmeyer, 1979). This has led to decimation of naturalized populations of C. roseus in areas around the world. Catharanthus coriaceus should obviously be conserved in Madagascar and investigated for its medical properties.

#### Acorus calamus

Acorus calamus, a Eurasian aroid known as "vacha" in India, where it is used in 51 different drug preparations, contains an essential oil in the rhizomes that possesses marked insecticidal and sedative properties. Supplies of this plant in India are becoming scarcer (Maheshwari, 1970; Srinivasan, 1959). Apparently it was common in India in the northeastern areas such as Manipur and Naga Hills, yet it has been imported into Bombay from overseas for its medicinal aromatic rhizomes. Srinivasan (1959) has suggested that proper use of existing local Indian produce of Acorus including measures to extend the plant's range in India, is desirable lest the local supply becomes disused or neglected.

A team at the Regional Research Laboratory (CSIR) in Jammu Tawi, India (Saxena, Koul, Tikku & Atal, 1977) has recently isolated a new insect chemosterilant from this species, with antigonadal functions specific enough that it may represent a new concept in insect chemosterilization. Once can acquire an appreciation of the value of maintaining local stocks of such important threatened

species in case they are called upon for independent local mass production on short notice in the future.

#### Ginseng

There has been a dramatic and systematic amalgamation of herbal medicine in the health care programmes of the People's Republic of China. The Chinese have been responsible for the recent upsurge of interest and respect accorded to herbal medicine. Unlike India, Africa and Latin America, China has succeeded in bridging the gap between Western medical systems and the traditional practices that have managed to keep many rural and urban populations in a reasonable state of health for generations. The fact that charlatanism has often characterized traditional herbal practices did not deter the Chinese from exploiting the very best elements of herbal medicine in their attempt to improve the health posture of their country. There are several plants whose continuous use by the Chinese and other peoples has often been called to question, because phytochemical analyses have not identified the active principles that often give credence to the potency of such plants. One such example is the ginseng, comprised of a North American (Panax quinquefolius) and an Asiatic (P. ginseng) species. These are perennial herbs with fleshy, often bifurcating roots, and stems bearing a single whorl of three palmately compound leaves and a solitary, terminal umbel of flowers.

Scientific analysis has failed to isolate physiologically active constituents from ginseng. It has, however, been able to substantiate the presence of relatively inert compounds such as  $\beta$ -sitosterol and oleanolic acid. Chinese and Soviet scientists have reported physiologically active compounds of a glycoside nature that have not

been structurally characterized. One such glycoside is paraquat, which is purported to stimulate endocrine secretion. Another is panaxin, which is reported to act as a brain stimulant and serve as a cardiovascular tonic. Panaxic acid is said to help the heart and blood vessels in the endless task of keeping man alive. Panacen has been hailed as an effective analgesic and a tranquilizer. Finally ginsenin is purported to be an antidiabetic substance. Despite the various claims of the medicinal properties of ginseng, it is no wonder that most Western medical practitioners attribute the drug's supposed effectiveness to its "power of suggestion". It is, however, possible that the plant does have curative powers when all the glycosides in it act in consort.

The world demand for ginseng is so high that depletion of the wild American species has been caused. Panax quinquefolius has been placed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). An export permit from the country of origin, and an import permit from the country of destination, are required for legal trade in ginseng roots, subject to the satisfaction of the proper authorities that each transaction will not be detrimental to the survival of the species in the wild.

The vast majority of cultivated American ginseng comes from plantations in the State of Wisconsin, and although wild ginseng accounts for approximately 25 percent of United States production, it receives much higher prices than cultivated material because it is believed to have greater potency in the less uniform roots.

Most American ginseng is exported to the Far East, notably to Hong Kong, from whence it is redistributed into Asia. Conversely, the growing domestic market for ginseng in the United States is satisfied by products derived from cultivated Asiatic Panax ginseng imported from South Korea.

Wild American roots are sold at approximately U. S. \$110 to \$130 per pound to dealers, and an estimated 65,000 pounds of wild roots were exported in the 1975-1976 season (1977 figures). Thus we encounter a case where the demand by herbal practitioners has caused depletion of a product in nature, but fortunately counteracted by a commercially propagated supply to some extent, yet not enough to alleviate the need for state-by-state quotas for export of the wild ginseng roots.

#### Rauvolfia serpentina

If Western science had taken the proponents of ancient works such as the Vedas seriously, we would have had much earlier the benefit of knowing the usefulness of such plants as Rauvolfia serpentina. An examination of the ancient systems of the Ayurveda and Unani will indicate that Rauvolfia serpentina was well known and in use by medicine men of India, Sri Lanka, Nepal, Burma and other oriental countries for the treatment of insanity.

The first Western scientist who published the uses to which the plant was put in India was Garcia de Orta in 1563. Most European physicians were very skeptical of the purported properties of the plant. However, in 1952 the alkaloid reserpine was isolated, thus confirming the value of the plant. Since then the alkaloidal extract, as well as purified alkaloids of Rauvolfia serpentina, have become very important in the treatment and control of hypertension.

The administration of the extract brings about lowering of blood pressure in hypertensive states, lowering of the pulse, and exhibition of a general sense of euphoria. The alkaloids in the plant have been shown to be phenotropic, and influence the function of the mind and behaviour. It is no wonder that the medicine

men of India consistently administered this plant to the insane. Today the plant is cultivated in commercial quantities in many parts of the world, notably India and Thailand.

According to Santapau (1970), before 1952 Rauvolfia serpentina was used in the indigenous systems of medicine, but the demand was not great; the plant was common and abundant in forest areas all over peninsular India. Then after the publication of the various papers extolling the medicinal powers of the plant, a ruthless search was started all over the country, a search that only came to a stop when Rauvolfia was found to have disappeared from forest areas.

The species is now consistently indicated by various other authorities as becoming very rare in nature (Sahni, 1970; Maheshwari, 1970; Qureshi and Kaul, 1970; Srinivasan, 1959). When an important species such as this is over-collected, there is always the potential for disappearance of important, discrete gene pools of infraspecific variation which may be useful in further research on the chemical properties of the entire genetic composition of the species.

Two distinct ecotypes, i.e. basically subspecies that grow in different environments due to characteristics that are probably physiological but genetically controlled, have been recognized in R. serpentina. Various stocks from Kerala, Dehra Dun (Himalayan), Karnataka and Goa are being explored for reserpine and alkaloids at the National Bureau of Plant Genetic Resources, New Delhi (Gupta and Hital, 1980). Thus we may hope to know more valuable data from wild variant populations of the species before its decline to mere remnants of its original abundance.

Species on Appendix II of CITES

Two threatened species utilized by traditional medical practitioners are listed on Appendix II of the CITES. One is Saussurea lappa, the source of kuth roots; the other Dioscorea deltoidea, a steroidal hormone source. In order for trade in these species to be legal pursuant to the Convention, an export permit is required from the country of origin, and a complementary documentation certificate must be obtained from the country of destination.

Locally, the export of Saussurea lappa is restricted in Kashmir. The roots are utilized in a multitude of ways, including as a tonic, stomachic carminative; spasmodic in bronchial asthma, cough and cholera; ointment for ulcers; and smoked as an opium-substitute. The present scarcity of this valuable plant has been indicated by various Indian botanical authorities (Subramanyam and Sreemadhavam, 1970; Srinivasan, 1959; Sahni, 1970; Maheshwari, 1970).

Dioscorea deltoidea has been much sought after by private agencies and pharmaceutical firms, having been continuously collected in India, except perhaps in the more inaccessible areas of the Himalayas (Qureshi and Kaul, 1970; Santapau, 1970). Its natural range includes parts of Afghanistan, Pakistan, India, Nepal, Bhutan, China and Vietnam. The roots yield cortisone, a steroidal hormone used in treating rheumatic diseases and ophthalmic disorders. The plant is cultivated in Punjab and Kashmir for the edible roots. Investigations of its genetic variability are being undertaken by the Regional Laboratory in Jammu Tawi, India (Sobti et al., 1980), and tissue cultures are underway in Calcutta (Mitra, 1980).

India

India unquestionably occupies the top-most position in the use of herbal drugs, utilizing nearly 540 plant species in different formulations (Kapoor and Mitra, 1979). For centuries a great majority of India's population has depended on crude drugs and drug extracts for the treatment of various ailments. In fact India was one of the pioneers in the development and practice of well-documented indigenous systems of medicine - the most notable were the "Ayurveda" and "Unani". The materia medica of these systems contain a rich heritage of indigenous herbal practices that have helped to sustain the health of most rural people of India.

Today about 75 percent of the population consults mainly traditional physicians and the sales turn-over of indigenous medicines is about one and one-half times that of modern drugs (Rustogi, 1980).

The first three Indian orchids discussed below are of potential or actual use in traditional medicine and at present endangered or vulnerable (Lucas and Synge, 1978).

Paphiopedilum druryi is endangered or extinct in the wild due to forest fires and excessive collecting, and is endemic to Kerala. There are indications of its use in Ayurvedic medicine and it may have useful alkaloids. Though known in cultivation around the world, only about a dozen individuals are being grown in India. Various authorities have indicated its decline in the wild state (G. M. Pradhan, 1976; U. C. Pradhan, 1975, 1977; Katakai, 1976; Mammen and Hammen, 1974).

Dendrobium pauciflorum is endangered, possibly extinct, and known from West Bengal and Sikkim in areas open to tree-felling. It likely may be found to have alkaloids of potential value, if re-found in the wild. Its precarious situation has been noted by U. C. Pradhan (1975, 1976, 1977).

Diplomeris hirsuta, which possibly contains useful alkaloids in the tubers, is restricted to a tiny population in West Bengal that is vulnerable to landslides. Its decrease in numbers has been pointed out by G. M. Pradhan (1976), U. C. Pradhan (1975, 1976, 1977), Katakai (1976), and Varmah and Sahni (1976).

Another species, Dendrobium nobile, deserves mention. Occurring in the Himalayan regions of India and China, it is a source of dendrobine, a principal alkaloid, and is exported from China by the ton in a dehydrated condition (Pempahisey, 1974). Abundance of this species in India is decreasing to serious levels, as has been forewarned by various botanists (Katakai, 1976; Santapau, 1970; U. C. Pradhan, 1975, 1976, 1977).

The Indian National Orchidarium at Shillong has brought approximately 350 indigenous orchid species into cultivation for conservation purposes.

Various endangered and threatened plants that have been indicated as of potential or actual use in traditional medicine are presented in Table I.

#### Conclusion

The present critical situation regarding the loss of gene pools for parental and related strains of a number of the world's important food crops is now becoming generally understood and appreciated by many (Wilkes, 1977A).

1977B), and attempts are underway to locate even more potential food species from among the underexploited plants suited to tropical regions (National Academy of Sciences, 1975).

Loss of varieties and strains useful to food-plant breeding, as well as massive tropical deforestation, desertification, and the forewood crisis, have reached the proportions of global concern. Research must now be intensified on the chemistry and proper conservation of endangered plants of use in traditional medicine, for the fact that people have taken traditional medicinal plants for granted over the years has really induced a lack of the breeding of professionalism into the general attitudes towards usage of these plants, particularly in the rural parts of the world.

Table I. Endangered Plants of Actual or Potential Use in Traditional Medicine

<u>Species</u>	<u>Common Name</u>	<u>Family</u>	<u>Threatened Range</u>	<u>Use</u>
<u>Acorus calamus</u>	Vacha	Araceae	India	Sedative
<u>Alpinia galanga</u>	Khulanjan	Zingiberaceae	India	Drug
<u>Arbutus canariensis</u>	Madrono	Ericaceae	Canary Islands	Vitamin C
<u>Artemisia granatensis</u>		Asteraceae	Spain	Infusion
<u>Catharanthus coriaceus</u>	Periwinkle	Apocynaceae	Madagascar	Alkaloids
<u>Commiphora wightii</u>	Guggal	Burseraceae	India	Drug
<u>Dendrobium nobile</u>		Orchidaceae	India	Dendrobine
<u>Dendrobium pauciflorum</u>	Picotee Dendrobium	Orchidaceae	India	Alkaloids
<u>Dioscorea deltoidea</u>	Kins	Dioscoreaceae	Afghanistan to Vietnam	Cortisone
<u>Diplomeris hirsuta</u>	Snow Orchid	Orchidaceae	India	Alkaloids
<u>Dracaena draco</u>	Dragon Tree	Liliaceae	Canary Is., Cape Verde Is., Madeira	Gum resin
<u>Gentiana kurroo</u>	Kadu	Gentianaceae	India	Drug
<u>Lodoicea maldivica</u>	Double Coconut	Arecaceae	Seychelles Is.	Drug
<u>Nelumbo nucifera</u>	Lotus	Nymphaeaceae	India	Drug
<u>Paeonia cambessedesii</u>		Paeoniaceae	Balearic Is.	Epilepsy
<u>Panax quinquefolius</u>	American ginseng	Araliaceae	United States	Tonic Tea
<u>Paphiopedilum druryi</u>		Orchidaceae	India	Alkaloids
<u>Pelagodoxa henryana</u>	Enu, Vahane	Arecaceae	Marquesas Is.	Endosperm
<u>Podophyllum hexandrum</u>	Indian Podophyllum	Berberidaceae	India	Drug
<u>Rauvolfia serpentina</u>	Sarpagandha	Apocynaceae	India	Drug
<u>Rheum rhaponticum</u>	Wild Rhubarb	Polygonaceae	Bulgaria, Norway	Medicine
<u>Rumex rothschildianus</u>		Polygonaceae	Israel	Medicine
<u>Ruta pinnata</u>	Tedera Salvaje	Rutaceae	Canary Is.	Balsam-like properties
<u>Santalum album</u>	Sukhad	Santalaceae	India	Drug
<u>Saussurea lappa</u>	Kuth Roots	Asteraceae	India	Various
<u>Sisymbrium cavanillesianum</u>		Brassicaceae	Spain	Mustard-like properties
<u>Toxocarpus schimperianus</u>		Asclepiadaceae	Seychelles Is.	Pharmacology

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I am Thomas Lovejoy, Vice President for Science of the World Wildlife Fund-U.S. World Wildlife Fund is the major private international conservation organization, with offices established in over 25 countries, and benefitting from the scientific advice of the International Union for Conservation of Nature and Natural Resources (IUCN).

Conservationists as well as their audiences take no pleasure in their role as perpetual biological Cassandras, or in the role of endlessly whining about attempts to weaken the limited number of governmental instruments which exist to protect our world biological heritage. It is consequently particularly welcome to testify on the International Wildlife Resources Conservation Act of 1980, for it is designed to actually do something about the rapidly accelerating impoverishment of biological resources worldwide. We welcome the entrance of government in this way into a field where private initiative has been active within its modest circumstances for a very long time.

At its March Board meeting, the Directors of World Wildlife Fund-U.S. passed a resolution in support of this bill to aid in protecting international wildlife resources including the African elephant (the actual resolution is appended).

The International Wildlife Resources Conservation Act of 1980 takes cognizance of the grave situation in which so many forms of life are currently found. It recognizes that, as

natural resources are in peril, the issue is not about the future of a distant and obscure species here and another there; rather it is about maintaining the habitability of the planet, which must be viewed as the ultimate human right. The issue is an international one, not in the sense of violating national sovereignty over resources but in the sense that it is in no nation's interest that another nation permit its biological resource base to be degraded. It is international in that aid to nations which are limited in their capacity to fully address biological resource problems is justified in the same spirit as aid to a nation ravaged by the physical forces of nature such as hurricanes or earthquakes. It is appropriate that the United States, as a highly developed nation, as one quite conscious of conservation, and as one with a coterie of experts in conservation, should take the initiative to help secure the future of these endangered resources and the land and waters on which they depend.

It is important to note that indigenous capacity to address the problem is least when the problem is greatest, namely in the developing nations, primarily those of the tropics and most particularly those with tropical forests. It would be important that the implementation of this act be focused in those countries.

Similarly, it would be important that activities of the regional wildlife resource attachés be concentrated on the developing tropical regions. There would be little point in having such attachés in the developed north temperate regions or in nations with considerable capacity to deal with natural resource problems.

Such attachés should be encouraged to view their charge in the widest context, including all wild flora and fauna, their habitats, and all perils to them, and should essentially be natural resource/environmental attachés rather than confined to the traditional view of wildlife as fish and game. There is concern about the expense of such attachés, but that cannot be a major concern in view of both the scale and importance of the problem. It would be folly, too, to consider that scientific attachés could fill this role; in a nation where physical and medical sciences hold such sway that the National Science Board includes not a single environmental scientist, it is hard to believe that the ranks of scientific attachés would include many capable of appreciating the problem.

