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S. Hrg. 103–751

REAUTHORIZATION OF THE MARINE MAMMAL PROTECTION ACT

Y 4. C 73/7: S. HRG. 103-751

Reauthorization the Marine Mammal P...

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HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

JULY 28, 1993

Printed for the use of the Committee on Commerce, Science, and Transportation

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REAUTHORIZATION OF THE MARINE MAMMAL PROTECTION ACT

WEDNESDAY, July 28, 1993

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The committee met, pursuant to notice, at 1:05 p.m., in room SR–253 of the Russell Senate Office Building, Hon. John F. Kerry, presiding.

Staff members assigned to this hearing: Lila H. Helms and Penelope D. Dalton, professional staff members; and John A. Moran, minority staff counsel.

OPENING STATEMENT OF SENATOR KERRY

Senator KERRY. The hearing will come to order.

I apologize for being a moment behind here. This is the second hearing on issues that are to be addressed in the reauthorization of the Marine Mammal Protection Act, which is going to be introduced later this summer. At a hearing earlier this year, we discussed the reauthorization with respect to incidental takings, which is one of the two primary issues.

Today, we focus on the second primary issue, which is the question of public display and scientific research. This summer, millions of Americans have been entertained by a film called "Free Willy," which is about a troubled young boy who befriends a whale that is taken from its ocean habitat and put into an aquarium. The story has touched a great many people, because of the efforts of this child to try to find humane conditions for this whale and ultimately free him.

The people that have seen the movie have had a chance to do what many say the public display of marine mammals is supposed to do, which is bring people closer to an understanding of our relationship to them and an understanding of nature and ecosystems. On the other hand, it has also raised other questions that many have always raised about the habitat in which these mammals are kept, about the permitting process, about the conditions in which they live, and about the treatment which they are afforded.

I think today it will be interesting to hear from witnesses about the conditions depicted in that movie and to answer the questions of whether or not it is possible for marine mammals to be so treated here in aquariums in this country under our regulations, which we have in place in the United States.

I might add that the movie was not shot in the United States. It was shot in another country under conditions which our laws do

not allow. But, on the other hand, there are questions as to whether or not those laws are adhered to.

So, while we are pleased that the movie has really accomplished its goals and drawn attention to questions surrounding marine mammals, we must also understand the basis on which those questions arise. Clearly, the increasing popularity of dolphins and whales and seals and other marine mammals at zoos and aquariums, along with the advent of activities such as swimming with dolphins or other interactive efforts, have brought more and more Americans into contact with marine mammals.

While these activities have also done a great deal to foster public education and awareness and a greater respect for marine mammals, those activities also raise questions about treatment. And that is what this hearing is about. That is what the Marine Mammal Protection Act is about. And we will explore today where we should be proceeding.

The 1988 Marine Mammal Protection reauthorization did establish new criteria for the public display and for research use of marine mammals. The definitions relating to certain issues arising out of that regarding education versus research, certain kinds of facilities and other definitional problems have arisen. Some of them have become controversial. Today, we need to work out what the current perception of those regulations and changes are and where we ought to be going from here. Mr. Chairman, your comments, please.

OPENING STATEMENT OF SENATOR HOLLINGS

The CHAIRMAN. Today, we continue our consideration of issues associated with the reauthorization of the Marine Mammal Protection Act—MMPA. Whereas our first hearing addressed the incidental taking of marine mammals in the course of commercial fishing operations, this hearing will focus on the taking and importation of marine mammals for public display and scientific research.

As we all know, the MMPA was enacted in 1972 in response to increasing popular sentiment and growing concern for the welfare of marine mammals. A comprehensive Federal program to conserve marine mammals was established by the MMPA. The central feature of the Federal program is a moratorium on the taking of all marine mammals by persons subject to U.S. jurisdiction. The moratorium on the taking or importation of marine mammals may be waived under certain conditions through the issuance of a permit. A goal of the MMPA is to provide millions of Americans with the educational benefit of a public display facility and the benefits of scientific research, while maintaining the health and safety of marine mammals. Under the MMPA, the National Oceanic and Atmospheric Administration is responsible for issuing a permit for the taking or importing of a marine mammal for public display, scientific research, or enhancement of the survival or recovery of a species or stock.With respect to public display, it is common knowledge that marine mammals are popular attractions at zoos and aquariums across the Nation. However, there is considerable variation in the type of facility receiving a permit for public display. Among the factors that must be taken into account are the number and species of marine mammals displayed, training and handling

of animals in public, the size of the audience, the level of interaction with the public, and educational content. The largest facilities may hold some 50 marine mammals and may accommodate several million visitors annually, while the smallest facility may have 2 or 3 marine mammals which are often rehabilitated, beached, or stranded California sea lions.

With respect to scientific research, from 1973 through 1989, NOAA received 409 permit applications for scientific research that requested takings of almost 1 million animals. The permit program, however, has become increasingly complex and controversial.

Today, we will hear from officials at NOAA and the Marine Mammal Commission, as well as from representatives of the public display community and the animal preservation community on the current system for regulating public display and scientific research. I look forward to hearing the testimony.

Thank you, Mr. Chairman.

Senator KERRY. Thank you, Mr. Chairman. The witnesses are going to offer testimony and suggestions regarding these issues on public display and scientific research. And we have two strong panels to explore all sides of this issue. My hope is we will have a good dialog and from this hearing will come a good sense of where the committee needs to proceed as we move forward with the reauthorization in a few weeks.

Senator Inouye.

OPENING STATEMENT OF SENATOR INOUYE

Senator INOUYE. Thank you very much, Mr. Chairman.

I wish to commend you for calling this hearing. I wish I could stay here to listen to all the witnesses, but we have another matter before us at Appropriations. So, I will have to leave, sir.

But I am here to just say a few words. I believe that public display provides an important educational opportunity to inform the public about the significance of marine mammals and their role in the ocean ecosystem. In so doing, I would like to bring to the committee's attention two very successful programs that are now based in Hawaii, which I believe are model public display programs: Sea Life Park, Hawaii, located on the island of Oahu, and the Dolphin Quest Program located on the big island of Hawaii.

Both programs contribute greatly toward conserving the world's wildlife and educating the public. The marine mammal collection at Sea Life Park, Hawaii, includes false killer whales, Pacific and Atlantic bottle-nosed dolphins, sea lions, harbor seals, and the Hawaiian monk seal, which is an endangered species, found only in the Hawaiian Islands.

The park is a very popular spot for visitors and locals. Since the park opened in 1964, it has had a very steady growth in attendance. This year, we will have about 700,000 visitors there. Marine mammals have been the park's educational ambassadors. This year alone, the Sea Life Park will provide an organized educational program to over 40,000 Hawaii schoolchildren. This park incorporates marine mammals into its programs to develop public awareness on very important issues, such as the history of nature, marine mammal biology and behavior, and the impact of ocean pollution on marine mammals.

The second model program based in Hawaii is the Dolphin Quest Program. I am pleased, Mr. Chairman, to welcome today one of Dolphin Quest's founders, Dr. Rae Stone. Dr. Stone and her partner, Dr. Jay Sweeney, a veterinarian specializing in marine mammal care, who are recognized throughout the world as leaders in marine mammal medicine, research, and management.

The marine mammal specialists of Dolphin Quest have created a model habitat for bottle-nosed dolphins, where dolphins alternatively cavort in the shallows and dive together in the deep blue waters of their lagoon.

The Dolphin Quest Program provides people the opportunity to come face to face with one of our ocean's most amazing creatures. The program provides personal and interactive learning experiences to children and adults, which increase their knowledge about marine mammals, expand their understanding of the marine environment, and develop sensitivity to the conservation issues related to marine mammals.

The educational program for Hawaii's schoolchildren and summer youth groups brings children to the learning center to participate in full-day educational programs about whales and dolphins. Moneys that are generated from the Dolphin Quest Program is used to sponsor important marine mammal research and conservation projects through the nonprofit Marine Life Fund.

Among other worthy projects, this foundation has supported studies to help reduce the high mortality of dolphins in the purse seine fishery for tuna. While television, books, movies, and videos can provide factual information, they cannot match the emotional impact of seeing a live animal. The educational value of public display is specifically affirmed in the Act, and the Congress should continue to support the mission of the public display community within the guidelines of the act.

Mr. Chairman, on an unrelated matter, I request consent to include in the record testimony I received from a number of my constituents concerning the humpback whale in Hawaiian waters.

Senator KERRY. Without objection, so ordered.

[The information referred to may be found in the committee files.]

Senator INOUYE. Mr. Chairman, I thank you once again for calling this hearing and for providing me an opportunity to say a few words.

Senator KERRY. I thank the Senator from Hawaii, and appreciate his interest in this.

Let me ask if Doug Hall would come forward with Mr. Hofman at this point.

We are glad to have you back. Welcome. We look forward to your testimony.

STATEMENT OF DOUGLAS K. HALL, ASSISTANT SECRETARY OF COMMERCE FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION; ACCOMPANIED BY KEVIN COLLINS, GENERAL COUNSEL'S OFFICE

Mr. HALL. Mr. Chairman, members of the committee, I am Doug Hall, Assistant Secretary for Oceans and Atmosphere at the Na-

tional Oceanic and Atmospheric Administration in the Department of Commerce.

With me today I have Kevin Collins, who is with the NOAA General Counsel's Office, and has had much of the day-to-day experience on these regulations.

On July 14, this committee heard testimony from Dr. Nancy Foster, the Acting Assistant Administrator for Fisheries, concerning the various proposals for amendments to the Marine Mammal Protection Act to provide a program to govern interactions between marine mammals and commercial fisheries. Protecting marine mammals from incidental take in fisheries is only one purpose of the MMPA, and today our testimony addresses aspects of the act which provide for the issuance of permits for purposes of public display, scientific research, and enhancement.

During 1987 and 1988, it became increasingly clear to the National Marine Fisheries Service that a review was needed of all aspects of its Public Display and Scientific Research Permits Program. In addition, in 1988, Congress enacted amendments to the MMPA that affected these types of permits and raised several related issues. In March 1989, with the distribution of a discussion paper for public comment, the National Marine Fisheries Service formally initiated a comprehensive review of its program for issuance of permits for public display, scientific research, and enhancement purposes.

The National Marine Fisheries Service began this review for several reasons. In general, an indepth review of the permit program was necessary because of the many issues and questions arising from approximately 17 years of administration of the permit program. In addition, the review was needed to ensure effective implementation of the 1988 amendments to the Marine Mammal Protection Act that affected public display and scientific research permit provisions, and added a new category of permits for enhancing the survival or recovery of a species of stock.

The need for a comprehensive review was also reflected in several lawsuits against the National Oceanic and Atmospheric Administration and the National Marine Fisheries Service by both animal protection public interest groups and by permit applicants.

The objectives of the permit program were to clarify and confirm the policies that should govern the overall direction of the permit program, develop criteria and procedures that are clear, consistent and responsive to applicant and public concerns, determine what documentation is needed for all permits to satisfy the requirements of the National Environmental Policy Act, establish administrative procedures that result in a more streamlined and efficient process, and revise existing permit regulations in order to implement these improvements in the 1988 amendments to the MMPA.

Seven working sessions were held between October 1989 and January 1990. These working sessions provided an opportunity for permitholders and the scientific and public display communities, as well as interest groups and members of the public interested in protected species, to actively participate in permit program review discussions.

Representatives of the Marine Mammal Commission, the U.S. Fish and Wildlife Service, and the Animal and Plant Health In-

spection Service participated in the working sessions, submitted comments on the discussion paper, and were consulted concerning specific aspects of the permit program. The results of these working sessions, together with 312 letters received in response to the discussion paper, identified areas of the permit program in greatest need of revision. These revisions would require modification of existing permit regulations.

In considering these needed improvements and revisions, the National Marine Fisheries Service reexamined the Marine Mammal Protection Act and its legislative history to ensure that any proposed revisions would be consistent with its purposes, policies and provisions. As a result, the National Marine Fisheries Service has developed proposed revised permit regulations both to address directly the problems identified through litigation and to make permit-related matters less vulnerable to future litigation.

Other areas of the permit program identified during the review as needing improvement, included the National Marine Fisheries Service administrative tools and procedures, changes to which would not require revisions to the permit regulations such as the instructions to applicants, communication with applicants and data base management. Many improvements in these administrative areas have been implemented, and the National Marine Fisheries Service intends to make several more in conjunction with revisions to the permit regulations.

The proposed revised permit regulations have been forwarded to the Office of Management and Budget this week. And following the OMB's review, they will be published in the Federal Register for public comment. During the administrative review of the permit program, the National Marine Fisheries Service has heard regularly from representatives of the various groups and interests represented at this hearing today.

Because of their substantive participation in the permit program review and in many subsequent discussions, the National Marine Fisheries Service has a much better understanding of the extent of the many permit-related issues and problems encountered during the last 20 years by these groups. As a result, the National Marine Fisheries Service is confident that the permit-related issues and problems noted by these various groups are addressed comprehensively in the proposed revised permit regulations.

We look forward to the publication of these proposed revised permit regulations and the many comments we expect to receive from the regulated communities, interest groups, and the public.

These revised permit regulations address only those issues and problems that could be addressed within the scope and limitations of the current law. In preparing these proposed revisions, the National Marine Fisheries Service has encountered some issues that we believe can be addressed solely through changes to the law. And these include:

A permit or licensing mechanism to authorize limited types of take in the wild. For example, harassment, for educational purposes. An example of this would be documentary filming, whale-watching, and other similar activities conducted in the wild for educational purposes.

The National Marine Fisheries Service has concluded that the Marine Mammal Protection Act does not currently provide a mechanism for allowing the take of marine mammals in the wild for such educational purposes. We believe that such activity should be authorized under the Marine Mammal Protection Act, and the National Marine Fisheries Service recommends that the Marine Mammal Protection Act be amended accordingly.

The second change that we would suggest is the exchange of native art between the U.S. and foreign museums or other institutions open to the public, where such native art, in whole or in part, includes marine mammal parts subject to MMPA prohibitions. The MMPA does not include a specific provision for exempting art works and handicrafts containing marine mammal parts from the prohibition on importing such parts.

If such native art is not purchased or sold, the National Marine Fisheries Service believes that the Marine Mammal Protection Act should be amended to provide such a provision for the import and export of such native art—for example, worked marine mammal parts from a marine mammal taken legally—for the purpose of exhibit in a museum or other similar institution open to the public.

It is important to note that this change would not provide any commercial incentive for additional taking of marine mammal parts.

Similarly, the MMPA does not provide an efficient permit mechanism to authorize small levels of harassment incidental to other activities. The regulatory process of Section 101(a)(5) of the MMPA, which can be used for lethal as well as nonlethal incidental takings, is a lengthy procedure that precludes authorizing some activities with only minor impacts.

The fourth change we would propose is the exemption from the MMPA for animals already in captivity prior to the enactment of the MMPA. Although the exemption may be appropriate in the case of marine mammal parts or products, the National Marine Fisheries Service believes that it is time, more than 20 years after the enactment of the MMPA, to remove this exemption as it applies to living animals held captive for public display or scientific research purposes.

This exemption served its purpose during the initial period following enactment of MMPA. Marine mammals presently exempted from the provisions of the MMPA should be afforded the same protection under the MMPA as all other marine mammals. It is time to ensure that the provisions in the Marine Mammal Protection Act apply consistently to all marine mammals held for public display or scientific research purposes.

Thank you. That is the end of my prepared remarks. I would be glad to answer any questions that you may have.

Senator KERRY. Thank you very much.

We are joined by Senator Lott. I did not know if you had an opening statement.

OPENING STATEMENT OF SENATOR LOTT

Senator LOTT. Just briefly, Mr. Chairman, I want to thank the distinguished administration representatives here today. And I also welcome the panel that we will have following this panel. This is

a very important hearing, a lot of interest in it, and I am glad we are having it.

And I think that in authorizing the act in 1988, this committee recognized that the effective public display of marine mammals provides an opportunity to inform the public about the great aesthetic, recreational, and economic significance of marine mammals and their role in the marine ecosystem. So, I think it is important that during this reauthorization we continue to affirm the value placed on public display, which is very important for scientific research and also what it does in terms of education of the general public.

I do think we need to look for ways to streamline our permitting process, but at the same time make sure that we are providing the protections that are needed for these marine mammals. So, I look forward to hearing what the rest of the witnesses have to say today and I do have some questions that I will want to ask at the appropriate time, Mr. Chairman.

Senator KERRY. Thank you very much, Senator.

Dr. Hofman.

STATEMENT OF ROBERT J. HOFMAN, Ph.D., SCIENTIFIC PROGRAM DIRECTOR, MARINE MAMMAL COMMISSION; ACCOMPANIED BY MICHAEL GOSLINER

Dr. HOFMAN. Thank you Mr. Chairman, Mr. Lott. It is a pleasure to be here today. I am Robert Hofman, the Marine Mammal Commission Scientific Program Director. With me is Michael Gosliner, the Commission's General Counsel.

In my written statement I have described some of the relevant background and provided an overview of the problems associated with the permit system and what the Commission has done and believes might further be done to resolve those problems. As requested, I have focused on issues bearing upon scientific research.

The effective conservation of any wildlife is dependent in no small measure upon reliable information concerning the natural history, demography, dynamics, and ecology of the species. Congress recognized this and in the Marine Mammal Protection Act authorized the Secretaries of the Interior and Commerce to issue permits allowing the taking of any species of marine mammal, including those which are endangered and threatened, for purposes of scientific research.

In the last several years, scientists have complained that it takes longer and more information is required than should be necessary to obtain permits for research. They also have complained that permits often contain unnecessary and burdensome reporting requirements.

The Commission has undertaken a review to determine the causes of these problems and what can be done to overcome them. As part of the review, the Commission held a workshop last week involving representatives of the Commission, the Committee of Scientific Advisors, the Commission staff, the staff of the National Marine Fisheries Service and the Fish and Wildlife Service's permit offices, and scientists who have had problems with the permit system. The Commission plans to hold a followup workshop some time in late September.

As noted in the Commission's last annual report, it took an average of almost 6 months in 1992 for a permit application to be processed. It should not take any more than one-half that time. The long processing time seems attributable to a number of things. One was the 1992 moratorium on new regulations, which prevented the National Marine Fisheries Service from updating and revising its permit regulations.

A related problem is permit application instructions which fail to clearly indicate the determinations that must be made before permits can be issued, and the information that must be provided to allow those determinations to be made. This often results in applicants not providing sufficient information in their permit applications to make the required determinations and causes processing to be suspended while additional information is sought.

Also, it is not always clear that certain types of research will or will not result in taking marine mammals, and that a permit therefore is or is not necessary. For example, scientists conducting aerial surveys design and attempt to carry out the surveys to avoid harassing or otherwise taking marine mammals. However, they cannot always be certain that they will succeed. Consequently, they must obtain research permits to ensure that, should they inadvertently take a marine mammal, they have not violated the Marine Mammal Protection Act.

Another problem is that the act does not provide a mechanism for authorizing the possible harassment of marine mammals while taking still pictures, motion pictures, or video tapes for either educational or commercial purposes. Consequently, taking in the conduct of such activities either is done illegally or under the guise of scientific research.

Many of these problems should be resolved when the National Marine Fisheries Service completes revision of its permit regulations and application instructions.

The burden of obtaining a permit when it is uncertain whether a marine mammal might inadvertently be harassed or otherwise be taken in the course of planned research could be reduced or avoided in a number of ways. One possibility would be to classify various scientific activities according to the likely significance of their impacts, and for those activities likely to have little or no impact, to replace the existing permit system with a simple notification and reporting requirement. Such an approach would allow the regulatory agencies to require a permit if it were not clear that the notified activity would not have a negligible impact. It also would help the agencies to develop the data base necessary to verify that the various activities are, in fact, classified properly.

The possibility that unique scientific opportunities may be lost because of the mandatory 30-day comment period could be avoided by authorizing the issuance of permits before the end of the 30-day comment period when the secretary, in consultation with the Marine Mammal Commission, determines that such taking would further a legitimate scientific purpose which otherwise would be lost or compromised.

Finally, problems associated with photography for education and commercial purposes being done in conjunction with or under the guise of scientific research could be avoided by amending the act

to authorize issuing permits for such activities when the activities clearly would have a negligible impact.

We were asked also to comment, Mr. Chairman, on the question of commercial whale-watching. The Commission believes that, if it is done properly, commercial whale-watching can contribute substantially to the conservation and protection of marine mammals. For example, it provides an opportunity for the public to see whales in the wild, and while doing so to learn about conservation issues and how they can help address those conservation issues. Also, commercial whale-watching boats can serve as platforms of opportunity for assessing and monitoring the status of marine mammal populations.

However, the potential benefits of commercial whale-watching probably are not being fully realized at the present time. toward this end, the Commission believes it would be useful for the National Marine Fisheries Service to organize and hold workshops in each of its regions where commercial whale-watching is being done, to identify cooperative actions that could be taken by the service and the industry to use commercial whale-watching to help obtain the long-time series of data needed to detect and monitor cetacean population trends, and to determine whether additional guidelines or regulations may be necessary to ensure that whale-watching has only beneficial effects.

This concludes my summary statement. I would be pleased to try to answer any questions that you may have.

[The prepared statement of Dr. Hofman follows:]

PREPARED STATEMENT OF ROBERT J . HOFMAN, PH.D.

Mr. Chairman and Members of the Committee: I am Robert Hofman, scientific Program Director of the Marine Mammal Commission. The Commission was asked to: (1) discuss its role in the public display and scientific research permitting process; (2) provide an overview of problems which the Commission perceives; and (3) provide suggestions for dealing with the problems and encouraging educational programs like whalewatching.

The Commission believes that these are important and timely issues. As requested, I will focus on issues related to scientific research.

BACKGROUND

When the Marine Mammal Protection Act was passed in 1972, many-species and population stocks of marine mammals were severely depleted, and in some cases were in danger of extinction, as a result of human activities. One of the causes of this state of affairs was the lack of knowledge concerning the natural history, demography, dynamics, and ecology of marine mammals. It is unlikely, for example, that the International Whaling Commission would have allowed, as it did, levels of commercial take that led to the economic and near biological extinction of many whale stocks had the consequences of those take levels been known.

Congress recognized that such problems could be overcome only through scientific research and, in the Marine Mammal Protection Act, authorized the Secretaries of the Interior and Commerce to issue permits allowing the taking of any species of marine mammal, including those which are endangered and threatened, for purposes of scientific research, provided the taking would be consistent with the purposes and policies of the Act. The Act also recognized the value of public display and authorized the Secretaries to issue permits allowing the taking of non-depleted species for purposes of public display.

The Act defines "take" to mean "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." It requires that permits authorizing the taking or importing of marine mammals for scientific research or other purposes specify—

(A) the number and kind [e.g. the species, age, and sex] of animals which are authorized to be taken or imported,

(B) the location and manner (which manner must be determined by the Secretary to be humane[1]) in which they may be taken, or from which they may be imported,
(C) the period during which the permit is valid, and
(D) any other terms or conditions which the Secretary deems appropriate.

The Act also requires that notice of each application for a permit to take marine mammals for scientific research, public display, or other purposes be published in the Federal Register and the public be given 30 days to review and comment on the application. There is no provision in the Act for waiving the 30-day comment period, even in cases where unique scientific opportunities would be lost.

In 1988, the Act was amended to specify that:

> "[a] permit may be issued for scientific research purposes only to an applicant which submits with its permit application information indicating that the taking is required to further a bona fide scientific purpose and does not involved unnecessary duplication of research. No permit issued for purposes of scientific research shall authorize the killing of a marine mammal unless the applicant demonstrates that a non-lethal method for carrying out the research is not feasible. The Secretary shall not issue a permit for research which involves the lethal taking of a marine mammal from a species or stock designated as depleted, unless the Secretary determines that the results of such research will directly benefit that species or stock, or that such research fulfills a critically important research need."

The Act also was amended in 1988 to specify that:

> "[a] permit may be issued for public display purposes only to an applicant which offers a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to the Secretary and which submits with the permit application information indicating that the applicant's facilities are open to the public on a regularly scheduled basis and that access to the facilities is not limited or restricted other than by charging of an admission fee."

THE ROLE OF THE MARINE MAMMAL COMMISSION

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, is required by the Marine Mammal Protection Act to review all applications for permits to take marine mammals for purposes of scientific research or public display to ensure consistency with the provisions of the Act. Since 1988 when the Marine Mammal Protection Act was last reauthorized, the Commission has made formal recommendations on 49 applications to the Department of Commerce and 14 applications to the Department of the Interior for permits for public display and on 137 applications to the Department of Commerce and 19 applications to the Department of the Interior for permits for scientific research. The Commission has also commented to the agencies on a variety of other related issues such as: lethal taking of marine mammals for public display; petting pools; maintenance of marine mammals in isolation; marine mammal transportation; and the Animal and Plant Health Inspection Service's standards governing the humane handling, care, treatment, and transportation of captive animals.

With regard to the last item, the Commission recommended a comprehensive strategy for the review and revision of the marine mammal care and maintenance standards and provided the recommendation to all appropriate agencies and the public. While progress was halted by the 1990 moratorium on regulatory actions, the Animal and Plant Health Inspection Service is now moving forward on the standards.

Over the same period, the Commission also referred roughly 400 letters from the public to the appropriate regulatory agency for consideration and action.

These and other related activities are described in detail in the Commission's annual reports and I will not describe or attempt to summarize them here.

PROBLEMS REGARDING THE SCIENTIFIC RESEARCH PERMIT SYSTEM

In the last several years, members of the Marine Mammal Commission's Committee of Scientific Advisors and other scientists have complained that it takes longer and more information is required than should be necessary to obtain permits for scientific research. They also have complained that permits often contain unnecessary and burdensome reporting requirements.

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[1] The Act defines the term "humane" in the context of the taking of a marine mammal to mean "that method of taking which involves the least possible degree of pain and suffering practicable to the marine mammal involved."

The Commission, in consultation with its Committee of Scientific Advisors and other marine mammal scientists, has undertaken a review of the system for issuing scientific research permits to determine the cause or causes of the problems and what can be done to overcome them. As a part of this process, the Commission recently held a workshop to better determine the nature of the problems and how they might best be addressed. Participants included representatives of the Commission, the Committee of Scientific Advisors, the Commission staff, the staff of the National Marine Fisheries Service's and Fish and Wildlife Service's permit offices, and scientists who have had problems with the permit system. The Commission will hold a second workshop, in late September, to follow-up on some of the findings from the workshop held last week.

The Commission's goal is to identify statutory, regulatory, and/or procedural changes that would make the permit system effective but not an obstacle to legitimate scientific research. As part of this effort, the Commission is working with the Services to set forth plain-English explanations of how the system can and should work to facilitate research and to develop clear, straightforward instructions for those applying for permits.

The Commission's 1992 Annual Report to Congress notes that it took an average of 180 days (nearly six months) in 1992 for an application to be processed and a permit to be either issued or denied. In an efficient system, it should take no more than half that time. The long processing time seems attributable to: (1) the fact that the National Marine Fisheries Service was prevented from updating its existing regulations by the 1992 moratorium on promulgating regulations; (2) the lack of clear instructions to applicants for scientific research permits which has led to the submission of incomplete applications with resultant delays; and (3) the fact that those processing permit applications sometimes lack familiarity with many of the research methods and what reasonably can or cannot be done in remote field areas.

Furthermore, it is not always clear whether animals may be "taken" in the course of certain types of research and that a permit therefore is necessary. For example, although scientists conducting censuses and behavioral observations from ships and aircraft design their studies to try to avoid harassing or otherwise taking any animals, they cannot always be certain that they will succeed. In such cases, it is impossible to predict the number and kind of animals that may be taken. Consequently, scientists conducting such studies must obtain research permits to ensure that, should they inadvertently take a marine mammal, they have not violated the Marine Mammal Protection Act.

Another possible issue is that there is no provision in the Act to authorize the take of endangered, threatened, or depleted marine mammals in the course of taking still pictures, motion pictures, or video tapes for either educational or commercial purposes. Further, authority to take non-depleted species in the course of such activities can be obtained only through the formal "waiver" process. Consequently, taking in the conduct of such activities either is done illegally or these activities are conducted as a by-product of legitimate scientific research. In some cases, it may be that scientific research permits are being obtained to conduct activities for educational or commercial purposes rather than scientific purposes.

POSSIBLE SOLUTIONS TO THESE PROBLEMS

Many of these problems may be resolved by revision of the National Marine Fisheries Service regulations and application instructions. As we understand it, proposed changes in the regulations will be made available soon for public review and comment.

The Commission, in consultation with its Committee of Scientific Advisors, will review the proposed regulations and advise the National Marine Fisheries Service of any further revisions that seem necessary or desirable. The Commission also will continue to work with the National Marine Fisheries Service and the Fish and Wildlife Service to develop application instructions which clearly set forth (a) the determinations that must be made before permits may be issued and (b) the information that must be submitted to allow those determinations to be made. To ensure prompt preliminary agency review of applications, the Commission believes it would be appropriate to encourage the agencies to complete their preliminary review of permit applications within 30 days following receipt of applications, and to advise the applicant of any deficiencies in the application or that it is acceptable for review and notice of receipt will be published shortly in the Federal Register.

The problems associated with uncertainty as to Whether any marine mammals may be taken in the course of censuses, behavior observations, and other kinds of research can be addressed in a variety of ways. One possibility would be to: (1) classify various scientific activities according to the likely significance of their impacts

on the affected species, populations stocks, and individuals; and (2) for activities likely to have little or no adverse effects on either individuals or populations, to replace the existing permit requirement with a simple notification and reporting requirement. Such an approach would require that: (a) the individual or organization planning to conduct the research notify the National Marine Fisheries Service or the Fish and Wildlife Service, as appropriate, of the nature and scope of the planned studies at least 60 days before the studies are scheduled to begin; and (b) a report be provided to the National Marine Fisheries Service or the Fish and Wildlife Service, as appropriate, within 60 days after the field work is completed. Such an approach would allow the Services to require a permit if it were not clear that the notified activity, by itself or in combination with other activities, would have a negligible impact on the affected species or population stock. It would also help the Services to develop the database necessary to verify that the various activities are properly classified.

The Marine Mammal Protection Act requires that applications for permits be published in the Federal Register for a 30-day public review and comment period before the permit can be issued. There is no provision in the Act for waiving the public comment period, even when unique scientific opportunities would be lost or compromised. For example, when an unusual event like the Exxon Valdez oil spill occurs, it is not possible to get authority in less than 30 days to capture, take samples from, or otherwise take animals not affected by the event to develop the baseline necessary to determine the nature and scope of the possible effects. Similarly, a scientist finding a previously unknown marine mammal aggregation in a remote area like Antarctica, where little work has been done before, would be unable, in less than 30 days, to get authority to tag or collect samples from the animals, even though the opportunity could not have been anticipated and, because of logistic constraints, it may not be possible to return to the area for many years.

Such problems could be avoided by authorizing the issuance of permits to allow the take of marine mammals for purposes of scientific research before the end of the 30-day comment period, when the Secretary, in consultation with the Marine Mammal Commission, determines that such taking would further a legitimate scientific purpose that would otherwise be lost or compromised. Such special authorization should not be used in any instance where the applicant could have anticipated the situation and obtained the necessary authorization in the usual way.

Finally, the possible difficulties associated with photography for educational and commercial purposes being done in conjunction with, or under the guise of, scientific research could be avoided by amending the Act to authorize the Secretaries of the Interior and Commerce to issue permits for such activities—i.e., to approach and possibly disturb marine mammals in the wild while taking still pictures, motion pictures, or videotapes for educational or commercial purposes—when the activities clearly would have a negligible impact on the affected species or population stock. If there is any uncertainty that authorized activities would be done with negligible impact, the presence of an enforcement agent, to be paid for by the person or organization doing the work, could be required to ensure that these activities are conducted as authorized.

COMMERCIAL WHALEWATCHING

Properly done, commercial whalewatching can further the conservation and protection of marine mammals and their habitat. It provides an opportunity for the public to see whales in the wild and, while doing so, to learn about conservation issues and how they can help address them.