It is to be hoped that the assignment of wildlife resource specialists to the International Conservation Corps also include the broadest possible view of the charge and that it be concentrated in developing and tropical nations. Given the enormous beneficial effect of the former Smithsonian/Peace Corps program in international conservation, there would be considerable merit in concentrating the resources available for this provision of the act on a similar low cost/high impact program. Traveling widely throughout the developing nations, I have been impressed over and over again by how much of a difference such individuals can make -- a highly productive example of American volunteerism of which all can be proud.

The programs which develop under the authority of this act should endeavor to strengthen the existing programs in this field, particularly the two outstanding international programs of the National Park Service and the Fish and Wildlife Service. World Wildlife Fund holds these efforts in the highest regard. Likewise, efforts should be made to coordinate with and strengthen the Smithsonian's Office of Biological Conservation.

I would like to draw to the committee's attention the recent report of a committee of the National Academy of Sciences, chaired by Peter Raven of the Missouri Botanical Garden, on Research Priorities in Tropical Biology. The concerns addressed by the International Wildlife Resources Conservation Act do not totally overlap with those of the report, but that report, which is born of similar concerns about what is happening to tropical forests, contains a great deal which would be of value in guiding the International Conservation Corps and other provisions of the act.

That report underscores the importance of developing indigenous capacity, a concern which is shared by this act. It would be important to concentrate training in those nations where the problems actually are rather than incur brain drain risks by concentrating training on bringing foreign nationals to U.S. institutions. Important programs exist, for example, in East Africa at the Mweka training school, and in francophone Africa at Garoua. In addition, it should be noted that World Wildlife Fund-U.S. currently is engaged in a feasibility study for AID and the National Park Service on training needs for natural resource management in Latin America.

These comments are offered in a spirit of improving what is clearly a laudable initiative. Future generations both here and abroad will benefit from this recognition by the United States that biological impoverishment and unnatural reductions of biological diversity are a matter of international concern, that life for everyone becomes impoverished with each increment of biological degradation.

Resolution by the Board of Directors of World Wildlife Fund-U.S. at their quarterly meeting, March 4, 1980.

#### RESOLUTION

Recognizing our country's responsibility to seek protection of wildlife resources on a worldwide basis;

Taking note of the growing threat to wildlife and the lack of sufficient financial and technical resources in many countries to arrest this decline;

Aware of this country's dependence upon and interest in international wildlife and the recent efforts in Congress to meet our country's responsibilities in this field; therefore

The Board of Directors of World Wildlife Fund-U.S., the major private conservation organization in this country concerned with endangered wildlife and habitats on a global basis, hereby

Commends Senators John Culver and John Chafee for the introduction of their bill, "International Wildlife Resource Conservation Act of 1980," to provide \$10 million for international action for wildlife and habitat conservation and notes that the positive steps recommended therein will assist other nations to protect their own wildlife resources and habitat and urges prompt enactment of this bill and, further

Urges the prompt enactment by the Senate of the House passed bill regulating the importation of ivory and stresses the importance of the financial and regulatory provisions of this bill if we are to relieve the pressure from the ivory trade and thereby to help halt the traffic aspects of the decline of the African elephant.



## MONITOR

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STATEMENT IN SUPPORT OF H.R. 4685

June 30, 1980

by Christine Stevens, Secretary

On behalf of the following Monitor groups, I wish to express strong support for the House-passed Elephant Protection Act, H.R. 4685: the Society for Animal Protective Legislation, International Fund for Animal Welfare, American Society for the Prevention of Cruelty to Animals, Center for Action on Endangered Species, International Primate Protection League, Washington Humane Society, Let Live, Friends of Wildlife, Humane Society of the United States, and the Massachusetts Society for the Prevention of Cruelty to Animals.

We wish to commend Senator Chafee and Senator Culver for the important provisions incorporated in the Senate bill, and we support their bill except for its elephant provisions and request that the House-passed bill in its entirety be substituted for the elephant provisions.

The Senate bill's provision for Wildlife Resource Attaches would be most valuable. The provision of funds to assist nations in conserving wildlife within their borders is highly desirable and would certainly stimulate concern for wildlife and help protect it in a practical manner.

The Senate bill's Section 11, "Program to Conserve the African Elephant," however, is inadequate. The specific provisions of the House-passed bill are needed in order to provide an effective block to continued illegal activities in countries where the elephant is being decimated for the ivory trade. On a recent visit to the United States, African wildlife expert Norman Myers explained how impecunious political parties as well as terrorist groups come by ready cash. Killing animals whose products can be sold for high prices is now standard practice. Elephants, leopards and cheetahs are the source of such funds.

It is urgent that the United States act to provide specific protection to the animal whose product has for centuries ranked with gold as so valuable as to be worth locking up as insurance of future wealth in an unstable world. As gold has shot up in price, so has ivory. The shocking crash in elephant numbers in Uganda has been recently documented. The United States can and should take the lead on this matter as it has on many other international wildlife issues.

The United States has every right to set standards for elephant products imported into the U. S. By passing this carefully crafted legislation, we will be signalling to the elephant poachers and ivory traders that the U. S. will not be party through commerce in the extermination of the elephants, the largest of our terrestrial species and the foremost symbol of wildlife.

The U. S. has demonstrated such leadership in wildlife conservation with the great whales. In 1972, the Congress passed the Marine Mammal Protection Act and banned all whaling and whale products. The whales were placed on the Endangered Species List in 1971. In 1975, the U. S. threatened an embargo of the fish products of Japan and the Soviet Union, under the provisions of the Pelly Amendment to the Fishermen's Protective Act, after those two countries defied the quota set by the International Whaling Commission and killed thousands more whales. The threat of Pelly Amendment sanctions by the U. S. has forced four unregulated, non-IWC whaling nations--South Korea, Peru, Chile and Spain--to join the IWC.

Last year, Congress passed the Packwood-Magnuson Amendment to crack down on outlaw whaling operations set up by Japanese and Norwegian interests to circumvent the whale quotas of the IWC.

So we already see that the United States can impose its standards on other nations in order to save wildlife from the gross exploitation that may drive species to extinction.

The Convention on International Trade in Endangered Species has not been effective in controlling the trade in ivory. The Treaty Parties recognize this failing; they are planning to adopt stringent new ivory trading requirements at the bi-annual CITES meeting in New Delhi next February. Five African nations with the largest elephant populations are members of CITES. They are: Zaire, Central African Republic, Kenya, Tanzania and Botswana. There is heavy poaching of elephants and virtually uncontrolled smuggling of ivory in each of these countries. In Zaire, which has the largest elephant population, the breakdown of order and economic disintegration has led to widespread massacres of literally tens of thousands of elephants each year. Two years ago, officials in Kisangani Province diverted 20 tons of the highly toxic pesticide Aldrin from the coffee plantations to a gang of poachers who proceeded to poison hundreds of watering holes throughout the forest over an area of hundreds of square miles. To cite testimony submitted by the Monitor groups at the July 1979 House hearings:

While the death toll was staggering from the elephants, it was also virtually complete for all other animals over a region of hundreds of square miles.

The mass poisonings occurred in April and May 1978. According to a source in Kisangani, corrupt government officials diverted 20 metric tons of pesticide that was to have been used for spraying the coffee plantations in the province. The highly toxic poison was delivered to gangs of poachers who went into the thick forests where large numbers of elephants still roamed.

The pesticide was poured into the waterholes in the marshy areas where the elephants came to drink. Within days, thousands of elephants were poisoned. It took up to a week for them to die. The sickened beasts staggered through the forest in agony. The poachers, eager to get the ivory first, frequently hastened death by running up to the weakened elephants from the rear and disembowling them with machetes.

Witnesses say hundreds of tusks poured into the town of Ngazi, which is at the end of the road from Kisangani, each week during the poisoning massacre. Many of the tusks were just 8 inches long, indicating that baby elephants died in large numbers. Nobody knows, how many elephants died in those 2 months, because many, if not most, probably died deep in the forest and were never found.

The poached ivory was delivered to Kisangani, where the corrupt government officials chartered aircraft to fly it to Kinshasa. One hoard of ivory was so large that when it was loaded aboard a DC-3, the plane could not take off. Several tons of ivory had to be removed.

The ivory was flown from Kinshasa to France. Millions of dollars were paid to the traders by investors in Europe and the Far East. The money went largely into the Swiss bank accounts of Zairian Government officials.

Now the forests are silent for miles and miles along the Congo River, report recent travelers. The poison wiped out the birds, the monkeys, the antelope and all the other creatures of the forest. The killing continues in other areas of Zaire on a smaller scale, with bullets and poison. The elephants will die as long as the rich nations create the market and allow the free trade in ivory.

Plane loads of poached ivory continue to pour out of Zaire. It should be noted that Zaire has officially banned all ivory exports since 1978.

In neighboring Central African Republic, there is a similar official ban on ivory exports. However, the exports continue. The once great herds of elephants in Uganda have now been reduced to a few hundred animals that are literally running for their lives. Conservationists now predict they will be exterminated from Uganda in a very short time.

Ivory continues to pour out of Kenya and Tanzania in East Africa despite total bans not only on the ivory trade but on all hunting. Interestingly, huge quantities of ivory are being exported to Europe and the Far East from the tiny country of Burundi, located between Zaire, Uganda, Kenya and Tanzania. There are no elephants in Burundi to produce ivory. Farther south in Zambia and Botswana, there is evidence of heavy poaching and ivory trafficking.

The Department of the Interior has an extremely poor track record with regard to ivory. Its failure to require or keep proper records was so outrageous that complaints by the Society for Animal Protective Legislation and other conservation and humane groups led to a completely new system of record keeping by the Fish and Wildlife Service. However, ivory from non-members of the Convention on International Trade in Endangered Species of Flora and Fauna continues to enter the country as documented by TRAFFIC. Raw ivory from Zambia, the Central African Republic, and the Sudan entered the United States in 1979.

Clearly, the Fish and Wildlife Service cannot be left with general admonitions to design a program to protect the elephants if the Congress is serious about obtaining prompt, effective action. Interior has dragged its feet at this critical time; and should the Senate decide to emasculate the House-passed bill, smugglers, poachers, and illegal ivory dealers will be encouraged to continue their profiteering. We urge this distinguished Subcommittee most strongly to incorporate the House-passed Elephant Protection Act in the bill to encourage the conservation of the world's wildlife resources.

I would quote from a New York Times article (February 6, 1980):

"The Convention on International Trade in Endangered Species has restrained legal shipments of ivory, but most of the trade in tusks and carved ivory is conducted through illegal channels, Mr. Douglas-Hamilton said.

"While there is no substitute for the political will of African nations to conserve elephants,' he said, 'this must be matched by very strict regulations abroad to control illegal trading.'

"The zoologist said he hoped that Congress would soon enact pending legislation to restrict imports of ivory as well as to provide financial aid to African countries to help fight poaching and to improve the management of their national parks. The legislation was passed by the House in December, but the Senate has taken no action....

"The surge in trade has led to excessive killing of elephants, especially in accessible ranges where there has been a breakdown in law enforcement,' according to Mr. Douglas-Hamilton's report. East Africa felt the impact first and, according to the report, Kenya lost more than half its elephants between 1970 and 1977.

"Now much of the illegal slaughter is taking place in central Africa, particularly in Zaire, according to the report. Much of the illegal ivory is being shipped out by La Couronne, the ivory monopoly of the Central African Republic, it said."

A recent study reveals that the Ugandan elephant is all but extinct. Poaching has reached an all-time high. An aerial survey conducted by a team of wildlife scientists shows that only about 130 elephants remain in all Uganda, down from 12,000 less than a decade ago.

In the immense Kabalega National Park in Northwest Uganda, the population has plummeted from 9,000 to a mere 160 animals. The surviving group was found clustered in one big, terrified herd that keeps constantly moving "unable to find refuge and shedding corpses like leaves along the trail," writes Dr. Iain Douglas-Hamilton, survey leader, in a communique to the National Geographic Society, one of the backers of the survey.

Elephants in the other major National Park in Uganda, Rwenzori, fare no better, down from 3,000 at the start of the decade to an all-time low of 150. The scientists saw that the park was littered with carcasses, with two dead animals for every one living. Some had been killed by automatic weaponry. Their tusks had been cut out, with the meat left to rot in the sun. From the air, the scientists spotted dozens of poachers' camps in the parks.

Until 1973, when Idi Amin banned tourism in Uganda, Rwenzori and Kabalega Falls National Parks were paradigms of African wildlife protection. A wide variety of bird life flourished, and large populations of elephants, hippopotamus, buffalo, and kob ranged through the parks. Regulations against poaching were strictly enforced and tourist revenues enabled park maintenance to proceed smoothly.

The ravages of the recent Ugandan civil war changed the wildlife picture there radically. Amin's soldiers began an unprecedented slaughter of elephants for their ivory and food. Hippopotamus and buffalo were poached in large numbers for high profits from the sale of their meat. By early 1979, the aggression had escalated. Tanzanian soldiers, invading Uganda to overthrow the Amin regime, continued the massive slaughter primarily for profit. Hippopotamus, kob, buffalo, elephant, and lion were all reduced to a shadow of their former populations. Using machine guns and even hand grenades, the undisciplined Tanzanian troops, occupying Uganda as a "security" force following dictator Idi Amin's overthrow, wiped out about one third of all large mammals in Uganda's huge Rwenzori National Park.

One U.S. biologist, before fleeing the country, estimated that just under 14,000 animals were killed out of a total park population of 46,500 in just three and one-half months. Rwenzori's chief warden later estimated that Tanzanian soldiers since the war killed about half of the park's remaining hippos, buffalo, and Ugandan kob.

But Uganda is by no means a special case. Zambia, too, is having its share of wildlife protection problems. The black rhino and the elephant are being slaughtered on a vast scale in Zambia's Luangwa National Park. The 10,000 square mile reserve is largely unguarded, and an open road for the meat and horn poachers. An aerial survey in October showed about 3,000 rhino compared with 8,000 in 1972. The elephant population has fallen from 90,000 to 50,000.

A recent anti-poaching squad found a poachers' camp set up nine days previously. The tally for those nine days were 15 elephant, one rhino, and a selection of smaller animals. The tusks and horn on world markets would have brought about 40,000 pounds. The squad caught the hired marksman, five helpers and the 'go-between' whose job was to organize the kill on behalf of the gang's financial backer, allegedly a government official.

The hunter was fined only 400 pounds, the go-between 450 pounds and the camp workers were jailed for four months each. Their guns, amazingly, will be returned to them. The minor fines, easily met from the gang's purse, are the norm in Zambian courts. The law permits five-year prison sentences and fines of 16,500 pounds, but such punishment is seldom exacted. Unfortunately, poaching is the best form of living a man can make in Zambia. In two weeks, he can earn five years salary.

The sale of modern firearms by Rhodesian guerillas based in Zambia, added to the reservoir of guns already circulating to the North, will undoubtedly increase the danger to both the guards and wildlife. A number of guard posts in Zambia are now abandoned, and anti-poaching patrols in and around the park are almost non-existent. Volunteers help to man roadblocks around the edge of the park and occasionally go into the bush in search of the poachers, but their effectiveness is limited.

Estimates of the total elephant population in all of Africa have rarely been taken because of their immense total range of some three million square miles across the length and breadth of the continent, much of it heavily forested. But the most recent population survey, cited in a report to the New York Zoological Society, estimates there are now some 1,330,000 elephants in the 34 countries in which they live. In comparison, five years ago Dr. Douglas-Hamilton estimated there were about five million elephants in Africa and perhaps twice that many a century ago.

Karl Van Orsdol, a Palo Alto, California, wildlife biologist, tells of seeing one section of the park turned into a "graveyard of dead and dying animals," soldiers earning as much as \$1,000 a day for killing ten hippos. Ugandan merchants then sold the meat off the carcasses for as much as \$2,000 per animal, according to Van Orsdol's account, although there was no acute shortage of food in the country at the time.

Van Orsdol, who went to Africa in 1976 to study lions at the Uganda Institute of Ecology, first saw wildlife killed by soldiers in March of 1979, when Idi Amin's troops, camping in Rwensori, started shooting animals for food. They hadn't been paid in months, they explained.

The Institute staff was relieved when Tanzanian troops "liberated" the park, but within a few weeks "more animals were being killed than the Tanzanian troops could possibly eat," he reports. In mid-June, Van Orsdol traveled 100 miles south to Ishasha, an isolated section of the park. At first, it seemed that the area had been spared, and he resumed his study of lions. "Then," he writes, "while sitting out on the plains in the hot midday sun, I heard a loud rumble in the distance. About three miles south, I saw a large, open-backed truck moving straight toward a herd of buffalo. When it approached to within 400 feet of the herd, about ten Tanzanian soldiers standing in the back opened fire with their machine guns. The truck chased the fleeing herd for more than a mile as the soldiers continued to fire. Many buffalo fell to the ground dead or dying, while others limped away to die slowly later."

Attempts to reason with the troops proved fruitless. In answer to his pleas, one soldier pointed a gun at Van Orsdol's head. "He informed me that he could execute anyone who stood in his way," Van Orsdol recalls. "Besides," the soldier continued, "if you don't let us kill the animals, then we will rob the people." The soldier said he hadn't been paid for six months.

In July, after deciding he must leave Uganda, the California scientist made a final heartbreaking trip along the shore of the Park's Lake Edward. "We passed carcass after carcass of hippo, sun-bleached, with legs pointed skyward," he writes. "After a three-hour trip, our notebook carried grim statistics: 82 hippos seen alive on the trip, 75 dead."

In August, the day before Van Orsdol left the country, he and a Ugandan colleague reviewed their figures on the number of animals killed in the past 3½ months. Their tally: 6,000 hippopotamus out of a total park population of 14,000; 5,000 Uganda kob, an orange-red antelope; 2,000 buffalo; 400 topi, another species of antelope; 100 elephants; and 70 lions. In sum, nearly 14,000 animals out of a total park population of 46,000 large mammals.

These examples are but a few which have received attention in the press. They demonstrate how urgently all the provisions of both versions of HR 4685 are needed.

Training of foreign nationals in the conservation of wildlife is highly desirable. Even the financially limited efforts conducted by such groups as the African Wildlife Leadership Foundation have had important results in developing dedicated African wildlife protectors. A broader program financed by the U. S. government would allow more training for young people who are eager to do this work. The wildlife clubs in Kenya show how vitally important the encouragement and development of knowledge about wildlife in its own natural habitat can be. The young people in these clubs are activist opponents of the dishonest exploitation which the government of Kenya is now working to curb with such methods as helicopter patrols.

It is important that the training and the work of the attaches be directed exclusively toward the protection of wildlife and wildlife habitat. We would oppose any attempt to dilute the effectiveness of these provisions of the bill by broadening the coverage to include natural resources in general.

In conclusion, we wish to emphasize the great importance of speedy action on this essential legislation. Should Congress adjourn without having acted to protect the African elephant, we will have failed to take a vital step at a most critical time. Because the House has already passed the bill and because of the urgent need for protection of many African species, the legislation should have clear sailing once it is given a favorable report by this Subcommittee. A major statement in support of wildlife worldwide led by the elephant, whose intelligence, wisdom and exemplary social life make it the ideal symbol for wildlife everywhere, can be made before Congress adjourns. We do not believe that minor criticisms should be allowed to stand in the way of passage of this legislation, and we respectfully urge that you report favorably on H.R. 4685, including the whole of the Senate bill except for substitution of the House bill in place of its abbreviated elephant provisions.

STATEMENT OF THE NATIONAL WILDLIFE FEDERATION CONCERNING THE INTERNATIONAL WILDLIFE CONSERVATION ACT OF 1980, PRESENTED BEFORE THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, SUBCOMMITTEE ON RESOURCE PROTECTION.

30 June 1980

Mr. Chairman, I am Michael E. Berger, Assistant Director for Wildlife and Fisheries, of the Resources Defense Division within the National Wildlife Federation. I am a professional conservationist with degrees in wildlife science and resource development.

The National Wildlife Federation is the nation's largest conservation organization, comprised of approximately 4.6 million members and supporters across the country with affiliate organizations in all 50 states, Guam, Puerto Rico and the Virgin Islands. The Federation has nearly 25,000 associate members who reside outside the U.S. In addition, the Canadian Wildlife Federation, the Japan Science Society and the Irish Wildlife Federation are closely allied with NWF.

As the world's human population continues to increase, so do demands placed on renewable and nonrenewable resources. This increasing population and its need for food, clothing, shelter, and space is the root cause of many wildlife problems today. We know that wildlife cannot survive without habitat, and the tragic reality of deforestation and desertification is ample evidence that we are losing the habitat battle. This legislation recognizes the problem as well as the social and political difficulties of its solution. The legislation puts forth a

partial solution by assisting foreign nations in improving their wildlife management and habitat protection capabilities. The proposed programs are a most positive step; not only are such measures needed, they are crucial.

Although the United States does not have the answers to all wildlife problems, we certainly have one of the most sophisticated and advanced systems of wildlife conservation in the world. The return of many of our wildlife populations from severe depletion to abundance is evidence that scientific wildlife management works. This present legislation is also further evidence that we are not only interested in the welfare of our domestic wildlife resources, but also those of all nations.

The proposed International Conservation Corps is certainly a worthwhile, if not entirely new, concept. For many years a similar Peace Corps program was effectively operated through the Smithsonian Institution. This provided volunteers to foreign nations upon request to assist with a wide variety of natural resource problems. There was never a shortage of requests and I am certain that the presently-envisioned Conservation Corps will be similarly popular. For this reason, and for the fact that many of the wildlife problems are on the ground rather than at higher administrative levels, I would recommend that the Corps be expanded to include recent college graduates and individuals with interests in field work in addition to researchers, professors, and mid to high level state and federal government employees. This expansion, in addition to

meeting a broader range of needs in foreign nations, would permit more individuals to be assigned than would otherwise be possible with the limited funds proposed.

The members of the Conservation Corps will need to be well-informed conservationists with ready access to scientific and technical information. Therefore, the Federation supports the proposal that they be employees of the Department of the Interior. We would also recommend that they have access to the facilities and expertise of the Smithsonian Institution.

The provision for placement abroad of regional wildlife resource attachés is foresighted and commendable. There is certainly a need for individuals to provide technical wildlife information and assistance to foreign governments and U.S. installations. Liaison with foreign agencies, organizations and individuals is also needed. My concern is that the demands for assistance and liaison will, in short order, consume the entire time and efforts of only ten attachés and that the number authorized might need to be increased. Since their role is to provide technical expertise, collect and convey information and assess wildlife problems, the Federation supports the Department of the Interior supervision of these attachés.

While it would be premature to suggest the best locations for placement of the attachés, a few guidelines are in order. Attachés should be located in those countries which are accessible and acceptable to others in the region politically; they should be sensitive to regional problems; sites should be chosen for ease of

access and dissemination of information. It should also be recognized that the attachés will not be conceptualized as regional by the countries needing assistance. Therefore, it might be best not to immediately draw regions, but to place a few individuals in known important locations and add attachés and delineate regions as needs arise.

Financial assistance for the education or training of foreign nationals in wildlife management and administration will certainly be beneficial. The more administrative and technical skills possessed by foreign wildlife personnel, the more sound and meaningful foreign conservation programs should be. However, financial restrictions limit greatly the number of beneficiaries of the program. The legislation should also contain provision for encouraging the development of conservation education programs at the grassroots level in foreign nations. In this regard International Conservation Corps personnel should be made available to assist in the establishment of conservation education centers or the development of educational programs for schools. This would multiply the benefits of the program by bringing conservation education to large numbers of people.

Since Senators Chafee and Culver introduced this legislation as an amendment and second title to the Elephant Protection Act, it is somewhat surprising that it contains a separate section dealing with elephant conservation. However, the Federation feels that wildlife management programs should be designed

by professionals using the best scientific data available and in relation to changing local needs and circumstances, we favor the comprehensive approach proposed in the amendment rather than the detailed criteria of H.R. 4685. We do recognize the forces impacting African elephant populations at present and feel the special attention focused by the amendment is justified.

The Federation is certain you are aware of the legislation recently introduced in the House of Representatives by Congressman Lowry. This legislation would levy a seven percent excise tax on wildlife and wildlife products imported into the U.S. Funds generated by this user tax would be available to finance approved wildlife conservation projects in foreign nations. The Federation feels that this Committee should examine the possibility of including this provision in the present legislation. Not only would this significantly expand the scope of the envisioned wildlife conservation effort, but would also provide incentives for foreign nations to undertake large-scale habitat improvements while helping them better understand the biological and economic renewability of their wildlife resources.

The National Wildlife Federation appreciates the leadership and enthusiasm of Senator Chafee regarding international wildlife conservation. We applaud his conduct of hearings to ascertain the problems, his introduction of this legislation to address the problems, and his support for these hearings to facilitate the timely passage of important legislation. We will be pleased to work with this committee however possible, and we encourage you to act swiftly to insure passage in this session of Congress.

TESTIMONY OF  
GERARD A. BERTRAND, PRESIDENT, MASSACHUSETTS AUDUBON SOCIETY  
BEFORE THE  
SNEATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUB-COMMITTEE ON RESOURCE PROTECTION  
JUNE 30, 1980

Good morning, Mr. Chairman. It is a pleasure to me to appear before you today to testify on international conservation, and in particular the amendments to the Elephant Protection Act of 1979 HR 4685. I come before this committee as someone who has worked in international conservation professionally for the last decade. During that period I have had the opportunity to work both in an official capacity and as a private citizen on resource conservation in 50 countries around the world. For five years this work was done as Science Advisor on conservation to the President's Council on Environmental Quality, and for the last two years as Chief of International Affairs for the U.S. Fish and Wildlife Service. I am presently employed as the President of the Massachusetts Audubon Society, the oldest and largest existing state conservation organization. I have been a member of the scientific committee of the International Whaling Commission for 3 years, on a U.S. delegation to the negotiation of the International Convention On Trade In Endangered Species of Wild Fauna and Flora, and both meetings of the Parties held since that time, and on the U.S. delegation to the Migratory Species Convention hosted by the Federal Republic of

Germany last year. My comments before you today are based on experience, knowledge of the federal government, and on our current international resource conservation efforts. Mr. Chairman, our U.S. efforts to protect wildlife have clearly shown that it is far better from both an ecological and economic standpoint to protect resources while they are still reasonably plentiful than to make heroic efforts to resuscitate threatened or endangered species. This lesson has been painfully learned as we have spent millions of dollars into bringing back endangered species from the brink of extinction. In some cases this is successful, in others it is not, but in all cases it is expensive. Actions we take today for conservation can avoid large costs and adverse consequences for resources in the future. Protection of international wildlife is right now at a critical turning point. Throughout the world many wildlife species are still reasonably plentiful. It is still possible to see great flocks of flamingos in Africa, large numbers of deer and antelope in some parts of India, mobs of kangaroos in Australia, and large numbers of parrots in Central America. However, the total number of places available to see such spectacular demonstrations of our international wildlife heritage are declining dramatically.

Eric Eckholm has recently published an essay indicating the potential loss of up to 20% of the world's fauna and flora by the year 2000, unless some major advance is made in attitudes and actions which affect wildlife around the world. Much of this potential loss would come in tropical rainforests, our richest terrestrial habitats from the standpoint of number of species. Each year more individual species

become candidates for the IUCN (International Union for the Conservation of Nature and Natural Resources) red data books for the protected lists for the Convention on International Trade in Endangered Species (CITES), and our own endangered species lists. These lists are at present by no means complete, but rather reflect our lack of knowledge of many species which may disappear before we even know of their existence.

It is not by any means too late for us to help solve some of the dilemmas facing developing countries, or to help them save what is really an international resource of value to all peoples. The timing is critical because now many third world nations are aware of the loss of their own wildlife and natural habitats and are actively seeking the help of developed countries, particularly the United States, in studying and preserving their own fauna and flora. While I was with the federal government, there were numerous requests for help from countries throughout the world for international conservation assistance which the United States could not respond to positively. The representative from IUCN at this hearing can readily attest to the large number of requests that come in daily to IUCN for assistance in international conservation.

The recent success of a few countries in these efforts has sparked a major interest of many others in the region. For example, in the last decade Costa Rica has progressed from having no national parks to having over 14 at present with 5% of their land area under full protection. It should be noted that the first park directors of their park system were educated in the U.S. This same effort is under way

in India where a major reorganization of government is putting far more emphasis on the protection of natural resources, native forests, and wildlife. This realization within the third world is a great opportunity for us because what we do for conservation now will be multiplied enormously in future years. The U.S. dollar, while considered weakened relative to some currencies, still is the most powerful currency on earth and has a buying power in developing countries far greater than in our own. For example, a dollar in India is worth eight times as much for any conservation investment that we make.

Mr. Chairman, the present bill goes far to meet many of the opportunities and needs for the U.S. to make significant headway in helping protect internationally threatened or endangered wildlife species as well as preserving the natural environment of countries which still have significant wildlife resources.

In regard to the proposed bill, I would have the following suggestions:

In Section 203 (1) the definition of the term "conservation" should include "education" as one of its activities. The bill taken as a whole has education as a major objective, but this should be specifically recognized as part of the definition of conservation. The importance of this aspect of our work is far too often forgotten and results in short term rather than long term solution to international wildlife problems.

The International Conservation Corps is an excellent idea, and one which the U.S. was involved in to some extent through the Peace Corps. These excellent efforts, however, were insufficient and are certainly insufficient now to meet the needs. There are numerous

well trained Americans now out of work who could make a major contribution to wildlife conservation through this Corps and who would be willing to do so with only a little assistance financially from the government. Fortunately, international wildlife conservation as compared to other international efforts in other fields, is relatively inexpensive. It is possible to get much done with a low expenditure of resources.

The present bill allows detailing of government employees abroad specifically to work on international conservation. In the past this has proved to be logistically and administratively difficult. The present bill will do much to help solve existing problems and allow the regular exchange of both ideas and expertise on an international level. It is certainly one of the most cost effective ways of training foreign nationals in wildlife conservation methods by having an expert in a specialized field go to live and work in that country for a period of time and train local leaders in his specialty. However, there must be strong direction from Congress for administrators to do this or it won't happen.

Section 205 of the bill as presently written allows the range of training necessary to meet the varying circumstances encountered in conservation work. My own preference would be to put the emphasis on specific short term training programs in developing countries and on-the-job training rather than to a formal education leading to degrees in the U.S. There are already some established procedures and opportunities for the latter. The necessary ingredient, of course, has been funding to provide costs for master's and Ph.D level education. One

major difficulty of training foreign nationals through degree work at American institutions is that it is often difficult to get these students to return home to work in their own countries on local problems. In addition, their training is often of such a nature that it is only applicable to the United States or in developed countries, rather than specific to the appropriate technologies and resources available in the developing world. Great care must be taken in picking appropriate university curricula for people being trained in a formal way in the U.S. and safeguards set up to assure that the training received by individuals will be applied in their own countries of origin and not here.

Section 206 is a difficult one for me to address. Many colleagues with whom I have worked within the State Department have been excellent and helpful in the area of wildlife conservation internationally. However, Mr. Chairman, I must be entirely frank with you and say that working with the State Department on international wildlife conservation is at best a mixed blessing. Far too often, foreign service officers, science attaches, and other individuals within the State Department, although well meaning, have no training in the areas of specialization necessary for them to understand or be effective in international conservation activities. In addition, their priorities change depending on the needs of the individual ambassadors and demands of the State Department administration. While a number of embassy science attaches with whom I have worked have been remarkably helpful and generous people, their assistance was often a result of their own personal interests and desire to help in the wildlife conservation work, rather than to ful-

fill their job descriptions or directives from superiors. It is a personal rather than a delineated professional interest. For example, I know of no science attache with a formal degree or training in biological sciences or a related living resource field. There may be some, but I have never run into any. Just as we have Fishery Resource Attaches and Agricultural Attaches based in some embassies around the world, we likewise need attaches working on living wildlife resources, at least in some regional positions. Mr. Chairman, the State Department has often said that this should be met through short term details and secondments of particular individuals to international organizations. This has not yet proven to be effective in any sense for meeting the major challenge and opportunities facing us in international conservation. The bill discusses a maximum of 10 geographic regions in which there would be attaches. If a start were made with 4 to 6 attaches located in key regions throughout the world this would greatly assist the many activities presently ongoing, and foreseen by this bill in the wildlife conservation area. In spite of the State Department's opposition, I think they would find such people to be eminently helpful in assisting them in meeting many of their own goals and needs, particularly those related to developmental activities in which U.S. AID or other organizations find themselves involved. Mr. Chairman, as you know, there is much past history that can be brought up regarding international activities by the U.S. government in which there was either insufficient thought given to environmental consequences or a lack of knowledge about such consequences. Although there have been great strides made in this area, there is an outstanding opportunity here for experts

stationed in a region to provide the kind of advice needed by the State Department and other agencies regarding the impact of our activities abroad. Mr. Chairman, I urge you to continue your strong support of this idea and encourage the U.S. Congress to enact such a provision.

Section 208. Use of U.S. owned excess foreign currency. Of all the programs in which I have been involved in the last decade, the excess foreign currency program has been for me the most satisfying. This has been due to the fact that there has been a sufficient amount of money available in some countries to act as a base for developing meaningful programs in wildlife conservation. During the last two years I have made major efforts to develop a joint U.S./India program in international wildlife conservation. Numerous experts have gone to India to work in establishing specific long term programs. For example, the U.S. is committed with India to developing India's first hydro-biological station dedicated to studying a natural system and the effects of that system on wildlife in the area. The area of which I am speaking is Bharatpur, the wintering grounds of the critically endangered Siberian crane, as well as numerous other threatened and endangered species. The Indian government with the assistance of the United States has undertaken a five year examination and analysis of the present status of India's endangered and threatened plant species. Dr. Salim Ali, with U.S. financial assistance, has begun a national bird survey for India. Numerous workshops, educational projects, development of conservation materials, assistance to conservation organizations and other specific research and conservation projects

have been undertaken. Mr. Chairman, the excess foreign currency opportunities in Pakistan and India are still great because of the amount of funds available, and I strongly encourage you to maintain Section 208 in the present bill.