Commercial whalewatching boats can also serve as platf6rms of opportunity from which to observe and learn more about: the movement, behavior, and demographic patterns of whales; how whalewatching should be conducted to avoid affecting feeding, breeding, or other vital functions; and how commercial shipping, recreational boating, and other activities may be affecting whales and important feeding, breeding, resting, and migratory areas. Such boats also can provide a means for collecting longtime series of data on distribution, habitat-use patterns, abundance, and individual survival and calving rates that can be used to detect and monitor population trends. Such data, when combined with environmental data and data from necropsies of dead cetaceans found washed up on beaches, may provide a useful index of the health of the world's oceans.

The Marine Mammal Protection Act established a moratorium on the taking of marine mammals, and provides that taking of species listed as either endangered or threatened under the Endangered Species Act or depleted under the Marine Mammal Protection Act, may be authorized only for certain limited purposes. Intentional taking can be authorized only for scientific research or enhancement pur-

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poses. Unintentional taking in the course of activities like offshore oil and gas development may be authorized when the taking would have negligible impacts on the affected species or population stock and the Secretary promulgates regulations setting forth permissible methods of taking, and requirements for monitoring and reporting the taking. Much commercial whalewatching involves species that are listed as endangered or threatened under the Endangered Species Act. Consequently, it can be done legally under the Marine Mammal Protection Act only if it does not result in taking (harassment).

Most commercial whalewatching is conducted by persons knowledgeable and concerned about the welfare of the whales and the health of the oceans. Consequently, they try to approach and provide opportunities for watching whales in ways that will not affect the whales and to educate their passengers on whale conservation and more general oceanic matters. In most U.S. areas where commercial whalewatching is being done, either the National Marine Fisheries Service or the operators themselves have developed guidelines for approaching and observing whales in ways that avoid harassment.

However, it is unlikely that the potential benefits of commercial whalewatching are being fully realized at present. For example, neither the industry nor the National Marine Fisheries Service have developed either guidelines or standard procedures for collecting and archiving data on distribution, abundance, and other variables that would be useful for detecting and monitoring long-term population trends. Towards this end, the Commission believes it would be useful for the National Marine Fisheries Service to organize and hold workshops, in each of its regions where commercial whalewatching is done, to identify cooperative actions that could be taken by the Service and the industry to (a) use commercial whalewatching as one of the means for obtaining the long-time series of data needed to detect and monitor cetacean population trends; and (b) determine whether additional guidelines or regulations are necessary to ensure that whalewatching has only beneficial effects.

Thank you, Mr. Chairman, and members of the Committee for this opportunity to explain the Commission's views on these important issues. I would be pleased to try to answer any questions you may have.

Senator LOTT. Mr. Chairman, after this panel's testimony and the questions have been completed, I ask consent that a statement on behalf of the Marine Mammal Coalition be included in the record.

Senator KERRY. Without objection.

Senator LOTT. Thank you, Mr. Chairman.

Senator KERRY. We have a vote on, and rather than begin the questions and then interrupt, I think what we will do is recess now very quickly, take the vote, and come back and begin the questioning. So, we will stand in recess through the vote.

[A brief recess was taken.]

Senator KERRY. The hearing will come back to order. We thank you for your patience. We have a number of issues to address with respect to questions regarding display and research, and I would like to try to get at it.

First of all, let me ask you, Mr. Secretary, we are a little bit under the gun here in the sense that we have the incidental takings expiration in October. And we are going to be trying to move fairly rapidly, if we can, with respect to reauthorization. I do not know if we can meet that deadline or not, but the problem is obviously that as that interim exemption expires, there are going to be some shutdowns of fisheries or something is going to happen with response to that. And here we have your regulations that have gone over to OMB and are sitting there.

And it is hard for us to know how to proceed. We have some recommendations from folks on both sides of the research fence and public display fence, but we do not really have your regulations. We do not know where the in between is or how you have resolved some of these disputes. So, the question is, first of all, When can

the committee anticipate an inside edition of these regulations so that we can do our work, or having some response from OMB so that the whole world can respond?

Mr. HALL. Mr. Chairman, the regulations went to OMB on Monday and we have been in conversation with OMB and expressed the urgency of the situation so the committee can continue its work and have the benefit of the regulations as you proceed with reauthorization. We will have additional conversations with them and try to move this process as quickly as possible. It is difficult for me to make a commitment on a specific date, but I think that they understand that this needs to be done expeditiously.

Senator KERRY. Well, is there any reason that you cannot share with the committee staff where we are with respect to some of the issues?

Mr. HALL. I think that we can sit down and talk to the committee staff in private. Before we publicly announce what the regulations would be, we would like to have an official administration position.

Senator KERRY. Well, let me ask you this question.

Mr. HALL. But I think that we certainly could sit down and share with the staff what some of the revisions are.

Senator KERRY. Groups on both sides of the fence are suggesting that we need to have legislation, that the regulations will not do it. You are saying the regulations will do it; is that accurate?

Mr. HALL. We believe that the regulations can deal with a lot of the problems that we have encountered. However, we have proposed four different amendments to the act. And so there are some areas, particularly the areas dealing with takings for educational purposes. Right now we really do not have a mechanism for dealing with authorization of a documentary filmmaker or someone who wants to take pictures of a marine mammal in the wild, even though we think that the impact on the marine mammals is minimal from that particular activity.

So, that is one example, and then there are three other situations dealing with native art and permits that would authorize activities that have only minor impacts. One example of that would be the Americas' Cup race, in which we had difficulty dealing with authorizing that particular activity even though we did not feel like it was a significant impact to the marine mammals.

And the last one that we believe should be made is eliminating the exemption for animals that were in captivity prior to the enactment of the act. We do not think that is necessary anymore because those animals should be given the same protection as all other marine mammals.

But with the exception of that, we believe that the regulations deal with the major——

Senator KERRY. Will deal with the other issues.

Mr. HALL. Yes.

Senator KERRY. What do you see as unresolvable with respect to the photography issue?

Mr. HALL. It is a question of having a legislative authorized activity that we can use as a mechanism for granting that permit.

Senator KERRY. And what specific activity would you envision a permit being necessary for?

Mr. HALL. Any kind of interaction in which you are taking pictures and you are traveling close to marine mammals and taking photographs. Kevin may want to elaborate on that. He is with our Office of General Counsel, and there have been several permit applications where this has been a problem. So, Kevin Collins might want to talk about that.

Mr. COLLINS. Senator, the situations we are talking about here are documentary filmmakers that want to get very close to animals either in the water or hauled out. And the question is whether their close approaches result in harassment or a take of the animals. And if so, whether that can be authorized under a public display permit or a scientific research permit.

Senator KERRY. How do you determine that? How would you intend to determine that?

Mr. COLLINS. Intend to determine whether there?

Senator KERRY. Where the line between harassment versus permissive intrusion is?

Mr. COLLINS. That is kind of a hard line to draw.

Senator KERRY. Well, is that a problem today in the length of time it takes to get these permits?

Mr. COLLINS. No. It is more a problem that when people are deciding whether to conduct these activities, they are having to make the determination whether they should apply for a permit, based on whether they think they are going to harass the animals. And if so, you know, right now we can issue public display permits or scientific research permits, and documentary filmmaking is not really—does not really cleanly fall into either of those categories.

Senator KERRY. You do not see the ability currently under the regulations to wrap it into public display.

Mr. COLLINS. Well, there has been some reluctance to do that on the agency's part. Just based on the criteria in section 104 for public display permits, it does not seem to fit very cleanly.

Senator KERRY. Well, how do you anticipate, either of you or any of you—these permit requirements and the process to the requirements for public display today or for research?

Mr. COLLINS. Comparing in terms of issuance criteria?

Senator KERRY. The requirements, right, the standards of judgment that will be applied to the issuance of a permit. How would the documentary photography be distinguished in the standards you will apply from the standards required for either public display per se, or for scientific research?

Mr. COLLINS. Well, I think educational permits might be geared more toward the use that is going to be made of, for instance, film footage. If the intent is to distribute the film to schools or universities or make the footage available to researchers or students, things like that might be considered when deciding whether to issue an educational permit.

And there are other—this should not be limited to documentary filmmaking. We are also talking about things like sending collections of parts around to schools, elementary schools for instance. Transport of skeletons and things like that may be more appropriate for something called an education permit. To be honest, I am not sure the agency has thought through what criteria they would look at.

Senator KERRY. Well, if you have not thought it through and it is not at OMB, where does that leave us in terms of a legislative response or an adequate response to any of the groups that are advocating a clear definition?

Mr. HALL. Senator, I think that we have—that the change in regulation will give us a mechanism for dealing with that. And I think it is incumbent upon the National Marine Fisheries Service then to take a conservative approach in dealing with permits of that sort. But it has to be the responsibility of the agency to make sure that we fulfill our responsibilities under the act, because right now we do not have a legislative mechanism to really define that and we are taking other definitions for scientific research and using those when, in fact, we do not really have a clear definition under the law.

Senator KERRY. Well, what is the standard that you think now ought to be applied to scientific research?

Mr. COLLINS. The standard that is now in the statute is that it has to be bona fide, and the Marine Mammal Commission has done quite a bit of thinking about this issue and maybe Dr. Hofman would comment.

Dr. HOFMAN. Before I comment on that or respond to that, Senator Kerry, if I may go back to the issue of filmmaking, I am not sure that the issue has been completely laid out.

One way would be to define "filmmaking" as a type of public display that could be done under regulations. Public display, only animals that are basically nonlisted animals can be taken for public display, so an issue—if somebody wanted to make a documentary of humpback whales in Hawaii, for example, a species that is listed under the Endangered Species Act, there is no mechanism under the Marine Mammal Protection Act to authorize that.

So, the only way that can be done legally is if it does not involve any taking. In the Marine Mammal Commission's view, this is a very, very important activity, documentary filmmaking. It serves potentially a very important educational function. It also can contribute to science in the sense that certain kinds of film can be made available to scientists, and it also serves, obviously, a very, very important economic function.

In our view, it would be appropriate to provide authority in the act—and the Congress is the only one who could do that—to issue permits, and in our view the standard is the standard that it would have a negligible impact on the animals being filmed, and if there is a question about that, provision could be made to require that an enforcement agent from the National Marine Fisheries Service accompany the people making the documentary and that the companies making the film pay the cost of that.

So, in our view, to the extent that this is an important activity, it presently cannot be authorized when it involves the possible taking of a species that is endangered, threatened, or depleted under the Marine Mammal Protection Act, and in many cases those are with the greatest interest.

Senator KERRY. What if the taking were incidental, or critical to the capacity to properly make a documentary that argues for the larger preservation? Would it still be impossible to do it?

In other words, if the goal of the photography is to put together a film to build support for saving the species, and there may be an incidental taking as a consequence of doing that, is there a balancing, or is there just a prophylactic negative prohibition?

Dr. HOFMAN. At the present time, as I understand it—and general counsel will correct me if I am wrong, it is prohibited under the Marine Mammal Protection Act.

Mr. GOSLINER. Let me chime in here. It seems like you are suggesting that perhaps this fits under the provision of the act allowing permits to be issued for species enhancement, and if that is indeed the case, then you could do it for depleted as well as nondepleted species. It seems to me that that goes beyond the congressional intent of the 1988 amendment that added enhancement under the types of permits——

Senator KERRY. Well, let me pursue the same line. I will come back to the issue of the film. There are questions raised about the research, whether or not the research should be related. Some advocates say the research ought to be related directly to the benefit of the species. If it is not related to the benefit of the species, no taking. How do you respond to that?

Dr. HOFMAN. I will respond to that one. I think there are several difficulties with that proposal. First, in many cases, it is very, very, very difficult—it is impossible—to predict beforehand how the results of certain kinds of research may contribute to or benefit a species.

This issue came up in 1988, and among other things it resulted in two scientists writing a paper that was published in BioScience, I think in December 1989. If you would like, I could find a copy of that paper and provide it. The paper spoke to the importance of basic research, and the problem that in many cases it is virtually impossible to determine beforehand how the results of research will contribute in the long run to conservation.

I will provide one example. In 1976, the value of photo identification of whales, killer whales—orcas in particular—was very controversial within the scientific community. Many scientists at that time felt that it was a bogus scientific practice, and would never result or provide anything that was useful, because it could not meet the basic assumptions necessary for mark—recapture and other kinds of studies.

Well, nearly 20 years later, looking back on it, it seems clear that photo identification is a useful scientific technique. It is one of the most important techniques for studying many species of animals. But in 1976 many members of the scientific communities believed it served no beneficial purpose. In fact, many thought it was plain harassment, and it was harmful.

So, it often is very, very difficult to say with great clarity what will be beneficial.

There is a second element as well. That is, there are certain aspects about certain marine mammals that are unique, and by understanding them can make unique contributions to human health and medicine. That kind of research certainly has no benefit to the marine mammals. It has great potential benefit to the human species, and if you had a criterion that in order to do research it somehow would have to benefit the animal, it would rule out a whole

class or category of what, in my view, is potentially very, very important scientific research.

Senator KERRY. Now, with respect to the efforts of this committee, it is your assertion to us today that with the exception of the four areas you have specified we should not have to legislate; is that correct?

Mr. HALL. In this particular area concerning public display we are in the process right now of working with the Department of Agriculture in developing—and the Department of Agriculture has the responsibility for developing—regulations for the care of animals in captivity, and I think that is another area we have to look at, but that is really a separate process that is taking place.

But we have looked at the legislation. We do not believe that other amendments are necessary at this time.

Senator KERRY. Turning your attention for a moment to a film like "Free Willy," are you familiar with the film?

Mr. HALL. Yes.

Senator KERRY. Is that a film that could have been made in the United States under our current regulations?

Mr. HALL. There are several—we do not think so, and we certainly—we have an inspection program that assures that that does not happen. The type of conditions that are depicted in the film would not be allowed under our regulations.

We have—some of the things that happen in the film, the animal is kept in isolation. We have a policy of not approving any permits that would allow an animal to be kept in isolation. The security that was depicted in the film would not meet the standards that we have in our regulations.

One of the things that is not dealt with in regulations is water temperature, which in the film was related to the infection that infected this particular animal, and that is now the responsibility of the facility.

I think it is an issue we ought to look at, but in general the conditions that were depicted in the film would not meet the standards that we have in place at the current time, and we are raising those standards, and we are increasing the amount of information that we require from facilities about their handling of these animals.

Senator KERRY. Dr. Hofman, do you want to respond also to the issues raised by that film?

Dr. HOFMAN. I would have responded to the question a little bit differently, because—and I saw the film as well—it is difficult to tell—and it may have been that I misunderstood the question—what was editorial license and what was done using special photographic techniques.

In the United States, filming of those animals in the wild could have been done to the extent that the animals were not taken. Since killer whales are not listed as endangered, threatened, or depleted, if the groups wanting to do the films wanted to take by harassment, they could have, but first would have had to go through the formal waiver process.

There were three related points, as I recall, that were raised in the film. That is, the characters talked about the animal being too old, it being maintained in isolation, and the pool being too small.

It is very difficult to tell from the film, and I am not qualified to make the judgment relative to the adequacy of the pool size. The age of the animal, if in fact it was an old animal—and it looked like it to me—is relevant. I think the next panel is better qualified to answer that question, Mr. Prescott, perhaps. I think there is a problem in terms of old animals versus young animals adapting to captivity.

The concern about isolation is one, as Mr. Hall indicated, that the Commission shares—that is, it is improper and inhumane to maintain an animal in isolation in that way.

Senator KERRY. What requirements would your regulations assert with respect to whale-watching?

Mr. HALL. Senator, before I get into that, one of the points is that we are going to require in the new regulations concerning public display more information about the age of the animals, and I think that is another way that we are dealing with that particular issue, and I think that will be helpful in terms of having a better understanding of what type of animals we have in these facilities and what action should be taken to safeguard their well-being. Maybe I would like to have Kevin answer specifically on whale-watching.

Mr. COLLINS. Senator, these regulations do not specifically address whale-watching. It would not require either a public display or scientific research permit for whale-watching activities.

Mr. HALL. But it would be clarified that whale-watching is an educational activity.

Senator KERRY. So, is there any restriction on private boats, not the public whale-watching entities, but private?

Mr. COLLINS. There would still be the statutory prohibition on harassment.

Senator KERRY. So, the same harassment standards would apply.

Mr. COLLINS. Correct.

Senator KERRY. As currently, no changes with respect to that.

Mr. COLLINS. That is right.

Senator KERRY. How do you address the need to expedite the permitting process as you stated in your opening comments without sacrificing the need to satisfy adequately the bona fide requirements of the scientific research itself? Do you foresee any conflict with this?

Mr. HALL. I think some of the problems we have encountered, we have already dealt with. There was a 180-day period of time in 1992 that scientific research permits averaged, and I think we now have that down to 120 days. We hope that by the end of the year we will be down to 90 days.

There were some unusual circumstances that occurred in 1992. There was a moratorium on promulgating regulations which prevented the development of revised instructions to applicants. We think that now that those specific situations have been dealt with we can deal with these permits in a more expeditious manner without compromising the need to safeguard the animals.

Senator KERRY. And you mentioned earlier that you feel you are adequately meeting the demands of the groups. Does that also address the care and maintenance issues? You mentioned a couple of them—the temperature of the water, the size of the pool. Do you

feel that comprehensively care and maintenance issues have been addressed?

Mr. HALL. Those will be addressed by the Department of Agriculture in its rulemaking process, so when you talk about the care of the animals and the standards in the facilities, that is a responsibility of the Animal and Plant Health Inspection Service of the Department of Agriculture, but they are relying heavily on our science and our biologists to develop the standards that will be needed.

Senator KERRY. Are you satisfied with the level of cooperation between NOAA, the Fish and Wildlife Service, and the USDA folks, and so forth?

Mr. HALL. I think so, Senator. I have not had enough experience to really have an opinion about that, but I believe that they seem like they are working very cooperatively on this process.

Senator KERRY. How are you defining—and this goes back to the education issue we were talking about a moment ago—how are you defining the criteria for an acceptable education program at a public display facility?

Mr. COLLINS. Senator, I do not think the agency is attempting to regulate every detail of the education program of a public display industry or facility. It is basically whether—the criteria are basically whether the educational program presents accurate information to the public about the life history.

Senator KERRY. Well, what about something like the swim-with-the-dolphins programs? There is a video tape that is somewhat controversial of a swim-with-the-dolphins program in Florida—one swim with program—and then you have Senator Inouye who is here strongly commending another type of swim-with-the-dolphins program in Hawaii. How do you compare the two, and what standards will be applied?

Mr. HALL. We are in the process right now, and there are four facilities in the United States that have these type of programs, one in Hawaii and three in Florida, and one of the facilities in Florida is the place where the film, the video was taken that you referred to. At all four facilities, we are conducting a review and we are examining the health of the participating dolphins and determining getting more scientific information about the impact on the animals and whether this is an activity that should continue.

Senator KERRY. Let me ask you this. Before you even get to the impact, assuming for a moment that there is no negative impact, what is the positive impact, other than the thrill, other than sort of coming out and saying, gee, I swam with a dolphin and wasn't that wonderful? Is there really that much gained that you can define that merits that kind of intrusion?

Mr. HALL. Senator, you are asking a question and I have not personally witnessed these types of programs and I do not really feel I am in a position to offer an opinion about it.

Senator KERRY. Well, imagine yourself jumping in the water and swimming around with a dolphin for a while, and then you come out. What do you think you would have gained from that experience that you could not gain by watching them and learning about them and studying them and their faculties and their way of life and so forth?

Mr. HALL. I do not think I personally would gain anything more by being in the water as opposed to just observing them either from a film or from a whale-watching boat or some other facility.

Senator KERRY. I am not saying I am inherently negative about it, but I am having a hard time defining what is specifically positive about it that at least in the unknown, until you have a much better sense of the impact and repercussions, it is hard to——

Mr. HALL. Well, Senator, we have limited it to these four facilities. This is not a widespread activity. This is very limited activity that is occurring at this time.

Mr. COLLINS. Senator, to be fair, these four facilities have been in operation since prior to the most recent amendments to the public display provisions of the act, when the education and conservation program requirements were added. So, some of those requirements that were added in 1988 might not have been incorporated into those permits. But that is one of the major reasons why the four programs have been limited to those four on an experimental basis until the study can be completed.

Once the study is finished and we have been able to evaluate the results we will be able to make a better determination in light of the 88 amendments and whether this is beneficial.

Senator KERRY. Well, I think there are more questions. I will wait until the next panel to sort of pursue that a little more.

Senator Pressler.

OPENING STATEMENT OF SENATOR PRESSLER

Senator PRESSLER. I have to run off to another meeting, but I want to compliment you for holding this hearing and compliment the witnesses. I have been listening. I do have some questions to leave for the record.

I wanted to say in my landlocked home State of South Dakota many young people may not have the opportunity to travel to coastal regions of the United States to see the oceans and few marine mammals first hand. That is why the Marine Life Aquarium in Rapid City, SD, is such a valuable resource for our awareness in education about marine mammals in my State.

The Marine Life Aquarium has been educating South Dakotans and others since 1963. The Aquarium allows year-round visitors, more than 80,000 last year, the unique experience of firsthand interaction with marine mammals not possible from reading books or viewing videos. The aquarium offers educational and entertaining marine mammal presentations geared to the residents of a landlocked region and with sensitivity to Native American viewpoints on the environment.

The aquarium retrieving service is an important education tool for area schools and teachers. For example, 5,000 children participated in Operation Ocean, a free educational program this past spring. This aquarium also provides access to students for research and development.

The mammals at the Marine Life Aquarium also enjoy a safe and healthy environment. The animals at the Marine Life Aquarium receive first-rate care and medical attention. In addition, the training staff provides a changing environment for the animals, thus allowing them to use their natural curiosity and predatory skills.

Senator KERRY. The record will remain open for questions to be answered, and I think the Senator's comments about a landlocked State's benefits of an aquarium are a point very well made. We need the support of South Dakota as we do of Kansas, Nebraska, and other landlocked places, though some not so landlocked these days. But we do need their support in understanding this, and all coastal States certainly benefit by others having an understanding of it. And so I think that is a point well made.

With respect to, Dr. Hofman, the Federal authority, it might be helpful for the record to have you articulate both the research and public display educational benefits of the intrusiveness that we do permit into the habitat and the life of marine mammals. Perhaps you might take a moment just to draw the record out on that.

Dr. Hofman, do you want to lead off?

Dr. HOFMAN. I think it is clear, Senator Kerry, in the case of both scientific research and public display, as both you and Senator Pressler have indicated, that these products are one of the things that brought us here today. In many respects, I think beginning with the issue of public display, we are here because of what we have learned from television, from whale-watching, and from zoos and museums. I was one of those raised in a landlocked State, and much of my first experience with wildlife was in museums and zoos, which I am happy to say are very, very different today than they were when I was a boy. So, I think it is clear the role that has been played by all of these various forms of media in developing an educated public.

Now, that does not mean to say that we are not in a different point in time and that we do not have to continuously reexamine some of these issues and that there are not issues regarding humaneness and other things. But I think it is clear in retrospect the importance that public display, documentaries, and television, have played in conservation and conservation issues. I do not think—I suspect it is unlikely—that there would be a Marine Mammal Protection Act today if we had not had that background.

Now, to look forward 20 years, it is much more difficult to have 20/20 foresight. With respect to scientific research, I think we can say exactly the same thing. The ineffective regulation of commercial whaling, the incidental take of porpoise in the yellowfin tuna purse sein fishery, and the clubbing of baby harp seals in the North Atlantic were, as I indicated in the last hearing, in response I think to a question from Mr. Stevens, the key issues that lead to the Marine Mammal Protection Act in 1972.

We have solved these and moved on to new problems because of scientific research. And I will just illustrate a couple of points. Within the last 2 years, by attaching satellite linked radio tags to humpback whales and to bowhead whales we have overturned much of our thinking concerning the basic distribution and movements of these animals. Up until 2 years ago when people working on whale research in the Gulf of Maine saw a wright whale or a humpback whale and went back out the next day and did not find it, they simply assumed that, the animal was still there but they did not see it.

What they found out when they attached radio tags to these animals is that in a 5- or a 6-day period these animals may have traveled 500 miles and come back, a total round trip of 1,000 miles.

This means that when we are counseling conservation of wright whales and humpback whales, we need to be looking at entire ocean basins, not simply small areas.

Clearly, so research provides the knowledge base upon which sound conservation decisions must be based. It seems to me that the problem that we are having right now is overregulation rather than not enough regulation. And I think with that, unless there is a specific question, I will stop.

Senator KERRY. Do you want to add anything, Mr. Secretary?

Mr. HALL. No. Dr. Hofman is very articulate in explaining the reasons. I guess I would just add that there are very few of us who will have the opportunity to travel off of the coast of Massachusetts in your State, Senator, to see whales in their native habitat. And the aquariums, the public display facilities provide an opportunity for many people in urban areas and landlocked areas to experience magnificent creatures. And this, I believe, contributes to greater conservation goals, greater public understanding, and greater public support for what is trying to be accomplished by the Marine Mammal Protection Act.

Senator KERRY. Well, I appreciate that. I think there is a balance. Let me just say that proudly as a citizen of Massachusetts with a spectacular history of linkage to the sea and to whaling particularly, I have thrilled at the experience of the connection between those mammals of the ocean and ourselves.

And until you go out and see it—I mean, I went out like everybody, oh, this will be fun—but when you see those incredible animals just basking in the water and playing with each other and communicating and even, I think, many perceive communicating and entertaining those in the boats, it is a really remarkable experience. And you cannot help but gain a better respect for the historical groundings of ourselves and this planet, not to mention to really stand in awe of the millions of years represented in the process.

So, I really think there is that connection, and as the father of two kids who has gone to aquariums and watched the questions asked and the eyes opened and the learning process go on, I think we do have to recognize that.

At the same time, we have to understand that there are people—for whatever reasons—lacking in good common sense and in a healthy respect for some of those forces, and regrettably there are abuses, and you have to find ways to guard against them. There has to be a balance, and there can be, and I think hopefully we are working toward it here.

I have to proceed to the floor momentarily to vote. I just want to wrap up this panel before I do, and then we can use the interim to switch panels while I go and vote and come back.

In the 1988 NOAA discussion paper on permit policies and procedures for scientific research, NOAA came up with some interesting statistics. On public display, the report indicated that by 1988 about 145 U.S. facilities had obtained permits for holding about 1,300 marine mammals. With respect to scientific research from 1973 to 1988, NOAA received permit applications requesting

takings of almost 1 million animals. Of the animals taken under a scientific research permit, about 78 percent were caught and released and another 18 percent characterized as simply harassed.

Now, I would wonder first of all how those numbers may have changed from 1988 to the present and what they might indicate to us with respect to actions that ought to be taken or not taken. Do you have that?

Mr. HALL. I do not have those numbers. Ann Terbush, who is the Chief of Permits for the Office of Protected Resources is with us. She might be able to answer the question.

Ms. TERBUSH. I think on the statistics for takes, we will have to provide that for the record. I do not have it at hand right now.

[The information referred to follows:]

Since March 1988, when the discussion paper stated that 145 facilities had obtained permits for public display of marine mammals, 12 new aquariums, zoos, or marine parks have obtained permits. However, several older facilities, and marine mammal exhibits at a number of amusement parks, have closed during this same period of time, and the number of marine mammals on display in the United States remains approximately 1,300.

As for scientific research, according to our computer records for the period from March 1988 through July 1993, 193 additional scientific research applications were submitted requesting takings of 7.663 marine mammals; this number is a total of all types of taking requested during this period, e.g., capture, harassment, lethal takes. The statistics are not directly comparable to those reported in 1988, however, because of a difference in data interpretation and data entry. Prior to 1988, numbers of authorized takes by harassment were often, but not always entered into our data base as "unspecified." Our policy since that time has been to specify numbers whenever an estimate is possible. Of the 3.138 million animals authorized to be taken under the 127 permits that were approved, the vast majority, 3.080 million, or 98 percent, were authorized only to be harassed. Up to 57,074 were authorized to be taken and released.

The data on which these statistics are based have been collected and maintained in a less than optimal fashion. As part of our effort to improve the permit system, the NMFS is developing a new data system, which we plan to implement in conjunction with revised permit regulations.

Ms. TERBUSH. In general, the permit program——

Senator KERRY. What about the permits for facilities?

Ms. TERBUSH. Facilities is about the same. There have been several new aquariums that have been permitted.

Senator KERRY. So, the numbers might be up. Could you get that for us? I think that is a very important measure of whatever the permitting process has done or not done over the course of the last reauthorization and might give us some measurement of areas of concern or not.

Can you tell us whether or not the numbers that you have have been presented to you in a way that has raised any concern on your part about current management practices or procedures—either Dr. Hofman or Secretary Hall?

Mr. HALL. In terms of takes of marine mammals from the wild, that practice has declined from most species. There have been very few marine mammals that have been taken in recent years and placed on public display. So, I think in terms of the trends, those numbers are not as much of a concern as the animals that are already there.

You know, we have looked at this situation. The numbers, I am not familiar with them enough at this point to really know whether I have that much of a concern.

Senator KERRY. But nobody has, in any event, come to you and said red flag, red flag, this is what is happening to this marine mammal population and we are going to have to do something about it?

Mr. HALL. Oh, in terms of the marine mammal populations in the wild I think there are specific concerns. But I thought we were talking about the numbers of marine mammals in public display.

Senator KERRY. Either the takings for research purposes or the display purposes, has anything ever crossed your desk to raise an issue about a species per se?

Mr. HALL. Judging by my few experiences with marine mammal permits, this process is—they are very cautious, and err on the side of conservation. And I feel that if there is any question in terms of the health of the population of a stock, that they would err on the side of not granting the permit.

Senator KERRY. Let me ask you another question that some raise in highly philosophical moments, but nevertheless they raise it, and it is one of the issues in the mosaic here. We are very protective of certain fish stocks, and we are protective, as we ought to be, of certain marine mammals generically. But marine mammals are not particularly protective of certain fish stocks. And others have raised the question of whether human interaction is or is not appropriate in some case in terms of that interaction. I simply raise this to throw it on the table for the completeness of the dialog.

Whether—at the mouth of a river, for instance, there is an imbalance that is sometimes created. Do you want to address that?

Mr. HALL. Yes. There is a specific problem in terms of the Columbia River Basin, and we have looked at that. At this point, the studies that we have seen do not appear to indicate that that population of marine mammals is above its historic high level. But we do not—I do not think we really know all of the facts about that population. But that is certainly a problem when we are spending hundreds of millions of dollars to protect endangered species of salmon and then they sometimes do not survive the trip outside the mouth of the river because of interactions with marine mammals.

I am not prepared at this point to say what we might do about that or whether we should do anything about it at this point.

Senator KERRY. No, but you have to admit there is a certain irony in the impact of human interference, such as pouring hundreds of millions of dollars into the preservation of the marine mammals. While other choices that we make that also interfere with marine mammals are not incorrect.

Mr. HALL. Well, clearly, we have created some imbalances in these ecosystems and made some of these species more vulnerable to predation. And so I think that is a very—it is a tough question. I am not sure I have an answer for it.

Senator KERRY. Well, I am not sure I do either. I look at the fisheries off of Georges Bank, New England, now where we once had remarkable numbers of coddock, that is a good fish—and cod, haddock, and flounder, and now, of course, haddock is way down. And we are left with dogfish and skate as predators, and they have become the dominant fish on the banks, because of our interference

again. It is an imbalance that we have not been very sensitive to, and is something obviously worth thinking about as we proceed down this road.

We are in the back end of this vote—let me just check.

I think the main thing, Mr. Secretary, you know, we are going into recess at the end of next week—is to make certain that we could work with you closely in those ensuing weeks so that as soon as we return in September, we are in a position hopefully to move forward, recognizing the October realities.

It would be good not to simply have an interim provision with respect to the interim takings. And if we can try to parcel these together I think it would facilitate the overall reauthorization process, and I would like to try to do that.

Mr. HALL. We will do that, Senator, and we will work with the Office of Management and Budget and try to get you copies of the official regulations as quickly as possible.

Senator KERRY. Thank you. I would appreciate it.

We will recess momentarily for the vote, and I would ask if the second panel could take its places in the meantime, thank you.

[A brief recess was taken.]