With regard to Section 209, I believe that such a Council could serve a useful purpose if properly directed and if the objectives were clearly delineated in such a way as to provide for detailed and specific recommendations resulting from that Council. I will not speak about the African Elephant in any detail, since I know that other colleagues testifying today intend to address this issue.

In closing, let me say that there are very pragmatic reasons for the United States to be involved in international conservation. As you know, our own bird species winter in Central and South America. The actions of these countries in protecting their own forest resources will greatly affect the survival of our species. No matter how much money we spend here in the United States, we will not have the avifaunal richness we presently enjoy unless foreign countries in this hemisphere protect the species over whom we share joint stewardship. This same can be said for all migratory species throughout the world, and necessitates by its nature international conservation efforts. No country is free from the aspirations, actions, and advances of others. There is no "Fortress America" in the ecological sense. Because of our own history in wildlife management and conservation, the U.S. is in an excellent position to help other nations. This help will in turn help us all eventually as we try to preserve earth's resources for future generations. I believe, Mr. Chairman, that we have both the opportunity and the responsibility to do so, and I hope the U.S. Senate has the foresight to pass this bill which you and Senator Culver have so thoughtfully developed. Thank you for the opportunity to testify. I will be happy to answer any questions.

TESTIMONY OF  
F. WAYNE KING, DIRECTOR, FLORIDA STATE MUSEUM  
BEFORE THE  
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS'  
SUB-COMMITTEE ON RESOURCE PROTECTION  
30 June 1980

Mr. Chairman, I wish to thank the Committee for the opportunity to testify on Amendment 1680, the International Wildlife Resources Conservation Act of 1980. I am F. Wayne King, Director of the Florida State Museum, but today I am also here in my capacity as Deputy Chairman of the Survival Service Commission (SSC) of the International Union for the Conservation of Nature and Natural Resources, and immediate past-Director of Conservation for the New York Zoological Society. I have served as a member of the 1973, 1976, 1977, and 1979 U.S. delegations to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and also as a member of the USDI Fish and Wildlife and Parks Natural Sciences Advisory Committee during 1975 and 1976. In these various capacities I have been actively involved in conservation of wildlife and wild habitats all round the world. My work has taken me to more than 30 nations, where I have worked with local wildlife officials and field biologists to conserve local fauna and flora. It is that experience that I am drawing on in offering my testimony today.

My comments will focus primarily on provisions of Title II of Amendment Number 1680, the International Wildlife Resources Conservation Act

of 1980. I fully endorse the purposes and provisions of the Act as proposed, and I recommend its passage into law at the earliest opportunity. The program is desperately needed and long overdue. There are a few minor amendments needed to clarify several points in the Act, but none of them change the functioning of the proposed program -- the amendments are indicated on the attached copy of Amendment Number 1680.

First, I would like to commend the U.S. Fish and Wildlife Service and U.S. National Park Service for the programs they are presently operating in the field of wildlife and habitat management training for foreign nationals and assistance to foreign governments in wildlife research and conservation, and in park and refuge planning and management. However, these programs are relatively small and inadequately funded -- funds are made available primarily from PL-480 monies through provisions of the Endangered Species Act and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The National Academy of Sciences, the U.S. Forest Service, and the Agency for International Development (AID) also operate small international assistance programs for wildlife and habitat resources. Unfortunately, all these efforts are poor compared to what is being done by non-governmental organizations.

For example, the New York Zoological Society operates an average of 30 conservation projects in 15 to 20 foreign nations each year. It presently is involved with conserving rhinoceroses in Africa; jaguars in Brazil; spectacled bear and other endangered species in Peru; elephant in Africa; monkeys in Latin America and Asia; parrots in the West Indies. The Society is also responsible for the establishment, development, or expansion of more than three (3) dozen national parks and wildlife refuges around the world, including Amboseli National Park in Kenya; Tarangire and Ruaha

National Parks in Tanzania; Chitwan National Park and Shey Gompa Reserve in Nepal; Hunza National Park in Pakistan; and eight (8) parks and reserves in Argentina, most notably the Golfo San Jose Marine Sanctuary for right whales. Presently the Society is assisting with the development of several new national parks in the southern Sudan. Similarly, the Frankfurt (Germany) Zoological Society is funding dozens of projects in Africa, Asia, and Latin America, and is largely responsible for the development of the famous Serengeti National Park in Tanzania. The Fauna Preservation Society (London) operates wildlife conservation projects in a number of nations, e.g., a project to conserve mountain gorilla in Rwanda. The African Wildlife Leadership Foundation operates many projects throughout most of Africa. The International Council for Bird Preservation spearheads efforts to conserve birds around the world. Many other non-governmental conservation organizations could be cited, but probably the most active and most widely known are the International Union for the Conservation of Nature and Natural Resources (IUCN) and its working partner, the World Wildlife Fund (WWF). These two organizations spend \$8,000,000 to \$10,000,000 annually on various aspects of international wildlife conservation. They are an extremely effective combination with proven records of accomplishment. Most of their operations closely parallel provisions of Amendment Number 1680, the International Wildlife Resources Conservation Act of 1980.

IUCN and WWF put a multitude of wildlife biologists, botanists, and environmental planners into the field to study wildlife and habitat problems and to propose solutions. This is comparable to the International Wildlife Conservation Corps proposed in Sec. 204 of Amendment Number 1680.

Almost every IUCN/WWF project involving an expatriate expert also

includes on-the-job or university training for a local counterpart -- similar to the provisions for Training Foreign Nationals contained in Sec. 205.

IUCN maintains a roster of more than 2,500 cooperating volunteer scientists, ecologists, educators, lawyers, governmental officials, and planners who provide expert advice and contact at the regional, national, and local level -- roughly analogous to the Regional Wildlife Resource Attachees proposed in Sec. 206 and the Advisory Council on International Wildlife Resources Conservation Policy in Sec. 209.

These many non-government efforts are good, but much, much more needs to be done for international conservation. The U.S. government should be involved, must become involved. The benefits from such involvement will accrue not just to the foreign nations. They will benefit us as well.

The World Conservation Strategy, launched this past March by IUCN, WWF, and the United Nations Environment Programme, clearly shows that sustained development is possible only through conservation of wildlife and wild resources. Many developing nations recognize the wisdom of wildlife conservation, but lack the expertise to develop and implement needed programs. You do not have to convince Kenya, Tanzania, or Zambia of the value of wildlife. The foreign exchange they earn from wildlife tourism is a major part of their economies. Similarly, Nicaragua recognizes the loss of sea turtles along its Atlantic shores will mean less protein to feed its coastal citizens. Nepal recognizes the conservation value of its national parks, since the surrounding forests have been cleared for farms by an ill-advised international development scheme, so the protected park habitats now provide the only grass thatch available to villagers

living within 50 miles. These and other less developed nations know the value of conserving wild resources, they just need assistance in getting started. During my travels I have seldom ever encountered opposition to conservation in these nations, but I have often had to explain to our own citizens how conservation in these foreign places benefits the U.S. It may not be immediately apparent, but international conservation has very real and direct benefits to the U.S., and this is one of many reasons why the U.S. government should be actively involved in international wildlife conservation.

For example, most of our agricultural crops are derived from wild plants native to other parts of the world. Wheat and barley originated in Europe and the Mediterranean region. Corn was developed by the Indians of Mexico. Potatoes are from the Andean countries of South America. Coffee is from northern and central Africa. These wild varieties of our familiar crops, together with examples of most other crop species, are invaluable to present-day agriculture, as they serve as a source of disease-resistant or climate-resistant hybrids.

Similarly, our livestock is derived from wild species. Chickens are nothing but domesticated red jungle fowl from Asia. Goats were bred from the agrami of Cyprus. Cattle were produced from the aurochs, the wild oxen of Europe which became extinct in the 14th or 15th century. If man had not domesticated the cow before its progenitor disappeared, we might not have beef on our tables today. Luckily, there are other species of wild cattle present in Asia and Africa, and these are the subject of cross-breeding experiments that might yield a more disease-resistant stock. If we do not assist in conserving these wild species, man (including U.S. citizens) may suffer in the future. Mankind is already suffering the consequences of past mistakes. When Mauritius Island in the Indian Ocean was discovered in 1507, it was the home of a large flightless pigeon, the dodo. During the

next 170 years, Portugese and Dutch sailors regularly stopped off in Mauritius to provision their ships with so many dodos and such large quantities of dodo meat, that the birds were extinct by 1680 -- eaten to extinction. If it had been conserved, used wisely, rather than over-exploited, we might have Kentucky-Fried Dodo stands on every street corner today. However, the opportunity of adding this wild bird to our meager list of barnyard fowl (i.e., chicken, turkey, duck, geese, guinea fowl, peafowl) is lost forever. In the 1500s and 1600s wildlife conservation was unknown, but there is no excuse for allowing similar occurrences today. We now know the value of wildlife. We know the benefits of conservation. The U.S. government should assist international efforts to conserve wild resources -- if for no other reason than to protect our crop and livestock breeding programs.

The value of wild plants to the U.S. pharmaceutical industry has been estimated at \$3,000,000,000 (3 billion dollars) annually. Between 40% and 50% of all prescriptions written in the U.S. contain an active ingredient, or a major precursor, derived from wild plants or first discovered in wild plants. Wild plants are a vast reservoir of pharmaceutical materials, and the majority of plants have not yet been tested for medicinal properties. If we do not make an effort to conserve this resource, we may pay the price in continued suffering from disease that might have been cured except that a wild plant became extinct or became so scarce as to be unavailable. The U.S. government should be involved in international conservation to assure future supplies of pharmaceutical raw materials.

The U.S. derives additional benefits from imports of many products of wild species -- furs, hides, fiber, timber, and meat. Wildlife imports into the U.S. are running at more than \$1,000,000,000 (1 billion dollars) a year. That alone is reason for U.S. participation in international conservation efforts.

Tropical rain forests are disappearing at the rate of 50 acres a minute. Many are being cut to produce chipboard and hardwood plywood for the U.S. market. What will happen when the rain forests are gone? The majority will disappear by the year 2025 A.D. The U.S. will have to rely solely on softwoods (e.g., pine, spruce, fir), since our own hardwoods will probably no longer be available. The wellbeing of our future construction industry may well depend in part on U.S. assistance in international wildlife resources conservation today.

Wisely managed, wildlife and wild habitats can continue to yield these and other benefits to the U.S. as well as to the foreign nations where the resource is found. The need for assistance in conserving these resources is too great to be left solely to the non-governmental conservation organizations. The U.S. government needs to get involved.

Much more can be said on the subject, suffice it to say the lesser developed countries want assistance with wildlife conservation, both technical and financial assistance. As noted above, several U.S. government agencies are already operating small international wildlife conservation programs, but Title II of Amendment Number 1680 is needed to assure the program will grow to a respectable size. However, Mr. Chairman, I am disturbed that Sec. 212 of Title II would provide only \$7,000,000 (7 million dollars) annually to operate the international wildlife resources conservation program. This does not reflect the very real value of foreign wildlife to U.S. industry and U.S. citizens. A larger appropriation is warranted.

There are a few cautions I would make concerning Amendment Number 1680 as presently drafted. First, despite the provisions of Sec. 204 (2), as with all normal government bureaucracies, the Secretary will probably attempt

to operate the International Wildlife Conservation Corps solely with in-house personnel. This would be ill-advised, as neither the U.S. Fish and Wildlife Service nor the U.S. National Park Service has all the expertise needed to adequately respond to all requests for foreign assistance in resource conservation. Outside experts can be found in universities, natural history museums, and state wildlife agencies. They should be used. An excellent example of what can be accomplished -- a high degree of professionalism at a relatively low cost -- is found in the programs of WWF and the New York Zoological Society, or in the now defunct Smithsonian/Peace Corps Environmental Program.

In addition, although requests for assistance inevitably will be focused on biologists, zoologists, botanists, ecologists, and wildlife and park managers, it will be necessary to involve legal advisors (for assistance in drafting laws and regulations), environmental planners (to reclaim damaged habitats or to minimize some destructive factors), educators (to gain public participation in programs), and law enforcement specialists (to advise on practical aspects of enforcement problems).

I urge that Amendment Number 1680 be enacted into law. It is the only way the U.S. can earn the goodwill of lesser developed nations and at the same time assure the continued availability of international wildlife resources so necessary to the sustained development and maintenance of both their society and our own.

Finally, Mr. Chairman, I would like to make you aware that the governing Council of the International Union for the Conservation of Nature and Natural Resources, meeting in Gland, Switzerland, on 28 June 1980, encouraged developed nations, such as the U.S., to provide assistance in international wildlife conservation to lesser developed nations. To that action I would add a personal note of encouragement to the Senate and House to give substance to the principle by passing the International Wildlife Resource Conservation Act of 1980.

Mr. Chairman, I am available to answer any questions you may have.

STATEMENT  
OF  
MARION VAN SLOOTEN  
THE  
PAST PRESIDENT  
OF THE  
SAFARI CLUB INTERNATIONAL

I am Marion Van Slooten, the immediate past president of Safari Club International and currently, the chairman of its legislative affairs committee. Safari Club International is an organization composed of local and regional chapters, associate and affiliate members, with an overall membership of 1 million sportsmen. Safari Club International is a sportsman's group dedicated to the conservation of wildlife and the promotion of sport trophy hunting as a valuable tool in the conservation of wildlife. I greatly appreciate the opportunity to present the view of Safari Club International before this subcommittee today.

Whenever there is a discussion of the international conservation of wildlife, it is almost immediately recognized that one of the major obstacles to the development of effective wildlife management and habitat conservation programs is the absence of sufficient funds in African nations which can be directed towards such efforts. This is where the value of legitimate sport trophy hunting is recognized by foreign officials from wildlife ministries and game departments abroad, as being an integral part and providing an essential service to international conservation programs.

If a wildlife species does not represent an economic value to the landowner or farmer, on whose land or general vicinity that species may roam, then that species will likely be viewed as nothing more than vermin or a dangerous pest and efforts could be undertaken to eliminate the animal

in that area in order to prevent potential agricultural damage. The economic benefit received from sport trophy hunting and its fees represents the very incentive needed to persuade the landowner or farmer to help manage the wildlife populations in that area and protect the species from an otherwise imminent and irresponsible slaughter. In other words, sport trophy hunting benefits species by giving economic value which, in turn, stimulates conservation measures. As one African rancher recently told me -- "as soon as the price of game exceeds the price of my cattle, I will have a game ranch instead."

Sport trophy hunters are an important source of revenue for wildlife conservaiton and management programs. I would like to take a moment to refer you to the House Report (96-661, Part 1) which accompanied H.R. 4685, "The Elephant Protection Act of 1979," as passed by the House of Representatives last November. The report states and I quote, that "in order to assist these [African] nations in generating funds for elephant conservation programs, and for controlling the trade in elephant products, the [House] Committee [on Merchant Marine and Fisheries] specifically exempted from the provisions of H.R. 4685 the importation of elephant tusks taken by sports hunters. The evidence presented to the Committee showed that in 1977, sportsmen took only 577 elephants. In this regard, it should be noted that Ian Parker [an author and recognized authority on the African

elephant] estimated that approximately 65,000 elephants die each year as a result of human influences, including sport hunting. Other estimates are much higher. The total take of 577 elephants produced \$784,750 in license fees and taxes, almost all of which was used in the affected countries' conservation program. The same 577 elephants contributed \$9,079,150 to the economies of the affected countries, an average of \$14,373 per elephant." H.R. Rep. No. 96-661, Part 1, 96th Cong., 1st Sess. 13(1979). [Hereinafter cited as House Report].

Mr. David A. Peddie, biologist with the Game Department of Zimbabwe states, and I quote, "the elephant is of vital economic importance to the country whether from management programs or from safari hunting and it is this fact which preserves its present status." Mr. D.H.M. Cumming, the chief ecologist of the Department of National Parks and Wildlife Management of Zimbabwe states further that, and again I quote, "the value to Government of elephant products from necessary management operations and from licenses for Safari hunts in 1980 will be approximately nine hundred thousand U.S. dollars . . . and foreign exchange earnings to Safari Industry from elephant hunts is reckoned at one and a half million U.S. dollars." And Mr. Thomas Kume Kan, Minister of the Regional Ministry of Wildlife Conservation, Fisheries and Tourism in the Southern Region of Sudan, confirms, and I again quote, that "the little revenue we

collect from the sale of hunting licenses is used to further the conservation of wildlife resources, mainly in the National Parks and Game Reserves." Mr. Chairman, I respectfully request that the complete statements of the three above-named officials be printed in today's hearing record at the conclusion of my statement.