Senator KERRY. The hearing will come to order. Thank you all very much for your patience with the process around here. I apologize to those who have other places to be and things to do, and who thought they might have been out of here by now. But that is the nature of the beast here.

I am delighted to welcome to the second panel John Prescott, the executive director of the New England Aquarium, and Dr. John Grandy of the Humane Society of the United States, and Brian MacDonald, associate director, New England Aquarium, also from Boston. And I am delighted that you are all here, and I look forward to opposing and similar views. We will lead off with Mr. Prescott.

STATEMENT OF JOHN PRESCOTT, EXECUTIVE DIRECTOR, NEW ENGLAND AQUARIUM, TESTIFYING ON BEHALF OF THE ALLIANCE OF MARINE MAMMAL PARKS AND AQUARIUMS, AND THE AMERICAN ASSOCIATION OF ZOOLOGICAL PARKS AND AQUARIUMS; ACCOMPANIED BY ELEANOR FRIES, DIRECTOR OF EDUCATION, AQUARIUM FOR WILDLIFE CONSERVATION; DR. MICHAEL HUTCHINS, DIRECTOR OF CONSERVATION AND SCIENCE, AMERICAN ASSOCIATION OF ZOOLOGICAL PARKS AND AQUARIUMS; DR. RAE STONE, MARINE MAMMAL VETERINARIAN AND COOWNER OF DOLPHIN QUEST, HAWAII; DR. JIM McBAIN, CORPORATE DIRECTOR OF VETERINARY MEDICINE, SEA WORLD; AND JOHN KIRTLAND, MEMBER, BOARD OF DIRECTORS, INTERNATIONAL MARINE MAMMAL ANIMAL TRAINERS ASSOCIATION

Mr. PRESCOTT. Thank you. Good afternoon, Mr. Chairman. I am John Prescott, the executive director of the New England Aquarium.

Today, as 23 years ago, I am speaking in support of the act. I am representing the 26 members of the Alliance of Marine Mammal Parks and Aquariums, the 159 accredited institutional and

6,000 individual members of the American Association of Zoological Parks and Aquariums, and millions of Americans.

The zoological parks and aquariums that make up these organizations are an American tradition with widely admired, quality facilities that others throughout the world would strive to emulate. Our mission is education, conservation, and research.

In 1991, over 115 million people visited AAZPA and Alliance facilities to enjoy a learning experience. No Government or other education program replicates the impact or depth of these education and conservation activities. Guests, young and old, leave our institutions with a strong and determined interest in assuring that marine mammals are safe and protected in the wild.

The American people intuitively understand our mission—86 percent agreed in a recent Roper poll that they are more than likely to be committed to environmental conservation after visiting a marine park or a zoo, just as the congressional drafters of the original act intended.

Millions of children, students, and adults participate in our specialized education programs. Americans respect this educational experience. In the Roper poll 92 percent responded that zoos and aquariums play a significant role in education.

Wild marine mammals have benefited from the $20 million dedicated to research by our members in the past 5 years. Our members have also spent over $5 million since 1987 rescuing stranded marine mammals. More than 1,500 have been returned to the wild.

Alliance and AAZPA facilities make substantial contributions to our local communities through taxes, employment, goods and services, tourism, and the civic pride that comes from being a home to a zoo, aquarium, or marine life park.

The act is truly a significant environmental statute. Wide in scope and authority, it should be reauthorized. However, Congress should make minor clarifications to allow the act to better serve its underlying purpose by ending duplicative regulatory demands and avoiding costly and unnecessary court challenges.

But before proceeding, let me say that regulatory agencies are overburdened. Sometimes their hands are tied. Sometimes lines of authority have been left vague by Congress. Sometimes they are spread thin by court challenges.

Mr. Chairman, our legislative recommendations are in my written testimony. A few examples underscore the need for clarifying amendments. The mere offer to transfer a permitted marine mammal to an APHIS licensed facility should not require a new permit, nor should still another permit be needed before a counteroffer can be made or before a contract can be signed, and still another before a transfer actually happens. Yet, this is precisely what is now being argued in court.

Senator KERRY. What is the theory of each of the permit transitions? Is it because the transport process has been so inadequate?

Mr. PRESCOTT. It is not the transport process that is inadequate, it is the interjection of the requirement for a letter of authorization to move an animal after it has been permitted. I believe permits should be issued for the removal of an animal from the wild.

Senator KERRY. What is the argument that is made to counter your argument? Are they not asserting that the reason they want

to have a permit is to be able to guarantee that the transport process is sufficiently sensitive to the needs of the mammal?

Mr. PRESCOTT. The needs of the mammal are firmly covered by the Animal Welfare Act. Under the Animal Welfare Act all exhibit animals and research animals are covered. We have an agency, in the case of the National Marine Fisheries Service, that appears to be broadening the scope of its activities.

Senator KERRY. So, you just think it is unnecessary?

Mr. PRESCOTT. I believe it is unnecessary the way it is going today, yes, sir. We have had breeding seasons missed waiting for a letter of authorization to move an animal. A rehabilitated stranded animal was in isolation for 12 months awaiting agency decision. And one agency attempted to require transport of seals in wire mesh cages which is inhumane and a violation of another agency's regulations.

In a final example, an agency asked me to care for and find homes at a defunct institution. Despite the fact that the agency owned the animals, it took 5 months to finish processing the transfer papers. While waiting for the agency to act we were forced to move animals to prevent deaths from winter cold—30 days later, we received the final authorization. This experience cost $150,000, funds which could be better used to fulfill our mission of conservation, education, and research.

Mr. Chairman, the MMPA is a good law. It does need some modification. And to answer any of your questions you might have, I have behind me a panel of experts which I can introduce at the appropriate time. Thank you.

[The prepared statement of Mr. Prescott follows:]

PREPARED STATEMENT OF JOHN PRESCOTT

The 159 accredited members of the American Association of zoological Parks and Aquariums ("AAZPA") and the 26 members of the Alliance of Marine Mammal Parks and Aquariums ("Alliance") represent Zoos, aquariums and scientific research facilities which further the goals and objectives of marine mammal conservation through the public display of, and research regarding, marine mammals. In 1991, over 115 million people visited Alliance and AAZPA facilities. The Alliance and the AAZPA strongly support the Marine Mammal Protection Act ("MMPA") and appreciate this opportunity to share information about our members' educational, research, and stranding rescue programs and to discuss the MMPA.

I. THE PUBLIC DISPLAY AND SCIENTIFIC RESEARCH COMMUNITY CONTRIBUTES TO MARINE MAMMAL CONSERVATION

A. Education

To the millions of people who visit our facilities, we offer an otherwise unattainable learning opportunity. Millions of people walk away from our facilities with a strong and determined interest in assuring that marine mammals are safe and protected in the wild. Visitors learn about the importance of conservation, responsible human behavior, principles of ecology, animal communication, and natural behaviors.

Zoological parks and aquariums serve as learning centers for the 115 million people who visit our facilities every year. Eight million schoolchildren visit zoos and aquariums as part of their school year curriculum, and another 13 million adults and children take part in formal and informal education programs. Another 8-9 million will have the opportunity this year alone to benefit from a new and progressive educational satellite television series. Using cable television one facility aired eight programs during the 1992-93 school year which featured live host educators, up close footage of marine mammals, interviews with marine mammal experts and the opportunity for students to ask questions using a toll free number. In addition to these programs, 25,000 teachers are given in-service training by zoos and aquar-

iums each school year. In total, AAZPA institutions spend an estimated $27 million on formal and informal educational programs.

AAZPA accredited zoos and aquariums also conduct international training programs for zoologists and wildlife managers, support local education programs, and provide fellowships, internships, and student grants. They also donate their time, materials and equipment to conservation education projects in developing countries. In 1990-1991, AAZPA member institutions initiated or supported 45 educational programs in 24 nations worldwide.

An October, 1992 nationwide poll by the Roper Organization shows the public is in near unanimous agreement (92 percent) that marine life parks play an important role in educating the public about marine mammals and environmental conservation. Significantly for the cause of marine mammal conservation, 86 percent feel if the public learns more about marine mammals, they are more likely to become concerned about marine mammal conservation.

The results of a 1992 Canadian poll paralleled the Roper survey. Eight of ten people surveyed by Decima Research described their visit to an aquarium as educational.

AAZPA and Alliance zoological parks and aquariums open to the public typically have professional educators on staff. Exhibit graphics are designed in cooperation with these professionals. Trained interpreters answer the questions we know from experience our guests will raise based on visitor research. Habitat themes are enhanced through interpretive graphics, illustrated guidebooks, and narrated programs, to name a few. High tech computer simulations and video presentations augment educational messages. Surveys and studies of structured classroom groups back up the hypothesis that contact with live animals improves learning and retention. Above and beyond models and preserved specimens, contact with live animals improves attitudes towards them. Visitors to zoos and aquariums to see whales and dolphins should be viewed as a "link in a chain of learning."

Visitors to AAZPA and Alliance facilities begin learning the moment they enter. For many people, visiting an AAZPA or Alliance facility is often their first and only experience with marine mammals. This experience, coupled with the unique educational materials they see, instills in visitors an awareness of ecological and conservation issues, not only about marine mammals, but also about invertebrates, sharks, fish, turtles, birds, oceanography, coral reef ecology, endangered species and more.

At some facilities, graphics and narrated presentations are supplemented by demonstrations in which a teacher discusses animal behavior while trainers help the animals demonstrate the behavior.

In addition to our programs for the general public, most AAZPA and Alliance members offer specially designed educational programs prepared by experienced teachers. Programs are offered for the blind, students who speak foreign languages, gifted students, preschoolers, autistic children, and teachers and professors at the elementary, undergraduate and graduate levels, as well as adults of all ages.

For schools which cannot bring their students to us, some AAZPA and Alliance members have developed auditorium programs and other outreach programs. We often send a curriculum aid packet in advance of the trip to assure that the educational benefits of the visit are optimized.

Outreach programs are not confined to the communities in which Alliance and AAZPA facilities are located. Educational material available by mail include curriculum guides, activity packets, educational posters, flashcards, illustrated information booklets, fact sheets, and educational videos. Alliance and AAZPA members are working with the National Education Association, the National Science Teachers Association, and the National Marine Educators Association to publicize these programs.

Every month, hundreds of letters from school children arrive at our zoos and aquariums. Ashley, from Connecticut, writes "I would like to help save the whales, but in order for me to do that I need you to help me. Please tell me how I can help." Brandi from Ohio, tells us "When I grow up I want to be a marine biologist."

After a week's course in Florida to learn about marine mammals, students from Denver organized a slide show for their English and social studies classes calling for a tuna boycott to protect dolphins.

The California State Superintendent of Public Instruction wrote another public display facility saying he was particularly impressed with their "curriculum materials that integrate the academic disciplines of mathematics, science and social science."

One parent accompanying her child to a park commented that "close contact with dolphins * * * makes the whole issue come alive for (children). Protecting wildlife becomes more real and therefore encourages more effort and activism."

The Education Program Coordinator of the Hawaiian Humane Society complimented another marine life park on its contributions to seminars for local educators on "Animal Education Programs."

These comments are typical of the positive public response to the programs offered by AAZPA and Alliance members.

B. Research

Research is also an essential element of the program at zoos and marine mammal parks and aquariums. Much of what is known about marine mammal biology, physiology, reproduction and behavior results from scientific research conducted by public display facilities.

Generally, research by Alliance and AAZPA members falls into two categories—onsite projects and field research.

On-site projects are often aimed at improving animal husbandry knowledge including health information, diet and reproductive biology. This type of research continues to assure that our marine mammals are housed in the best-designed habitats.

Captive breeding programs are also implemented at AAZPA and Alliance facilities as part of a more holistic effort to preserve species in their natural habitats. Conservation of the world's wildlife and its habitat is the highest priority of AAZPA. The association's conservation activities were initiated with the development of the Species Survival Plan (SSP) in 1981. The SSP now manages cooperative breeding programs for 69 species. The Marine Mammal Taxon Advisory Group (TAG) was recently formed to prioritize marine mammal species for captive propagation and recommend species for which new studbooks and SSPs should be developed.

The Marine Mammal TAG is composed of a diverse group of experts including representatives from other conservation organizations, field biologists and zoological professionals. This insures that the best informed recommendations on captive propagation management will be made. The designation of priority species for captive breeding is based on captive population size, available space for propagation, breeding success, status in the wild, genetic viability of the captive population, and ultimately, the long range outlook for enhancing or reestablishing native populations in the wild.

The second category of research is field research. Findings are presented at professional meetings and then published in scientific journals. In this way, our research benefits government, environmental and conservation groups throughout the world.

In the last five years, Alliance and AAZPA members have spent over $20 million on marine mammal research. Over the past 25 years, our members have published over 1,600 research studies and presented the results to professional organizations and conferences.

Research projects undertaken by Alliance and AAZPA members have achieved breakthroughs which benefit all marine mammals, including wild populations. For example:

- The marine mammal community has developed specialized vitamin and nursing formulas for young animals born in zoological environments that have been used to increase the survival of young abandoned by their mothers in the wild.
- Fuel oil is no longer added to off-shore oil drilling fluids because the Edgerton Research Laboratory, an integral part of the New England Aquarium, identified number 2 fuel oil as the most toxic component in oil drilling fluid mixtures.
- Studies of the food intake rate and reproductive biology of the northern fur seal have contributed to the overall knowledge of this species, now designated as depleted.
- Researchers tested a satellite-linked radio transmitter allowing scientists to learn more about the ranging patterns of dolphins in the open waters of the Gulf of Mexico.
- The Long Marine Laboratory is currently training California sea lions to swim with gray whales and tape whale behavior with video cameras. By studying gray whale behavior, researchers hope to acquire information that will protect the whales in their natural environment as well as protect the habitat they require. This research is being underwritten, in part, by the National Geographic Society.
- Collaborative efforts between the University of Hawaii and a marine mammal facility have resulted in a test to identify concentrations of the deadly ciguatoxin in the blood of humans and animals. Early detection and treatment is now possible for people and marine mammals that have ingested fish tainted with toxin.
- Scientists have worked with the Air Force to study the effects of aircraft noise on birds and marine mammals.
- A study was done with the National Institutes of Health and others to determine how harbor seals may avoid heart disease even though their all-seafood diet

is high in protein and fatty acids. This study is being used to provide clues as to how humans can fight heart disease, the number one killer of adults.

• Another facility initiated collaborative research which led to the identification of seal influenza in the North Atlantic.

The health maintenance research done at marine mammal facilities is also essential for treating sick and stranded animals. Without knowledge of marine mammal health and physiology, and without the techniques necessary to help these animals, successful rehabilitation would be impossible.

C. Helping Stranded Animals

Many Alliance and AAZPA members voluntarily participate in federally-sponsored stranding response networks organized by the National Marine Fisheries Service. Because of their extensive expertise with marine mammals, Alliance and AAZPA members are called upon by the public, local animal welfare organizations, and state and federal regulators to respond to animals in distress through strandings and injury.

Thousands of marine mammals are reported annually as stranded on the coasts of the United States. Efforts to save these animals and generate scientific knowledge are almost exclusively due to the dedication of the institutions and individuals of the Stranding Network who receive no payment for their efforts. One Stranding Network member, Sea World, spent $3.4 million over the last five years rescuing 2,728 animals, including birds and other animals as well as cetaceans. Of those animals, 1,307 were rehabilitated and 1,080 were released.

The New England Aquarium currently responds to approximately 500 strandings each year, including mass strandings of 30-90 pilot whales. The aquarium provides rescue and rehabilitation services, and has returned pilot whales to their habitat. It has also assisted more than 50 seals of 5 different species, returning many to the wild. Direct costs of these efforts are estimated to be $100,000 per year, in addition to thousands of hours of trained volunteer help.

There are many other examples of rescue efforts, including a west coast sea otter rescue and care program designed to rehabilitate and return abandoned pups and sick and injured adults to their natural environment.

The marine mammal community is not reimbursed for the expenses associated with the medical treatment of stranded animals—and stranding operations are costly. In the last five years, Alliance and AAZPA members alone have spent over $5 million rescuing, treating, feeding and releasing marine mammals. As a result of efforts by the public display community and others, 1,500 marine mammals were returned to their natural environments in the last five years. Sadly, stranded animals are often severely injured and would not be able to survive in the wild. These animals, most of which are not suitable for display, are maintained at Alliance and AAZPA facilities at their own cost.

In addition to responding to calls to assist stranded marine mammals, it is not uncommon for a single Alliance or AAZPA facility to receive over 1,500 calls a year regarding marine mammals, birds and other wildlife in distress. Nor is it uncommon for the animal care staff of these facilities to examine large numbers of animals that succumbed in a mass die-off. Staffs are on call 24 hours a day, seven days a week.

AAZPA and Alliance members have also long understood that the study of stranded animals is important to protect marine mammals in the wild. This work provides essential data about the natural history of a species and population dynamics, and is an indicator of factors affecting these animals such as disease, pollution and parasites. Thus, when animals are released, they are marked for re-identification and many are radio/satellite tracked by federal agencies to gather still more data to help other animals.

Another example of stranding related research now being done with a wild population is a project evaluating the health of the Matagorda Bay Texas dolphin population, which suffered an unusual mortality event in the spring of 1991. Public display community veterinarians participating in the study, which is funded by the National Marine Fisheries Service, have reported to NMFS that this project presents a strong foundation upon which to understand subsequent events.

AAZPA and Alliance members make substantial contributions to the rescue, rehabilitation and release of stranded marine mammals. In fact, the accumulated knowledge, collective experience and resources of AAZPA and Alliance facilities are primary factors in these rescue efforts.

II. PUBLIC DISPLAY FACILITIES CONTRIBUTE TO THEIR COMMUNITIES

AAZPA and Alliance members contribute substantially to the communities in which they are located through the thousands of people they employ, the millions

of dollars spent on goods and services, the monies paid and generated in taxes, increased tourism, and the additional dollars spent in the community by visitors.

Alliance members pay over $55 million in various taxes annually. Employment taxes are paid to the Federal government, states, municipalities and counties as well as for water, sewer and utility usage, and on telephone service. Taxes paid by visitors and collected by these facilities for remittance to the appropriate government entity include those for food at restaurants, sales at gift shops and entertainment taxes on gate receipts. For-profit institutions pay municipal property taxes and sales taxes.

In addition, Alliance facilities spend another $250 million yearly on the purchase of goods and services and provide thousands of jobs. Over 12,000 people are employed in full or part-time positions.

Annually, AAZPA members make over $440 million in capital improvements to their facilities. More specifically, marine parks have invested over $1.2 billion in their communities through construction, continuing expansion and maintenance of their operations.

Studies done by individual AAZPA and Alliance members clearly demonstrate that public display institutions have a significant positive impact on their local communities and states. Based on an economic impact study, the New England Aquarium, for example, estimates total off-site spending by visitors to its facility is more than $289 million. This off-site spending is believed to generate $8.7 million in sales and use taxes. Similarly, Marine World Africa U.S.A. in California estimates it generates an estimated $95-105 million for the local economy annually.

The benefits to the community from marine mammal public display facilities, either in direct payments and taxes, other generated revenues, economic multipliers, employment opportunities, tourism, business and infrastructure growth, are significant financial ones. More difficult to evaluate, yet equally important, is the community identity and civic pride that comes from being the home to each of these zoos, aquariums, oceanariums and marine life parks.

III. PUBLIC ATTITUDES TOWARDS ZOOS AND AQUARIUMS

An October 1992 nationwide poll by the Roper Organization showed that Americans believe public display facilities play a positive role in protecting animals and wildlife and in educating the public about the animals and environmental conservation. Four in ten Americans said they have visited an aquarium, animal theme park, or zoo in the past year. 80 percent said they enjoyed going to public display facilities and one in six actually contributed financial support.

There is near unanimous agreement (92 percent) that public display facilities play an important role in educating the public about marine mammals and their environment. 91 percent of the people surveyed agree that aquariums and zoos provide children with an opportunity to learn about wild animals and are important in educating children about these animals.

These findings by the Roper Organization were confirmed in a recent Canadian poll. Eight of ten people surveyed by Decima Research considered public display facilities to be educational.

Perhaps the most significant finding of the poll was that 86 percent believe if the public learns about animals at 2005 and aquariums, they are more likely to become concerned about protecting these animals and their habitat. Interestingly, two thirds of the public consider it important, if not essential, to entertain visitors while they learn about animals.

The vast majority of people surveyed feel that aquariums and zoos play an important role in preserving animals and that studying animals in captivity helps develop sound conservation programs for animals. Further, the public credits public display facilities with most of the successes that have been realized in saving endangered species.

The public supports the public display of marine mammals as an important tool in conserving marine mammals and their environment.

IV. AAZPA ACCREDITATION PROGRAM AND CODE OF PROFESSIONAL ETHICS

The AAZPA monitors the activities of its members through an accreditation program. One of the foremost objectives of the AAZPA is to maintain high professional standards and to influence continuing growth of superior zoological parks and aquariums. In developing and updating its accreditation program, the AAZPA is especially concerned with the need for high standards of animal management and husbandry. This objective is paramount in the maintenance and care of living collections. Good conscience permits no higher priority. The Accreditation Commission also accords special attention to how these living collections are use.

Accreditation certifies that an institution is currently meeting standards established by the Association and is based upon the informed judgment of experienced individuals within the profession. Zoological parks and aquariums must qualify for accreditation at least once every five years. Facilities may be inspected during the five year period if suspected problems are presented to the AAZPA.

Both institutional and individual members are bound by the AAZPA Code of Professional Ethics. This Ethics Code was developed by the profession and is the standard by which proper conduct is measured.

The AAZPA Ethics Board, composed of 5 professional AAZPA members elected by the voting membership is responsible for developing and maintaining the Code, as well as investigating formal written complaints of Code violations and initiating investigations on its own. Anyone can bring an ethics charge against an AAZPA institution. Based on the results of these investigations, the Ethics Board makes recommendations for appropriate action to the Board of Directors.

The Code includes obligations of professional ethics and mandatory standards. Deviation by a member from the Code of Professional Ethics is considered unethical conduct and the member becomes subject to investigation by the AAZPA's Ethics Board and, if warranted, to disciplinary action by the AAZPA Board of Directors.

The AAZPA is refining and revising its ethics guidelines based on the professional expertise of its membership. For example, last spring, the AAZPA and Georgia Tech University convened a conference to consider ethical issues facing the Species Survival Plan. Funded by a grant from the National Science Foundation, the conference brought together nearly 50 experts in animal welfare, wildlife conservation and management, environmental ethics, and zoo biology to discuss ethics surrounding captive breeding, display design, surplus animals, behavioral enrichment and other relevant topics. Much progress was made and the conference results will be published by the American Association for the Advancement of Science.

V. MMPA AMENDMENTS

AAZPA and Alliance members support the MMPA and do not believe it is in need of major modification. However, AAZPA and Alliance members have a unique perspective on the Act and urge the following issues and amendments be considered during the reauthorization.

1. Amend the Congressional findings to recognize the value of public education and scientific research by public display institutions and other persons in enhancing the conservation of marine mammals.

2. Clarify that persons who already have an MMPA public display permit do not need yet another MMPA permit to (a) transfer marine mammals already in captivity between their own facilities or (b) offer to sell, offer to purchase, sell, purchase or transport marine mammals already in captivity to another facility which already has a marine mammal public display permit for the species involved. Several animal rights organizations have filed a lawsuit alleging that each offer to purchase, each offer to sell, each sale, each purchase, and every transportation is a taking requiring an additional and separate MMPA permit subject to Federal Register notice and comment, public hearings and judicial challenge.

3. Clarify that the sale, transfer and transport of marine mammals already in captivity between already permitted institutions also does not require yet another authorization. Facilities already holding an MMPA public display permit should not need a separate letter of authorization, which has become tantamount to another permit, as the National Marine Fisheries Service ("NMFS") and the Fish and Wildlife Service now require. However, the Animal and Plant Health Inspection Service ("APHIS") should be notified in advance of the transport to make certain the receiving facility is properly permitted and NMFS and FWS should be notified of any transport of animals under its jurisdiction so they can maintain a current inventory of the location of animals in captivity.

4. Codify the existing practice of NMFS and FWS that requires public display institutions to comply with the marine mammal care and maintenance standards established by APHIS under the Animal Welfare Act. One agency, not three, should be establishing and enforcing marine mammal care and maintenance standards.

5. Clarify that public display includes interactive exhibition. Scientific studies and real world practice show that people learn more, and retain it longer, when the learning process is interactive. Interactive programs should be included in public display programs where appropriate.

6. Clarify that the MMPA moratorium on taking marine mammals does not apply to takings for public display, scientific research, or to enhance the survival of a species or stock. This has been a twenty-year old interpretation of the MMPA by the

agencies and the Congress. Now, animal protectionists are trying to change this long accepted statutory provision via a court challenge.

7. Clarify that the Act's prohibition on the importation of marine mammals from species designated as depleted only applies to animals taken from a stock which was depleted at the time of the taking. The Act's purposes are not furthered by applying this prohibition to animals taken from stocks which were not depleted at the time of the taking. Similarly, animals born in captivity should also be allowed to be imported even if the wild population is considered depleted. Protecting depleted stocks in the wild makes good sense. Interfering with breeding programs including captive animals does not.

8. Codify existing agency practice that the issuance of permits for public display, scientific research or enhancing the survival or recovery of a species is not a major federal action significantly affecting the quality of the human environment which requires a full environmental impact statement.

9. Establish an expedited procedure whereby beached and stranded animals which cannot be returned to the wild may be returned to the federal government for care or allowed to be maintained at the responding facility or another appropriate facility.

We have proposed another amendment which is related to the Section 114 legislation being developed by this Committee, the fishing industry and the conservation community. Although that amendment is not the subject of this hearing, we ask for its consideration as you develop your legislation on Section 114.

VI. CONCLUSION

The contributions of the public display and scientific research communities to the conservation of marine mammals and the protection of the ecosystem upon which they depend is chronicled in the millions of visitors who come to our facilities each year and who leave with a renewed dedication to marine conservation. They are chronicled in the thousands of research projects funded by AAZPA and Alliance members. And, they are chronicled in the vast sums spent on the rescue and rehabilitation of stranded marine mammals who would die on our beaches without the voluntary commitment of resources made by AAZPA and Alliance members.

AAZPA and Alliance members look forward to continuing their efforts under the MMPA and respectfully request the adoption of our certain clarifying amendments.

Senator KERRY. Thank you very much. Why do you not share with the committee now, the members of the panel for the record.

Mr. PRESCOTT. Thank you. With me today are Eleanor Fries, the director of education, the Aquarium for Wildlife Conservation; Dr. Michael Hutchins, director of conservation and science for the American Association of Zoological Parks and Aquariums; Dr. Rae Stone, marine mammal veterinarian and coowner of Dolphin Quest, Hawaii; Dr. Jim McBain, corporate director of veterinary medicine, Sea World; and John Kirtland, member of the board of directors, the International Marine Animal Trainers Association.

Senator KERRY. Fine. Thank you very much. Dr. Grandy, why do you not go now so we get an opposite view at this point, and then we will turn to Mr. MacDonald for some whale watching specific comments, and then we will have a dialog.

STATEMENT OF DR. JOHN GRANDY, VICE PRESIDENT FOR WILDLIFE AND HABITAT PROTECTION, HUMANE SOCIETY OF THE UNITED STATES; ACCOMPANIED BY DR. NAOMI ROSE, MARINE MAMMAL SCIENTIST, HUMANE SOCIETY OF THE UNITED STATES

Dr. GRANDY. Good afternoon, Senator Kerry. I am Dr. John Grandy. I am vice president for wildlife and habitat protection for the Humane Society of the United States.

I thank you for the opportunity to testify on behalf of the Humane Society and 16 other member organizations of the Marine Mammal Protection Coalition, and our combined membership and

constituency of over 2 million persons worldwide regarding the issue of marine mammal public display and scientific research.

I have with me today Dr. Naomi Rose, to my right, the marine mammal scientist for the Humane Society of the United States, and a woman who has spent the last 7 years studying killer whales off the coast of British Columbia. She will be available, of course, to help answer questions should you have any.

We appreciate the committee's prompt attention to this issue and look forward to working with you, Mr. Chairman, to preserve the principles of the Marine Mammal Protection Act of 1972 during its reauthorization process.

I will as, is customary, summarize my statement and hope that my entire statement will be part of the record.

Senator KERRY. Without objection all statements will be put in the record as if read in full.

Dr. GRANDY. Thank you. First, the Marine Mammal Protection Act should be amended to prohibit the intentional feeding of marine mammals in the wild. We strongly supported the ruling by NMFS that feeding marine mammals in the wild constitutes a take under the MMPA, and fully endorsed efforts by NMFS to act in the best interest of the animals by issuing regulations banning this disruptive practice. I have proposed language which I will submit for the record as well.

Point No. 2, the Marine Mammal Protection Act should be amended to prohibit invasive and lethal research on marine mammals unless it will directly benefit the species in the wild. I have listened with interest to your discussion with Dr. Hofman a few moments ago, and I look forward to discussing this issue with you more during questions.

No. 3, the Marine Mammal Protection Act and the Animal Welfare Act should be amended to place sole responsibility with NMFS for the care and maintenance of marine mammals in captivity. The reasons for this are fully set forth in our statement and I will leave those there.

I will concentrate the bulk of my remarks on the last three points at issue here before us today. Point No. 4, the Marine Mammal Protection Act should be amended to prohibit all forms of direct contact between humans, other than facility animal caretakers, and marine mammals. We believe that petting pools, monitored feeding programs, and swim with dolphin programs do not constitute public display, and as such they should not be exempted from the MMPA.

Indeed, these interactive programs should be specifically, we believe, prohibited. Such programs pose unacceptable levels of risk both to the animals through health hazards and stress levels, and to the humans participating.

There have been a disturbing number of reports of aggression and sexual behavior between dolphins and humans in swim with dolphin programs. In fact, an increasing number of injuries to participants have resulted in legal actions taken against program operators and have opened the door to potential litigation against the National Marine Fisheries Service.

Regardless of the number of years in captivity, or even being captive bred, these are wild not domestic animals, large, powerful, pos-

sessing sharp teeth, and are known to exhibit aggression toward each other under various naturally occurring circumstances. The potential for tragedy in forced interactions with humans is obvious. Moreover, in the end, it is the animal that will suffer when negative interactions occur.

Point No. 5, the Marine Mammal Protection Act should require that permits be obtained to determine the placement of stranded marine mammal deemed unreleasable. The Marine Mammal Protection Act is unclear about the determination of the releasability of stranded or injured animals. In fact, this ambiguity has allowed animals to be held captive for years in substandard situations by facilities lacking permits or the ability to meet permitting requirements.

We believe that the process by which facilities receive animals and determine their eventual fate must be made more stringent. Under no circumstances should a facility be issued a permit to retain a stranded animal before that animal has been evaluated as to its releasability. The evaluation itself should be carefully monitored, especially when the species or stock involved is endangered, threatened, or depleted. If a stranded animal is deemed releasable it should be released promptly.

Point No. 6, the Marine Mammal Act should be amended to prohibit the capture from the wild of marine mammals for public display including those animals captured outside the United States for importation into this country.

The public display industry has recently been extolling the successes of its captive breeding programs for marine mammals. Indeed, most pinnipeds currently in captivity were captive bred, and there are nearly sufficient numbers and genetic diversity available among the captive population to sustain itself without supplementing with wild caught individuals. Bottle-nose dolphins are also breeding well in captivity and are close to self-sustaining.

It is important to note that neither of these groups represent endangered species, so their captive breeding programs cannot be considered necessary for conservation. In further support of this point, facilities engaged in captive breeding are not actively pursuing programs designed to rehabilitate and release into the wild any progeny produced.

We therefore question whether these programs benefit the species involved or promote the intent of the Marine Mammal Protection Act. But regardless, we maintain that by the industry's own admission wild captures of individuals from these groups are no longer necessary for public display or captive breeding.

The industry maintains that because of small captive populations for all other cetacean species, again most of which are not endangered, wild captures will continue be necessary into the foreseeable future to maintain genetic diversity among the captive population. This assertion does not support the intent of the Marine Mammal Protection Act or common sense.

If a species is not endangered and a self-sustaining captive breeding program is not possible without wild caught supplementation, then it is questionable that such a species should even be maintained in captivity. Certainly, wild captures in such a case are not necessary for conservation, and continuing to allow

them is like allowing someone to try to fill a bucket that obviously has a hole.

For example, the four smallest whale species currently held in captivity include the killer whale, the false killer whale, the beluga, and the pilot whale. These species suffer apparently high mortality rates, reduced lifespans, and low birth weights in captivity compared to populations observed in the wild. Mortality rates in captivity range from 42 percent for belugas to 92 percent for pilot whales. Captive killer whales experience a mortality rate more than two and one-half times as high as that observed in a well documented wild population.

The average lifespan in captivity for all four species combined is 8 years, assuming a capture age of 3 years, which is typical for these species. In the wild, the average lifespan of all four species combined is 25 to 35 years. In 30 years of holding these 4 species in captivity in the United States only 10 calves have survived past the first few months and were still alive as of February 1993.

Wild caught individuals clearly suffer enough to affect longevity and mortality rates, and possibly as a result of this suffering captive breeding for these species has been unsuccessful. It is clear that individuals of these species cannot handle the transition from wild to captivity.

We now have, Mr. Chairman, a high level of understanding of the social structures and behaviors of marine mammal species in the wild. We know that most exhibit long-term familial bonds and in general are socially complex, long lived, mentally sophisticated creatures. Cetacean species may travel up to 50 to 100 miles a day, dive several hundred feet, and spend only 20 percent of their time at the surface.

The transition from their natural environment to captivity in a small concrete tank can only be unimaginably traumatic. A symbol of all that is wrong with removing these animals from their natural environment is the collapsed dorsal fins seen in many captive killer whales, probably a result of spending more than one-half of their time on the surface of their tanks.

You remember that was a feature of Willy in the movie, "Free Willy." This phenomena is observed in less than 1 percent of wild killer whales. The capture process itself, where animals are rounded up, netted or lassoed, or driven into shallow water, and taken from family and removed from the water is incredibly cruel and stressful.

The public has received the message of conservation and habitat protection. The message can be reinforced through various media such as wildlife videos and interactive displays. The public has realized that taking these magnificent creatures from their natural home to exist in sterile confinement, in circumstances wholly alien to their existence is not education, is not justifiable for entertainment, and in itself does not support conservation.

Mr. Chairman, I thank you for the opportunity to present our views, and I look forward to responding to questions.

[The prepared statement of Dr. Grandy follows:]

PREPARED STATEMENT OF DR. JOHN GRANDY, PH.D.

Good afternoon. Mr. Chairman, members of the committee, I am Dr. John W. Grandy, vice president of Wildlife and Habitat Protection for The Humane Society of the United States (HSUS). I thank you for the opportunity today to testify on behalf of The HSUS and 16 other member organizations of the Marine Mammal Protection Coalition (MMPC) and our combined membership and constituency of over 2 million persons worldwide, regarding the issue of marine mammal public display and scientific research. The HSUS is the largest animal protection organization in the United States. We have ten regional offices, an educational division, legislative experts and a team of investigators. We have substantial programs focused on providing humane stewardship for companion animals, laboratory animals, farm animals, and wildlife. The HSUS has recently established an international arm, The Humane Society International (HSI), through which we will extend our programs of animal protection around the world.

We appreciate the committee's prompt attention to this issue and look forward to working with you, Mr. Chairman, to preserve the principles of the Marine Mammal Protection Act (MMPA) of 1972 during its re-authorization process.

INTRODUCTION

Our position has long been that under most circumstances wild animals should exist undisturbed in their natural environments. Captivity of marine mammals in zoos, aquaria, and marine parks and lethal and invasive scientific research are essentially antithetical to this position. Frequently, captivity and research result in abuse, neglect, suffering, and premature death of individual animals. Therefore, we maintain that captivity of and research on marine mammals should only be undertaken for the direct benefit of the species and that all individual animals involved should be treated in a humane, professional manner where the welfare of the individual is always paramount.

SPECIFIC PROPOSALS

1. The MMPA should be amended to prohibit all forms of direct contact between humans (other than facility animal caretakers) and marine mammals.

We believe that petting pools, monitored feeding programs, and swim-with-the-dolphin programs do not constitute "public display" and as such, they should not be exempted from the MMPA. Indeed, these interactive programs should be specifically prohibited. Such programs pose unacceptable levels of risk both to the animals (e.g. health hazards, stress levels) and to the humans participating. There have been a disturbing number of reports of aggression and sexual behavior between dolphins and humans in swim-with-the-dolphin programs. In fact, increasing numbers of injuries to participants have resulted in legal actions taken against program operators and have opened the door to potential litigation against the National Marine Fisheries Service (NMFS). Regardless of the number of years in captivity or even being captive-bred, these are wild, not domestic, animals; large, powerful, and possessing sharp teeth, and are known to exhibit aggression toward each other under various naturally-occurring circumstances. The potential for tragedy in forced interactions with humans is obvious.

2. The MMPA should be amended to prohibit the intentional feeding of marine mammals in the wild.

We strongly supported the ruling by NMFS that feeding marine mammals in the wild constitutes a "take" under the MMPA and fully endorsed efforts by NMFS to act in the best interests of the animals by issuing regulations banning this disruptive practice. Feeding wild animals to artificially create opportunities to observe them in the wild fosters dependency on humans, disrupts natural foraging behavior, and sets the stage for potentially injurious encounters, both for the animals and for humans.

3. The MMPA should require that permits be obtained to determine placement of stranded marine mammals deemed unreleasable.

The MMPA is unclear about the determination of the releasability of stranded or injured animals. In fact, this ambiguity has allowed animals to be held captive for years in substandard situations by facilities lacking permits or the ability to meet permitting requirements. We believe that the process by which facilities receive animals and determine their eventual fate must be made more stringent. Under no circumstances should a facility be issued a permit to retain a stranded animal before that animal has been evaluated as to its releasability. The evaluation itself should be carefully monitored, especially when the species or stock involved is endangered,

threatened, or depleted. If a stranded animal is deemed releasable, it should be released.

4. The MMPA should be amended to prohibit invasive and lethal research on marine mammals unless it will directly benefit the species in the wild.

We recognize that, despite excellent efforts, many stranded and/or beached animals that are taken into captivity do unfortunately die. The bodies of these animals contain data critical to scientific advancement and the study of their tissues can provide valuable information. However, we believe that there are very few circumstances that justify the killing of healthy marine mammals in scientific studies. Invasive experiments, such as insertion of electrical apparatus, are also justified only under a very limited set of circumstances. In both cases, we believe that such research should be undertaken only when its results directly benefit the species being studied. Lethal and invasive research is extremely disruptive to wild populations and can result in the unintentional deaths of both the animals being handled and the animals involved in the social disruption, such as seal pups separated from their mothers when researchers enter a rookery area.

5. The MMPA and the Animal Welfare Act should be amended to place sole responsibility with NNFS for the care and maintenance of marine mammals in captivity.

The Animal and Plant Health Inspection Service (APHIS) and NMFS currently share responsibility for oversight of the care and maintenance of marine mammals in captivity. However, APHIS has been reluctant to modify certain requirements (such as minimum social group size) for marine mammals because such requirements would then apply to all captive animals. Such conflicts emphasize why it is inappropriate for APHIS to share oversight of captive marine mammals. In addition, APHIS has not demonstrated in the past that it can adequately ensure the humane treatment and welfare of marine mammals on public display. NMFS has the expertise and infrastructure to do so and should have sole responsibility for marine mammals in captivity.

6. The MMPA should be amended to prohibit the capture from the wild of marine mammals for public display, including those animals captured outside the U.S. for importation into this country.

The public display industry has recently been extolling the successes of its captive breeding programs for marine mammals. Indeed, most pinnipeds currently in captivity were captive-bred and there are nearly sufficient numbers and genetic diversity available among the captive population to sustain itself without supplementing with wild-caught individuals. Bottlenose dolphins (*Tursiops* spp.) also are breeding well in captivity and are close to self-sustaining. It is important to note that neither of these groups represent endangered species, so their captive-breeding programs cannot be considered necessary for conservation. In further support of this point, facilities engaged in captive breeding are not actively pursuing programs designed to rehabilitate and release into the wild any progeny produced. We therefore question whether these programs benefit the species involved or promote the intent of the MMPA, but regardless, we maintain that, by the industry's own admission, wild captures of individuals from these groups are no longer necessary for public display or captive breeding.

The industry maintains that because of small captive populations for all other cetacean species (again, most of which are not endangered), wild captures will continue to be necessary into the foreseeable future to maintain genetic diversity among the captive population. This assertion does not support the intent of the MMPA or common sense. If a species is not endangered and a self-sustaining captive breeding program is not possible without wild-caught supplementation, then it is questionable that such a species should even be maintained in captivity. Certainly wild captures in such a case are not necessary for conservation and continuing to allow them is like allowing someone to try to fill a bucket that obviously has a hole in it.

For example, the four small whale species currently held in captivity include the killer whale, the false killer whale, the beluga, and the pilot whale. These species suffer aberrantly high mortality rates, reduced life spans, and low birth rates in captivity compared to populations observed in the wild. Mortality rates in captivity range from 42 percent (belugas) to 92 percent (pilot whales). Captive killer whales experience a mortality rate more than 2.5 times as high as that observed in a well-documented wild population (48 percent vs. 18 percent). The average life span in captivity for all four species combined is eight years (assuming a capture age of three years, which is typical for these species); in the wild, the average life span of all four species combined is approximately 25-35 years. In 30 years of holding these four species in captivity in the U.S., only 10 calves have survived past the first few months and were still alive as of February 1993. Wild-caught individuals

clearly suffer enough to affect longevity and mortality rates and possibly as a result of this suffering, captive breeding for these species has been unsuccessful. It is clear that individuals of these species cannot handle the transition from the wild to captivity.

We now have a high level of understanding of the social structures and behaviors of marine mammal species in the wild. We know that most exhibit long-term familial bonds and in general are socially complex, long-lived, mentally sophisticated creatures. Cetacean species may travel up to 50 to 100 miles a day, dive several hundred feet deep, and spend only 20 percent of their time at the surface of the water. The transition from their natural environment to captivity in a small concrete tank can only be unimaginably traumatic. A symbol of all that is wrong with removing these animals from their natural environment is the collapsed dorsal fin seen in many captive killer whales, probably the result of spending more than half of their time at the surface of their tanks. This phenomenon is observed in less than 1 percent of wild killer whales. The capture process itself, where animals are rounded up, netted or lassoed, or driven into shallow water, snatched from family and removed from the water, is incredibly cruel and stressful.

The public has received the message of conservation and habitat protection. The message can be reinforced through various media, such as wildlife videos and interactive displays. The public has realized that taking these magnificent creatures from their natural home, to exist in sterile confinement, in circumstances wholly alien to their experience, is no longer necessary for education and certainly not for entertainment and in itself does not support a conservation message.

CONCLUSION

Because of their aquatic environment, complex social structures, and intelligence, marine mammals require special consideration in captivity and when interacting with humans. The MMPA was designed to safeguard these special considerations. We believe that the above amendments will ensure that the MMPA functions as it was intended regarding captive marine mammals and marine mammals involved in scientific research. We believe that these amendments will define a new and humane relationship to these animals for the future. Again, thank you for the opportunity to express our views. We are prepared to assist the committee in any way on this issue.

["Small Whale Species—The Case Against Captivity," by the Humane Society of the United States may be found in the committee's files.]

Senator KERRY. Thank you very much, Doctor.

Mr. MacDonald, we have strategically placed you in between these two gentlemen, because you believe in just watching them where they are. So, we combined the best of watching and the best of preserving them where they are, and we look forward to your testimony.

STATEMENT OF BRIAN MacDONALD, ASSOCIATE DIRECTOR, NEW ENGLAND AQUARIUM

Mr. MACDONALD. I will back out at that point if it is appropriate. [Laughter.]

Thank you. Good afternoon, Mr. Chairman. My name is Brian MacDonald. I am associate director at the New England Aquarium. I am speaking today on behalf of the Northeast Whale Watching Association, or NEWWA, which represents privately owned whale watching companies, naturalists, research scientists, and educational and research institutions.

I would like to provide you with some background on the whale watching community in support, and in the relevance, to the MMPA, including the contributions whale watching has made to science education, public awareness, economic value, research, and enforcement. Whale watching was fairly insignificant in volume in the late-seventies and early 1980's, until there was an increased

awareness about whales, the environment and the whole ecotourism market.

Today, over 4 million people will participate on whale watches worldwide in over 30 countries. Eighty percent of those participants will enjoy this experience in the United States. However, whale watching does more than give the public an opportunity to see whales in their natural environment. It is a perfect combination of passive science education for all ages that is wrapped in anticipation, excitement and appreciation.

The naturalists on board these programs provide a fun way of educating the public about whales and, equally important, about man's role in habitat protection. Another benefit that whale watching provides is a platform for marine mammal research. Many operations work in a symbiotic relationship, where scientists work as naturalists on the boats while they gather otherwise unaffordable research data.

I agree with Dr. Hofman's comments earlier that important information about cetacean populations has been gathered this way, and it is shared with the whale watching community and Government agencies.

NEWWA's members have been actively involved with NMFS since the whale watching guidelines were first developed in the Northeast region in 1985. In November 1988, we participated with NMFS on a national workshop in Monterey to discuss whale conservation programs, education, research, and vessel guidelines. In that workshop and in subsequent meetings held in the Northeast, it was agreed that there were no data available to show either short-term or long-term impacts on whales by vessels when they followed the Northeast regional guidelines of 100 feet.

NMFS Northeast recommended that these same guidelines continue that are in existence today. Last August, NMFS proposed a national minimum approach distance for all whale watch vessels in response to pressure from animal rights groups and to simplify the legal process within the enforcement division of NMFS. No consideration was given to the regional differences of whale populations due to a number of biological and environmental factors.

The NMFS-proposed regulations made whale watching vessels the target, when the real threat to whales is not from a few whale watch boats. The real threat to whale populations is from whale entanglements with commercial fishing gear, tanker strikes, and the thousands of uneducated private boaters in the United States.

NEWWA's mission statement includes the goal to work with Government agencies to increase the public knowledge and understanding of marine mammals and to encourage research to support updated whale watch guidelines if needed. We also support the active enforcement of these guidelines. The New England Aquarium has supplied videotape, slides, and testimony to NMFS enforcement agents in the past. We have also assisted in the disentanglement of whales caught in commercial fishing gear on numerous occasions.

I have personally seen many commercial whale watch companies police private boaters and inform them of whale watching guidelines. NMFS does not have the resources to enforce these guidelines without our help.

Whale watching in the United States reaches 3.25 million a year. It should be noted that it also provides a strong economic base to our coastal economy. Total revenues this year will generate approximately $195 million.

Let us not compromise such a positive program as commercial whale watching by simplifying guidelines to a national standard, especially when there is not any scientific basis to support the standard.

Permits for commercial whale watch boats are not the answer either. We are not the problem. And you cannot regulate all the noncommercial boats with permits either. We recommend that the regional guidelines currently in place be managed by the NMFS regional directors. Trust them, with our help and expertise, to work together to manage and enforce marine mammal protection.

We urge the various Government agencies to work together to increase public awareness and support for marine mammals, and we would like to offer our assistance in the development of educational programs in this regard.

We would also suggest having the Coast Guard Auxiliary add whale watching guidelines to safe boating classes. Include regional whale watch guidelines when private boaters register their boats every year. And let us also improve our communication with NMFS and the Coast Guard to increase enforcement and response time to whale entanglements with commercial fishing gear.

Mr. Chairman, we look forward to working with you, NMFS and the U.S. Coast Guard to support the MMPA, and to educate the public about marine mammal protection. However, let us not make changes in regional whale watch guidelines for the sake of legal simplicity or due to some political pressure.

I urge you to look at the big picture and determine what is really best for marine mammals. I also invite Secretary Hall and any of the panel members that have not ever participated on one—I know you mentioned your own interest and enjoyment out of it—to visit us any time and we would be happy to have you as our guest to enjoy this experience directly.

I did not know when I came here that the rulings would be not as involved in whale watching, even though it was mentioned from time to time. But I appreciate the time for comments.

Thank you.

[The prepared statement of Mr. MacDonald follows:]

PREPARED STATEMENT OF BRIAN MACDONALD

The Northeast Whale Watching Association, represents over 30 members from the whale watching industry, including privately-owned whale watching companies, naturalists, research scientists, and educational and research institutions. Its mission (attached) is to work with government agencies to increase the public knowledge and understanding of marine mammals, and to encourage research to support undated whale watch guidelines, if needed. We also support the active enforcement of these guidelines.

I. THE HISTORY AND BACKGROUND ON WHALE WATCHING IN THE U.S.

Whale watching began on a very limited scale in California back in the mid 1950's. The first organized whale watch on the east coast began in Massachusetts in 1975. From a volume and economic perspective, whale watching was fairly insignificant, until the early 1980's when a number of whale watching companies began emerging on the east coast, in response to the public perception about the plight of whales, ecology, and the increased popularity of "eco-tourism." On an inter-

national scale, whale watching was primarily confined to North America until the mid 1980's. It is estimated in 1993 that over 4.0 million people will participate on a whale watches world wide in more than 30 countries; 80 percent (or 3.25 million) of the participants will enjoy this experience in the United States.

II. PUBLIC EDUCATION

Whale watching does more than give the public an opportunity to see marine mammals in their natural environment. It is a perfect combination of passive science education for all ages, that is wrapped in anticipation, excitement, and appreciation. The naturalists on board these programs provide a fun way of educating the public about whales, and equally important, about man's role in habitat protection. The Pacific Whale Foundation in Hawaii surveyed first-time whale watchers about their trip, and found that 90 percent of the respondents felt more prone to donate toward whale conservation. Ninety-eight percent felt that not enough was currently being done to help save whales, and 82 percent indicated that no amount of money could replace their experience. With so much enthusiasm and education being absorbed, the word does travel fast. Over the past ten years, whale watching on a global scale has averaged a 49 percent annual growth rate.

III. RESEARCH BENEFITS

Whale watching provides a platform for marine mammal research. Many operations work in a symbiotic relationship, where scientists work as naturalists on the boats while they gather, otherwise unaffordable scientific data. Important information about cetacean populations has been gathered this way, and is shared with the whale watching community and government agencies such as NMFS.

IV. GOVERNMENT SUPPORT WITH REGULATIONS

The NEWWA's members have been actively involved with NMFS since the whale watching guidelines were first developed in the Northeast Region in 1985. In November 1988, we participated with NMFS on a national workshop in Monterey, to discuss and compare whale conservation programs, education, research, and vessel guidelines. In that workshop and subsequent meetings held in the Northeast (December 1989) it was agreed that there was no data available to show either short term or long term impacts on whales by vessels, when they followed the Northeast Regional guidelines of 100 feet. The NMFS-Northeast recommended that these same guidelines continue that are in existence today.

V. NEWWA OPPOSES PROPOSED WHALE WATCHING REGULATIONS WITHOUT SCIENTIFIC SUPPORT

Last August, NMFS proposed a national, minimum approach distance for whale watch vessels (Fed. Reg. VOL 57, No. 149; 8/3/92) in response to pressure from animal rights groups, and to simplify the legal process within the enforcement division of NMFS. No consideration was given to the regional differences of whale populations due to a number of biological and environmental factors. The NMFS proposed regulations made whale watching vessels the "target," when the real threat to whales is not from a few whale watch boats. The real threat to whale populations is from whale entanglements from commercial fishing gear, tanker strikes, and the thousands of uneducated private boaters in the United States. (see attached testimony).

VI. PROVIDING ENFORCEMENT SUPPORT TO NMFS

The New England Aquarium has supplied videotape, slides and testimony to NMFS enforcement agents in the past. We have also assisted in the disentanglement of whales caught in commercial fishing gear on numerous occasions. I have personally seen many commercial whale watch companies "police" private boaters and inform them of the whale watching guidelines. NMFS does not have the resources to enforce these guidelines without our help.

VII. ECONOMIC IMPACT OF WHALE WATCHING

Whale watching in the United States reaches 3.25 million people per year, and provides a solid environmental message that the public clearly responds to and appreciates. It should be noted that it also provides a strong economic base to our coastal economy. Total direct and indirect revenues in the U.S. this year will generate $195 million.

VIII. CONCLUSIONS/RECOMMENDATIONS

Let's not compromise such a positive program as whale watching by simplifying guidelines to a national standard; especially when there isn't any scientific basis to support this standard, and we're not the problem.

We recommend that the regional whale watching regulations or guidelines currently in place be managed by the NMFS regional directors. Trust them, and us to work together, to manage and enforce marine mammal protection.

We urge the various government agencies to work together to increase public awareness and support for marine mammals through the following methods:

- Have the USCG Auxiliary add whale watching guidelines to their "Safe Boating Classes."
- Have the regional whale watch guidelines included when privateboaters register their boats with the USCG each year.
- Work to improve communication with the NMFS and the USCG to increase enforcement and response time to whale entanglements from commercial fishing gear.

The NEWWA looks forward to working with you,,NMFS, and the USCG to support the MMPA, and to educate the public at large about marine mammal protection. Let's not make changes for the sake of legal simplicity, or due to some political pressure. We urge the committee to look at the big picture, and for what is really best for the marine mammals.

NORTHEAST WHALE WATCHING ASSOCIATION MISSION STATEMENT

To foster an appreciation of cetaceans and their natural habitat. To increase public awareness about the need to protect whales and their habitat, through educational whale watching.

To work with State and national government and agencies to further increase public knowledge and understanding of marine mammals, while encouraging research to support whale watching guidelines, or modifications as needed. NEWWA also supports the active enforcement of responsible whale watching guidelines for its region.

To provide a pro-active voice for whale watching in the Northeastern United States, through shared knowledge with NEWWA's members on new developments in local, national, and international issues pertaining to whale watching, the environment, and legislative changes.

LETTER FROM BRIAN MACDONALD, ASSOCIATE DIRECTOR, NEW ENGLAND AQUARIUM

NOVEMBER 11, 1992.

Dr. NANCY FOSTER,
National Marine Fisheries Service,
Silver Spring, MD 20910

DEAR DR. FOSTER: This letter is written in response to the proposed regulations to govern approaches to marine mammals (Fed.Register. Vol. 57, No. 149). It is written on behalf of the Northeast Whale Watching Association (NEWWA), which is comprised of members from the whale watching industry: privately-owned whale watching companies, naturalists, research scientists, and educational and research institutions.

Although we certainly support the Office of Protected Species' efforts to aid in the recovery of endangered marine mammals, we strongly disagree in three key areas as discussed below.

- First, we disagree with the summarized conclusions that were derived from the Monterey Workshop. Our consensus of the meeting was quite the contrary.
- Second, the subjective editing of references in the Environmental Assessment, and the background information in the Federal Register do not accurately reflect the scientific research cited, and it omits information that is relevant to the field.
- A third and fundamental concern we have, is that the focus on marine mammal approach guidelines is being addressed as the primary threat to the recovery of whale populations, when impacts from other critical factors are ignored (e.g. commercial fishing, tankers). The scientific evidence does flat support this negative claim about whalewatching, and NMFS has not provided one study on the effects of whalewatching since it was recommended by the attendees of the 1988 workshop.

I. Monterey Workshop, Nov. 1988: Many of the members of NEWWA were present and actively participated in the workshop (Nov. 1988-Monterey, CA) referred to in the Environmental Assessment to Govern the Approaches to Marine Mammals. The workshop did bring together knowledgeable representatives of the whale watching

industry, conservation management, and scientific community as described in the Environmental Assessment (EA). A number of issues were in general agreement at the workshop, such as providing special consideration to severely endangered species (e.g. right whales) or for special cases such as calving grounds. It was suggested that interim regulations for these unique cases would be appropriate, pending further investigation and scientific data. The majority of the attendees also recommended a strong public education program be implemented to educate the private boat owners about marine mammal protection. Most importantly, it was agreed that whalewatching in different regions of the country, had a number of factors (vessel traffic, calving grounds, proximity to land, acoustical relationships to bottom topography, etc.). This resulted in the workshop recommending that regional guidelines be considered instead of a blanket, national regulation. Following that workshop, the NMFS Northeast region did hold a meeting (12/19/89) that concluded with, "All agreed that there are no data available to show either short-term or long-term impacts on whales by vessels, when they follow the Northeast regional guidelines (100 feet)." NMFS-Northeast recommended that the same guidelines continue.

II. Environmental Assessment (EA): A number of written comments have been sent to you referring to quotes m the EA that are taken out of context, or edited so tightly that key points have been omitted. None of the references cited by the EA support the statements m the EA. For example, the EA refers to "The Recovery Plan" (NMFS 1991a: Humpback Whales) quoting "Since whale watch trips and scientific research trips frequently operate at locations where humpback whales aggregate for feeding or reproduction, such activities might displace whales from important habitat." In actuality, the cited document continues to say * * *" This does not appear to have happened during more than a decade of intensive commercial whale watching near Cape Cod, Massachusetts." In fact, the recommended management actions in this document never even mention management of the whale watching industry. It further states, "The harm of possible disturbance or behavioral habituation should be weighed against the potential benefits of commercial whale watching, which include the availability of platforms of research at no cost to scientists, the opportunity for members of the public to learn about humpback whales and other aspects of marine biology, and stimulation of public support for whale conservation" (p. 29). Similar references that the EA makes to specific whale populations or behaviors can also be refuted, due to the lack of details that the EA omits.

III. Marine Mammal Approach Regulations: The proposed new regulations are being offered as a solution to protect marine mammals, when there is not any scientific evidence to indicate that this is a priority. The relationship of marine mammals is not a simple one that can be handled through convenient regulations that NMFS would like to use, to help with "enforcement." It is clearly evident that regional behaviors and tolerances of whales to vessels should be studied further. Future research should also pursue acoustic components along with vessel size, speed, changes in gears, etc. It should be noted that scientific evidence on humpback whales in the Northeast region indicates strong population growth during the past two decades, concurrent with the growth of whale watching. Therefore, proposing standard national guidelines is applying a "band-aid" approach to a problem that is missing the "cut" altogether. If NMFS is clearly interested in protecting whales and dolphins, then the priority should be addressing where the real injuries and fatalities lie, which is from discarded and active fishing gear from the large commercial fishing fleets, and hits from large shipping vessels. The majority of whale rescues that have been entangled in fishing gear have been found through commercial whale watching companies. It is these vessels that have assisted authorities in locating, and supporting whale releases from gear. Our protests extend not only to proposed minimum approach distance regulations, but also to the interpretation of harassment behavior (General Prohibition 218.C.3). Research has shown that many of the listed behaviors are often part of the normal repertoire, and not inherently indicative of vessel disturbance.

Well over a million people participate in whale,;watches every year in the Northeast region. The members of NEWWA provide the best symbiotic relationship that can exist to support whale researchers (who act as naturalists on the boats), and to foster a greater appreciation and awareness of the plight of marine mammals to the public. In addition to these benefits, it should be noted that whale watching supports the coastal communities with significant employment and economic benefits. The representatives of NEWWA clearly want to participate with the NMFS in any guidelines that are needed to protect marine mammals, as long as they are legitimate and justified. It is recommended that further study be done in this region to elucidate the response of whales to vessel approach and man-made noise. Once some scientific conclusions can be reached, then appropriate regulations should be devel-

oped and enforced on a regional (or national) level, if the scientific evidence supports that decision.

Sincerely,

BRIAN MACDONALD,
Associate Director.

Senator KERRY. Thank you very much.

You should know that Secretary Brown was geared to go out on a whale watch with us when he visited Plymouth for the dedication of the Stellwagen Sanctuary. Regrettably, the wind and sea that day prohibited our doing it. But he wants to return, and I hope we will get him out there some time.

On the self-enforcement issue, before I turn back to the discussion of the larger issue here, let me just ascertain this. There is certainly a motive for self-enforcement, because it is in the interest of an industry that requires the presence of whales to make sure that they are still going to be present. Therefore, there is indeed a mechanism of self-interest, because, if you chase the whales away, you will not have a business.

But, on the other hand, sometimes people, in their effort to please people on the boat or just generically, can get too close. And I am just curious what the methodology is for the self-enforcement with respect to the close approaches?

Mr. MACDONALD. Well, I can speak for the people in the Northeast, anyway, because that is where our association is. There have been times, certainly, when boats, both private or commercial, have approached too close. Generally, we, as an association, have agreed to speak to those captains, where it might be a new captain that is not as trained or familiar with the area, and we explain what they did wrong. Maybe it was a directional approach that was a problem, and we were concerned, that if there were not enough whales at that point, with too many private vessels around as well, that the vessel should have been differently directed and so forth. We take the effort to talk to them on a one-on-one basis.

Senator KERRY. Are there incidents of operators reporting to the association?

Mr. MACDONALD. The way it is designed right now, every operator can report directly to the director or the chairman of that association, and it is followed up in every case. There has not been any, fortunately, to any great extent, that is not handled, as I said, on a one-on-one basis, if there was a newcomer that was not too familiar with the process.

Senator KERRY. Now, you mentioned in your testimony that your platforms serve as the base for marine mammal research, et cetera. Is research being done specifically as to the impact of the whale watching itself on the whales?

Mr. MACDONALD. Actually, I can speak for the New England Aquarium that we are doing research right now on vessel directions and approaches and how the whales react to that. Whether you will get some conclusions on that, certainly, as you realize I am sure, research cannot be resolved in one season of observations. But we are doing some at the New England Aquarium right now.

Senator KERRY. Are there other requirements besides the distance that ought to be asserted with respect to the whale watching procedures or not?

Mr. MACDONALD. I honestly feel that the regulations that were designed in the Northeast were very effective, and they work well in reference to all aspects about how to approach the whales, the directions, not to box them in, and the time elements of being adjacent to a whale. And I honestly do not feel anything else needs to be done, until further research indicates otherwise. Then we would certainly support it.

Senator KERRY. Let me turn to the larger question here, if I can for a moment. And if you want to chime in, Mr. MacDonald, at any time, just let me know.

There are two very opposing views, and we have known this for some time. There are those in the country who assert that we should not be disturbing the process. We do not need to any more. At one point, it has been asserted, this was the best means of learning because you did not have the video capacity and the interactive capacity we have today. Now, however, we do not need to keep licensing facilities, and we certainly do not need to increase the take. You could have teaching classrooms that come right out of existing facilities and reach students in high schools, colleges, universities, and so forth.

Ultimately, because of the distribution of the existing centers in the country, ranging from Hawaii to San Diego, the west coast to the east coast, and so forth, geographically, you are pretty well covered now. What do you say to the argument that there really is a disruption to an animal that is accustomed to ranging from 200 feet below the sea to the surface and to frolicking with family, and interrelating. There is a fundamental transition, and while it may not think quite as we do, that transition is still highly disruptive and possibly even cruel?

What is your response to that, Mr. Prescott?

Mr. PRESCOTT. I think you have wrapped in the big picture all of the issues that are before us. I would like to respond by saying that as we sit here, there are many things that we do agree upon. In the particular case, you use the term "cruelty," and perhaps I can bear on that for a moment.

I say let us define "cruelty." If we are looking at cruelty at one end of the spectrum—that is, there are colleagues of Dr. Grandy's who think cruelty is any action against any animal, any species, any time, anywhere. At the other end of that spectrum in humanity, there are people who believe that it is perfectly all right to exploit an animal for any cause.

I do not believe it is cruel to maintain animals in our care if we use them to teach, conserve, and learn. So, that puts me somewhere on a different place in the spectrum than Dr. Grandy and other people in the world of animals.

But we do bring animals into zoological environments. We have done it, because there is an innate interest in nature by humans. That innate interest in nature involves live animals. And people do want to be part of it.

We also have to recognize that not everyone everywhere can go out and see them in the wild. So, those animals in zoological environments become ambassadors. And I would like to say that I look at the aquarium as a means to many ends. It is not just the maintenance of those animals, but it is the opportunity to teach chil-

dren, inner city audiences, culturally diverse audiences about conservation when they have no other opportunity.

I do not believe that teaching can be done by television alone. I do not believe we can teach any topic by one method alone.