On March 24, 1980, the U.S. Fish and Wildlife Service in its proposal to reclassify the Sub-Saharan leopard, also proposed a special rule to allow the importation into the U.S. of legally taken sport-hunted leopard trophies. 45 Fed. Reg. 19007(1980). In so doing, the Fish and Wildlife Service has recognized the importance of sport trophy hunting as a wildlife conservation tool which would benefit the species. From the March 24, 1980 issue of the Federal Register, I would like to quote a statement by Mr. Daniel Sindiyo, Assistant Director, Division of Wildlife, Ministry of Tourism and Wildlife in Kenya. Mr. Sindiyo states, "It seems very clear to me that no one is going to conserve and manage a resource that is not going to provide some financial return to them . . . . Fortunately, we are beginning to make more progress in getting revenues from wildlife back to the people. For example, a leopard shot on a license would return to the landowner SH 5,000 (\$665 U.S.) so this is it. The landowner now knows that fees due will go directly to him, either as a private landowner, or a member of a group ranch, and they appreciate this

highly." 45 Fed. Reg. 19010(1980).

Thus, it should be clear that trophy hunting of wild game is not merely a sport, rather it is recognized to play an immensely important role in wildlife management and conservation programs. The accompanying House Report to H.R. 4685 places sport trophy hunting in its proper perspective, and I quote, "American sportsmen have traditionally supplied the bulk of funds for wildlife conservation efforts in the United States. The situation is the same in Africa. If individual African nations are to develop adequate (elephant) conservation programs, they will undoubtedly have to utilize funds provided by foreign hunters. [Sport hunting] will permit the African nations to continue to receive revenue from American sportsmen so that the nations can develop and implement an adequate wildlife management effort that will insure the long-term perpetuation of the (elephant) resource." House Report, 18.

The most immediate threat to the African elephant is the unregulated and uncontrolled international ivory trade. In an effort to curb the widespread illegal market for ivory poaching, the United States House of Representatives passed, in November 1979, "The Elephant Protection Act of 1979" (H.R. 4685). This legislation would set a six-month prohibition on the importing and exporting of African elephants in the United States, as well as their parts and products. H.R. 4685, 96th Cong., 1st Sess. However,

realizing that "a complete curtailment of trade in elephant products would be undesirable, since economic benefit is the main incentive in some African countries for properly managing elephant populations," Safari Club International is pleased that the House of Representatives in its wisdom, saw fit to exempt elephant trophies legally taken by a sport hunter. As long as trophy values to the local interests continue to exceed the values represented by poaching or commercial trade, then those local interests will act to conserve the species in order to attract the economic benefits of sport trophy hunting.

While the House realized that poaching and the commercial trade in elephant parts and products pose the immediate threat to the African elephant, it also realized that habitat degradation and loss present the long-term and perhaps fatal danger to the survival of the African elephant. In granting an exemption, the House formally recognized the importance of sport trophy hunting and its tremendous beneficial impact upon wildlife conservation programs.

The stated policy of "The International Wildlife Resources Conservation Act of 1980" (Senate Amendment No. 1680) is "to encourage, as is practicable, wildlife resources worldwide" (Sec. 202(c)) and "the habitats upon which they depend" (Sec. 203(3)). In pursuit of this very same policy, the Safari Club International requests that

any legislation which addresses the concerns of the international conservation of wildlife resources, which the United States Senate and/or the Congress may finally report, must contain an explicit acknowledgement of sport trophy hunting.

The United States House of Representatives, the United States Fish and Wildlife Service, and the many wildlife ministries abroad, have all recognized the important role played by sport trophy hunting in the conservation of wildlife and their habitat. We find it incomprehensible that a piece of legislation directed at the problems of international wildlife conservation would ignore the importance of legitimate sport trophy hunting as an effective management tool. To do so, would be to simply ignore the economic realities of wildlife conservation efforts.

Therefore, the Safari Club International respectfully requests that a formal and explicit recognition of sport trophy hunting as a valuable tool in elephant conservation and protection be incorporated into the language of this legislation.

SOME EFFECTS OF A BAN ON IVORY ON  
ELEPHANT (LOXODONTA AFRICANA) IN  
ZIMBABWE

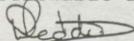
There are some 35000 elephant in Zimbabwe. Most of these are in the Parks and Wildlife Estate which covers 11% (45000 square kilometers) of the country. The rest are found in state owned Forest Land and Tribal Trust Lands. Except on privately owned land the hunting of elephant is strictly controlled with a limited number of permits issued each year. All ivory must be registered with the Department of National Parks and Wildlife Management.

Each year because of the restrictions to the range of the elephant caused by human population pressure, numerous elephant have to be culled. This essential management means that some 1500 animals have to be eliminated every year. It is obvious from the telex sent by Dr. D.H.M. Cumming, the Chief Ecologist of the Zimbabwe National Parks, just how important the elephant, or at least its utilization, is to its own survival.

Without the benefits of the elephant as an economic entity much of its present range will be lost to ill-advised land settlement by subsistence agriculturalists.

Operation Windfall is part of the development of the Sebungwe Region in the north of Zimbabwe. A poor agricultural area, the Sebungwe is suited to wildlife utilization and Windfall is attempting to realize the economic potential of this resource. Part of Windfall is the elephant management programme which will result in the people of the area benefitting to the value of U.S. \$600000

The maintainance of a legal market and realistic price for ivory and other elephant products is essential if the elephant is to keep its present numbers and range in Zimbabwe. The elephant is of vital economic importance to the country whether from management programmes or from safari hunting and it is this fact which preserves its present status. A ban on elephant products will make the control of illegal ivory more difficult, will result in a reduction of its range and number of some 50% and will deprive the county and many rural people of an important renewable resource and source of income.



D.A. Peddie, B. Sc (Agric), M. Sc.  
Biologist  
Zimbabwe

Official communications  
should not be addressed  
to individuals

Telephone: 707624  
Telegrams: "PARKLIFE SALISBURY"



In harmony  
with nature

Ref: A/135/425

DEPARTMENT OF NATIONAL PARKS  
AND WILD LIFE MANAGEMENT,  
P.O. Box 8365, Causeway,  
Zimbabwe Rhodesia.

9th June 1980

Peter Horn II  
255 1/2 East 71 St.  
NEW YORK

TELEX 423904 NEW YORK

Re Proposed ban on Ivory import. Such a ban would threaten conservation of elephant in all except strict National Parks and could lead to the loss of Safari Areas to other forms of land use in Zimbabwe. If the value of elephants and ivory is greatly reduced the elephant range within Zimbabwe could be rapidly reduced by more than fifty per cent. The value to Government of elephant products from necessary management operations and from licences for Safari hunts in 1980 will be approximately nine hundred thousand US dollars. Value to locals from Operation Windfall will be six hundred thousand dollars and foreign exchange earnings to Safari Industry from elephant hunts is reckoned at one and a half million US dollars.

D H M Cumming  
National Parks and Wild Life  
Salisbury  
Zimbabwe

The Democratic Republic of the Sudan  
**REGIONAL MINISTRY OF WILDLIFE  
 CONSERVATION AND TOURISM SOUTHERN REGION**  
 Telephone 1 2314 - 2933  
 P. O. Box 77 JUBA  
 Telegraphic Address Wild - Juba Sudan  
**JUBA SUDAN**



جمهورية السودان الديمقراطية  
 وزارة الصيد والسياحة الاقليم الجنوبي  
 س. ب ٧٧ جوبا  
 تليفون ٢٣١٤ - ٢٩٣٣  
 للبراقص : ويلدفور جوبا  
 جوبا - السودان

No. RM/CR&T/SH/MO/31.G.1

XR/69-A.3

15th. October, 1979.

Peter L. Horn, 11  
 Regional Vice President  
 Safari Club International  
 Conservation Fund  
 255½ East 71st Street  
 New York - New York 10021  
 U.S.A.

Dear Peter,

Please accept my apology for having delayed the information you required and I still hope that it may serve the purpose.

I would like to assure you and any interested group that the Regional Government of South Sudan has realized the importance of Wildlife resource in our economy as well as one of the components of the ecosystem. Consequently its abuse is not being tolerated.

The little revenue we collect from the sale of hunting licences, is used to further the conservation of Wildlife resource, mainly in the National Parks and Game Reserves.

Mr. Peter, it is not the sportsman who is a threat to game species but the poacher. A sportsman is a conservationist. The problem we are facing, not only in the Sudan but also in other African countries is how to stamp out poaching.

As far as the elephant population is concerned in the Southern Region of the Democratic Republic of the Sudan, there is nothing serious at the moment. Dr. Wattson conducted a survey of both Livestock and Wildlife (Game spp) in the whole of the Sudan in 1976. I am here, therefore, attaching what we have extracted from Dr. Wattson's report for easy reference. Despite the good number of elephants we have here, hunting of elephants by the residents has been banned since 1974 for the simple fact that they (residents) have commercialized it.

The Democratic Republic of The Sudan  
**NATIONAL MINISTRY OF WILDLIFE  
 CONSERVATION AND TOURISM SOUTHERN REGION**  
 Telephone : 2314 - 2933  
 P. O. Box 77 JUBA  
 Telegraphic Address Wild - Tour Juba  
 JUBA SUDAN



جمهورية السودان الديمقراطية  
 وزارة الصيد والسياحة الاقليم الجنوبي  
 س.ب ٧٧ جوبا  
 تلفون ٢٣١٤ - ٢٩٣٣  
 لفرافيا : ويلدور جوبا  
 جوبا - السودان

**ELEPHANT POPULATION ESTIMATES  
 IN THE SOUTHERN REGION (SOUTH OF SUDAN).**

(EXTRACTED FROM REPORT OF DR. WATSON 1976).

	<u>ESTIMATED NUMBER</u>
1. EASTERN EQUATORIA PROVINCE	22,314
2. WESTERN EQUATORIA PROVINCE	58,401
3. BAHR EL GHAZAL PROVINCE	46,319
4. LAKES PROVINCE	3,567
5. UPPER NILE PROVINCE	288
6. JONGLEI PROVINCE	<u>2,200</u>
Total Estimate	<u>133,589</u> -----

NB. Since this count is three (3) years back our next count which we intend to make soon, will definitely give us even a much bigger number.

It is also worth mentioning that the Ban on elephant hunting by residents shall soon be lifted.

Since then, we have been allowing a limited number of elephants for the hunting Safaris. The tusks obtained by the clients are officially branded, followed by the issuance of an export permit. The specimen signature of the official responsible for the safaris trophies has already been sent to Washington through your Embassy in Khartoum. I hope this information will help you.

Best regards

THOMAS KUME KAN,  
 MINISTER,  
 REGIONAL MINISTRY OF WILDLIFE CONSERVATION,  
 FISHERIES & TOURISM,  
 SOUTHERN REGION,  
 JUBA.

COMMENTS ON S. 1680, THE  
"INTERNATIONAL WILDLIFE RESOURCE  
CONSERVATION ACT OF 1980"

John B. Hallagan  
American Ivory Association  
30 June 1980

The American Ivory Association is an organization representing individuals involved in all aspects of the ivory trade in the United States. Members include ivory importers, retailers, artisans, and collectors. I have spent several years researching the ivory trade and African elephant conservation and I have also become quite familiar with the problems facing developing countries in conserving their natural resources. I would like to address my comments to the effects of this proposed amendment on the ivory trade and elephant conservation, and also to the issue of wildlife conservation in developing countries, particularly in Africa.

The American ivory trade is developing a surprisingly extensive legislative and regulatory history. Until 1976 African elephant ivory could be imported into any state in the United States from any country in Africa. In 1976 the state of California elected to institute a ban on the importation of African elephant ivory thereby initiating the recent series of legislative and regulatory events. In 1977 Representative Anthony C. Beilenson, of California, introduced H.R. 10083, the "Elephant Protection Act" which sought to ban the importation of elephant ivory into the United States. The Fish and Wildlife Service countered Mr. Beilenson's action by listing the African elephant as a threatened species under the Endangered Species Act of 1973, and ivory imports were restricted. The African elephant was also listed as an Appendix II species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Mr. Beilenson re-introduced his bill as H.R. 2826 in 1978 which led directly to the introduction of H.R. 4685 by Representative John M. Murphy of New York. Mr. Murphy's bill, titled the "Elephant Protection Act of 1979", proposed a temporary ban on the importation of worked ivory products while allowing raw ivory importation during a probationary period. We are here today to discuss Senate Amendment 1680, the "International Wildlife Resource Conservation Act of 1980", a proposed amendment to H.R. 4685. Also I have been told that the Fish and Wildlife Service is considering a revision of the American ivory importation regulations.

Before embarking on further elephant conservation efforts we should try to determine how these previous actions have affected the conservation status of the African elephant. The net effects of over four years of legislation and regulatory action on the ivory trade and elephant conservation

are difficult to assess, but it is accurate to say that elephants have not benefited nearly as much as some people would like to believe. A major consequence of these actions has been to destabilize the international ivory trade, an occurrence which may reflect detrimentally on African elephant conservation efforts. The current price of ivory is much higher than it has ever been, but it has risen to these heights outside of conventional economic principles. Raw ivory is currently selling for \$60-70 per kg. These high prices do not reflect a shortage of ivory or increased demand for utilization, they are simply a manifestation of the instability in the international market. This instability evolved from efforts to ban, or regulate the trade in ivory which resulted from publicity proclaiming the impending demise of the African elephant as a species. Much emphasis is placed on gross elephant numbers. Some people claim that since one researcher estimates that 1.33 million are extant then the African elephant must be "endangered" or "threatened". In some areas one can accurately claim that elephants are in danger of vanishing as wild, viable populations. However, in other areas the converse is true, elephants are doing very well. The goal of African elephant conservation should not be to preserve all elephants currently living, which is a naive and unrealistic approach, but rather to conserve a number compatible with available habitat, and also compatible with the needs and desires of the people sharing the habitat resources.

We have learned through extensive research that the African elephant is generally secure as a species, and that trade bans are unnecessary and ill-advised among consuming nations. The price of ivory has remained high in spite of what recent data have revealed simply because ivory traders are still concerned that capricious regulatory action will put them out of business. Since 1976 the price of raw ivory has risen from \$18-25 per kg. to the current \$60-70 per kg. During this period elephant populations have remained relatively stable with notable conservation successes in Malawi, Botswana, Tanzania, Kenya, and South Africa. The export of ivory from Africa has increased and although there are a variety of reasons the main reason is the high price of ivory. Utilization seems to have remained stable, or possibly even declined during this period which leads me to believe that the increased export is due to speculative

activity, and that the high price is artificial, much the same as the price of silver was at \$50 per ounce. Throughout history ivory has been a popular trading commodity in Africa and has consistently been a reliable mechanism for foreign exchange. Many people currently trading in ivory are speculators and not part of the ivory trade per se. When the price comes down they will simply move to another commodity thereby diminishing the pressure to produce.

It is necessary to formulate a comprehensive international policy among ivory producing and consuming nations to restore stability in the international ivory trade. The most effective way to accomplish this is through CITES. A number of resolutions are scheduled for discussion at the next conference of CITES parties. Four of these resolutions which impact directly on the ivory trade include proposals for; the standardization of permits among trading partners, the upgrading of record keeping and reporting, and the formulation of a comprehensive policy on the trade among CITES parties. Such action will help to re-establish stability in the international trade and discourage the counter-productive effects of scientifically unjustified unilateral action.

A necessary complement to CITES' action on the ivory trade and African elephant conservation, and on the larger issue of wildlife conservation in developing countries is provided by this amendment. CITES can provide guidelines for conservation activities, but cannot provide the revenue necessary to implement programs. The single largest hurdle to the implementation of effective conservation programs in developing countries is a general lack of revenue, a problem that this Act seeks to rectify. I agree with Senator Chafee that large amounts of money are not necessary, and that it is difficult to think of conservation programs where the benefits of modest sums are as great.

I commend Senator Chafee and Senator Culver for the realistic approach to wildlife conservation embodied in this Act. The provisions of this Act demonstrate a solid understanding of the problems confronting wildlife conservation in developing countries and acknowledge that conservation does not preclude the sound utilization of a resource. Recently the issue of the utilization of wildlife resources has received much more attention than it merits, too often overshadowing the extremely serious problem

of the degradation and loss of habitat. Developing countries in South America, Asia, and Africa harbor fabulous wildlife resources that include wide species diversity and relatively abundant habitat. Unfortunately large amounts of this habitat are being lost each year to the increasing demands of rapidly expanding human populations. East Africa provides numerous examples of the conflict for habitat between wildlife and man. Over 70% of the habitat once harboring elephants in Uganda has been lost over the last twenty years contributing to the often cited population decline of Uganda's elephants. In Kenya and Tanzania the human populations are expected to double in 21 and 27.7 years respectively. The loss of habitat will be difficult to stem in many countries as land becomes necessary for agriculture, industry, and habitation. However, by establishing conservation programs, each country can make the most effective use of the habitat that it can set aside for wildlife conservation. Of all the legislative and regulatory action to date only this Act effectively addresses the problem of habitat loss, and proposes solutions to the dilemma. The object of this Act is not to "throw money" at the problem and hope that it will disappear, but rather to establish a continuing program that will provide financial aid and technical expertise when and where they are needed.