So, it takes a balance to approach this system. I think we can teach conservation. I think we do teach conservation. And I will answer by repeating myself that 115 million people visited aquariums and zoos and marine parks in 1991, including 8 million children with 2 million teachers. And over 25,000 teachers came to learn how to teach informal science education or informal science in their own education programs through our cooperation with schools and curriculums all around the country.

Senator KERRY. What is your response to that?

Dr. GRANDY. Well, I have a number of responses, as you might guess, Mr. Chairman. But let me be, first of all, very clear about what we are asking.

We, as the Humane Society of the United States and the 16 organizations that I am representing today under the banner of the Marine Mammal Protection Coalition, are not asking that all animals be taken out of zoos or taken out of aquariums. What we are doing is looking very carefully at the four species of whales commonly held in captivity in this country. Those are the killer whales, as I said, the beluga whale, the false killer whale, and the pilot whale.

We think, as our study shows—and I have provided this for the record and I know you have a copy as well, sir—we think that it is clear that those animals cannot be held in captivity without causing innate and unstoppable suffering, cruelty, and inhumanity. I do not disagree with Mr. Prescott's discussion of teaching conservation. It is clear that zoos and other facilities do teach some conservation, and they do it well in some cases—in many cases, perhaps.

But the more we learn about whales and what captivity does to them, the more clear it becomes that you cannot teach people conservation by putting a whale in a concrete tank and making it kick a beach ball around, or something like that. The videos that Bob Talbot does, the videos that are available, the science that is available on the interaction of these whales with their families and one another show conclusively that these animals are interacting with each other over lives that extend 30 to 80 years.

In captivity, the average lifespan of a killer whale—or time in captivity for a killer whale has been about 7 years. That is all. They die. We simply cannot get there from here.

Senator KERRY. How about that, Mr. Prescott, since we have narrowed the discussion down from all marine mammals to whales, and we have narrowed the distinction between lifespan and habitat. What is your response?

Mr. PRESCOTT. Thank you, Senator. I am going to ask Dr. Jim McBain to join me. And while he is coming to the chair, I will offer a couple of comments.

Senator KERRY. Who is the representative here of the swim-with-the-dolphins program?

Mr. PRESCOTT. Dr. Rae Stone.

Senator KERRY. Could she also come forward?

Dr. GRANDY. Senator, since I thought this discussion might delve into killer whales in the wild, I have asked Dr. Rose to join me as well.

Mr. PRESCOTT. As I indicated, I thought I would preface the comments a little bit, because I think sometimes the issue of longevity has been misconstrued. We hear terms like lifespans, we compare average lifespans in zoological environments and the wild, and I hopefully can set a stage for people to think about the terms.

It was only a week or two ago that we heard a report that a man lived to be 130 years old. However, if we examine the actuarial tables of the life insurance industry, humans are expected to live to be around 70, and that is an average. That means those people who reach that actuarial, one-half of the population has died. In those actuarial tables we will recognize that there is higher infant mortality. I think you will hear from our comments that populations of some marine mammals in zoological environments follow those same patterns.

Dr. MCBAIN. My name is Dr. Jim McBain. Currently the best available information—and I will have to state right up front that this information is limited, but the best available information suggests that marine mammals in general living in oceanariums and marine parks have life expectancies very similar to and oftentimes exceeding those in the wild.

I would support this statement in the case of killer whales, bottle-nose dolphins, and beluga whales by mentioning three papers, three peer-reviewed papers on annual survival rate as well as population age distribution. These papers are by Wells and Duffield, DeMasters and Drevenek, and Christiansen. All three of these, the end analyses is that there is no significant difference in the annual survival rates or population age distributions of those species.

I might also mention that, in thinking of the wild, we cannot really think of it as a paradise. It is a place that has many rigors that animals must endure. As a result of this, killer whales actually experience a 43-percent mortality in the first year of life.

There is a Canadian advisory committee on marine mammals that was formed to report to the Minister of Fisheries and Oceans. They concluded that for killer whales and belugas the survival rate in oceanariums appeared to be very close to that in the wild.

Actually, I might even make one more comment. There was a mention of maximum longevity, and we always need to keep in mind what Mr. Prescott just mentioned, that maximum longevity should never be compared with average longevity, and in the case of the 80-year life expectancy that was mentioned, this comes from a statistical model based upon a 13-year study that as yet has not been peer-reviewed as far as I know.

Senator KERRY. So, when Dr. Grandy talks about 7 years versus a 30- to 80-year life expectancy, he is well below the average.

Dr. MCBAIN. I have no idea how the 7-year number was calculated, but just for the sake of understanding how some of these things can be calculated, as I mentioned, the mortality in the first year of life in the wild for killer whales is 43 percent. Bottle-nose dolphins in the Indian River area of Florida, 64 percent die before they are 10 years old.

Senator KERRY. Dr. Grandy, I see you are sort of leafing through things. I take it you wanted to respond.

Dr. GRANDY. Well, I only wanted to respond to a couple of things myself, and I wanted to ask Dr. Rose to respond to a couple of the specific assertions on killer whales.

It is clear that—first of all, I want to tell you where we got our figures. They came from the marine mammal inventory reports prepared by the National Marine Fisheries Service, which includes statistics on the length of time that animals lived in captivity prior to their death after they were put in.

You take an animal like the pilot whale. Starting year in captivity was 1965. There have been 38 in captivity since that time—35 are dead, and the average length of life in captivity between—the time they got them and the time they died—was 3 years.

Senator KERRY. Three.

Dr. GRANDY. 3. Now, I am not going to tell you what the maximum lifespan is for a pilot whale, because I do not know. The literature suggests that average spans are 25 to 35 years. Is that going to be true for every whale? Of course not, and I am not suggesting that it is.

Senator KERRY. But 35 out of 38 with an average of 3 is a pretty dramatic comparison to 25 to 30 years; is it not?

Dr. MCBAIN. It is very dramatic.

Senator KERRY. Is that the first time you have heard that?

Dr. MCBAIN. I am not totally familiar with the numbers here, and I will tell you why.

Most of the pilot whale collections, as far as I know, were done in the sixties and seventies, and there is no question that there has been a significant learning curve since that time.

In fact, as far as I know, in North America there are only two pilot whales living in oceanariums at this time, one of which was collected in 1963.

Senator KERRY. Do you have data on any of the other species?

Dr. GRANDY. Yes, sir. I have it for each species. It is all in this book.

Senator KERRY. What does it show?

Dr. GRANDY. Well, take the killer whale, for example—62 have been captive, brought into captivity since 1967, 30 are dead, an overall mortality rate of 48 percent. The average number of years to death—that is, held in captivity before they died—is between 6 and 7.

Senator KERRY. Is there any way to tell what the ages were when they came into captivity?

Dr. GRANDY. Not exactly. Let me ask Dr. Rose to respond to that.

Dr. ROSE. As far as I know, most animals in recent years certainly were caught as juveniles, and the reasoning for that is simply that younger animals are more adaptable.

I mean, as Dr. McBain said, there has been a learning curve. They used to bring in adults, and they just did not survive, so they started taking juveniles who by appearance are younger, 5 or younger, and they seem to adapt better. They are easier to transport and handle in the initial process, because they get to be quite large as adults.

Senator KERRY. How many whales are in captivity in America now?

Dr. MCBAIN. Killer whales in North America, in the United States, 21. In the world, my understanding is the number is 47 right now.

Senator KERRY. Now, most of these killer whales are providing entertainment; are they not?

Dr. MCBAIN. Not solely, and my experience certainly is at Sea World, and our intent with these animals, is to provide education in an entertaining format. There is no question that the entertaining format is important to the presentation.

Senator KERRY. What would you say are the strong point——

Dr. MCBAIN. I was going to say, the other things that also occur and people frequently are not familiar with are the research aspects. There are many aspects of natural history and biology that cannot be studied in the wild. Many of these, the one that has been most notable and the one most people know about, are the reproductive biology projects and the research that has been done at Sea World as well as other oceanariums.

Much of that work has now resulted in successful reproduction. We now have—at Sea World, 9 out of 18 killer whales were born in oceanarium environments.

Senator KERRY. Nine out of 18. I thought we had 21.

Dr. MCBAIN. At Sea World, just at Sea World alone. So, it is—in North America, or in the United States, 9 out of 21 were born in oceanariums.

Senator KERRY. Now, share with me, what is the need for having 21 versus 2 or 3 or 5?

Dr. MCBAIN. At this stage, if we are to have populations in oceanariums that have the ability to have genetic diversity to be able to maintain those populations you cannot do it with two or three. Two or three will not provide the genetic diversity that you are suggesting, and when we are talking about Sea World we are actually talking about four different parks. This is not just one location.

So, genetic diversity is an essential to have successful reproduction. You have to have breeding age animals, and when you do, you also have young animals, and then we have older animals. We have one older animal that appears to be beyond reproductive age, and so there is going to be——

Senator KERRY. So, the rationale for breeding diversity is——

Dr. MCBAIN. Well, in the case of killer whales, in the United States no one has collected a killer whale in the United States in the last decade, and that is partially a result of successful reproduction.

Senator KERRY. Within the unnatural habitat.

Dr. MCBAIN. I would prefer to call it a different habitat.

Senator KERRY. Well, it seems to me if you are breeding an animal that is born into something other than its habitat, you are no longer learning about it in its true context.

Dr. MCBAIN. These animals live in sea water.

Senator KERRY. I understand that they live in sea water.

Dr. MCBAIN. They also live in——

Senator KERRY. But they are not living—I mean, but they have adapted. They are different from the animals that came out of the ocean. Their responses are going to be different. Their living mechanism is different, their endurance is different, their survival instinct and capacity has probably changed significantly. You are not really studying the original any more.

Dr. MCBAIN. I do not know that there is anything that would suggest that that is the case. These animals appear to socially behave in a way that would lead you to believe that there is a great deal of similarity between what we see and what occurs in the wild. I think that if you raise animals in isolation, if you have "Free Willy" in your mind, obviously that animal——

Senator KERRY. I do not have "Free Willy," but——

Dr. MCBAIN. Killer whales are a gregarious animal, they are a social animal. That is the other reason that we have the population size that we do, is to try to maintain social units or social groups within the Sea World parks.

These animals, in the case of—I am a veterinarian, and I basically visit the animals a number of times a day. We have everything from an animal that is nearly 30 years old to a youngster that has just turned 2, and so we have a whole range of age groups. The older animal has been there for the birth of two of those animals.

We have what I consider to be reflections of very normal social behavior. Granted, these animals cannot swim 100 miles in a straight line, but they get adequate exercise, they have adequate activity, they have social involvement with each other, as well as, obviously, the interaction with humans which is a major departure from the wild.

Senator KERRY. Where do you think we are on the learning curve, and what do you think it is specifically that you would say we have learned that underscores the importance of what you are doing?

Dr. MCBAIN. I am not sure that you can point at one thing. In Sea World right now, we have—and this is—again, I am just speaking of the institution that I have the most familiarity with. We have 50—well, 48 right now—collaborative research projects going on. These are not projects that are designed by us, these are projects that are designed by other people, the National Marine Fisheries among them, that utilize this animal resource that is available to them.

We have had experiences where there are seizuring sea lions beaching on the coast of California. There is a need to gain information about normal, what is normal for this species, so that there is something to compare with. This came from Sea World, another oceanarium.

Mr. PRESCOTT. Senator, you asked a question about research, and I would like to also ask Dr. Mike Hutchins to join me. As we look at research in these institutions, there are a number of kinds of research.

We have learned how to develop formulas for feeding animals that have led to very great successes in the stranding and rescue programs. It is a transfer of the animal care work that we have done that is benefiting directly the rarest dolphin in the world, the

baiji in the Yangtse River. We have all had delegations from China visiting us to learn about the technology.

So, we cannot say that we do not learn, that animals are in unnatural conditions and we cannot apply it. We can apply this work, and as I say, the work we learned allowed the New England Aquarium to rescue and release three pilot whales.

Again, I would ask Mike to comment on this topic, if you do not mind.

Dr. HUTCHINS. I think, Senator, that whether or not research on captive animals is going to be beneficial really depends upon what it is you want to learn and what it is you want to study.

For instance, it would not make any sense to study the ranging patterns or the feeding activities of animals in captivity, because it is quite different from what it is in the wild. However, there are other aspects of the biology that change very little in captivity—for instance, the birth patterns, the gestation length, the growth of young animals, and the female reproductive cycle. In fact, if it was not for captive studies we would know absolutely nothing about a number of these phenomena.

To give you an example, female killer whales in captivity can be trained to voluntarily submit for routine blood samples. These are collected on a daily basis in order to monitor the hormonal cycles of the females. That is the only reason that we know now what the estrous cycle of female killer whales is.

That would have been impossible to do in the wild, or if it had been done in the wild certainly would have been inhumane, because it would have involved capture procedures which would have been very difficult with wild animals.

So, I think it is very important to realize that these opportunities are rather unique that are being presented in the zoo or aquarium environment.

Dr. ROSE. Mr. Chairman, can I address some of these issues?

Senator KERRY. Please.

Dr. ROSE. I would like to start way back, when Dr. McBain mentioned that the DeMasters and Drevenek study which was published in 1988.

That study did not have access to a study that has since been published in 1990 by the International Whaling Commission, and the research was conducted by representatives from the Department of Fisheries and Oceans in Canada, and this study was of a wild population ranging from Puget Sound up to southeast Alaska, and there are approximately 280—upward of 360 animals total.

There is a separate population that makes that number fluctuate. The resident animals, there are about 280 of them, and these animals have been followed for the last 20 years using the photo ID technique that was mentioned by Dr. Hofman.

That technique has allowed us to follow individuals in that population for the last 20 years, and all of the individuals in this population are known, which is extremely rare. You do not usually get that. You get 10 percent, perhaps, of a population being known, but because the population is small and because of this extremely accurate photo ID method we have been able to follow those animals.

According to those data, the annual mortality rate of these animals for females is only 1.1 percent, and I have the study right

here, and so I am quoting from this. The annual mortality rate for males is 4 percent, and again, by their own admission, by the industry's own admission, the numbers in captivity are twice to three times that, 4 percent for females at best, and 12 percent for males, and that is from the DeMasters and Drevenek study.

Another study they may also cite by Duffield and Miller says that there is about a 9-percent annual mortality rate for males and females combined, and that is still significantly higher than what this study determined.

Senator KERRY. Let us assume it is. Let us assume we accept that. In fairness of creating a record here, which I am trying to do, let me be devil's advocate on both sides. Is there not a value to the research that is being performed, and do we not pursue that kind of research on all forms of life, including human beings?

Dr. ROSE. There are two answers to that. One is, a lot of the research that was valuable for the species has already been conducted. For instance, we do now know the gestation period for these animals, and that was done from captive studies, and that has been done.

It was interesting that it was mentioned that some of the other information, for instance interbirth intervals, birth patterns was only discovered from captive animals. That is incorrect. In this wild population we determined that interbirth intervals in the wild are 5 years, which makes a lot of sense using information we know from captive animals and from what we have seen in the wild. And so again that work has been done.

Senator KERRY. But you are not suggesting that the task is complete.

Dr. GRANDY. No, we are not, Senator, but the question of research, given more and more of what we know today and what is available to us through video and other things shows less and less value, candidly, to doing studies in animals that are isolated in these small, incredibly tiny aquariums where the gentleman said these animals exist in sea water. Well, they do everywhere except in aquariums where the water there is manufactured for them. It is artificial sea water, it is not sea water.

And the what we are learning is if you want to do an ecological study of whales you need to study the whale in the area where it is, and that is the very kind of study that Dr. Rose and her colleagues and literally scores of others have been doing for the last 10 years. And that needs to be the focus of new research.

Senator KERRY. Are you suggesting that the commercial enterprise is at the foundation of the effort, and that the research has become the veneer to justify it?

Dr. GRANDY. Frankly, Senator, I could not have said it better myself, but I would not have said it in that way.

Senator KERRY. You said you could not have said it better.

Dr. GRANDY. No, but let me make one other point. We are not suggesting that all whales, as has been alleged, be turned out tomorrow. We know full well that there are some whales in captivity that are probably not suitable candidates for release. And the whales that we have certainly in those cases are going to have to be maintained for the rest of their lives in as humane a condition as we can give them.

We will then have, assuming these people are getting better and better at keeping these whales alive, we may have some whales for 10 years or more. During that time it is our hope that these facilities, like Sea World and others, transfer over to doing work with dolphins and things where there can be adequate and very productive captive breeding programs so that animals do not have to be taken from the wild.

Senator KERRY. What do you think about that?

Mr. PRESCOTT. I think it is taking a short view. We are learning more about them in zoological environments, but I really want to address the study. The HSUS study is new one. As I indicated there is confusion among its terms. We have not had an opportunity to look carefully at this. I do not know why they excluded data from some places in the world. I do not understand the methodology that assumes all animals were 3 upon transfer, and I think we need time to look at this carefully and respond to it carefully. There are too many innuendos, words being thrown around that are unclear.

I would also comment that there was a note there that said we had a mortality rate since 1963, or whatever it was, of 48 percent. I am back to my human analogy. If I took a picture of our families 30 years ago, I would expect change in 30 years. Some may not be there and some may be new. So, that is life and we ought to go forward on a different basis.

Senator KERRY. Well, I do not think that is what Dr. Rose was saying, though.

Mr. PRESCOTT. A mortality rate of 48 percent.

Senator KERRY. That is right, measured against the expectation or that there is a total mortality rate, but then the second measurement is to measure at what point that mortality rate arrived relative to where it should have arrived, I believe. And what she was suggesting was that it occurred at an average of 7 years where it should have occurred somewhere in the vicinity of 25 to 30 years. Is that correct?

Dr. ROSE. Well, using a comparable methodology, I was actually looking at, as I mentioned to you, some annual mortality statistics which show that there is a big difference.

But also, just counting over the last 25 years that 48 percent mortality, as Mr. Prescott said you would expect some animals to die, that is quite true. However, in the wild population that is mentioned in this study, in that same time period, actually 20 years, looking at all the animals that were alive at the start of the study and were born during that time, only 18 percent had died.

Dr. HUTCHINS. Senator, could I comment on that?

Senator KERRY. Sure. It seems to me also, if you take your analogy further, you are talking about human life. If you look at families you would indeed see the change. But what she is saying is that most of them died—if it was humans you were looking at—when they were 20 years old, not when they were 40 and 50.

Dr. HUTCHINS. I might mention that I think these comparisons between wild and captive populations are spurious at best because of the problems with the data collection. Annual mortality rates that are being mentioned are calculated on the basis of those animals that actually survive. These are the animals that have made

it through the first few months, which are for most mammals the most difficult in their lifespan.

It is quite possible that numbers of animals are born in the wild and then simply disappear before field biologists can even see them.

Senator KERRY. But that is not a fair measurement. The measurement would be from their point of more significant viability. I mean, I assume once they reach a certain size and once they are out there, then there is a lifespan differential that significantly increases.

Dr. ROSE. I would also like to mention that the annual mortality statistics that I mentioned take into account an estimated number of calves born that were never observed, just as Dr. Hutchins was mentioning that these animals die before they are observed. It takes into account an estimated number of those.

Senator KERRY. What other research would you say is significant that you could cite?

Dr. HUTCHINS. Well, one of the things that has been done is to sort of discount the research that is related to the keeping of these animals and the breeding of these animals in captivity, and I think the technologies that are being developed around these kinds of things could be very critical in the future. And, again, we cannot predict whether or not these things will be valuable at some point in time.

There are numerous marine mammals that are highly endangered and captive breeding may be critical in the recovery of these species, and I will give you some examples. Mr. Prescott mentioned the baiji river dolphin. The Chinese have asked for expertise on the possibility of breeding this animal in captivity. I think there are less than 200 in the wild, and continuing to decline. The Mediterranean monk seal, for instance, has declined very rapidly due to canine distemper.

We need this technology to intervene when necessary. So, that is a critical aspect of the research, but there are many other things as well. The development of technologies as a result of research has direct application to field conservation activities and field research activities. For example, methods used to identify animals or to track and monitor them using biotelemetry or radiotelemetry are first tested on animals in captivity. And then those technologies, once they have been developed, can then be transferred to the field. So, there are many, many examples of where this is quite beneficial.

Senator KERRY. Let me ask a few reauthorization specific questions that we need to think about beyond this broader issue.

Last year we amended the MMPA to deal with stranded animals and tried to strengthen our Federal effort. Folks at the New England Aquarium have done a tremendous job at responding to strandings. I gather you do about 500 strandings each year and you spend about $100,000 per year with hours of volunteer service.

Has the amendment helped; has it been sufficient in dealing with the stranding issue? Are there additional changes we need to think about that might strengthen our response to strandings?

Dr. PRESCOTT. The stranding response has been interesting. It has really been more dependent on public awareness. As awareness

of strandings has become greater in New England we have lots more volunteers, and we gain in our success.

I do not think it is adequate to try to estimate the benefit of last year's change. Some of the activities that were put forth are just beginning to show up. We are talking about tissue banks and developing protocols. Asking for results is a little early. But the stranding programs are doing better. We are all involved in a tissue bank approach.

Senator KERRY. Well, how do you respond to Dr. Grandy's assertion that stranded animals are sometimes kept for years in substandard facilities lacking permits or the ability to meet the permitting requirements.

Mr. PRESCOTT. I have a problem with Dr. Grandy's need for a permit. I think that it is rather interesting that we would have to go to a permit process to maintain an animal that might not be releasable after we have been taking care of it probably for 6 or 10 months or what have you.

I firmly believe in a tracking system to make sure we know where those animals go. If there are substandard stranding centers around I am not attuned to them so I cannot respond to that accusation.

Senator KERRY. What about the transport issue? You say that people who already have a permit for public display should not have to obtain a permit to transport them to another place where there is a permit for public display. How often is that a problem? Is that a serious problem?

Mr. PRESCOTT. Yes, it is. I think the National Marine Fisheries Service for 20 years now has been issuing letters of authorization for the movement or transfer of an animal. Currently, there is a lawsuit that postulates that the letter of authorization process is incorrect, that a lengthy permit process which includes public hearings should be instated.

I do not agree because if we look at the permit process—again, I am under the assumption that the Marine Mammal Protection Act was for the protection of animals in the wild and their removal, and that Congress has seen fit to establish the Animal Welfare Act that requires us all to be licensed by that agency, and therefore they govern the care and transport of these animals. They have regulations on how we keep them, how we transport them, and all.

Senator KERRY. So, are you suggesting that we should deal with this legislatively and that it can be taken out of the administrative process, or could this be dealt with by a better set of administrative regulations?

Mr. PRESCOTT. Not knowing the administrative regulations that are coming through from the National Marine Fisheries Service, I firmly believe that——

Senator KERRY. You also do not know what we might do either, right?

Mr. PRESCOTT. That is right. I firmly believe this is something that the Congress can easily codify its original intent.

Senator KERRY. Now, who is the swim meister here?

Mr. PRESCOTT. Again, Dr. Rae Stone.

Senator KERRY. You have recommended, Mr. Prescott, in your testimony that public display ought to include interactive exhibition; correct?

Mr. PRESCOTT. That is correct.

Senator KERRY. And I assume you are referring to the swim with the dolphins programs, right?

Mr. PRESCOTT. Yes, some swim with the dolphins programs.

Senator KERRY. Are there other interactive programs you are thinking of or contemplate?

Mr. PRESCOTT. No. The other interactives that I think that are widely known are some of the seal feeding, dolphin feeding.

Senator KERRY. I would really like for you to help us understand why we need interactive programs. I mean, here we are with an intense debate, at least in some quarters, over the value of simply doing the research and having this habitat. Now we have to go one step further and insert people into the habitat in this interactive fashion.

That interaction has created a number of incidents. I gather one person had their sternum broken when a dolphin smashed into them. There was another incident where somebody had a series of bites. Fortunately, they were not that serious. But a number of people have been roughly treated one way or the other, tapped in the spine, this or that. And then, of course, we have had a problem with an exhibitionist dolphin.

How do we regulate that? I mean, what are we going to do? And why, what is the necessity here?

Dr. STONE. Thank you, Senator. For the record my name is Dr. Rae Stone. As a marine mammal veterinarian and a coowner of Dolphin Quest, which is a licensed or permitted swim with the dolphins program in Hawaii, I am eager to respond to your various questions.

First of all, I would like to approach the question of why. Interactive programs in and of themselves are not new. People and dolphins have been interacting in the wild for generations. Dolphins are known to seek out human interaction in various places around the world, and these interactions have gone on for generations, so it is not in and of itself an unnatural procedure.

Also, we have known from oceanariums and aquariums and the public display community for years that convalescing dolphins sometimes actually benefit and thrive from personal interaction with their care givers, these being stranded animals that are convalescing or in fact animals on display that are being convalesced. And those animals actually seem to respond quicker, eat better, and seem to thrive on this kind of interaction.

The four licensed or permitted swim with the dolphin programs have been in existence now for approximately 7 years. Two of those facilities, the Dolphin Research Center and Dolphin Quest, are members of the Alliance and are active members of the public display community.

As such, our programs contribute greatly to the educational venue of public display. And this value is really undisputed. I am sorry that perhaps you have not been to one of our programs, and neither has Secretary Hall, to answer the question as to what do

you gain by swimming with a dolphin or interacting with a dolphin in this way.

Senator KERRY. Do not get me wrong. I think it would be thrilling and fascinating. I do not dispute that.

Dr. STONE. Well, there is much more than that, Senator. We have, and we have submitted this for the written testimony, a statistical analysis of over 9,000 questionnaires gathered from participants in our program. We take our education role, our mission very, very seriously, and for that reason we are constantly getting feedback from the public to see if we are fulfilling that role of teaching conservation awareness and of inspiring people to become more involved in environmental issues.

The whole educational field is moving toward interaction. Research in education peer review publications indicates undoubtedly that activity based or interactive educational programs in science in schools provide a much more effective learning process for children. Your own children benefited from seeing these dolphins.

We know from these questionnaires, and I will cite a few of these statistics—again, this is a sample size of over 9,000 participants. When asked to compare the education value and overall personal impact of their dolphin experience at our facility with other exposures they have had with dolphins they have had in the wild, this is their answer. Fully 91.4 percent of our participants feel that the educational value and overall personal impact of their dolphin experience is greater than nature movies, videos, books, newspapers, and magazines—91.4 percent.

In addition, we asked them to compare the educational value of the personal impact of their experience with observation in the wild which, in and of itself, is a very powerful message. Fully 89.5 percent of our participants feel that the educational value and overall personal impact of a close personal experience is even greater than observation in the wild.

In addition, we have asked people to tell us if they would recommend that these programs continue—99.6 percent recommended that interactive programs should continue as a means to increase public sensitivity and appreciation of dolphins and dolphins concerns, and 99.3 percent believe that an interactive experience like Dolphin Quest does inspire people to actively, and the key word here is actively, support environmental issues.

We bring a very powerful message to the public. We take our roles very responsibly. And I would like to also now address the issue of injuries, which you brought up.

These programs can be run very very safely. The programs where the two incidents occurred that you have referred to are not Alliance members and are not members of the AAZPA. In fact, the one incident of sexual harassment of a young girl occurred at the only "swim with" program that deliberately chooses not to train its dolphins. The two programs that belong to the Alliance believe that this is unacceptable, as does the Alliance.

Marine mammals readily respond to modern training techniques involving positive reinforcement and can be easily trained to exhibit only appropriate behavior when interacting with the public. That does not involve sexual harassment. That type of behavior has never occurred, not one incident in either of our two facilities.

In addition, there has not been one injury in either of our facilities directly related to an aggressive act. There have been minor injuries, as with any interaction with large animals. Those incidents involved such minor occurrences as superficial scratches. Out of 76,000 participants in our two programs in the last 7 years, there have been only 5 injuries. That relates to an injury rate of 0.0006.

That is a very safe program and we take that responsibility of keeping our program safe very seriously. Every interaction between a dolphin and a member of the public is very closely supervised by an experienced marine mammal behaviorist.

Senator KERRY. Well, you are doing better than roller blading and mountain biking, so that is pretty good. [Laughter.]

Dr. STONE. Absolutely. Crossing the street.

Senator KERRY. I regret that I have just received notice there is an amendment on the floor on a bill that I am chairman of the subcommittee on and I have to go to the floor momentarily.

Let me just let—Dr. Grandy, I want you to respond if you can. You suggested that all forms of human contact with marine mammals and humans ought to be prohibited.

Dr. GRANDY. Yes.

Senator KERRY. Because of the health risk and physical risk.

Dr. GRANDY. That is right.

Senator KERRY. And do you want to just comment?

Dr. GRANDY. No, sir. I thought your comment was instructive. You mentioned mountain bike riding and other things, and the difference here is that we are putting these dolphins through health hazards and stress levels, and we believe increased stress levels. We are risking their health both directly through the water that they are kept in. We are also risking them—if they do have a negative interaction, it becomes the animal that takes the——

Senator KERRY. Well, but the indication is that that has not happened, No. 1. And that in all of these incidents I think the evidence was to the contrary, that there is strong evidence that they respond better, that they seek this out, that they have, indeed, had a healthier response, appetite better, interest, activity.

Dr. GRANDY. They have had—what she said was that those things have occurred in situations where dolphins were recovering from injuries themselves, and that they were being brought back to health.

Senator KERRY. Well, how many dolphins have been injured in the 76,000 interactive incidents?

Dr. STONE. Thank you for asking that question. Absolutely not one. There has not been one dolphin injured, nor has there been one indication of any health hazard to dolphins participating in these programs. The professional medical literature is notably lacking in reference to cases of disease transmission from casual contact between humans and dolphins. And as I said, in keeping with this fact, there has not been one case of disease transmission from casual contact in any of these 76,000 interactions. Dolphins and people are very far apart on the evolutionary chain of things.

Senator KERRY. Is this one incident that has created a little stir an aberration, or is that something that just happened to have fi-

nally been brought to light? Is it a recurring thing? Is it as normal as anybody's dog at home or something, or what?

Dr. STONE. Well, that is, in fact, not an inappropriate comparison. The behavior that you are referring to, the sexual harassment, has happened at only one facility out of the four facilities, and it is has happened in the only facility that chooses not to train, condition, or direct its dolphins' behavior. And as I said, we feel that is totally inappropriate. There is no reason why a dolphin would take a sexual activity toward a person unless it is, in fact, trained to do so through natural reinforcement. In other words, it tries new behaviors and if it is reinforced and allowed to continue they are, in effect, taught that behavior.

Dr. ROSE. Senator Kerry.

Senator KERRY. Yes.

Dr. ROSE. I would like to point out that there has been a lack of information here. Dolphin Quest has lost two of six dolphins. They have had two dolphins die. And I would also like to say——

Senator KERRY. But from what?

Dr. STONE. That is well published, if you are current with the literature. It is well known that our two dolphins died, and it was two out of eight, died from consuming biotoxins that were present in the natural reef fish off the coast of Hawaii. That has been published in the peer-reviewed literature and has contributed to research which we have funded looking at the currents of biotoxins in natural reef fishes off the coast of Hawaii. It had absolutely nothing to do with interactions with people.

Dr. ROSE. I would also like to—just one more thing is that 11 years ago I was participating in a research project in Hawaii, and it was a language acquisition project with two bottle-nose dolphins. And there were times when they allowed the volunteers to interact recreationally with these animals. They were supervised by several trainers and these animals were trained animals, they were being used in this research project.

And I only did it once because the animals decided that—I guess they just were not in the mood for me to be in the tank at the time. I was struck by a tail, my mask flew off, and bruised the bridge of my nose. Then the other animal raked me and I still have a scar from that rake, and then the first animal smashed me in the rib cage with its snout and then backed off because the trainers who were supervising all of this, which happened in a flash, came to my rescue, but nearly broke a rib. And so even with supervision, this all happened to me in a flash. And I do not blame the dolphins.

Senator KERRY. But let me just—I understand what you are saying, but the record is pretty strong that if you have had——

Dr. ROSE. But it can happen.

Dr. STONE. May I answer please. Those dolphins—and I know the dolphins you are referring to—are not trained or conditioned for interactive or in water activities. Those are research animals that are trained for acoustic and language research, and there is an entirely different process involved in conditioning animals, one that is well documented now and is very successfully undertaken by people that are experienced in directing interactive proceedings. And that would be part of the standards for the continuation of

these programs, that there would be supervisors involved that have that specific kind of expertise.

Senator KERRY. Did I hear you correctly in suggesting, or maybe not suggesting but stating overtly that this one dolphin's aberrant behavior that has been publicized—I should not say aberrant, probably natural behavior that has been reinforced. But are you suggesting that it was taught or reinforced somehow to engage in that?

Dr. STONE. I am suggesting that by not directing those animals' behavior toward appropriate interactions, that kind of behavior becomes self-reinforcing. Using modern techniques of behavioral conditioning and positive reinforcement, there is no reason why those dolphins would not prefer a more appropriate type of interaction.

Senator KERRY. OK. Well, let me wrap this up regrettably. I think there are a number of interesting areas that I did want to pursue a little more, but we are going to have to leave the record open. We will leave it open just for a few days, long enough so that staff can get some of these additional questions to you.

And I would ask your cooperation in getting the answers back and writing as fast as you can so that we can complete the record here, which I really want to do. And, you know, what I really want to do is build both sides of the arguments here as strongly as possible so that we have explored this as thoroughly as we can, and then we will kind of work with the administration and see where we come up on the reauthorization.

I think it has been very interesting and I think you have all acquitted yourselves very very well. It has been very educational and I appreciate enormously the time and for some of you the distance traveled to be here. It has been very instructive. Thank you. We stand adjourned.

[Whereupon, at 4:25 p.m., the hearing adjourned.]

APPENDIX

Prepared Statement of Senator Bryan

Mr. Chairman, I am pleased to be here today as our Committee considers the reauthorization of the Marine Mammal Protection Act. As you know, when this landmark legislation was passed in 1972, Congress recognized the enormous educational, aesthetic and recreational benefits derived from the public display of marine mammals.

In 1972, no such facility existed in Nevada. However, three years ago such a facility opened at The Mirage. The experiences of thousands of adults and students have demonstrated the wisdom of the original drafters of the MMPA in supporting the public display of marine mammals.

Approximately 750,000 individuals visit The Mirage Dolphin Environment every year to see these wondrous animals and to listen to presentations by the animal care staff about dolphins and their environment.

Perhaps more important is the fact that and average of 35,000 students, students who represent the future of America, participate in education programs sponsored by The Mirage each year. In fact, 700 teachers have completed a special four-week course sponsored by The Mirage on marine education. The quality of this course is demonstrated by the fact that it has received a 100 percent rating of excellent on evaluation forms from teachers who have completed the course.

The contribution of The Mirage Dolphin Environment to the citizens of Nevada and to the students in what is the eleventh largest school district in the United States has been as significant as it will be enduring for each of the people who have visited The Mirage from around the world or who have participated in any one of its numerous educational programs.

Mr. Chairman, I would like to insert in the record at this point a statement submitted for record by The Mirage Dolphin Environment.

Prepared Statement of The Mirage Dolphin Environment

As a public display facility, the purpose and intent of The Mirage Dolphin Environment is to provide a healthy and nurturing home for dolphins and to increase public appreciation and awareness of marine mammals and their environment.

The health and welfare of the six dolphins currently maintained by The Mirage is tended to by sixteen professional staff and consulting veterinarians, and has been validated by the successful birth and health of a two year old dolphin within the short three year period we have been operational. Cared and maintenance at our facility is reviewed by USDA inspectors who make a minimum of two surprise on-site inspections every year.

Approximately 750,000 individuals visit The Mirage Dolphin Environment every year. Tourists from around the world mix with local residents to experience the wonderment of dolphins. All of our visitors are provided with guided tours which offer information on our facility, marine mammals, and their importance in aquatic ecosystems. Following the introductory tour, visitors are welcome to stay and observe the animals at their leisure from either above or below water viewing areas. it is interesting to note that, in a 1.5 million gallon environment designed for freedom of movement and separation from the public should they choose, the dolphins choose to spend the majority of their time in public observation areas, seemingly as interested in our visitors as the visitors are in them. Animal Care Staff are always available to answer questions and often engage in discussions with visitors interested in obtaining more in-depth information on marine mammals and conservation efforts.

While only some of our out-of-town visitors have observed dolphins in the wild, most have visited other marine parks on more than one occasion. All feel that each visit offers something unique and special. All continue to seek out the experience

of observing marine mammals at close range, many to renew their admiration, and many to continue to learn more about the animals. Local residents return frequently for the same reasons. Whether the original intent is recreational, aesthetic or educational, all visitors leave with a greater understanding and appreciation of marine mammals.

Visitor responses are tracked by comment cards, which are available at the Dolphin Environment, and at locations throughout The Mirage. Each week, responses are sent to those who request additional information on marine mammals, teaching materials and career guidance in marine biology. We also routinely tell people about volunteer opportunities in the area of conservation in their communities across the United States.

As one of the fastest growing cities in the United States, Clark County, where The Mirage is located, currently has the eleventh largest school district in the country. At the inception of this project, there was little offered to students in the areas of marine and environmental education. To meet the needs of our community, age-appropriate education programs were developed for pre-kindergarten through university level students. Two programs, each one hour in length, are presented each weekday morning. For many of our students, The Mirage Dolphin Environment provides the first and only opportunity to observe marine mammals in close proximity. Although originally developed for the Las Vegas School District, our programs have attracted school groups from other areas of Nevada, Utah, Arizona, and California. university-level programs on marine and environmental science are presented in cooperation with the University of Nevada at Las Vegas and Clark County Community College. In addition, lectures, workshops and in-school programs have been made available upon request.

When teachers requested additional information to incorporate into their curriculum, a state-accredited four-week course was developed to provide the necessary teaching materials and resources to ensure the effectiveness of our educators.

Today, an average of 35,000 students participate in our education programs annually and 700 teachers have completed our four-week course. We rate our effectiveness by the letters received from school children telling us what they learned during their programs, and by a 100 percent rating of excellent on evaluation forms from teachers who have completed our course. Follow-up evaluations are provided by teachers who write to let us know they are utilizing the educational materials provided. Our university-level programs have grown, and will continue to grow, with the newly established Department of Environmental Studies at the University of Nevada at Las Vegas.

As awareness of, and interest in, environmentally-related subjects continues to expand, so have our programs. At the request of educators in our school district, new workshops and materials have been designed and implemented covering the subjects of rainforests and wetlands.

Developing an interest in learning is the first step to knowledge. As a better understanding of the process of education has evolved, we have learned that some individuals have a propensity to retain information when it is provided orally, while others require a visual frame of reference. We have also learned that the most powerful medium for education is kinesthetic—allowing individuals to learn through physical experience. These factors are taken into consideration by every educator looking to establish effective programming.

We have always made every effort to meet the needs of visitors, educators, students, and the community at large, believing that the limits of our creativity would be our only barrier to growth and expansion. Today, however, we are faced with new challenges as we are asked to meet the special needs of individuals who can understand and learn only through physical interaction. individuals who are learning disabled, visually impaired, and mentally challenged, as well as children who are terminally ill, have all expressed a desire to experience the wonderment of dolphins. We have been contacted by parents, organizations, and schools requesting special programming to meet the needs of these individuals. Although we possess the interest, the resources, and the expertise necessary to implement such programs, all requests to date have been denied due to the existing NMFS policy.

As a public display facility, we strive to uphold the spirit of the laws that govern us. The Animal Welfare Act has clearly established guidelines for our facility and the animals in our care. The Marine Mammal Protection Act has clearly stated the value of public display facilities. Yet, in daily operations, we are often faced with new challenges and new opportunities that are not always clearly defined under current legislation. Often, the governmental agencies charged with the administration of the Marine Mammal Protection Act are establishing policies based on interpretations of the intent of Congress.

In the reauthorization of the Marine Mammal Protection Act, we are requesting that Congress reaffirm the aesthetic, recreational and educational value of public display facilities. We would like to see that the governance of care and maintenance of marine mammals be continued through the USDA under the Animal Welfare Act. We would also like to see more clearly defined objectives and terms under the Act that will provide more explicit guidelines regarding the establishment of policy for governmental agencies without limiting the effectiveness of public display facilities in meeting the goals of today, and the challenges of tomorrow. Only through Congressional classification can we avoid unnecessary regulation and litigation.

PREPARED STATEMENT OF THE MARINE MAMMAL COALITION

My name is John A. Hodges. I am a partner with the law firm of Wiley, Rein & Fielding in Washington, D.C. I am General counsel of the Marine Mammal Coalition, a consortium of marine mammal public display and scientific research institutions.

The Marine Mammal Coalition appreciates this opportunity to present its position concerning reauthorization of the Marine Mammal Protection Act.

In brief, Congress should ensure that the policy of the MMPA favoring public display and scientific research remains intact. Any proposal to amend the MMPA to weaken this important policy should be rejected. Indeed, Congress should reinforce this policy, thus helping to assure that permits for these purposes are granted on a timely basis and without undue burden.

Public display and scientific research institutions play an essential role in marine mammal conservation. None can afford prolonged, crippling administrative procedures and litigation, which divert scarce resources from activities Congress has declared to be critically important. Public display of marine mammals and scientific research should be fostered and supported, not discouraged. This view is shared by a vast majority of the American people and is crystallized in Congressional policy in the MMPA.

Below, we first discuss Congressional policy favoring marine mammal public display and scientific research and then discuss more specific matters relating to the reauthorization of the MMPA.

I. CONGRESSIONAL POLICY FAVORS MARINE MAMMAL PUBLIC DISPLAY AND SCIENTIFIC RESEARCH

A. Marine Mammal Protection Act

The MMPA, originally enacted in 1972, resulted largely from public concern about the thousands of marine mammal mortalities from such activities as sealing, whaling, and some commercial fishing activities. Its basic intent is to conserve wild animal stocks and the ecosystem.

At the same time, Congress recognized the indispensable role of zoological institutions in raising public awareness of marine mammals and intended not to inhibit these institutions from obtaining the small number of animals they need for their

beneficial purposes.[1] Congress also recognized the important role of scientific research in relation to marine mammals.[2]

Over 100 million people annually visit public aquariums, oceanariums, and other zoological institutions in the United States. These institutions are central to the effort to stimulate public interest in, education about, and support for marine mammal conservation.[3] They are involved in networks sponsored by NMFS to assist stranded marine mammals. They also play a vital role in the life and development of their communities and states. They educate the public, are a source of wholesome recreation, provide significant employment, and stimulate local economies by generating the expenditure of hundreds of millions of dollars by visitors.

In recognition of the essential role that marine mammal public display and scientific research institutions play in carrying out the purposes and policies of the MMPA, Congress created a special, favorable provision for them under the MMPA. MMPA permits for public display and scientific research are a special exception to the Act's moratorium on taking and can be obtained pursuant to simplified requirements (16 U.S.C. § 1371(a)(1)). This regime for public display and scientific research is regulated under a regime separate from the regimes applicable to other activities such as commercial fisheries (§ 1371(a)(2)), and periodic "waivers" (§ 1371(a)(3)(A)). The MMPA is administered in relevant part by NMFS within the Department of Commerce. The Marine Mammal Commission was created as an advisory body and has no regulatory powers.

Congressional policy in favor of public display and scientific research was reiterated and reinforced in 1988, when Congress reauthorized the MMPA.[4]

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[1] Congress recognized the important role of public display institutions in relation to marine mammals as "resources of great international significance, esthetic and recreational as well as economic," 16 U.S.C. § 1361(6). During Congressional deliberations on the MMPA, Senator Hollings stressed that without observing marine mammals in oceanaria the "magnificent interest" in marine mammals will be lost and "none will ever see them and none will care about them and they will be extinct." Ocean Mammal Legislation: Hearings Before the Subcomm. on Oceans & Atmosphere of the Senate Comm. on Commerce, 92d Cong., 2d Sess. 266 (1972). "[I]f it were not for these organizations and the public exposure you have on these animals in the first place, these matters wouldn't be brought to the attention of the public." Id. 555. Senator Cranston emphasized the "valuable educational service performed by these institutions." Id. 552-53. Senator Chiles stated that he gave "strong support towards recognizing the oceanarium exhibition industry in this legislation." Id. 164. Senator Gurney took note of the "advent of seaquariums and oceanariums" that have brought home "a much greater awareness of * * * ocean mammals." 118 Cong. Rec. S25291 (July 25, 19-72). Senator Tunney anticipated "very little difficulty" for public display institutions as a result of the MMPA. Id. 525270. Congressman Pryor said that "the intent of this basic legislation was not to deprive those particular institutions of bringing in a proper number of animals for the public use." Legislation on Preservation and Protection of Marine Mammals: Hearings before the Subcomm. on Fisheries & Wildlife Conservation of the House Comm. on Merchant Marine & Fisheries, 92d Cong., 1st Sess. 83 (1971).

[2] The MMPA recognizes that "there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully." 16 U.S.C. § 1361(3).

[3] Dolphins do well in public display institutions. As stated in a recent federal study, "[c]urrent data indicate that survival rates in captive dolphins may be similar to and, in some cases, possibly better than survival rates in free-ranging dolphins." U.S. Department of Commerce, NMFS, Final Environmental Impact Statement on the Use of Marine Mammals in Swim-With-The-Dolphin Programs, April 1990, p. 68. This conclusion has been borne out by a number of studies.

[4] Thus, the House Committee report on the 1988 Amendments stressed that

"[e]ducation is an important tool that can be used to teach the public that marine mammals are resources of great aesthetic, recreational and economic significance. It is important, therefore, that public display permits be issued to entities that help inform the public about marine mammals, as well as perform other functions.

"* * * Permits may continue to be issued to public and privately owned zoological parks and oceanariums, as well as other qualifying institutions." H.R. Rep. No. 970, 100th Cong., 2d Sess. 33-34 (1988).

Similarly, the Senate Report stated that

"[e]ffective public display of marine mammals provides an opportunity to inform the public about the great aesthetic, recreational, and economic significance of marine mammals and their role in the marine ecosystem." S. Rep. No. 592, 100th Cong., 2d Sess. 29 (1988).

The Senate Report went on to say that

"[t]he Committee recognizes that the recreational experience is an important component of public display and that public display has served a useful educational purpose, exposing tens of millions of people to marine mammals and thereby contributing to the awareness and commitment of the general public to protection of marine mammals and their environment." Id.

In the reauthorization, Congress also added enhancement of survival or recovery of a species or stock to the activities covered under Section 1371(a)(1), thus reaffirming that the items in

B. Animal Welfare Act

In contrast to the MMPA, the Animal Welfare Act of 1975 regulates animals that have already been taken (i.e., are in captivity). The Animal Welfare Act, as amended in 1979, contains provisions dealing exclusively with marine mammals in zoological institutions, establishing strict, comprehensive standards for the size and nature of enclosures, environmental quality, food handling, transport, and humane treatment (hereinafter referred to collectively as "husbandry"). The marine mammal section of the Animal Welfare Act is the strongest animal welfare legislation ever enacted by Congress.

The Animal Welfare Act is administered by the Animal and Plant Health Inspection Service (APHIS) in the Department of Agriculture. All facilities that display marine mammals must be licensed—and thus certified—by APHIS.

II. THE MMPA REAUTHORIZATION AND PUBLIC DISPLAY AND SCIENTIFIC RESEARCH

A. Proposed Regime to Govern Interaction Between Marine Mammals and Commercial Fishing Operations

NMFS has presented a proposal to Congress that could potentially eliminate the special regime for public display and scientific research. NMFS, Proposed Regime to Govern Interaction between Marine Mammals and Commercial Fishing Operations (Nov. 1992). If the Proposed Regime were to apply to public display and scientific research, these beneficial activities would for the first time be lumped into one regime with other activities, such as commercial fisheries. All would compete for the allocation of a number of animals permitted under a complex and disadvantageous "Permissible Biological Removal" (PBR) calculation. And, as acknowledged in the Draft Legislative Environmental Impact Statement (at p. 2-46), the allocation of the marine mammals "will be a complicated and controversial process."

Instead, obtaining marine mammals for public display and scientific research institutions should continue to be governed pursuant to Section 1371(a)(1) and these institutions should be granted permits for their beneficial purposes expeditiously and with a minimum of burden.

To do otherwise would be contrary to the simplified requirements that have been called for by Congress for public display and scientific research, would strain public display and scientific research institutions, and would potentially thrust them into competition with other activities, such as commercial fishing. This would undermine the important public purposes Congress intended public display and scientific research institutions to serve. As stated by the Congressional Research Service,

> "This implicit policy difference [between public display and scientific research, on the one hand, and commercial fisheries, on the other] could be threatened if public display and scientific research takings are drawn into the same regime as commercial fisheries takings."[5]

The Proposed Regime has been submitted in purported response to a 1988 amendment calling for a new regime to govern the incidental take of marine mammals in commercial fisheries after October 1993.[6] This 1988 amendment does not affect public display and scientific research.[7] Congress intended to have public display and scientific research continue to be governed separately as provided in Section 1371(a)(1).

The Proposed Regime appears inconsistent with respect to its relationship to public display and scientific research. In places it appears to say that public display and scientific research are not part of the Proposed Regime: "[t]his proposal addresses only those removals directly associated with commercial fishing activities" (Proposed

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this section are categories considered by Congress to be beneficial to marine mammals. Marine Mammal Protection Act Amendments of 1988, § 5(c), Pub. L. No. 100-711, 102 Stat. 4765 (1988).

[5] Congressional Research Service, The Marine Mammal Protection Act:Reauthorization Issues at CRS-9 (Sept. 8, 1992).

[6] Marine Mammal Protection Act Amendments of 1988, §2, P.L. 100-711, 102 Stat. 4755 (1988).

[7] No mention is made in Section 2 of the 1988 Amendments to taking for public display and scientific research. Section 2 is entitled "Interim Exemption for Commercial Fisheries." Public display and scientific research are covered separately—in Section 5 of the 1988 Amendments, which is entitled "Scientific Research and Public Display Permits." The Committee Reports on the 1998 Amendments also make a clear separation of the provisions relating to commercial fishing operations and those relating to public display and scientific research. See H. Rep. No. 100-970, 100th Cong. 2d Sess. 13, 14, 27, 33-34 (1988); S. Rep. No. 100-592, 100th Cong. 2d Sess. 22, 28-30 (1988). The Reports also stress the importance of public display. See note 3, supra.

Regime 67).[8] Elsewhere, however, it indicates that public display and scientific research are part of the Proposed Regime, namely, part of the allocation of the number of animals that the agency calculates pursuant to the PBR. (See Proposed Regime 62-63.) In addition, the related Final Legislative Environmental Impact Statement states that public display and scientific research will be subject to the PBR allocation process.[9] It bears note that the Conservation and Fishing Community Negotiated Proposal for a Marine Mammal Research and Conservation Program (at 3) indicates that the Negotiated Proposal will not involve public display and scientific research.[10]

Public display and scientific research should not be subjected to the Proposed Regime, including the allocation process relating to commercial fisheries. If public display and scientific research institutions were subjected to the Proposed Regime, they would—out of necessity—have to become involved in every step, from the proceedings on calculation of the PBR to allocation of the animals. This would embroil them in an onerous, divisive and paralyzing procedure at odds with the simplified regime intended for them under the MMPA. The impact upon the public display and scientific research communities would be enormous—and indeed could be prohibitive—despite the fact that reduction or elimination of the live takes for purposes of public display and scientific research would have no significant positive impact on the stock(s) in question.[11] Indeed, reduction or elimination of the take for these beneficial purposes would work against the interests of marine mammals. That public display and scientific research should not be subjected to the PBR regime has already been acknowledged by a variety of commenters.[12]

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[8] See also id. at 20: "While NOAA believes that removals of marine mammals from all sources are controllable to some extent (i.e. removals resulting from subsistence users, tribal rights, recreational fishing, tanker traffic, public display, scientific research, pollution, commercial fishing and other causes of marine mammal takes), NOAA addresses only those removals that are directly associated with commercial fishing activities in this proposal. Removals that are a result of activities other than commercial fishing will be addressed when NOAA implements the new amendments to the MMPA."

[9] "Because the scope of the proposal reflects NOAA's belief that sound principles of wildlife management require that all human interactions be considered to ensure that marine mammals are not being disadvantaged, the total PBR of a stock would then be allocated among user groups (e.g., subsistence, public display, scientific research, and fishing)." FLEIS at 7. See also id. at 20 ("This alternative also establishes an allocation scheme for distributing a PBR among fishery and non-fishery user groups.").

[10] "Although there are instances where mortality from other sources is considered or account for, the negotiators did not intend with the proposal, to replace existing MMPA (or other statutory) regimes for regulating, prohibiting or permitting non-fishing takes of marine mammals. The process is aimed at reducing incidental lethal take rates of marine mammals in commercial fishing operations."

[11] The federal quotas have been extraordinarily conservative. For example, the National Marine Fisheries Service population studies show a healthy population of 35,000 to 45,000 bottlenose dolphins in the Gulf of Mexico. See Scott, G.P., D.M. Burn, L.J. Hansen, R.E. Owen, Estimates of Bottlenose Dolphin Abundance in the Gulf of Mexico from Regional Aerial Surveys, CRD-88/89-07, NMFS, Southeast Region. In contrast, there have been only 438 bottlenose dolphins taken for public display since the MMPA was enacted in 1972.

[12] The Marine Mammal Commission, for example, in its comments to NMFS acknowledges the inappropriateness of using ABR (now termed PBR) as the basis for making allocations among various user groups and acknowledges the need for special criteria for takes by the special user groups covered by 16 U.S.C. § 1371(a)(1). The Commission stated that it

"believes that it is ill-advised to try to use ABR determinations as the basis for allocating 'takes' among various user groups. It is inappropriate, for example, to use ABR determinations as the basis for determining the number of animals that might fruitfully be taken to enhance the recovery of a depleted species or stock. Likewise, it makes little sense to use the same criteria to weigh the relative cost and benefits of taking for purposes of scientific research versus taking incidental to commercial fishing operations." (Comments at 53.)

The Commission concludes that "these proposals could unnecessarily impair scientific research and enhancement efforts." (Id.)

The Marine Mammal Center in its comments criticized the agency's original proposal:

"All that is left [under the ABR (now PBR) proposal] is fisheries, versus public display, scientific research and enhancement activities. There need be no controversy. To our knowledge there is no population with such a small take [sic] the commercial fishery cannot accommodate scientific research and public display. *Commercial fishermen do not need to be in an annual battle with aquarium directors or university professors. There is no problem here. Just subtract this insignificant use from the ABR available to the fisheries. We are sure they would rather live with that than the annual battle this proposal envisions.*" (Emphasis added.)

Peter Tyack, Associate Scientist of the Woods Hole oceanographic Institution, states:

"I am also concerned that the proposed allocation among user groups is not consonant with the MMPA's recognition that human activities which benefit marine mammals ought to have special treatment compared to activities that only harm marine mammals. That was the pur-

B. Harassing Litigation to Undermine the Section 1371(a)(1) Simplified Regime For Public Display and Scientific Research

Harassing litigation filed by groups opposed to maintaining marine mammals in zoological institutions threatens to cripple public display and scientific research institutions.

Two consolidated lawsuits allege that the MMPA should be construed for the first time in its more than 20-year history to impose a variety of onerous requirements on public display permits.[13] These lawsuits are baseless because the MMPA's public display provisions (§ 1371(a)(1)) are separate from those relating to other takings, such as commercial fisheries (§ 1371(a)(2)) and "waivers" (§ 11371(a)(3)(A)). The challenge has been rejected by the District Court.[14] The District Court properly ruled that "[f]or beneficent purposes, such as for scientific research, stock preservation, or, as here, for public display"

> "in § 1371(a)(1) Congress gave the Secretary authority to grant a modest dispensation in such cases from the most onerous constraints of the MMPA—the absolute moratorium—without awaiting the outcome of more elaborate administrative proceedings the regulations might require for more destructive assaults upon the population of a species."

799 F. Supp. at 179. An appeal has been filed in these cases by the unsuccessful animal protectionist plaintiffs.

Congress should reject any effort to overturn this proper and beneficial interpretation of the Act. In addition, while the Marine Mammal Coalition is confident that this interpretation will be sustained on appeal, it believes that it would be appropriate for Congress to reinforce this interpretation in order to avoid further onerous litigation in other jurisdictions that would seek to impose crushing administrative burdens on public display and scientific research institutions. In so doing, Congress should further stress the importance of the role of public display and scientific research, their special status, and the simplified regime intended for them.

C. Transfers of Marine Mammals

Litigation has also been filed challenging NMFS' procedures allowing public aquariums to transfer marine mammals to other institutions and challenging other important features of the NMFS's regulatory regime for public display and scientific research.[15] While the Marine Mammal Coalition is confident that NMFS and the public display community will defeat such challenge, appropriate amendments to the MMPA reinforcing the MMPA's policies appear warranted in order to avoid future harassing litigation elsewhere. Congress should reinforce that a person who already has an MMPA permit does not need an additional MMPA permit to transfer marine mammals already in captivity between its own facilities or to transfer to an-

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pose of the permit program, to allow for research or public display, activities that would otherwise be prohibited. * * * *I feel that the proposed regime will not implement the MMPA correctly unless it preferentially allocates potential takes to research, public display, and ecological enhancement or salvage efforts."* (Emphasis added.)

He goes on to recommend: *"Give priority for ABR to activities such as research and public display which benefit marine mammals."* (Emphasis added.)

The Center for Whale Research in its comments states that

"we disagree with the concept of introducing a NOAA determined total allowable removal (ABR) level governing removals incidental to commercial fisheries and other activities (eg: public display and research) to allocate annually among user groups. In practice this would mask the lethal removals in commercial fishing with nonlethal 'takes' by harassment, research and public display."

The Center concludes that the regime should focus on commercial fisheries "and not obfuscate the issue by allocation, permit process and accounting for non-fishing takes by other users [e.g. research and public display]."

[13] The complaints, for example, urge imposition of a "foreign consistency provision" that clearly does not apply to the special exception for public display and scientific research under Section 1371(a) (1). The foreign consistency provision applies to the separate category of "waivers" under Section 1371(a) (3) (A). The foreign consistency provision is inappropriate for public display and scientific research since it would impose a further burdensome administrative proceeding (and potential litigation) concerning the details of the marine mammal program of the country of origin. And it could potentially bar the import of a marine mammal, and thus deny the conservation and other benefits of having the animal, based on the results of that proceeding. These are results counterproductive to important goals of the MMPA as they relate to public display and scientific research. The complaints also seek to impose onerous studies relating to the status of the stock, as a precondition to a display or research permit, studies that are not necessary in light of the small number of animals involved, the adequate safeguards already provided under Section 1371(a)(1), and the beneficial purposes of public display and scientific research.

[14] *Animal Protection Institute* v. *Mosbacher*, 799 F. Supp. 173 (D.D.C. 1992).

[15] *Kama* v. *New England Aquarium*, C.A. No. 91-11634-N (D. Mass.).

other facility that has a permit. To require otherwise would exhaust and paralyze marine mammal facilities, since each permit would be subject to extensive administrative proceedings and court review. Congress should also reinforce that the sale, transfer and transport of marine mammals already in captivity between already permitted institutions does not require further authorization. A notification (1) to APHIS so it can assure that the receiving facility has APHIS certification for care and maintenance and (2) to NMFS for agency inventory purposes, should be sufficient.

D. NEPA

Additional litigation has been filed challenging public display permits based on an effort to overturn NMFS procedures in relation to the National Environmental Policy Act.[16] The Marine Mammal Coalition believes that Congress should reinforce that public display and scientific research permits or transfers of marine mammals are not subject to the requirement to prepare an environmental impact statement.

E. Agency Obstacles to Obtaining Permits

Despite the Congressionally-mandated simplicity of procedures for obtaining public display and scientific research permits and the small number of animals taken for these purposes, obtaining such permits has nonetheless become a bureaucratic nightmare contrary to Congressional intent, wasteful of federal resources and debilitating to zoological institutions. Requirements for obtaining permits become increasingly burdensome, and extraordinary delays—sometimes years—occur in granting permits.

Contributing to this problem is that there is an unnecessary duplication of regulation, as NMFS has become increasingly involved in matters concerning animals in zoological institutions, matters that are clearly the responsibility of APHIS under the Animal Welfare Act.

In that regard, when an application for a display or research permit is made, APHIS conducts a thorough evaluation of husbandry standards according to its statutory mandate under the Animal Welfare Act. Before the application is acted upon, APHIS notifies NMFS whether the facility meets all husbandry requirements of the Animal Welfare Act. At this point, however, what should be a simple and straightforward process runs amok, as NMFS in the context of reviewing the MMPA permit application, proceeds to make an additional assessment of the application based on husbandry-related considerations, despite the assurance of APHIS that husbandry practices meet all standards. In fact, NMFS may make multiple requests for information that bear no relationship to existing regulations. Often husbandry requirements are added to the permit conditions.

This system of "double jeopardy" vastly prolongs the permit process, resulting in crippling delays to the applicant and a deprivation to the public it serves.

In addition, the process of obtaining authorizations from NMFS for transfer of animals from one facility to another has become extremely burdensome. There are unreasonable delays—sometimes several months—before authorizations are granted.

The Marine Mammal Coalition believes that legislative action is necessary to restore common sense to the regulatory scheme. Congress should reinforce Congressional intent to have permits issued for the number of animals necessary for public display and scientific research in an expeditious and simplified manner. Congress should also eliminate intrusion by NMFS into animal husbandry matters, which are properly within the jurisdiction of APHIS. And, as stated above, Congress should reinforce that the sale, transfer and transport of marine mammals already in captivity between already permitted facilities does not require further authorization.

F. State "Veto" of Federal MMPA Permits

A bill has been introduced in the House to amend the MMPA to authorize state vetoes of public display permits. H.R. 585 ("The Marine Mammal Public Display Act of 1993"). A similar House bill was properly rejected in 1990. While no such bill has been introduced in the Senate, the Marine Mammal Coalition wishes to go on record here as stating that any such proposal would be unwise and contrary to important policies of the MMPA and should be rejected.

State vetos of an MMPA permit would threaten the ability of zoological institutions to obtain the small number of animals they need to carry out their Congressionally-endorsed purposes and would undercut the comprehensive federal program governing public display permits.

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[16] *Kama* v. *New England Aquarium, C.A. No. 91-11634-N (D. Mass.).*

The MMPA reflects a national policy in favor of public display. The proposed amendment would thwart the Congressional policy to educate the public throughout the nation about marine mammals—as well as severely harm public display institutions. Furthermore, the MMPA provides comprehensive, stringent federal regulation concerning the granting of public display permits, which regulation takes into account a panoply of conservation criteria. The federal permit process allows for participation by all interested parties—including states. Public display permits are not granted without opportunity for public comment and thorough review by the NMFS, the Marine Mammal Commission and the Committee of Scientific Advisors on Marine Mammals. A state veto would fly in the face of this regulatory regime.

Furthermore, dolphins are migratory and move in and out of the waters within the boundaries of a particular state. The proposal's state-regulation approach to this interstate phenomenon is inappropriate.[17]

G. Other Unwarranted Proposed Restrictions on Public Display and Scientific Research

An additional proposal to restrict public display and scientific research have been put forth. H.R. 656 ("The Dolphin Capture, Export and Public Display Protection Act"). While a similar proposal has not been introduced in the Senate, the Marine Mammal Coalition wishes to go on record here that any such proposal would be unnecessary, counterproductive and contrary to important policies of the MMPA.

(1) The bill would require the Secretary of Agriculture to review standards established under the Animal Welfare Act for the care and habitat of marine mammals in captivity.

This provision is unnecessary. The Secretary of Agriculture, acting through APHIS, already has the authority to review standards established under the Animal Welfare Act, is conducting such a review, and intends to publish an advanced notice of proposed rulemaking for enhanced care and maintenance standards.

(2) The bill would require the issuance of regulations to establish a system for tracking marine mammals taken in waters under jurisdiction of the United States or imported into the United States.

This provision is unnecessary. NMFS maintains an inventory of marine mammals under its jurisdiction held by permit holders. Furthermore, regulations issued pursuant to the Animal Welfare Act impose extensive recordkeeping requirements on zoological institutions and public aquariums concerning "purchase, sale, transportation, identification, and previous ownership of animals." 7 U.S.C. § 2140; 9 C.F.R. §§ 2.75-2.80.