Conservation efforts should be concentrated on the establishment and maintenance of national park and refuge systems in developing countries to insure the sound conservation of wildlife populations and habitat. National park systems will become the cornerstones of wildlife conservation programs in developing countries because these systems will provide the most effective mechanism for habitat conservation. This Act will help nations establish these systems by providing money for personnel salaries and training, and equipment, and also by providing technical expertise through cooperative training programs. In many countries one gets the distinct impression that wildlife resources may have to "pay their own way" if they are to remain abundant. In Kenya this concept is exemplified by income produced from wildlife related tourism. Botswana, Malawi, and South Africa conduct controlled harvests of elephants and other species to earn revenue. Although the United States can provide funds to establish and improve conservation programs, it cannot afford

to maintain these programs, a responsibility that must be assumed by the owner of the resources. Many countries find it difficult to appropriate funds for wildlife conservation when so many human related needs go unfulfilled. A potential solution to funding difficulties is the maintenance of a regulated trade in some wildlife products until the time when economic conditions offer potential alternatives. A point that often has been ignored in recent discussions on the trade in ivory and other wildlife products is that nations in Africa want to maintain trade in these products.

Sec. 211 of this Act stipulates that the Secretary of the Interior shall, "...design a comprehensive program to conserve the African elephant." I concur that the Department of the Interior should continue to be responsible for American activities affecting African elephant conservation. I recommend that the Secretary continue to work with CITES on issues concerning African elephant conservation within any program designed in conjunction with this Act. Particularly important will be efforts to implement the provisions of the proposed resolutions that I mentioned previously. Sec. 212 of this Act allows for the appropriation of \$1,000,000 for African elephant conservation for each of the first two years after enactment of this Act. These funds could be invaluable in efforts to up-grade law enforcement in the field and in the export of ivory from Africa.

One topic I feel deserves more emphasis in this Act is the issue of the enforcement of trade and conservation laws. The control of poaching, smuggling, and the contravention of trade laws is directly related to the effort expended in controlling them. The degree of this effort is in turn directly related to money spent on the number of employees, personnel training, salaries, and equipment. Law enforcement in the field in many countries in Africa is underdeveloped to such an extent that officials do not even know how many wardens or patrolmen are necessary to effectively patrol the parks and game lands. The situation in offices controlling trade is no better than in the field. I suggest that funds within the appropriations granted by this Act be directly allocated for law enforcement activities. Although it is implied that funds may be used for enforcement I believe that the problem warrants special attention.

When the time comes to implement this Act I suggest that the funds be allocated in a very specific manner. A strong case can be made to demonstrate that large sums of money that have been spent recently in Africa have not been spent wisely. For too long Africa has been used as a laboratory for expatriate biologists. Although African nations have benefited from some of these activities, on the whole what is needed now is emphasis on the less glamorous aspects of wildlife conservation such as species and habitat management, and law enforcement. I would find it difficult to rationalize additional ethology studies when conservation needs are of much greater importance.

In closing I would like to emphasize several concepts. High quality habitat is the key to viable wildlife populations and therefore habitat conservation should be assigned a high priority in wildlife conservation programs. Second, the United States should not appear to dictate conservation policy to other nations, an attitude that will only foster resentment. Recent American policy on the African elephant and the leopard are examples of such action. Third, and perhaps most important, we must keep in mind that wildlife conservation in developing countries must be balanced with the needs of the people. The interests of people and wildlife must be equitably reconciled to insure that wildlife will remain abundant. In some cases this will mean that certain habitats and species will be utilized, and others will be completely protected. Expressing indignant outrage over the sound utilization of a resource does little to aid in its conservation.

The "International Wildlife Resource Conservation Act of 1980" will make an important contribution toward the conservation of the world's invaluable wildlife resources by directly aiding in the conservation of wildlife habitat in developing countries. Zoologist Malcolm Coe, of Oxford University, stated in last week's Science magazine, "The National Parks of Africa and their wildlife represent a world asset which it is the responsibility of the developed world to support with funds. Yet at a time when the developed world is faced with a severe economic recession, there is a danger of complete withdrawal of funds for wildlife in developing countries". It would be truly unfortunate if a species or type of habitat perished simply because funds were not available to finance conservation measures. This proposed Act seeks to insure that this will never happen.

## BRITISH EMBASSY

3100 Massachusetts Avenue, N.W.

WASHINGTON, D.C. 20008

Telephone: (202) 462-1340

16 June, 1980.

The Honorable John C. Culver,  
Chairman,  
Subcommittee on Resource Protection,  
Committee on Environment and Public Works,  
Room 4204,  
Dirksen Office Building,  
Washington, D.C.

Dear Chairman Culver,

I understand that your Committee will be holding a public hearing on 30 June on the Chafee Bill on international wildlife resources conservation.

2. Your Committee may be aware that in response to the public hearing regarding control of the importing into, and the exporting from, the United States of America of elephants and elephant products held by the Committee on Merchant Marine and Fisheries in late July last year, the Hong Kong Government made a submission to the Department of State in the form of a diplomatic note from the Embassy setting out in full detail its position regarding trade in African ivory and its certification control system applicable to exports of ivory products from Hong Kong. The views of the Hong Kong Government remain as stated in the submission. For your Committee's easy reference, a copy of the submission is enclosed.

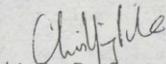
3. I should like to draw particular attention to some of the points the submission makes. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (the Washington Convention), to which the United States of America and Hong Kong (through the extension of the ratification by the United Kingdom to Hong Kong) are contracting parties, does not prohibit trade in products of African elephants but provides for such trade so long as it is conducted in a way that is not detrimental to the survival of the species. The Hong Kong Government remains of the view that a ban on the trade is inconsistent with the spirit of the Washington Convention. Since there are legitimate sources of supply of tusks from natural deaths and controlled killings, it is both unreasonable and unnecessary to ban indiscriminately trade in ivory products regardless of whether or not such trade is detrimental to the survival of the animal.

The Hong Kong Government maintains that conservation can best be achieved by maintaining a market for ivory products into

which exporting countries without adequate conservation programmes are denied entry, while permitting the trade in legally-obtained ivory to continue. Any attempt to encourage and assist exporting countries to establish and maintain institutions, system and procedures to insure proper conservation and utilization of international wildlife resources should be welcome. However it must be emphasized in this connection that any over burdensome systems and procedures might become a trade barrier with the effect of suffocating the trade. In designing such systems and procedures, consideration must be given to the commercial viability aspects of them.

5. Insofar as Hong Kong is concerned, the Hong Kong Government considers that it has already established an effective mechanism to regulate and administer the handling in commerce of elephant products to ensure that they can be traced as having originated from nations which are contracting parties to the Washington Convention and as having been legally imported into Hong Kong and exported into the United States of America. This is evidenced by the fact that since the inception of the certification control arrangements by Hong Kong, none of the manufactured ivory products covered by certificates issued by the Trade Industry and Customs Department of the Hong Kong Government has ever been refused entry by the Government of the United States of America. While the Hong Kong Government appreciates the need for conservation of African elephants, it feels that the existing import regulations of the United States of America are adequate for such purpose.

Yours sincerely,



Mr. R. B. Crowson,  
Counsellor for Hong Kong Commercial Affairs.

Enclosure: 1

Note No. 135

The British Embassy present their compliments to the Department of State and have the honour, on behalf of the Hong Kong Government, to refer to the public hearing regarding control of the importing into, and the exporting from, the United States of America of elephants and elephant products, to be held on 25 and 26 July 1979 by The Committee on Merchant Marine and Fisheries.

The Hong Kong Government understands that the hearing is primarily held for the Bill introduced by Congressmen John Murphy and John Breaux which, if enacted, would ban the import of all elephants and elephant products into the United States of America for an initial period of six months. After the six-month period, imports would be allowed only if the Secretary of the Interior is satisfied that the nations of origin have established a sound management programme for elephant conservation.

The Hong Kong Government wishes to offer the following comments on the matter.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (hereinafter referred to as the "Washington Convention"), to which the United States of America and Hong Kong (through the extension of the ratification by the United Kingdom to Hong Kong) are contracting parties, does not prohibit trade in products of African elephants but provides for such trade so long as it is covered by appropriate export

permits issued by the exporting country's authorities who must ensure that such exports are not detrimental to the survival of the species. A total ban is, in the opinion of the Hong Kong Government, inconsistent with the spirit of the Washington Convention.

The Hong Kong Government wishes to reiterate its views expressed in its Note No. 65 of 20 March 1978 to the Department of State that there are legitimate sources of supply of unworked ivory, obtained from natural deaths and controlled killings, which can be fruitfully utilised. It is therefore both unreasonable and unnecessary to ban indiscriminately all imports of ivory products regardless of whether or not such imports are detrimental to the survival of African elephants. The Hong Kong Government considers that the conservation of African Elephants can best be achieved by the United States of America by maintaining a market for ivory products into which exporting countries without adequate conservation programmes are denied entry, while permitting the trade in legally-obtained ivory to continue.

The Hong Kong Government considers that the Hong Kong ivory carving industry would suffer greatly if the imports of ivory products into the United States of America were to be banned for six months. The ivory trade in Hong Kong provides employment to about 3,000 workers. As the United States of America is Hong Kong's largest overseas market, taking about thirty percent of Hong Kong's total domestic exports of ivory products of about U.S. dollars 29 million in 1978, a disruption

of exports to the United States of America will seriously affect the livelihood of these workers and their families.

In respect of exports of African ivory products to the United States of America, Hong Kong has implemented since 6 July 1978 special certification control arrangements which are consistent with both the provisions of the Washington Convention and the import regulations of the United States of America introduced on 11 June 1978.

Under the Animals and Plants (Protection of Endangered Species) Ordinance, Cap. 187 of the Laws of Hong Kong, the import of unworked Asian elephant ivory is totally banned, whereas the import and export of unworked African elephant ivory is subject to mandatory licensing. The issue of import licences requires that the importer submits and surrenders, at the time of import, a valid original export document conforming to the Washington Convention provisions issued by the Government of the exporting countries. All imports and exports of unworked African elephant ivory are inspected by the Enforcement Officers of the Agriculture and Fisheries Department of the Hong Kong Government.

The certification control arrangements implemented by the Trade Industry and Customs Department of the Hong Kong Government have been designed specifically to comply with the import regulations introduced by the Government of the United States of America on 11 June 1978 in respect of ivoryware imports. The arrangements require that manufacturers must lodge an undertaking with the Department to export to the United

States of America only ivoryware made of African ivory originating in a Convention country, imports of which must be substantiated by proper documents such as export permits issued by the source country. All certificates issued under the arrangements bear an endorsement stating, among other things, the source country of the ivory used. These manufacturers must also keep detailed and up-to-date records of intake/consumption of ivory originating from African Convention countries as well as records of production/sale of the ivoryware made of such ivory. Registered factories under the arrangements are subject to regular inspection and consignments are physically examined at random. No certificates will be issued to companies which are not registered under the arrangements.

The Hong Kong Government considers that it has already established a mechanism to regulate and administer the handling in commerce of elephant products to ensure that they can be traced as having originated from nations which are parties to the Washington Convention and having been legally imported and exported to the United States of America. This is evidenced by the fact that since the inception of the certification control arrangements, none of the manufactured ivory products covered by certificates issued by the Trade Industry and Customs Department of the Hong Kong Government has ever been refused entry by the Government of the United States of America. During a visit to Hong Kong in September 1978, an official of the U.S. Fish and Wildlife Service also expressed his satisfaction with the integrity of the certification control arrangements operated by the Hong Kong Government.

The Hong Kong Government appreciates the need for the conservation of African elephants but feels that the existing import regulations of the United States of America are adequate for such purpose. It is also considered that the size of the elephant population is not only affected by natural death and commercial exploitation but also limited by the economic use of space. The loss of commercial value of the tusks may lead to indiscriminate killing of the elephants. A total ban of import of all ivory products is not warranted. The consequences of such a ban will seriously affect the Hong Kong ivory carving industry, but does not necessarily preserve the survival of the African elephants.

The Embassy avail themselves of this opportunity to rewev to the Department of State the assurance of their highest consideration.

BRITISH EMBASSY  
WASHINGTON  
20 July 1979



c.c. D.T.I.C.  
Dr. Martin Howell, House Merchant Marine and Fisheries Committee  
Mr. Joe Borich, Hong Kong Desk, Dept. of State

May 28, 1980

29900 Highway 20  
Fort Bragg, California 95437Senator John C. Culver, Chair  
Subcommittee on Resource Protection  
U.S. Senate  
Washington, D.C. 20510For the Subcommittee RecordRE: H.R. 4685 and Amendment No. 1680 - Elephant Protection Legislation.

Dear Mr. Culver and members of the Resource Protection Subcommittee:

I would very much appreciate your including these comments as part of the subcommittee record on H.R. 4685 and Amendment No. 1680 to protect elephants and to provide assistance to other nations in protecting wildlife.

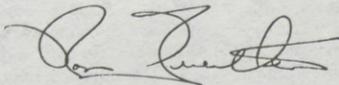
I would simply like to add my voice to those favoring the passage of this important legislation.

Because we value the protection of other life forms throughout the planet, I believe it very important to recognize that other nations are seeking leadership from the U.S., and are in need of assistance in protecting their wildlife.

Accordingly, I urge passage of H.R. 4685 in the U.S. Senate with all of its provisions for elephant protection intact.

Additionally, Amendment No. 1680 would enable other nations to realistically protect elephants from poachers and smugglers, and should be considered as an essential part of H.R. 4685 in the U.S. Senate.

Thank you for your consideration.



Ron Guenther



*The National Antique & Art Dealers Association of America, Inc.*

59 EAST 57TH STREET, NEW YORK, N.Y. 10022 • TELEPHONE (212) 355-0636

April 21, 1980

Representative Lindy Boggs  
1524 LHOB  
U. S. House of Representatives  
Washington, D. C. 20515

Dear Representative Boggs:

We were in correspondance some years ago regarding your recommended amendment to the Endangered Species Act of 1973. We supported your bill H. R. 4658 which we understand has now been incorporated in a weaker form under Public Law 95-632 on November 10, 1978.

H. R. 4685, A Bill to Protect the African Elephant, has recently come to our attention and we find there is no proviso for allowing works of art into this country, or, for that matter, allowing them in interstate commerce. My Association has prepared the attached statement with a recommended amendment to the bill and we would very much appreciate anything that your office might be able to do to assist us. Under separate cover I am writing to Mr. Schoonmacher in your office, who was kind enough to send us Public Law 95-632.

We very much appreciate your interest in the art world and thank you for your kind help.

Sincerely yours,

Gerald G. Stiebel

GGS/fth  
Enclosure



*The National Antique & Art Dealers Association of America, Inc.*

59 EAST 57TH STREET, NEW YORK, N.Y. 10022 • TELEPHONE (212) 355-0636

STATEMENT OF THE NATIONAL ANTIQUE &  
ART DEALERS ASSOCIATION OF AMERICA

RE: A Bill to Provide for the Control of the Importing Into, and Exporting  
From, the United States of Elephants and Elephant Products (H. R. 4685)

As art and antique dealers the members of NAADA strongly believe in the protection of endangered species. Why? Because great works of art fall easily into that category. The art dealer and museum curator try to preserve the artistic creations of recent times which do not have the psychological protection of being old or antique i. e. Radio City Music Hall, a monument to the American Art Deco style. Then when a work of art is old enough to be revered for its age as well as its artistic accomplishment, it must undergo continuous conservation so that it will not disintegrate.

We understand the reasons for discouraging the use of ivory in the future, but find it totally unreasonable to discriminate against what was created in the past. Such broad prohibitions as are now contained in H. R. 4685 can have no impact on any current preservation of the elephant as an endangered species.

Ivory has a long history of free export from Africa, and until World War II prizes were awarded in Belgium for the finest works of art made out of ivory to encourage its use by artists. Germany boasts a museum devoted solely to works of art created out of ivory over the ages - Deutschen Elfenbeinmuseum Erbach/Odenwald.

A ban on the material as proposed in this bill, without reference to when the ivory was worked, would deprive this country of major artistic expressions in many categories. One example is the hand mirror by the renowned French sculptor Auguste Rodin (1840-1917) recently purchased on the London art market by the Cleveland Museum of Art. This object is of such importance that it is illustrated on the cover of the Museum's November 1979 Bulletin. Its handle is made of ivory. The greatest cabinetmaker of France in the twentieth century, Jacques-Emile Ruhlmann (1878-1933) made much use of ivory in his furniture. His most prestigious commission, an ivory-decorated desk made in 1919 for David David-Weill, the President of the Museums of France, was purchased by the Metropolitan Museum of Art on the Paris art market seven years ago. It is not possible to enumerate the significant examples of Oriental and Western art created in ivory since ancient times, but it should be noted that the few remaining religious carvings in ivory of medieval France, VIII-XIV centuries, are the subject of particular competition, as no museum can illustrate the history of western civilization without them.