(3) The bill would make it unlawful to take any marine mammal in waters under the jurisdiction of the United States during the period beginning on the date of the enactment of the Act and ending on the effective date of the-tracking system regulations.

This provision flies in the face of a fundamental Congressional policy of the MMPA to favor and foster public display and scientific research. It suspends for a significant time the MMPA provision allowing permits for the taking of marine mammals for public display, scientific research, and enhancement of survival or recovery of a species or stock of marine mammals. 16 U.S.C. § 1371(a)(1).

The bill would block even exercise of existing permits. The bill actually would halt the take of any marine mammal in waters under the jurisdiction of the United States, including commercial fishing operations, thus having an impact far beyond public display and scientific research.

(4) The bill would prohibit the export of marine mammals except for the purpose of maintaining or improving the health and well-being of the marine mammal.

This provision is unnecessary and counterproductive. Foreign institutions wishing to obtain marine mammals must obtain a permit from the NMFS and must demonstrate that they are in compliance with standards for care and maintenance of marine mammals issued under the Animal Welfare Act. In addition, United States marine mammal institutions sometimes obtain marine mammals through exchange or other arrangements with other institutions, including institutions abroad. The prohibition on exports would thus thwart United States institutions from obtaining animals they need for their Congressionally-favored purposes—thus harming these institutions, the public they serve, and the interests of conservation of marine mammals. And, foreign countries would probably end up by taking more marine mammals from the wild.

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[17] The desire of Congress for uniform federal regulation is further demonstrated by Section 1379, which specifically bars enforcement of state laws relating to the taking of marine mammals unless the Secretary has transferred authority for conservation and management to a state under stringent criteria.

(5) The bill would limit research permits to no more than two years unless the Department of Commerce issues a special extension if the Secretary determines that the extension is necessary for the completion of a long-term study and specifies the period the extension. The bill also contains extensive requirements relating to release of marine mammals under scientific permits.

These provisions are unnecessary and intrude into decisions that properly have been left up to the administrative agency.

(6) The bill would drastically increase the penalties under the Animal Welfare Act relating to marine mammals. The Animal Welfare Act currently provides for a civil penalty of up to $2,500 for each violation. A knowing violation is subject to a fine of not more than $2,500 and/or imprisonment for not more than a year. The bill would provide for a civil penalty of up to $10,000 for each violation relating to marine mammals; and a criminal penalty of up to $20,000 for each violation and/or imprisonment for not more than one year.

The Animal Welfare Act thus already provides significant penalties for violations including significant monetary penalties and imprisonment. It unnecessary and inappropriate to carve out one category of animals in the Animal Welfare Act and drastically increase the monetary penalties relating to them.

H. Other

The Marine Mammal Coalition also supports amendments to (1) clarify that public display includes interactive exhibition; (2) clarify that the MMPA1s prohibition on the importation of marine mammals from species designated as depleted only applies to animals taken from a stock that was depleted at the time of the taking; and (3) establish expedited procedures whereby a beached and stranded animal that cannot be returned to the wild may be returned to the federal government for care and allowed to be maintained at the responding facility or another appropriate facility.

In conclusion, the Marine Mammal Coalition strongly urges Congress to maintain the existing beneficial policies of the MMPA with respect to public display and scientific research. The Marine Mammal Coalition also urges Congress to enact the strengthening and clarifying provisions outlined above. We look forward to working with Congress to accomplish these important goals.

PREPARED STATEMENT OF SENATOR PRESSLER

I'd like to thank my colleague, Senator Kerry, for chairing today's hearing on the Marine Mammal Protection Act. I welcome those of you who are testifying.

When Congress enacted the Marine Mammal Protection Act in 1972, the goal was to reduce practices that contributed to the dwindling numbers of marine mammal stocks in our oceans and waterways. Since that time, many positive changes have been made.

At the same time, Congress recognized the positive aspects of the public display of marine mammals in national aquariums and zoos. This view was reinforced in the Act's 1988 reauthorization, in which the Committee stated:

> public display has served a useful educational purpose, exposing tens of millions of people to marine mammals and thereby contributing to the awareness and commitment of the general public to protection of marine mammals and their environment.

In addition, public display facilities are valuable assets to their communities. Obviously, they provide educational resources for students and teachers.

For example, in my landlocked home state of South Dakota, many young people may not have the opportunity to travel to coastal regions of the United States to see the oceans and view marine mammals firsthand. This is why the Marine Life Aquarium in Rapid City, South Dakota, is such a valuable resource for awareness and education about marine mammals in my state.

The Marine Life Aquarium has been educating South Dakotans and others since 1963. The aquarium allows year-round visitors, more than 80,000 last year, the unique experience of firsthand interaction with marine mammals not possible from reading books or viewing videos.

The aquarium offers educational and entertaining marine mammal presentations geared to the residents of a landlocked region and with sensitivity to Native American viewpoints on the environment. The aquarium routinely serves as an important education tool for area schools and teachers. For example, 5,000 children participated in Operation Ocean, a free educational program this past spring. The aquarium also provides access to students for research and development.

The mammals at the Marine Life Aquarium also enjoy a safe and healthy environment. The animals at the Marine Life Aquarium receive first rate care and medical

attention. In addition, the training staff provides a changing environment for the animals, thus allowing them to use their natural curiosity and predatory skills.

Despite the many benefits I have outlined, some individuals want to further restrict or even eliminate the public display of marine mammals in places like South Dakota's Marine Life Aquarium. I don't believe this is in the interest of the American public, or the animals themselves. These aquariums provide a unique opportunity to build strong public interest and awareness in our earth's environment and the survivability of marine mammals in their natural habitat.

Further, imagine with me the devastating environmental impact if an additional one million people attempted to view these marine mammals in the wild. This would mean more boats, more trash, and more disruption of the migration of whales, for example. Ladies and gentleman, can you picture what this sort of increase could do?

The small number of marine mammals on public display in ecoparks, or zoos, and aquariums in the United States eliminates this need. Public display facilities increase public awareness of our animal friends in the sea without the serious environmental consequence of viewing them in the wild.

QUESTIONS ASKED BY SENATOR INOUYE AND ANSWERS THERETO BY MR. PRESCOTT

Question. The Dolphin Quest program is very impressive. Would you briefly describe the various programs at Dolphin Quest.

Answer. Dolphin Quest offers a variety of educationally oriented programs for the public as well as programs for Hawaiian school children and youth groups.

Programs for adults focus on the dolphins unique adaptions to life in the marine environment and current marine conservation issues.

Teen programs include similar discussions as well as information on career opportunities in the marine sciences.

Programs for children focus on the special characteristics of dolphins and whales, their important role in the marine environment and ways that children can help preserve our marine resources.

Although only one of Dolphin Quest's public programs is a SWTD program, each involves a degree of personal interaction with the dolphins. Through personal involvement in the learning process, participants internalize their educational experience and become truly committed to preserving our ocean resources.

FORMAL EDUCATIONAL PROGRAMS

"Discover Dolphins"!—This full day educational field trip program for elementary school groups is conducted once or twice a week, free of charge. Students participate in classroom learning activities and receive instruction and a demonstration with the dolphins and their trainers. Discover Dolphins! is designed to nurture awareness and concern for conservation issues and to foster a sense of environmental stewardship in our children.

Educational and Scientific Conferences—Scientific and Educational Conferences, such as Dolphin Day for Teachers, are offered to Professional educators from the Big Island and throughout Hawaii.

Marine Mammal Seminars—Educational seminars, conducted free of charge by Dolphin Quest and the Waikoloa Marine Life Fund (WMLF) staff and guest speakers, cover natural history of various marine mammals, current research, and marine conservation issues.

Outreach Educational Services—Dolphin Quest and the WMLF support local schools by supplying a large variety of current materials to assist teachers in developing units for teaching about marine mammals and the ocean ecosystem. Educational reference materials, computer software, and creative learning centers are also available for loan to schools.

Publications—Dolphin Quest's, Director of Education has published "The World of Dolphins and Whales" a classroom curriculum for grades 4, 5, and 6. The curriculum contains 15 detailed cooperative-learning lessons and 15 full-color photographs of marine mammals. Proceeds from this curriculum go to the WMLF.

Question. Does Dolphin Quest survey the people who participate in its programs about their experiences, and if so, what do the surveys show?

Answer. As part of the public display community, Dolphin Quest takes its commitment to education and increasing public awareness of conservation issues very seriously. We continuously seek feedback from participants in order to monitor our program's educational effectiveness and ability to impart a meaningful conservation message. A statistical compilation of 9249 questionnaires completed by program participants and returned to Dolphin Quest between December 1988 and June 1993 is attached.

It is significant to note that when asked to compare the educational value and overall personal impact of their Dolphin Quest experience with their previous opportunities to experience dolphins, 92.5 percent said that their Dolphin Quest experience had greater educational value and personal impact than books or magazines, 89.2 percent said the Dolphin Quest experience was greater than nature movies or TV and 89.5 percent believe the Dolphin Quest experience has greater educational value and personal impact than even observation in the wild. 99.6 percent recommend that interactive programs continue as a means to increase public sensitivity and appreciation of dolphins and dolphin concerns. Fully 99.3 percent believe that an interactive experience such as Dolphin Quest will inspire people to actively support environmental issues.

These statistics provide overwhelming evidence that the emotional connection between the visitor and the dolphin in an interactive experience provides an excellent foundation for changing public attitudes about our marine environment resulting in a strong commitment to the preservation of our marine resources.

Question. Recently there has been media coverage of an incident at a Florida swim program, where a male dolphin allegedly harassed a swim participant. is this facility a member of the Alliance of Marine Mammal Parks and Aquariums? Is the reported behavior of the dolphin a common occurence at swim facilities? Has this ever happened at the Dolphin Quest program and if not, why not? Do you consider the Dolphin Quest program to be safe?

Answer. The incident referred to happened at a facility that is neither an Alliance or AAZPA member. This has never happened at either of the two Alliance facilities having SWTD programs. The male dolphins used in the Alliance programs have never displayed sexual aggression toward a participant in a swim encounter. This type of behavior is not acceptable at the Alliance facilities and our dolphin and staff training programs have effectively prevented it from happening.

The dolphin behavior you are describing is learned and is self reinforcing if it is allowed to continue. Using modern training techniques based on positive reinforcement dolphins can be trained to engage only in appropriate behavior when interacting with humans. Our facilities train our dolphins. The example of improper dolphin behavior you referenced occurred at a tacility which chooses to not train its dolphins.

The two Alliance members operating SWTD facilities take the safety of their programs very seriously. There has never been an injury to a participant in these programs due to an aggressive act by the dolphins. Since the beginning of the SWTD programs at The Dolphin Research Center and Dolphin Quest over 76,000 people have participated in their SWTD programs. There have been only five accidental injuries, including such minor injuries as a superficial scratch. This represents an injury rate of 0.00006. The safety of the participants is ensured by the fact that each dolphin is individually evaluated for behavioral compatibility before inclusion in a SWTD session and every human-dolphin interaction is carefully supervised by highly experienced, professional marine mammal behaviorists.

Another area of question regarding swim programs has been disease transmission from humans to dolphins. The focus, raised by this, was over possible transmission of respiratory infections from people to dolphins. There has not been one incident of disease transmission from humans to dolphins in over 41,000 SWTD human/dolphin interactions since our program began in 1988. To investigate the possibility of this further we have undertaken a retrospective study of Dolphin Quest's respiratory monitoring program. This study is attached here and clearly reveals the lack of respiratory disease transmission. Furthermore, there has not been one injury to a dolphin or a single case of stress induced behavioral change or illness in any of our dolphins. In fact, the dolphins are thriving and seem to enjoy the interactive programs as much as the human participants.

A RETROSPECTIVE STUDY OF BOTTLENOSED DOLPHINS PARTICIPATING IN SWTD PROGRAMS SHOWING AN OVERALL ABSENCE OF CLINICAL AND SUBCLINICAL RESPIRATORY DISEASE

(Sweeney, J.C., L.R. Stone, A.W. Krames and J.M. Hay, Dolphin Quest, Inc.)

INTRODUCTION

One concern with respect to Swim-With-The-Dolphin programs, where casual contact between the dolphins and humans is allowed, is that Bottlenosed dolphins participating in such programs are vulnerable to health risks. At issue is the potential transmission of respiratory diseases from participating humans to the dolphins. The medical literature is notably void of reference to such disease transmission, yet to

date, there has been no study documenting the health history of a group of dolphins with frequent casual contact with the human public. The dolphins at the Dolphin Quest facility at the Hyatt Regency Waikoloa on the Big Island of Hawaii are involved in one of four SWTD programs which operate under a special permit from the National Marine Fisheries Service, and for these animals, the program of preventive veterinary care includes the maintenance of extensive health history practices and records.

To address this subject, a retrospective study of Dolphin Quest medical records was undertaken. The preventive health care program at Dolphin Quest actively incorporates medical behaviors into the health assessment process. Trained medical behaviors have become an ever more prominent aspect of health care programs for marine mammals. The collection of sputum exudates from dolphins and whales by training them to exhale forcefully on presentation of a signal, is one of the easiest to train and one which yields an abundance of information about the state of the respiratory tract. Specifically for assessment of inflammation in the respiratory tract, cytological analysis of sputum exudates provide an ideal opportunity to identify the cellular components associated with inflammation, the leukocytes, or white blood bells. These cells, one of the body's defensive mechanisms, are attracted to foci of invasion and tissue insult and therefore appear, beginning early in the reactive process, within exudative materials derived from that foci. By performing these simple procedures on each dolphin on a frequent and regular basis, an ongoing record of the health status of organ systems, e.g., the respiratory tract, for each animal can be documented.

MATERIALS AND METHODS

The cytological examination of respiratory sputum is ideally suited to dolphins, as they can easily be trained to blow or cough with force into a collection container or culture plate.

In so doing, they liberate a representative sample of the cellular contents of the lungs, bronchi, nares and cranial sinuses. These contents are immediately visualized through routine microscopic examination, and quantitatively recorded. A ratio of white blood cells to epithelial cells (normal cells which line the membranes of the respiratory tract) provides the ability of noting changes in the tract, particularly the onset of subclinical (early cellular reactivity without physical symptoms) respiratory disease. Any samples having an abnormal ratio can be cultured for micro-organisms (bacteria and/or fungi).

The microscopic examination of respiratory sputum is accomplished by mixing the sputum material with an equal volume of nuclear chromatin stain, e.g., New Methylene Blue, and observing under 10X and 40X in the microscope. By this technique, both epithelial cells and white blood cells, as well as numerous other types of cells and micro-organisms, are simple to identify. The observer records the number of these cells identified, and from this exercise, establishes a ratio of white blood cells to epithelial ells.

RESULTS AND DISCUSSION

As we humans are all too painfully familiar, respiratory diseases are often characterized by prolific production of exudative material. These exudates are full of white blood cells, the ratio of white blood cells to epithelial cells existing commonly at well over 2:1. With clinically apparent respiratory infection in the dolphin (symptoms evident including coughing, audible moist sounds on inspiration or expiration, changes in blood hematology parameters), the clinician would expect to find, as an example, 30 to 40 white blood cells to 5 to 10 epithelial cells, with a ratio factor of 5:1. In the early stages of disease, before symptoms are evident, white blood cells appear in response to the,growing infection and a ratio factor of between 1:1 to 2:1 is typical and suggestive of the presence of a subclinical respiratory inflammation in a dolphin. Such a finding on routine examinations enables the veterinarian to closely monitor the animal, evaluate causes such as parasitism or other non-infectious entities, and, if appropriate, institute clinical and possibly pharmacologic responses directed to elimination of the problem before it progresses into clinical disease. This preventive medicine procedure enables us to evaluate our dolphins at a subclinical level, and thus respond unequivocally to this matter with quantitative data. In five years of operation at the Hyatt Regency Waikoloa, there has not been a single occurrence of clinical respiratory symptoms, due to any cause, in any of the six dolphins there.

Figures 1, 2 and 3 present a retrospective assessment of 334 specimens collected and examined by the procedure described above for all of the Dolphin Quest dolphins for the last three years, 1991, 1992 and 1993. Note that in only rare instances

(five samples) did the ratio of white blood cells to epithelial cells rise to above 1:1 (subclinical inflammation), and only once was there encountered a ratio of above 2:1 (Lono in November, 1991). In no instance did any of the dolphins exhibit clinical symptoms of respiratory abnormalities over this time period. In Lono's case in 1991, the rise in the sputum cellular ratio was not associated with either symptoms, changes in blood analyses or abnormalities on physical examination, thus his condition remained subclinical. In this case, he was administered an antibiotic and subsequently, respiratory specimen ratios returned to normal levels.

The retrospective presentation here is exactly what one might expect from a normal group of healthy dolphins, maintained under the close scrutiny of an effective preventive medicine program. Had there been any influence in this clinical presentation by the introduction of human derived respiratory disease, there would have been a clear impact in these animals by the occurrence of repeated subclinical or clinical inflammatory insults to the respiratory tract, identifiable as changes in the cellular material monitored here.

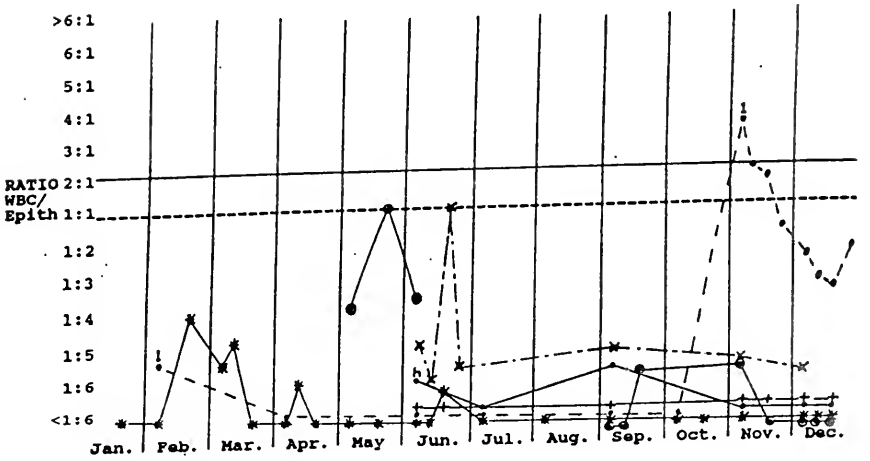
CONCLUSIONS

From the clinical data presented here, representing an in-depth three year study of retrospective analytical information collected from the six Dolphin Quest dolphins, it is clear that respiratory disease from any cause has been absent from within this group. The dolphins have exhibited no clinical symptoms of respiratory disease, and they have exhibited only extremely rarely occurring evidence of subclinical inflammation. With the sensitivity of the diagnostic procedure utilized here, capable of identifying minor changes in cell populations within the respiratory tract of the dolphins, the few instances of transient ratio elevations were well within the limits of expectations of normal health parameters. Without question, there has been no influence whatsoever of respiratory disease in this population related to interaction with humans in the SWTD programs offered by this facility.

FIGURE 1

RESPIRATORY EXUDATE CYTOLOGY OF DOLPHIN QUEST DOLPHINS:
A Retrospective Study of Specimens Collected under
Routine Medical Behavior Management
*** Ratio of WBC/Epithelial Cells ***

YEAR 1991



LEGEND:

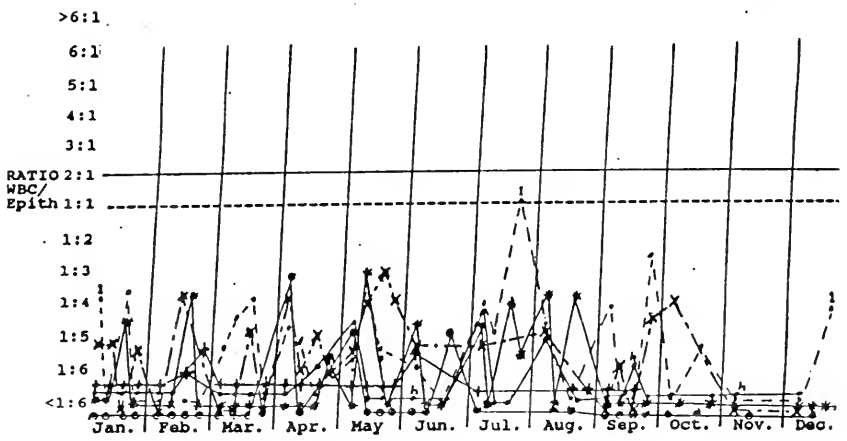
Above 2:1- Active Respiratory Inflammation
1:1 - 2:1- Subclinical Respiratory Inflammation
Below 1:1- No Respiratory Inflammation

———*- Pele
———+- Kona
———•- Shaka
- - — · —x- Leilani
· - - - -l- Lono
———h- Hobi

FIGURE 2

RESPIRATORY EXUDATE CYTOLOGY OF DOLPHIN QUEST DOLPHINS:
A Retrospective Study of Specimens Collected under
Routine Medical Behavior Management
*** Ratio of WBC/Epithelial Cells ***

YEAR 1992



LEGEND:

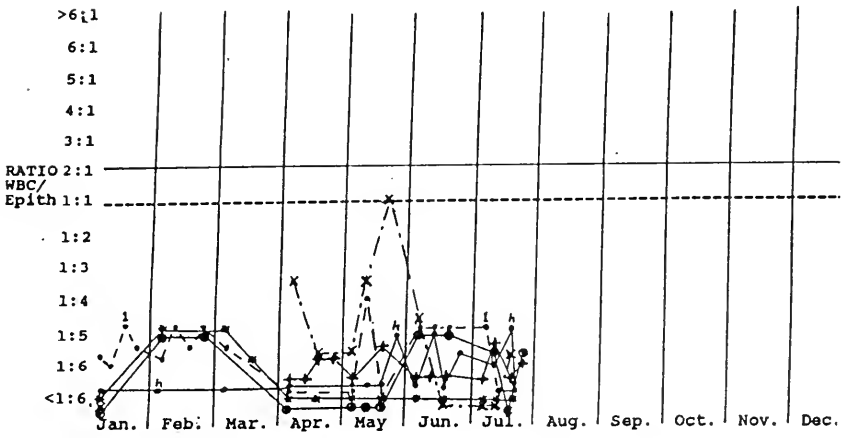
Above 2:1- Active Respiratory Inflammation
1:1 - 2:1- Subclinical Respiratory Inflammation
Below 1:1- No Respiratory Inflammation

———*- Pele
———+- Kona
———•- Shaka
-·—·-x- Leilani
- - - - -l- Lono
———h- Hobi

FIGURE 3

RESPIRATORY EXUDATE CYTOLOGY OF DOLPHIN QUEST DOLPHINS:
A Retroespective Study of Specimens Collected under
Routine Medical Behavior Management
*** Ratio of WBC/Epithelial Cells ***

YEAR 1993



LEGEND:

Above 2:1- Active Respiratory Inflammation
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*- Pele
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PREPARED STATEMENT OF SENATOR GORTON

Today marks the second hearing on the reauthorization of the Marine Mammal Protection Act in which we will discuss issues of importance to aquariums, zoos and other public display and scientific research facilities.

In the state of Washington there are less than a handful of zoos and aquariums which have a vested interest in this hearing today. In particular, the Point Defiance Zoo and Aquarium in Tacoma, Washington recently wrote to me updating me on the recent activities at their zoo and aquarium. The marine mammal collection at Point Defiance Rocky Shores exhibit complex includes beluga whales, harbor porpoises, walruses, sea lions, fur seals, harbor seals, sea otters and polar bears. Point Defiance continues to be an exciting field trip and educational experience for school children and families alike.

Each of us here today wants to ensure that marine mammals are treated with care and protected from harm. I would gather that zoos and aquariums, like Point Defiance, have a vested interest in ensuring that the marine mammals in their care are treated well and protected from harm.

A portion of today's hearing will discuss the need for reform of the regulations which govern the transportation and taking of marine mammals for display purposes. I look forward to the testimony of the witness panels and hope that this hearing will bring to light some of those areas which need reform.

INFORMATION ABOUT KILLER WHALES BY THE CENTER FOR WHALE RESEARCH

In recent news accounts there has been a lot of "information" presented by various folks who have been asked to comment on what is known about killer whales in the wild, in captivity, in cetacean releases programs, ect. Published and unpublished information from the scientific community, from the oceanarium industry, and in government records has been presented in support of, or in opposition to keeping these whales in captivity. Unfortunately, patently false "disinformation," biased information, and old fables are being presented to the news media by proponents of particular points of view. For example:

1) Glenn Young, general curator at Sea World of Texas is attributed with saying to the Houston Chronicle (July 19, 1993), "the mortality rate for Sea World's killer whales is actually better than for killer whales in the wild." That statement is ridiculous—of 33 Sea World killer whales listed in the U.S. Government Marine Mammal Inventory Report of 6/11/92, twenty (i.e., 60 percent) are dead! You can get a current inventory report from the National Marine Fisheries Service under the Freedom of Information Act and calculate for yourself that the mortality rate for killer whales at Sea World is on the order of 10 percent per year. Peer reviewed published calculations of overall North American mortality rate in captive killer whales is 8.9 percent (Duffield and Miller, 1988), and in mature animals of a free-ranging killer whale population in the Pacific Northwest is 1.1 percent for females and 3.9 percent for males (Olesiuk, et al., 1990). Anybody with the facts or published information at hand would not make Young's statement without knowing it is false. The statement only makes sense if one means that the American public might misconstrue the meaning and think that a higher mortality rate is better. If we get right down to calculating age-specific mortality rates in captivity and in the wild, Young's statement is even more preposterous. For example, out of fifty-plus young animals taken out of the Pacific Northwest killer whale population in late 1960's and early 1970's only three remain alive in captivity (only one out of fifteen Northwest whales that have been owned by Sea World is still alive). In the same time period, most of the adult whales that were left in the population after the capture era are still swimming free! You figure it out. The fact is, mortality rates for killer whales in captivity are considerably higher than in the wild, and I'm surprised that Sea World would bring up the subject. I thought these folks were issued permits to publicly display these animals for educational purposes, not to have spokespeople pass on self-serving myths for a multimillion dollar entertainment industry.

2) Frank Murru, general curator at Sea World in Orlando is attributed with saying to the Orlando Sentinel (July 17, 1993), "We know they live to be 25 to 30 years old. A 30-plus year old killer whale would be an exceptionally long-lived killer whale." Jim McBain, Director of Veterinary Medicine for Sea World Parks backs him up by saying, "other research supports Sea World's estimates for average life span." These statements are presumably meant to counter the published estimates of Olesiuk, et al. (1990) that female killer whales may live a maximum lifespan of 80 to 90 years, and an average 50.2 years. Brian Gorman, a spokesman for the National Marine Fisheries Service is reported as following up by saying, "There isn't any strong evidence one way or another. Nobody knows, and anyone who says he knows is kidding himself." That is disinformation with a mushed government blessing—both Mr. Murru and Mr. Gorman must know that the National Marine Fisheries Service convened a public hearing on November 22, 1991 in which irrefutable evidence was presented that most of the adult killer whales in a free-ranging Pacific Northwest population are unquestionably more than thirty years old. Photographs taken during the capture operations show that they were adult in the late 1960's and most of these same whales are alive today. Many of these individuals are reasonably estimated to be in their forties and fifties! The maximum age data presented by Olesiuk, et al. (1990) are mathematically reasonable trajectories of age, but of course nobody has studies these whales long enough to absolutely know that a particular whale has lived for ninety years. A report of the National Marine Fisheries Service hearing is long overdue—if you are interested in receiving their review of the most up to date facts on the issue write the Office of Protected Resources, NMFS, 1335 East-West Highway, Silver Spring, MD 20910.

3) The trainers for "Willy" (Active Environments) are attributed with saying to the Miami Herald (July 6, 1993), "Mortality rates among released animals is about 33 percent. Another serious problem is that the pod—the family group in which killer whales travel—almost certainly would reject a newly freed animal." One wonders where the trainers got their information—I remember hearing a similar myth about baby birds in my youth. Concerning killer whales in the Pacific Northwest, all of the "resident" pods were captured on several occasions and many individuals were

held captive temporarily while animals were selected for removal. There was no documented morality among released animals following their brief captivity, and as far as anyone knows the released animals have all been accepted back into their family groups. Many documentably released whales have had several offspring and a few have had grand-offspring since their release. If the captivity people were seriously worried about rejection of a freed animal they sure didn't show it back when they were catching animals for sale. In the longer term, two killer whales that were held in captivity for seven months before they were released in 1970 have both survived to 1992, and the female has had three calves since their release. This "family" associates with the killer whale groups known as "transient" in the Pacific Northwest—they never were part of the "resident" community, but they still come around the "resident territory" and their capture and release site several times per year. Two other killer whales that were held for fifty days in captivity before their release in 1976 have also survived and associate with the "transient" community. These two whales have been seen several times with the group in which they were captured, so they surely weren't rejected. It is true that no killer whales have been released after more than a decade in captivity and nobody knows how they would fare back in the family, but from what we know of the incredibly strong familial bonds in this species it is a reasonable guess that they would be accepted, not rejected. In related cetacean species, the one bottlenose dolphin release that we personally know about was following more than seventeen years in captivity in which the adult female dolphin was fed cut fish and trained to swim with people. Last year he escaped from captivity voluntarily, had apparently not lost her survival skills, and was associating freely with many other dolphins of her species, even serving as "auntie" to a newborn calf within six months after her escape. The folks at Active Environments seem to be speaking from a captivity point of view, not from a natural population point of view. Keiko is not the best candidate for release at this time for a variety of reasons, but the project of getting a whale back with its family is not so dismal as they project.

Prepared Statement of the American Association of Zoological Parks and Aquariums and the Alliance of Marine Mammal Parks and Aquariums

We have conducted marine mammal censuses for the marine zoological community (all marine zoological parks, zoos and aquaria in the United states and Canada which maintain marine mammal species) since 1976. interval censuses were taken in 1976 (Cornell and Asper, 1978), 1979 (Cornell et al., 1982), 1983 (Asper et al., 1988) and 1990 (Asper et al., 1990). Since 1990, records have been up-dated continuously in conjunction with the establishment of the the Marine Mammal Taxon Advisory Group and marine mammal studbooks.

The principal purpose of the censuses and the continuing databank has been to document the status of marine mammals in captivity in the United States and Canada and to provide data on demographic and reproductive trends. All facilities holding marine mammals in the United States and Canada have participated in the censuses and have made data available from the inception of their holdings to the present.

As of the June 1993 census database, there were 1615 marine mammals on display at 117 zoos, aquaria and marine zoological parks in the United States and Canada. These numbers represent 10 cetacean species, 13 pinniped species, the sea otter and the West Indian manatee.

Of the 117 marine mammal species recognized by the U.S. Marine Mammal Commission, only 25 species (21 percent) are currently represented in zoological institutions. Of these 25 species, only three species are present in any number;

- *Zalophus californianus* (the California sea lion) 43 percent of the total inventory of marine mammals,
- *Tursiops truncatus* (the bottlenose dolphin) 22 percent of the total inventory of marine mammals, and
- *Phoca vitulina* (the harbor seal) 16 percent of the total inventory of marine mammals.

The remaining 22 marine mammal species on display comprise less than 20 percent of the total number of marine mammals in zoological holdings.

At no time in the 17 years of the censuses, have there been large numbers of marine mammals of any species taken from wild populations. Even in the early 1970's when many of the current collections were being established, the numbers of individuals of any given species which were captured from wild populations per year were extremely low, ranging from 0-5 individuals per year for those species with low representation in the zoological environment to less than 20 individuals per year for

the three majoritive marine mammal species in captivity. For many of the pinniped species, individuals entering captivity were originally stranded and rehabilitated, not captured.

We would like particularly to emphasize that throughout these years, the numbers of cetaceans and pinnipeds taken from the wild for captive display are ABSOLUTELY INSIGNIFICANT. Even more so in light of the numbers of marine mammal deaths in the wild associated with incidental take, commercial hunting and whaling and those permitted in field research studies.