These great works of art predate the very concept of elephants as an endangered species. It is obviously not in the interest of the American public nor of future generations to deprive them of the culture of the past.

It has come to our attention that the Endangered Species Act of 1973 was amended on November 10, 1978 (Public Law 95-632) so that "Certain Antique Articles...made before 1830" could be imported. This was a direct result of

Representative Lindy Boggs' Bill H. R. 4658 (March 8, 1977) which attempted to amend the Endangered Species Act to allow the import of art "if eligible for classification under Item 766.20 or 766.25 of the Tariff Schedule of the United States (19 U. S. C. 1202) as an antique made one hundred years before the entry of the article." Eighteen-thirty was the original date enacted for an antique in 1930. Later the regulations were amended to one hundred years old. Canada, of course, defines "Antique", for Customs purposes, as fifty years old. This 50 year date would correspond with the last great efforts to use Ivory as an integral part of works of art.

Therefore, we would recommend that the Exclusions Section of the proposed bill, Section 13, be amended to add a new Section 13(c) and the present Section 13(c) be made Section 13(d).

"Sec. 13(c). This Act shall not apply to any elephant product that has been incorporated into, made part of, or which itself has been worked upon or fashioned in some manner to constitute, an object different from the product in its natural state and which such incorporation, making, working or fashioning was completed not less than fifty years prior to the date of enactment of this Act."

April, 1980



## FINDINGS AND POLICY

1

2       SEC. 2. (a) The Congress finds and declares that there  
3 has been a drastic decline in the population of elephants in  
4 some countries in East Africa, that there has been a gradual  
5 and steady decline in the population of elephants throughout  
6 many of the African countries, and that one of the causes for  
7 this decline is the illegal killing of elephants for their ivory  
8 tusks.

9

(b) It is the policy of the United States—

10

(1) to actively pursue through international initia-  
11 tives the establishment of effective controls on the in-  
12 ternational trade in elephant products such as ivory;

13

(2) to provide all appropriate forms of aid to na-  
14 tions acting to prevent the destruction of elephant  
15 habitats and the exploitation of elephant populations;  
16 and

17

(3) to develop effective programs to conserve  
18 elephants.

19

## DEFINITIONS

20

SEC. 3. For purposes of this Act—

21

(1) the term “elephant” means a member of the  
22 species *Loxodonta africana*, the African elephant;

23

(2) the term “elephant product” means any part  
24 of an elephant or any product derived in whole or in  
25 part from an elephant;



1 (B) during the period of ninety days begin-  
2 ning on the date of the enactment of this Act,  
3 worked ivory may be imported into the United  
4 States if such ivory is imported with no intention  
5 of being sold in the United States;

6 (2) transport in interstate commerce any elephant  
7 or elephant product which was imported into the  
8 United States in violation of paragraph (1) of this  
9 section;

10 (3) sell, receive, acquire, or purchase any elephant  
11 or elephant product which was imported into or  
12 exported from the United States in violation of para-  
13 graph (1) of this section and which has moved in inter-  
14 state commerce; or

15 (4) attempt to commit, solicit another person to  
16 commit, or cause to be committed any act prohibited  
17 by this section.

18 PROHIBITED ACTS AFTER THE INITIAL SIX-MONTH

19 PERIOD

20 SEC. 5. (a) Beginning on the date occurring six months  
21 after the date of the enactment of this Act, no person may—

22 (1) import into or export from the United States  
23 any elephant or elephant product unless such person  
24 obtains a permit under section 6 allowing such import  
25 or export;



## 6

1 (A) provides for monitoring and managing  
2 such pressures on elephant populations as habitat  
3 loss, poaching, natural mortality, sport hunting,  
4 and culling or other deliberate population  
5 regulation;

6 (B) provides for adequate enforcement of do-  
7 mestic and applicable international laws and regu-  
8 lations concerning elephant conservation;

9 (C) provides that the export of any elephant  
10 or elephant product from such nation will not be  
11 detrimental to the maintenance of a stable or in-  
12 creasing elephant population in such nation; and

13 (D) provides that any living elephant im-  
14 ported or exported will be prepared and shipped  
15 so as to minimize the risk of injury or damage to  
16 health and will not be cruelly treated;

17 (2) the nation in which the elephant or elephant  
18 product originates has established a mechanism to reg-  
19 ulate and administer the handling in commerce of ele-  
20 phants and elephant products, which includes sufficient  
21 recordkeeping and marking requirements to assure that  
22 legal and illegal traffic in such products can be traced  
23 and accounted for;

24 (3) the elephant or elephant product is acquired  
25 and transported in compliance with any laws of the

1 nation in which the elephant or elephant product  
2 originates;

3 (4) the importing or exporting of the elephant or  
4 elephant product will not be detrimental to the survival  
5 of the species imported or exported; and

6 (5) such permit is applied for in good faith.

7 (b) If any elephant or elephant product is imported into  
8 the United States from a nation other than the nation in  
9 which the elephant or elephant product originates, the Secre-  
10 tary is required to grant a permit allowing the importing of  
11 such elephant or elephant product if, in addition to subsection  
12 (a), the Secretary finds, after consultation with the Secretary  
13 of State, that—

14 (1) the nation exporting the elephant or elephant  
15 product to the United States has established a mecha-  
16 nism to regulate and administer the handling in com-  
17 merce of elephants or elephant products which includes  
18 sufficient recordkeeping and making requirements to  
19 ensure that the nation in which such elephant or ele-  
20 phant product originates can be accurately determined  
21 and that such elephant or elephant product has not  
22 been mingled with any elephant or elephants products  
23 originating in nations for which the Secretary has not  
24 made the findings specified in subsection (a);



1 ment of this Act which includes any rule or regulation  
2 promulgated by the Secretary under this Act and any proce-  
3 dures established by the Secretary for the granting of permits  
4 under section 6.

5

## CIVIL PENALTIES

6 SEC. 8. (a)(1) A civil penalty of not more than \$10,000  
7 for each violation may be assessed by the Secretary against  
8 any person who knowingly violates this Act (or any rule or  
9 regulation promulgated under this Act) and against any  
10 person engaged in business as an importer or exporter of  
11 wildlife or wildlife products who violates this Act (or any rule  
12 or regulation promulgated under this Act).

13 (2) A civil penalty of not more than \$5,000 for each  
14 violation may be assessed by the Secretary against any  
15 person who otherwise violates this Act (or any rule or regula-  
16 tion promulgated under this Act).

17 (b) Any person against whom a civil penalty is assessed  
18 under this section may not import into or export from the  
19 United States any elephant or elephant product for a period  
20 of one year beginning on the date the first such penalty is  
21 assessed against such person and for a period of two years  
22 beginning on the date any subsequent penalty is assessed  
23 against such person.

24 (c) No civil penalty may be assessed under this section  
25 unless notice is given and an opportunity for a hearing with

1 respect to such violation is given. Hearings held for the as-  
2 sessment of civil penalties shall be conducted in accordance  
3 with section 554 of title 5, United States Code. The Secre-  
4 tary may issue subpoenas for the attendance and testimony of  
5 witnesses and the production of relevant papers, books, and  
6 documents, and may administer oaths to witnesses. Wit-  
7 nesses summoned shall be paid the same fees and mileage  
8 that are paid to witnesses in the courts of the United States.  
9 In the case of contumacy or refusal to obey a subpoena served  
10 upon any person pursuant to this paragraph, the district court  
11 of the United States for any district in which such person is  
12 found, resides, or transacts business (upon application by the  
13 United States and after notice to such person) shall have ju-  
14 risdiction to issue an order requiring such person to appear  
15 and give testimony before the Secretary or to appear and  
16 produce documents before the Secretary, or both, and any  
17 failure to obey such order may be punished by such court as a  
18 contempt thereof.

19 (d) Any civil penalty assessed under this section may be  
20 remitted or mitigated by the Secretary. Upon the failure of  
21 any person to pay a civil penalty assessed under this section,  
22 the Secretary may request the Attorney General to institute  
23 a civil action to collect such penalty in a district court of the  
24 United States for any district in which such person is found,  
25 resides, or transacts business, and such court shall have juris-

1 diction to hear and decide any such action. Any court in de-  
2 ciding such action shall only consider the record made in the  
3 hearing before the Secretary and shall sustain the action of  
4 the Secretary if it is supported by substantial evidence on the  
5 record.

6 CRIMINAL PENALTIES

7 SEC. 9. (a)(1) Any person who knowingly violates this  
8 Act (or any rule or regulation promulgated under this Act)  
9 shall, upon conviction, be fined not more than \$20,000 or  
10 imprisoned for not more than one year, or both. Each viola-  
11 tion shall be a separate offense.

12 (2) In the case of the second and any subsequent crimi-  
13 nal conviction for a violation of this Act, the person convicted  
14 shall be fined not more than \$30,000 or imprisoned for not  
15 more than two years, or both.

16 (b) Any person who is convicted under this section may  
17 not import into or export from the United States any ele-  
18 phant or elephant product for a period of one year beginning  
19 on the date the first such conviction of such person and for a  
20 period of two years beginning on the date of any subsequent  
21 conviction of such persons.

22 FORFEITURE TO THE UNITED STATES

23 SEC. 10. (a) Any elephant or elephant product which is  
24 imported, exported, transported, sold, received, acquired, or  
25 purchased in violation of this Act (or any rule or regulation

1 promulgated under this Act) and any vessel, vehicle, aircraft,  
2 or other equipment which is used to aid in the importing,  
3 exporting, transporting, selling, receiving, acquiring, or pur-  
4 chasing of an elephant or elephant product in violation of this  
5 Act (or any rule or regulation promulgated under this Act)  
6 shall be seized and held by the United States pending disposi-  
7 tion of civil or criminal proceedings or the institution of an  
8 action in rem for the forfeiture of such item and may be sub-  
9 ject to forfeiture.

10 (b) All applicable provisions of law which are not incon-  
11 sistent with this Act and which relate to (1) the seizure, for-  
12 feiture, and condemnation of a vessel for violation of the cus-  
13 toms laws, (2) the disposition of such vessel or the proceeds  
14 from the sale of the vessel, or (3) the remission or mitigation  
15 of such forfeiture, shall apply to any seizures or forfeitures  
16 under this Act, except that all powers, rights, and duties con-  
17 ferred or imposed by the customs laws upon any officer or  
18 employee of the Treasury Department may, for the purposes  
19 of this Act, also be exercised or performed by the Secretary  
20 or by such person as the Secretary may designate.

21

## ENFORCEMENT

22 SEC. 11. (a) The Secretary, the Secretary of the Treas-  
23 ury, and the Secretary of Transportation shall enforce this  
24 Act and all rules and regulations promulgated under this Act.  
25 Any Federal or State agency shall provide to the Secretary,

1 with or without reimbursement, any personnel, services, or  
2 facilities requested by the Secretary to assist in enforcing this  
3 Act.

4 (b)(1) Any person authorized by the Secretary to enforce  
5 this Act may—

6 (A) in coordination with the Secretary of the  
7 Treasury, detain for inspection and inspect any pack-  
8 age, crate, or other container (including its contents  
9 and all accompanying documents) imported into or ex-  
10 ported from the United States;

11 (B) execute and serve for the enforcement of this  
12 Act any arrest warrant, search warrant, or other war-  
13 rant or civil or criminal process issued by any officer or  
14 court of competent jurisdiction;

15 (C) search or seize, with or without a warrant, as  
16 authorized by law; and

17 (D) make arrests for any violation of this Act  
18 without a warrant if the person has reasonable grounds  
19 to believe that the person to be arrested is committing  
20 the violation in the presence or view of such person.

21 (2) Any item seized and held pursuant to section 10(a)  
22 and any elephant or elephant product seized under this sub-  
23 section shall be held by a person authorized by the Secretary  
24 to hold such item, elephant, or elephant product pending dis-  
25 position of civil or criminal proceedings, or the institution of

1 an action in rem for the forfeiture of such item, elephant, or  
2 elephant product, except that the Secretary may (in lieu of  
3 holding such item, elephant, or elephant product) permit the  
4 owner or a consignee to post a bond or other surety satisfac-  
5 tory to the Secretary.

6 (c) The several district courts of the United States (in-  
7 cluding the courts enumerated in section 460 of title 28,  
8 United States Code) shall have jurisdiction over any actions  
9 arising under this section. For the purpose of this Act,  
10 American Samoa shall be included within the judicial district  
11 of the District Court of the United States for the District of  
12 Hawaii. The judges of the district courts of the United States  
13 and the United States magistrates may, within their respec-  
14 tive jurisdictions upon proper oath or affirmation showing  
15 probable cause, issue such warrants or other process as may  
16 be required for the enforcement of this Act and any rules and  
17 regulations promulgated under this Act.

18 (d)(1) Upon the recommendation of the Secretary, the  
19 Secretary of the Treasury shall pay either \$5,000, or one-  
20 half of any penalty, fine, or assessment paid pursuant to a  
21 judgment finding a criminal conviction under section 9 or a  
22 civil violation under section 8, whichever is less, to any  
23 person who furnishes information which leads to such  
24 judgment.

1       (2) Any officer or employee of the United States, or of  
2 any State or local government, who furnishes information or  
3 renders services in the performance of his official duties, is  
4 ineligible for payment under this subsection.

5       (e) To promote the effective enforcement of this Act,  
6 any elephant product permitted under section 6 to be im-  
7 ported into or exported from the United States shall be im-  
8 ported or exported through either the Port of New York or  
9 the Port of Seattle, Washington.

10

## ADMINISTRATION

11       SEC. 12. The Secretary is authorized to promulgate  
12 such rules and regulations as may be appropriate to enforce  
13 this Act, and may charge such reasonable fees, as the Secre-  
14 tary may determine, to compensate the United States for any  
15 expenses incurred by the United States in connection with  
16 any permits granted under this Act (including expenses of  
17 processing applications and making inspections) and any ex-  
18 penses incurred by the United States in the transfer, board-  
19 ing, handling, or storage of any item, elephant, or elephant  
20 product seized or forfeited under this Act. All fees collected  
21 under this section shall be deposited in the Treasury of the  
22 United States and shall be credited to the account which is  
23 charged for the cost of such expenses.

## 1 EXCLUSIONS

2 SEC. 13. (a) This Act shall not apply to any elephant  
3 which is imported into or exported from the United States for  
4 zoological, educational, scientific, or exhibitional purposes, as  
5 determined by the Secretary.

6 (b) This Act shall not apply to any elephant product  
7 which is included in a keyboard which is part of, or made for,  
8 a musical instrument.

9 (c) Except for acts prohibited pursuant to section 4  
10 during the period of six months beginning on the date of the  
11 enactment of this Act, this Act shall not apply to any ele-  
12 phant product which the Secretary determines—

13 (1) was taken by a person who is a sports hunter  
14 and was imported into or exported from the United  
15 States by such sports hunter; and

16 (2) was taken and transported in compliance with  
17 the laws of the nation in which the elephant from  
18 which such elephant product originates was taken.

## 19 COORDINATION WITH OTHER LAWS

20 SEC. 14. This Act supersedes, with respect to their ap-  
21 plication to elephants and elephant products, section 4(d) of  
22 the Endangered Species Act of 1973 (16 U.S.C. 1533(d)),  
23 any regulation issued under such section, and any law of any  
24 State which the Secretary determines conflicts with this Act.

## 1           INTERNATIONAL ASSISTANCE PROGRAM

2           SEC. 15. The Secretary of State shall establish a pro-  
3 gram to assist any nation—

4           (1) in protecting the habitat for elephants in such  
5 nation;

6           (2) in conserving elephants living in such nation;  
7 and

8           (3) in developing and implementing a management  
9 program for elephant conservation in such nation  
10 which will provide for the factors specified in section  
11 6(a)(1).

## 12           AUTHORIZATION OF APPROPRIATIONS

13           SEC. 16. There is authorized to be appropriated to carry  
14 out this Act—

15           (1) the sum of \$1,500,000 to the Secretary and  
16 the sum of \$2,000,000 to the Secretary of State for  
17 the fiscal year ending on September 30, 1980; and

18           (2) the sum of \$2,500,000 to the Secretary and  
19 the sum of \$5,000,000 to the Secretary of State for

- 1 each of the fiscal years ending on September 30, 1981,
- 2 September 30, 1982, and September 30, 1983.

Passed the House of Representatives December 19,  
1979.

Attest: EDMUND L. HENSHAW, JR.,  
*Clerk.*

By BENJAMIN J. GUTHRIE,  
*Assistant to the Clerk.*

AMENDMENT NO. 1680

Purpose: .....  
.....