Furthermore, with the success of captive breeding programs in the subsequent years, there has been a continuing decline in the capture of marine mammals from wild populations for public display (Fig. 1). For example, for all pinniped species as a whole, the percentage of animals captured from wild populations during subsequent census periods (1976-1979, 1979-1983 to 1983-1990) went from 58 percent of the acquisitions in the 1976-1979 census period being captured from the wild to 4 percent in 1983-1990. In this latter census period, nearly all of the pinnipeds added to zoological displays were captive born or stranded. For cetacean species, the percentage of animals which were captured from wild populations dropped from 92 percent of the acquisitions in 1976-1979 to 72 percent in 1983-1990, captive breeding programs providing an increasing percentage of the acquisitions.

Less than 25 pinnipeds and cetaceans have been captured from the wild for captive display in the United States and Canada since 1990.

Reproduction has been reported for 18 of the 25 marine mammal species in the zoological community (Table 1). The remaining 7 species are represented by only one or two individual animals in non-breeding situations. In the 17 years of the censuses, there have been over 1900 marine mammal births recorded; the majority of these to the three major species; California sea lions (997 births), harbor seals (314 births) and bottlenose dolphins (298 births).

The average annual birth rates for the three major species, California sea lions, bottlenose dolphins and harbor seals have demonstrated a consistent increase throughout the census periods.

The success of captive marine mammal breeding programs is reflected in the fact that as much as 56 percent of the current inventories for some of these species were born in captive propagation programs (Fig. 2; Table 2). Second-generation and third-generation births are now occurring, as well. For a number of species all acquisitions in the past three years have been from captive births and over 90 percent of the current captive populations are in breeding or potential breeding situations.

Age distributions of the current live inventories for various marine mammal species are illustrated in Fig. 3. Similar age distributions for wild marine mammal populations are not available for most species. However, comparisons are possible for the bottlenose dolphin (Duffield and Wells, 1990; Fig. 4a) and North Atlantic killer whales (Christensen, 1984; Fig. 4b). For both of these species, the captive population currently has an age distribution approximating that reported for those particular wild populations and for both of these species, individuals from the original capture years are still alive and annually increasing the maximum longevity records for these species in captivity. Maximum longevities observed to-date for these and other marine mammal species in captivity are given Table 3.

We would like to submit these numbers as part of the Congressional Record. We feel that they demonstrate the tremendously positive trends and successes exhibited by the zoological community with respect to the maintenance of marine wammal species.

There is no way for us to adequately measure the wealth of knowledge that we see has been and is being gained about the biology of marine mammals and their needs in the natural environment, nor to describe the impact we feel this has on the millions of visitors who share in this knowledge and appreciation. The united States remains a leader in this area and the zoological community continues to access, revise, develop and improve captive environments for all species of marine mammals on display.

Table 1.—Marine Mammal Births in Aquariums, Zoos, and Marine Zoological Parks in North America From Census Data, 1976–June 1993

Species	No. of births 1976–June 1993
Pinnipedia:	
California sea lion *(Zalophus californianus)*	997
Harbor seal *(Phoca vitulina)*	314

Table 1.—Marine Mammal Births in Aquariums, Zoos, and Marine Zoological Parks in North America From Census Data, 1976–June 1993—Continued

Species	No. of births 1976–June 1993
Grey seal *(Halichoerus grypus)*	87
Northern fur seal *(Callorhinus ursinus)*	43
Southern fur seal *(Arctocephalus spp)*	24
Steller's sea lion *(Eumetopias jubata)*	14
Southern sea lion *(Otaria byronia)*	13
Pacific walrus *(Odobenus rosmarus)*	11
Elephant seal *(Mirounga angustirostris)*	1
Cetacea:	
Bottlenose dolphin *(Tursiops truncatus)*	298
Killer whale *(Orcinus orca)*	22
Commerson's dolphin *(Cephalorhynchus commersonii)*	11
Beluga *(Delphinapterus leucas)*	8
Pac. white-sided *(Lagenorhynchus obliquidens)*	4
Pilot whale *(Globicephala spp)*	2
False killer whale *(Pseudorca crassidens)*	1
Sirenia: West Indian manatee *(Trichechus manatus)*	29
Carnivora: Sea otter *(Enhydra lutris)*	38

Table 2.—Percentages of Current Inventories That Are Captive Born

Species	U.S. and Canada census data June 1993 (percent)
Pinnipeds:	
California sea lion*(Zalophus californianus)*	398/700=55.5
Grey seal *(Halichoerus grypus)*	21/40 =52.5
Harbor seal *(Phoca vitulina)*	124/263=47.0
Northern fur seal *(Callorhinus ursinus)*	12/29 =41.4
Cetaceans:	
Commerson's dolphin *(Cephalorhynchus commersonii)*	5/9 =56
Bottlenose dolphin *(Tursiops truncatus)*	115/348=33.0
Killer whale *(Orcinus orca)*	10/28 =36
Beluga *(Delphinapterus leucas)*	4/35 =11

Table 3.—Maximum Age, June 1993; Data for Marine Mammal Species Not Listed Here Are Available in Asper et al., 1990

Species	Number	Maximum age (years)
Pinnipeds:		
California sea lion*(Zalophus californianus)*	1091	39
Harbor seal *(Phoca vitulina)*	413	42
Grey seal *(Halichoerus grypus)*	69	40
Northern fur seal *(Callorhinus ursinus)*	56	20
Cetaceans:		
Bottlenose dolphin *(Tursiops truncatus)*	634	[1] 44
Beluga *(Delphinapterus leucas)*	45	[1] 25
Killer whale *(Orcinus orca)*	39	[1] 29

[1] These are estimated ages at capture and may be as much as 5 years higher than estimated here.

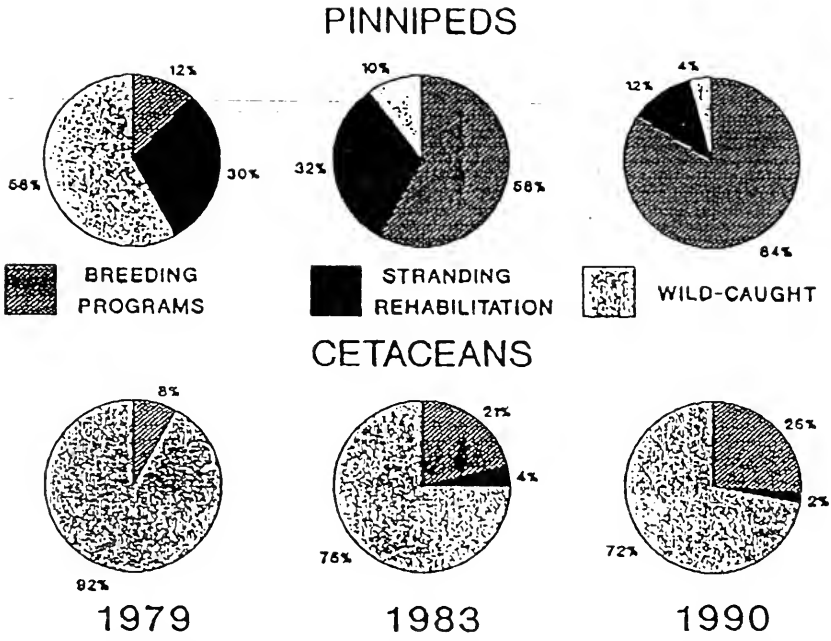

FIGURE 1.—Comparison of origins of acquisitions for pinnipeds and cetaceans for each of the census periods 1976–79 (1979), 1979–83 (1983), and 1983–90 (1990). From Asper et al., (1990).

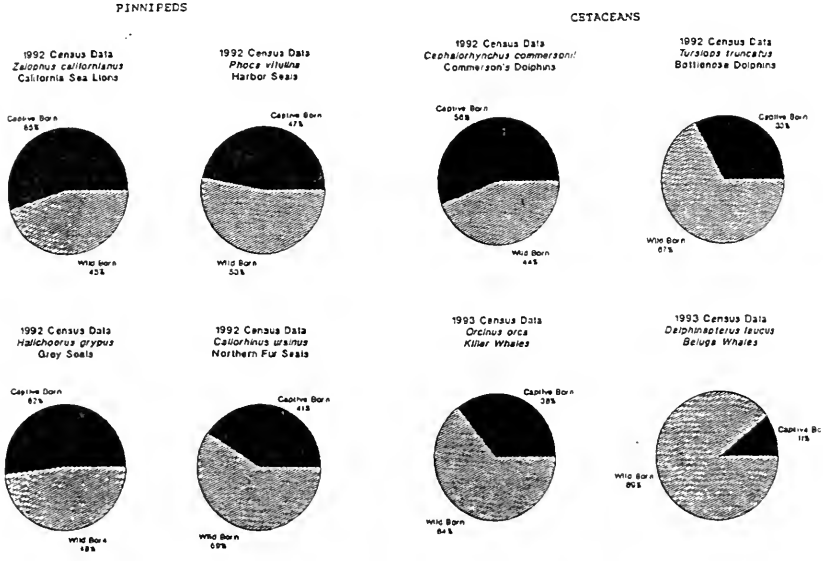

FIGURE 2.—Status of current inventories of marine mammal species in North America: 1992 census data. Dark sections are captive born, shaded portions are wild-born (for the pinniped species, this category is essentially equivalent to stranded animals).

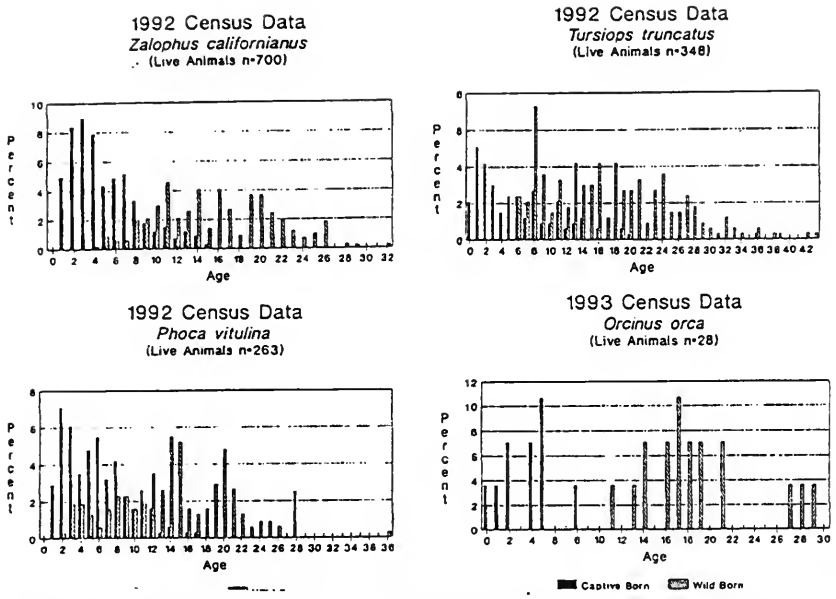

FIGURE 3.—Age distributions of current captive populations of California sea lion, harbor seal, bottlenose dolphin, and killer whale (1992 and 1993 census data).

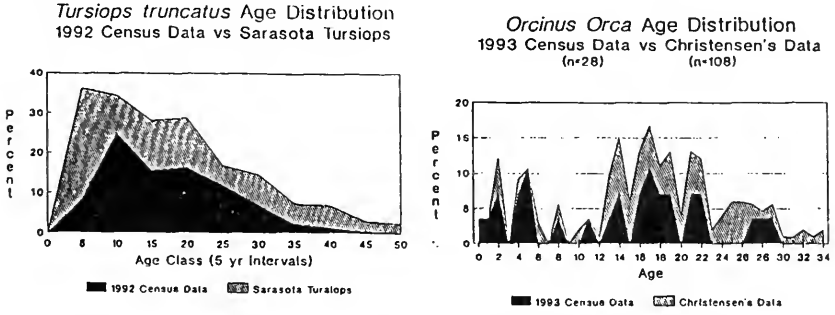

FIGURE 4.—Age distribution comparisons between the current captive population and a wild population of bottlenose dolphins (from Duffield and Wells, 1990; census data 1992) and killer whales (from Christensen, 1984; census data 1993).

PREPARED STATEMENT OF DOLPHIN QUEST

Dolphin Quest, located at the Hyatt Regency Waikoloa on the Big Island of Hawaii, is pleased to submit testimony on the reauthorization of the Marine Mammal Protection Act (MMPA). We applaud the Committee for it's action on one of our Nation's most important environmental protection laws.

Dolphin Quest shares this Committee's view on the need to protect the marine ecosystem, and is wholly committed to improving the future well being of our marine environment through education, conservation and research. Indeed, this Committee saw as fundamental to protecting marine mammals and the marine ecosystem the use of public display facilities to educate the public at large on the need to preserve and protect our valuable marine resources.

The goals of public display facilities are concomitant with that of Congress in enacting the MMPA. Among those goals are:

• To help ensure that there are opportunities for the public to learn about marine mammals (including depleted, endangered or threatened species).

• To enhance public appreciation for and understanding of the need for marine mammal conservation both in the United States and worldwide.

• To contribute to an improved, scientific understanding of the physiology, ecology and population dynamics of marine mammals, including the facts which bear upon their ability to reproduce themselves successfully and to survive amidst the growing threats to their existence.

• To inform the public about the benefits of research, education and conservation programs of marine mammals, both in public display facilities and in the wild.

• To encourage the formulation, dissemination and continued improvement of professionally recognized standards of ageappropriate education and conservation programs directed at marine mammals.

• To provide meaningful recreational experiences that will encourage the public to seek further learning opportunities regarding marine mammals.

Dolphin Quest supports the MMPA and does not believe it is in need of major modification. However, we have a unique perspective on the Act and urge the following issues and amendments be considered during the reauthorization:

• Amend the Congressional findings to recognize the value of public education and scientific research by public display institutions in enhancing the conservation of marine mammals.

• Clarify that persons who already have an MMPA public display permit do not need yet another NMPA permit to (a) transfer marine mammals already in captivity between their own facilities or (b) offer to sell, offer to purchase, or sell, purchase or transport marine mammals already in captivity to another facility which already has a marine mammal public display permit for the species involved.

• Clarify that public display includes interactive exhibition. Scientific studies and real world practice show that people learn more, and retain it longer, when the learning process is interactive. Interactive programs should be included in public display programs where appropriate.

We feel these changes clarify the statute, make the MMPA more consistent with the original intent of Congress in drafting the legislation, and fully recognize the value that public display facilities have in our society.

To this end, Dolphin Quest's education programs, scientific resources, financial and logistical support for research, as well as the overwhelming impact that its public programs have on participants' awareness and concern for dolphins, illustrate the many ways that public display organizations can make a contribution to it's community and the conservation of the marine environment.

Established by two marine mammal veterinarians, one of Dolphin Quest's primary goals is to provide an interactive learning experience for the public, which inspires appreciation for marine mammals and concern for the conservation of our marine environment. Dolphin Quest has provided an opportunity for more than 19,000 children to learn about dolphins through its publicly available interactive education programs; more than 4,660 school children with a chance to learn about the importance of preserving their local marine resources through a full day education field trip experience; more than 200 educators with the opportunity to attend Dolphin Quest's teacher work shops; more than 56,000 adults with an opportunity to learn first hand about dolphins.

To illustrate to this Committee the impact and importance of interactive learning which can be provided by public display facilities, attached is a statistical summary of questionnaires which were distributed by Dolphin Quest to its program participants between December 1988 and June 1993. It is interesting to note that 90.85 percent of the respondents state that the educational value and personal impact of their experience was greater than books, magazines, newspapers, television programs and nature movies. Additionally, 99.3 percent believe that ah interactive program such as Dolphin Quest will inspire people to actively support environmental issues. Also attached are samples of questionnaires completed by teachers participating in Dolphin Quest education programs.

Public display facilities also fulfill their commitment to marine conservation by participating in or funding scientific research, participating in marine mammal stranding and convalescence programs and other scientific community activities. Since 1989, Dolphin Quest and the Hyatt Regency Waikoloa have generated over $394,700 in vital funding for important marine education, conservation and research. A large portion of these funds have been used to support university level field research and educational programs. Through the non-profit Waikoloa Marine Life Fund, established by Dolphin Quest and the Hyatt Regency Waikoloa in 1989, individuals and corporate America have the ability to contribute to scientific research. In addition, biological samples obtained voluntarily through behavioral hus-

bandry training from Dolphin Quest dolphins have assisted scientists in the study of dolphin immune and reproductive physiology. In 1991, Dolphin Quest also purchased a $10,950 computer system capable of analyzing dolphin and whale vocalizations for researchers studying cetacean acoustics in Hawaiian waters. This computer system is the beginning of an acoustic laboratory which will function as a base of operations for many cetacean acoustic studies.

In conclusion, Dolphin Quest, as part of the modern oceanarium and zoological community, takes seriously the responsibility associated with the public display of marine mammals. Because public display facilities provide people with a first hand experience and education, the future well-being of marine mammals and their environment are more certain due to an informed and inspired society choosing to take part in marine conservation.

DOLPHIN QUEST QUESTIONNAIRE—12/9/88–6/30/93—SUMMARY OF STATISTICS

One of Dolphin Quest's primary goals is to provide an interactive learning experience for the public which inspires appreciation for marine mammals and concern for the conservation of our marine environments. In an ongoing effort to monitor our effectiveness in realizing this goal, Dolphin Quest continually gathers the following input from individuals who have participated in our programs.

9249 Questionnaies were completed and returned to Dolphin Quest between December 1988 and June 1993. Individuals participating in Dolphin Quest programs were given the questionnaire upon completing their Dolphin Encounter. An average of 29 percent of the questionnaires were returned for compilation which provides a statistically significant representation.

Not every respondent answered every question. Percentages were tabulated based on the number of responses to each specific question. For example, in Question No. 3, 9240 "yes" answers plus 9 "no" answers makes a total of 9249 responses to that question. To get the percentage of "yes" answers, 9240 was divided by 9249 and multiplied by 100, percentages are then rounded up or down to the nearest .1 percent:

9240/9249=0.999026X100=99.9026%=99.9%

Question 1: Was your Dolphin Quest experience a positive one?

Yes 100% No 0%

Question 2: Do you feel that the dolphins enjoyed the interaction?

Yes 99.7% No 0.3%

Question 3: Do you feel that the dolphins were treated with respect, care, and sensitivity?

Yes 99.9% No 0.1%

Question 4: Prior to your Dolphin Quest experience, what exposure to dolphins have you had? Please Check all that apply:

Observation in the wild 40.9% Nature movies/TV 84.0%
Lectures/Courses 11.1% Other 4.8%
Professional Work 1.4% Books/Nwspr/Magzn 76.3%
Oceanarium 86.5%

Question 5: Please compare the educational value and overall personal iinpact of your Dolphin Quest experience with the following: (If you have not experienced one of the following use "NA")

The educational value and overall personal impact of my dolphin experience was * * *

89.2% Greater than 6.9% Equal to 3.9% Less than Nature movies/TV
90.4% Greater than 6.6% Equal to 8.0% Less than Lecture/Courses
92.5% Greater than 5.6% Equal to 1.9% Less than Book/Nwspr/Magazine
89.5% Greater than 7.5% Equal to 3.0% Less than Observation in the wild

Question 6: Was information regarding marine mammal conservation presented in your dolphin Program?

Yes 99.0% No 1.0%

Marine mammal conservation issues are always presented during Dolphin Encounters; it is significant that 99.0 percent of participants are clearly hearing this vital information. The personal, interactive format of the Dolphin Quest encounter is highly effective in focusing participants' attention on the education and conservation information presented.

Question 7: Did your knowledge about dolphins increase through the encounter program?

Yes 98.4% No 1.6%

Question 8: Would you recommend that such interactive programs continue as a means to increase public sensitivity and appreciation of dolphins and dolphin concerns?

Yes 99.6% No 0.4%

Question 9: Do you believe that an interactive experience such as Dolphin Quest, will inspire people to actively support environmental issues?

Yes 99.3% No 0.7%

SUMMARY OF STATISTICS—6/4/92

Teachers were given a short questionnaire when their class completed the "Discover Dolphin!" education program. Approximately 50 percent of the teachers took the time to complete these evaluation forms and mail them back to us. Many classes also sent thank you letters, poems, stories, and art work.

Ratings: Percentages were tabulated based on the number of responses to each specific question. Each percentage number was carried only to the tenth position; nothing was rounded off. Not every respondent answered every question.

Question 1: Do you feel it was a valuable educational experience to participate in the "Discover Dolphins" educational program which consisted of four components:

directed teaching/discussion Yes 100% No 0.0%
activities/choosing time Yes 100% No 0.0%
film/slides Yes 100% No 0.0%
dolphins/lagoon with trainers Yes 100% No 0.0%

Question 2: Was the content appropriate to your grade level?

teaching/discussion Yes 100% No 0.0%
activities/choosing Yes 100% No 0.0%
film/slides Yes 100% No 0.0%
dolphins/lagoon Yes 100% No 0.0%

Question 3: Was the allotted time suitable to learning?

teaching/discussion Yes 100% No 0.0%
activities/choosing Yes 100% No 0.0%
film/slides Yes 100% No 0.0%
dolphins/lagoon Yes 100% No 0.0%

Comments indicated that teachers and students enjoyed the dolphin program so much they would have preferred it to be longer.

Question 4: Did your students enjoy the "Discover Dolphins!" education program?

Yes 100% No 0.0%

Question 5: Are your students better informed about marine mammal conservation issues because of this program?

Yes 100% No 0.0%

***Questions 6, 7, 8 and 9 are relevant for program development purposes We are including the results for your review.**

Question 6: Are the follow up activity suggestions of benefit to you?

Yes 100% No 0.0%

(Dolphin Quest provides two pages of suggestions for classroom learning activities to reinforce the marine science lessons taught in the "Discover Dolphins!" field trip program.)

Question 7: Is this field trip part of a larger instructional unit in the classroom?

Yes 100% No 0.0%

If yes, what is the main focus of the study unit? *Answers varied*

What other curriculum components are used in this unit?

books 68%; films 36%; work sheets 57%; activities 54%; chapter in text book 39%; and other 32%

Question 8: Would you be interested in borrowing educational videos and other instructional materials to enhance your marine science curriculum at school?

Yes 100% No 0.0%

Question 9: Would you be interested in attending a teacher training workshop about marine mammals?

Yes 100% No 0.0%

LETTER FROM MICHAEL B. DEMETRIOS, PRESIDENT, MARINE WORLD AFRICA USA

AUGUST 10, 1993.

The Honorable JOHN F. KERRY,
U.S. Senate,
Washington DC 20501–2102

DEAR SENATOR KERRY: On behalf of Marine World Africa USA, I would like to commend you and your colleagues for scheduling the recent hearing on public display and reauthorization of the Marine Mammal Protection Act. We strongly support the reauthorization of this very important legislation.

Marine World Africa USA is a member of the Alliance of Marine Mammal Parks and Aquariums (Alliance) and the American Association of Zoological Parks and Aquariums (AAZPA), and we heartily endorse the testimony and related documents submitted by the Alliance and the AAZPA for the hearing record.

We have become aware of the report recently distributed by the Humane Society of the United States (HSUS) on cetaceans maintained in zoological parks and are troubled by the misleading and incorrect information that makes up the foundation of the report and its underlying media campaign.

The HSUS report and related materials contain errors of omission and commission in virtually every paragraph. The two main issues of the HSUS "investigation"—mortality rates, and breeding records for marine mammals maintained in zoological parks—were derived from faulty data and biased and sloppy methods which result in incorrect conclusions and undermine confidence in HSUS' credibility and intentions. To illustrate, I raise five specific points:

1. *The HSUS report inappropriatelv makes universal statements about longevity for all killer whales based on one particular "best case" example.* The report compares killer whales maintained in zoological parks with a specific community of wild killer whales in British Columbia whose numbers, for some undetermined reason, are growing at an unusually rapid rate. Furthermore, the report ignores other wild populations that are currently being studied and whose numbers are static.

2. *The HSUS report used incorrect mortality numbers for this wild population and makes invalid mortality comparisons between wild killer whales and those living in oceanariums.* HSUS includes neonatal mortality in figures for populations maintained in oceanariums, but not for this wild population and as a result, the HSUS report overlooks approximately 100 deaths in wild populations over a 20 year period. Had the report used proper methodology, mortality rates for wild populations and for those maintained in zoological parks would have been roughly the same: about 2 percent per year. Also, the average age at death for the wild population would have been approximately the same as for whales living in marine parks.

3. *Most so-called "longevity" statistics are meaningless for drawing conclusions about the well-being and life expectancy of wild killer whales versus those maintained in oceanariums.* All the scientists who have studies the NMFS Marine Mammal Inventory, including Steuer and De Master and Drevenak, have emphasized the inappropriateness of using longevity data gathered from it except under very explicit conditions and state that average age at death numbers are irrelevant until all the animals in the study group are dead. As an example, in Steuers study of the NMFS inventory for a period from the mid-1970s to the mid-1980s, dolphins at Marine World Africa USA were given a "longevity" of 6.93 years. Yet none of the dolphins in the study group had died; in fact, that are all still alive today. Steuer was just looking at the average length of time that new dolphins had been at the park, not their average lifespan or their life expectancy.

4. *Longevity statistics for wild populations cited in the HSUS report are misleading.* Contrary to the implications In the report, 85 percent of wild females do not reach the "average age" of 50 that HSUS claims for wild female killer whales and 99 percent do not reach the "maximum age" of 80 cited by HSUS. Furthermore, animals in the wild are faced with an hour-by-hour, day-by-day, season-by-season struggle for survival. Life in oceanariums is different from in the wild, but it is not worse, and in many ways it is better.

5. *Breeding statistics cited in the report are also misleading.* North American oceanariums have very successful breeding programs with nearly half of the orcas currently in North American facilities being born in captivity. As an illustration, consider that ten healthy killer whale calves were born in North American oceanariums in the last eight years, and a calf has even been born to a captive-born female.

The HSUS report was clearly biased and undermlnes all that the term "science" should stand for. It completely ignores the tremendous progress made and knowledge gained by marine life parks. Furthermore, the campaign in which HSUS is engaged to "free the whales" is short-sighted in that it has the potential to divert fund

raising dollars that are needed to benefit animals in the wild—those that truly need to be saved.

Again, Senator Kerry, thank you for your involvement in this issue. We appreciate your consideration of the points raised in this letter and request that it be included as part of the 28 July 1993 "Reauthorization of the Marine Mammal Protection Act" hearing record.

Sincerely,

MICHAEL B. DEMETRIOS.

LETTER FROM BRAD ANDREWS, VICE PRESIDENT, ZOOLOGICAL OPERATIONS, SEA WORLD, INC.

AUGUST 6, 1993.

The Honorable JOHN F. KERRY,
U.S. Senate,
Washington, DC 20510–2102

DEAR SENATOR KERRY: Please accept our appreciation for the manner in which you conducted last week's hearing on public display and reauthorization of the Marine Mammal Protection Act. we were grateful for the words of support for public display voiced by Senators Inouye, Lott and Pressler and others. We also were pleased to hear of your support for the New England Aquarium.

We hope you will agree that the benefits of public display were demonstrated once again in the hearing. As a tool for educating and inspiring public concern for marine mammals, the worth of public display is indisputable. Second-hand experiences, such as those received through books, films, videos and exhibits, can be educational. Nothing, however, can better stimulate fascination and concern for marine mammals than the first-hand experience offered by public display. The 115 million people who visit zoos, marine parks and aquariums each year understand this and actively seek out these first-hand experiences.

As you consider the contributions of public display, please keep in mind the work of marine parks and aquariums in caring for animals that are beached, stranded or otherwise harmed in the wild. In the past two years at Sea World alone, we have treated and released back to the wild more marine mammals than we have collected in our nearly 30-year history. In the area of science and technology, we take part in more than 50 collaborative studies a year with independent academicians and qualified researchers. We also are proud to have supported for over 30 years the Hubbs Sea World Research Institute, a non-profit organization dedicated to the full-time study of marine life. In these times of growing budget deficits which have resulted in fewer federal dollars being available for such programs, Sea World is proud to be able to make such a contribution.

We would like to address, briefly, the confusion being caused by the recent document being circulated by the Humane Society of the United States (HSUS), titled "Small Whale Species—The Case Against Captivity." If you examine the underpinnings of the document, you'll see that it does not withstand objective scrutiny and was prepared in an extremely unscientific manner.

The methods used to produce the HSUS document are not presented and personal communication are cited as fact, yet such communications are not documented in a manner sufficient to determine accuracy and/or to verify claims made. In short, the document defies independent verification, the most important test of scientific validity. It rests on shaky assumptions and a questionable theoretical model.

While the numbers may come from NMFS records, the manipulation of the statistics is solely that of the Humane Society of the United States. This manipulation may have produced what HSUS believes to be sensational results. However, without peer review and a closer examination of methodology, it's highly questionable whether the manipulation of the statistics means anything at all.

Furthermore, the HSUS states that the average life span of a female killer whale is 50 years in the wild. This number is, in fact, an average of estimates of the ages of individual animals. These individual estimates are themselves based on other unproven assumptions. No one has observed a single female killer whale in the wild for 50 years.

In addition, the HSUS study incorrectly, and moreover, inappropriately lists the average and maximum longevity of male killer whales in the wild. It should also be pointed out that assumptions made about the killer whale populations around Vancouver Island, Canada, may not be valid for other killer whale populations around the world.

Please find enclosed peer reviewed papers from Myrick, Christensen, Heyning and Mitchell that stipulate in their studies a maximum life expectancy ranging from 25 to 40 years, depending on which study is cited.

As you will see from these current, peer reviewed scientific articles, definitive estimates of longevity and life spans and other issues of this complex nature do not exist. For instance, the mortality rate of neonate killer whales (less than 1 year of age) in the wild is supposedly 50 percent. With our successful breeding program (7 of 9 calves living), that leads us to a survivorship rate of 78 percent.

A truer picture of how animals at Sea World are presently faring is demonstrated by our successful breeding program established in 1978 for bottlenose dolphins, *Tursiops truncatus,* and our productive breeding program for killer whales, *Orcinus orca.*

Today, more than 60 percent of the bottlenose dolphins in our parks are captive born. Some are in the third generation. The success of this program served as an effective model for the design and implementation in 1983 of the killer whale breeding program. We are pleased with the progress of this program. Captive born killer whales now represent at least 50 percent of our collection. Our beluga whale breeding program, initiated in the late 1980's appears equally promising.

At present, there are 18 killer whales in the four Sea World parks. The ages of these animals range from six months to 29 years. Nine are captive born. The age distribution of the animals in our parks approximates that of killer whales in the wild as reported by Christensen in 1981. (See attached).

To further illustrate the progress in this area, including the species discussed by HSUS, we have attached to this letter a summary of a paper submitted for the record by Dr. Deborah A. Duff ield and D. Shell, marine mammalogists at Portland State University. This paper demonstrates the progress and success which has been made by zoological institutions in fulfilling commitments to conservation through captive breeding. Successful captive breeding programs account for dramatic increases in percentages of captive born individuals representing many zoological populations of marine mammals.

Our commitment to research, education and the conservation of the marine environment is evident throughout our nearly 30 years of history. We remain concerned about the serious threats which face marinelife as a result of deterioration of the marine environment. And we are mindful that many serious questions * * * the answers to which are absolutely fundamental to successful marine conservation * * * remain unanswered. It is our firm belief that the answers to these and other broader questions about marine mammals will continue to be derived from studies in the wild and through public display programs. The answers will provide factual knowledge for use in the pursuit of solutions to protect and preserve marine mammals for the appreciation of future generations of Americans.

In closing, we would simply reiterate that the care marine mammals receive in reputable marine parks and aquariums is of excellent quality. People who work in these institutions have dedicated their lives to these animals and work hard to safeguard their health and well-being. Also, the Department of Agriculture's, Animal and Plant Health Inspection Service visits the institutions regularly to assure the public that standards are being met.

Senator Kerry, we thank you again for offering us the opportunity to discuss these issues and request that this letter and its attachments be made part of the July 28, 1993 "Reauthorization of the Marine Mammal Protection Act" hearing record.

Sincerely,

BRAD ANDREWS,
Vice President, Zoological Operations.

[Referred to materials may be found in the committee files.]

[Miscellaneous materials unable to be printed may be found in the committee files.]

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