IN THE SENATE OF THE UNITED STATES—96th Cong., 2d Sess.

**H.R. 4685**

To provide for the control of the importing into and the exporting from the United States of elephant and elephant products and to provide for other purposes.

March 5 (legislative day, January 3), 1980

Referred to the Committee on Finance and ordered to be printed  
AMENDMENT intended to be proposed by Mr. CHAFEE (for himself and Mr. CULVER)

Viz: At the end thereof add the following new title II

1 TITLE II

2 SEC. 201. This title may be cited as the "International  
3 Wildlife Resources Conservation Act of 1980".

4 FINDINGS, PURPOSES, AND POLICY

5 SEC. 202. (a) FINDINGS.—The Congress hereby finds  
6 and declares that—

7 (1) the political, economic, and social stability of  
8 the world is dependent to a great extent upon the  
9 degree to which the rising expectations of the global  
10 human populations are met;

1           (2) realization of these expectations is dependent,  
2           in part, upon the wisdom and expertise applied to the  
3           development of the world's natural resources;

4           (3) wild flora, fauna, and the habitats upon which  
5           they depend represent renewable, living natural re-  
6           sources of inestimable scientific, economic, agricultural,  
7           medical, silvacultural, horticultural, ecological, educa-  
8           tional, historical, cultural, recreational, and esthetic  
9           value which, if conserved and utilized in an ecological-  
10          ly sound manner, are inexhaustible;

11          (4) many developing nations are aware of these  
12          values and are seeking assistance in formulating the  
13          capabilities needed to properly integrate conservation  
14          of their wildlife resources with their social, economic,  
15          and agricultural development;

16          (5) the United States is among the most advanced  
17          nations in the world in the conservation of wildlife re-  
18          sources; and

19          (6) sharing of this expertise with other nations or  
20          organizations thereby helping them establish and main-  
21          tain ecologically responsible and sustainable wildlife re-  
22          source conservation and development programs, is in  
23          the best interests of the United States, other nations,  
24          and mankind.

1 (b) PURPOSES.—The purposes of this Act are to pro-  
2 vide means to enable specialized agencies of the United  
3 States Government, such as the United States Fish and  
4 Wildlife Service, to (1) encourage other governments and in-  
5 ternational organizations to establish and maintain institu-  
6 tions, systems, and procedures to insure proper conservation  
7 and utilization of wildlife resources; (2) facilitate the world-  
8 wide sharing of wildlife resource conservation capability; (3)  
9 provide for the education or training of foreign nationals in  
10 the conservation or administration of wildlife resources; (4)  
11 improve the United States Government's level of knowledge  
12 concerning the conservation status of wildlife resources  
13 throughout the world thereby providing for use in United  
14 States actions within foreign nations, reliable information  
15 upon which to base decisions concerning sound enhancement  
16 of utilization of their wildlife resources; and (5) provide for  
17 the proper coordination of activities carried out pursuant to  
18 this Act.

19 (c) POLICY.—It is declared to be the policy of Congress  
20 that all Federal departments and agencies shall encourage as  
21 is practicable, wildlife resources worldwide in furtherance of  
22 the purposes of this Act.

23

## DEFINITIONS

24

SEC. 203. For the purposes of this Act—

1 (1) the term "conservation" shall include all activ-  
2 ities associated with ecologically sound scientific re-  
3 source management including, but not limited to, re-  
4 search, census, law enforcement, habitat acquisition  
5 and maintenance, propagation, and sustainable harvest.

6 (2) the term "international organization" means  
7 any organization whose reasons for being include, but  
8 are not necessarily limited to, the conservation of wild-  
9 life resources; whose membership is open to and is  
10 comprised of citizens of two or more nations and of  
11 which the United States Government or any depart-  
12 ment or agency thereof is a member.

13 (3) the term "wildlife resources" means any non-  
14 cultivated plants or nondomesticated animals, and the  
15 habitats upon which they depend, including wild varie-  
16 ties of cultivated plants or domesticated animals,  
17 except marine fish or marine crustaceans.

18 (4) the term "Secretary" means the Secretary of  
19 the Interior acting through the United States Fish and  
20 Wildlife Service.

21 INTERNATIONAL CONSERVATION CORPUS

22 SEC. 204. (a) The Secretary may, pursuant to the provi-  
23 sions of title 5 of the United States Code, but without regard  
24 to those provisions of that Code which govern appointments  
25 in competitive service, assign to the Department of the Inte-

1 rior employees of State or local governments, research insti-  
2 tutions, institutions of higher education, or nongovernmental  
3 conservation organizations who are competent in the conser-  
4 vation of wildlife resources. Such employees may—

5 (1) be appointed to the Department of the Inte-  
6 rior; or

7 (2) be deemed on detail to the Department of the  
8 Interior.

9 (b) On request from or with the concurrence of a foreign  
10 government or upon request from an international organiza-  
11 tion and with the concurrence of any appropriate foreign gov-  
12 ernment and after appropriate consultation with the Secre-  
13 tary of State, the Secretary may arrange for the assignment  
14 of any employee of the Department of the Interior, or any  
15 person appointed or detailed to the Department of the Interi-  
16 or pursuant to subsection (a) of this section, to a foreign gov-  
17 ernment, international organization, foreign research institu-  
18 tion, or institution of higher education, for work of mutual  
19 concern to the Department and the foreign government or  
20 international organization involved. The duration of assign-  
21 ments under this section shall be up to two years. However,  
22 the Secretary may extend the period of assignment for not  
23 more than two additional years.

1 (c) The Secretary may provide such other assistance as  
2 he deems advisable in support of projects undertaken pursu-  
3 ant to this section.

4 TRAINING OF FOREIGN NATIONALS

5 SEC. 205. After appropriate consultation with the Sec-  
6 retary of State, the Secretary may provide financial assist-  
7 ance for the training of foreign nationals in the field of wild-  
8 life conservation and administration. Such training may be  
9 conducted in the United States or elsewhere and may in-  
10 clude, but shall not be limited to—

11 (1) formal training conducted at or in cooperation  
12 with research institutions or institutions of higher edu-  
13 cation, particularly those institutions where fish or  
14 wildlife cooperative units are being operated;

15 (2) specific, problem-oriented training courses or  
16 programs conducted by or in cooperation with interna-  
17 tional, national, or local governmental or nongovern-  
18 mental wildlife resource conservation agencies or orga-  
19 nizations, research institutions or institutions of higher  
20 education; and

21 (3) on-the-job training provided by or in coopera-  
22 tion with international, national, or local governmental  
23 or nongovernmental wildlife resource conservation  
24 agencies or organizations, research institutions of  
25 higher education.

## 1 REGIONAL WILDLIFE RESOURCE ATTACHEES

2 SEC. 206. (a) After giving due consideration to ecologi-  
3 cal, commercial, political, and other relevant factors, the Sec-  
4 retary and the Secretary of State by mutual agreement are  
5 hereby authorized and directed to delineate globally up to ten  
6 geographic regions, to be known as regional wildlife resource  
7 conservation regions. From time to time, as changing condi-  
8 tions warrant, they may increase or otherwise alter the  
9 boundaries of any such wildlife resource conservation regions.

10 (b) The Secretary is authorized and directed, after con-  
11 sultation with the Secretary of State, to assign abroad per-  
12 sonnel qualified in the field of wildlife resource conservation  
13 who shall serve as regional wildlife resource attachees.  
14 Except in extraordinary circumstances there shall be no more  
15 than one such regional wildlife resource attachee assigned to  
16 a given wildlife resource conservation region.

17 (c) The functions of these wildlife resource attachees, as  
18 related to their assigned geographic region shall include, but  
19 not be limited to—

20 (1) establishment of effective liaison with interna-  
21 tional, national, and local governmental nongovernmen-  
22 tal agencies and organizations and persons involved in,  
23 or knowledgeable of, wildlife resource conservation;

24 (2) provision of expert wildlife resource staff as-  
25 sistance to United States embassies, United States

1 Agency of International Development offices, United  
2 States overseas military installation or other United  
3 States Government or private interests;

4 (3) acquisition and dissemination of reliable data  
5 or information concerning—

6 (A) the status of species of wild fauna and  
7 flora;

8 (B) statutes, orders, regulations, or other  
9 laws pertaining to the taking, collecting, import,  
10 export, and other aspects of the conservation of  
11 wildlife resources;

12 (C) the potential impact upon wildlife re-  
13 sources of actions authorized, funded or carried  
14 out by the United States; and

15 (D) opportunities to initiate or enhance the  
16 efficiency of wildlife resource conservation by the  
17 transfer of United States expertise through techni-  
18 cal assistance, training, exchange of publications  
19 or otherwise;

20 (4) liaison with persons responsible for implemen-  
21 tation of actions authorized, funded, or carried out by  
22 United States agencies or persons under the jurisdic-  
23 tion of the United States to provide information neces-  
24 sary for making sound conservation decisions;

1           (5) any other functions which may be relevant to  
2       United States obligations or authorities in the field of  
3       wildlife resource conservation and which are mutually  
4       acceptable to the Secretary of State and the Secretary.

5                       PROVISION FOR ALLOWANCES AND BENEFITS

6       SEC. 207. Persons who are employed by or assigned to  
7       executive agencies and who, pursuant to this Act, are sta-  
8       tioned outside the continental United States shall be entitled  
9       to such allowance, differentials, and other benefits as are pro-  
10      vided for in titles 5 and 22 of the United States Code.

11                      USE OF UNITED STATES OWNED EXCESS FOREIGN

12    CURRENCIES

13      SEC. 208. (1) The Secretary is authorized to provide  
14      from United States owned excess foreign currency wildlife  
15      resource conservation assistance (which may include, but is  
16      not limited to, the acquisition, by lease or otherwise, of lands,  
17      waters, or interests therein) to foreign countries under this  
18      section under such terms and conditions as he deems  
19      appropriate.

20      (2) As a demonstration of the United States to the  
21      worldwide conservation of wildlife resources, the Secretary  
22      may, subject to the provisions of section 1415 of the Supple-  
23      mental Appropriation Act, 1953 (31 U.S.C. 724), use foreign  
24      currencies accruing to the United States Government under  
25      the Agricultural Trade Development and Assistance Act of

1 1954 or any other law to provide to any foreign country  
2 (with its consent) assistance in the development and manage-  
3 ment of programs in the country which the Secretary deter-  
4 mines to be necessary or useful for the conservation of wild-  
5 life resources.

6 (3) Whenever foreign currencies are available for the  
7 provision of assistance under (1) and (2) of this section such  
8 currencies shall be used in preference to funds appropriated  
9 under the authority of this Act. However, any such foreign  
10 currencies shall be in addition to and not in lieu of any funds  
11 appropriated or otherwise made available to the Secretary for  
12 the purposes of implementing this Act.

13 ADVISORY COUNCIL ON INTERNATIONAL WILDLIFE

14 RESOURCE CONSERVATION POLICY

15 SEC. 209. (a)(1) There is hereby established the Adviso-  
16 ry Council on International Wildlife Resource Conservation  
17 Policy (hereinafter referred to as the "Council"), which shall  
18 be composed of the following members or their designees:

19 (A) the Secretary, whose representative shall  
20 serve as permanent chairman;

21 (B) the Secretary of State;

22 (C) the Secretary of Defense;

23 (D) the Secretary of Agriculture;

24 (E) the Secretary of Commerce;

1 (F) the Administrator of the Environmental Pro-  
2 tection Agency;

3 (G) the Chairman of the Council on Environmen-  
4 tal Quality;

5 (H) the Administrator of the Agency for Interna-  
6 tional Development; and

7 (I) the Director of the National Science  
8 Foundation.

9 (2) Two members, appointed by the Secretary, from  
10 among officers and employees of the State agencies having  
11 direct responsibility for management and preservation of fish  
12 and wildlife resources within the State;

13 (3) Two members, appointed by the Secretary, from  
14 among the public with interest or expertise in international  
15 living natural resource conservation; and

16 (4) The Secretary of the Smithsonian Institution is in-  
17 vited to appoint a member.

18 (b) To the maximum extent practicable the Secretary in  
19 appointing Council members under section 209(a)(2) and sec-  
20 tion 209(a)(3) and those members designated under section  
21 209(a)(1) in choosing their designees should endeavor to  
22 assure that such members are knowledgeable in the area of  
23 international wildlife conservation.

24 (c) The term of office of a member of the Council ap-  
25 pointed under subsection (a) of this section is two years and

1 an individual may be appointed under such paragraph for not  
2 more than two consecutive terms.

3 (d) Members of the Council who are not regular full-time  
4 employees of the United States, or of a State agency, while  
5 serving on the business of the Council, including traveltime,  
6 may receive compensation at rates not exceeding the daily  
7 rate of GS-18; and while so serving away from their homes  
8 or regular place of business, all members may be allowed  
9 travel expenses, including per diem in lieu of subsistence, as  
10 authorized by section 5703 of title 5, United States Code,  
11 for individuals in the Government service employed  
12 intermittently.

13 (e) The Council shall from time to time examine and  
14 report to the Senate Committee on Environment and Public  
15 Works and the Committee on Merchant Marine and Fisheries  
16 in the House of Representatives on activities carried out by  
17 the United States which may effect the attainment of the  
18 purposes of this Act.

19 (f) Not later than eighteen months after its establish-  
20 ment, the Council shall submit to the Environment and  
21 Public Works Committee in the Senate and the Committee  
22 on Merchant Marine and Fisheries in the House of Repre-  
23 sentatives a report which shall include its views and  
24 recommendations on—

1           (1) progress and problems encountered in imple-  
2           menting this Act;

3           (2) geographic areas outside the territorial limits  
4           of the United States, in which significant wildlife re-  
5           source conservation problems or opportunities exist and  
6           which should be given high priority;

7           (3) species, habitat, or other wildlife resource con-  
8           servation subject areas in which significant problems or  
9           opportunities exist and which should be given high  
10          priority;

11          (4) any measures the United States could take  
12          which would stimulate other nations to enhance the  
13          conservation of wildlife resources; and

14          (5) any additional authority or resources needed to  
15          more efficiently implement this Act or any recommen-  
16          dations submitted pursuant to this paragraph.

17          (g) The Council shall not be subject to the provisions of  
18          the Federal Advisory Committee Act (5 U.S.C. App.; 86  
19          Stat. 770). The Council may establish its own operating pro-  
20          cedures and shall meet from time to time; such meetings shall  
21          be open to the public and all reports and proceedings of the  
22          Council shall be available to the public. The Secretary is  
23          authorized to make available to the Council, on such basis as  
24          is deemed appropriate by the Secretary, such staff as may be

1 necessary to assist the Council in carrying out its  
2 responsibilities.

3 (h) In the discharge of its responsibilities, the Council  
4 shall, to the extent practicable, ascertain the views and uti-  
5 lize the expertise of the governmental and nongovernmental  
6 scientific communities, State agencies responsible for the  
7 conservation of wild fauna and flora, and others as appro-  
8 priate.

9

## REGULATIONS

10 SEC. 210. The Secretary is authorized to promulgate  
11 such regulations as may be appropriate to carry out the pro-  
12 visions of this Act.

13

## PROGRAM TO CONSERVE THE AFRICAN ELEPHANT

14 SEC. 211. In carrying out his responsibilities under this  
15 Act, and using other authorities available to him, the Secre-  
16 tary shall design a comprehensive program to conserve the  
17 African elephant (*loxodonta africana*). The program shall in-  
18 clude measures designed to—

19

(1) assist in monitoring and managing pressures  
20 on wild populations;

21

(2) enhance the enforcement of applicable domes-  
22 tic and international conservation laws;

23

(3) insure that the import of elephants or of prod-  
24 ucts derived from them are not detrimental to the wild  
25 populations; and

1           (4) insure that any living elephant imported will  
2 be prepared and shipped so as to minimize the risk of  
3 injury or damage to health and will not be cruelly  
4 treated.

5           AUTHORIZATION OF APPROPRIATIONS

6           SEC. 212. There is hereby authorized to be appropriated  
7 to the Department of the Interior to carry out the purposes of  
8 this Act—

9           (a) the sum of \$7,000,000 for the fiscal year be-  
10 ginning September 30, 1981, of which sum \$1,000,000  
11 shall be applied to programs under this Act regarding  
12 the African elephant and up to \$1,500,000 may be ap-  
13 plied to implementation of section 206 of this Act;

14           (b) the sum of \$7,000,000 for the fiscal year be-  
15 ginning September 30, 1982, of which sum \$1,000,000  
16 shall be applied to programs under this Act regarding  
17 the African elephant and up to \$1,500,000 may be ap-  
18 plied to implementation of section 206 of this Act; and

19           (c) the sum of \$7,000,000 for each of the fiscal  
20 years beginning September 30, 1983, and September  
21 30, 1984, of which sums not more than \$3,000,000  
22 may be utilized each year for implementation of section  
23 206.