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To the Subcommittee on Fisheries Conservation, Wildlife and Oceans of the

U.S. House of Representatives Committee on Resources

Regarding Reauthorization of the

Marine Mammal Protection Act, H.R. 2693

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Mr. Chairman and distinguished members of the Committee, my name is Randall S. Wells. I am a Conservation Biologist with the Chicago Zoological Society, and I am based at Mote Marine Laboratory, in Sarasota, Florida, where I serve as Director of Mote's Center for Marine Mammal and Sea Turtle Research. I began my career of studying dolphins, whales, and manatees in 1970, two years before the implementation of the Marine Mammal Protection Act. I have therefore had opportunity to monitor the many accomplishments of this Act over time. I have also seen our understanding of the scope of threats to which marine mammals are exposed change during this same period. The ability to adjust marine mammal protection measures in response to a changing world is crucial. A number of the proposed changes to the Act make these much-needed adjustments. I am truly honored to have been invited here today to provide testimony in support of reauthorization of this important Act.

Introduction

Much of the basis for my statements today is derived from my long-term study of bottlenose dolphins in Sarasota Bay, Florida. This ongoing research is conducted by a large team of collaborating scientists and students from around the world. In the early 1970's my colleagues and I discovered that, at least in some parts of the species' range, bottlenose dolphins in bays, sounds, and estuaries live in year-round resident communities. We are currently monitoring about 140 resident dolphins of four generations in Sarasota Bay, including about 30% of those we first identified in 1970, as well as their calves, grand-calves, and great-grand-calves. This community is one piece of a mosaic of such communities along the central west coast of Florida. Knowledge of the long-term, multi-generational association between dolphins and specific geographic ranges provides important perspective for understanding the exposure of these animals to a variety of threats, and can be key to providing appropriate protection. Inshore bottlenose dolphins arguably face a larger variety and greater intensity of human impacts than many marine mammal stocks in United States waters because of their proximity to where we live, work, and recreate.

Marine mammals are complex creatures living in complex ecosystems. It would be unreasonable to expect that a given stock of marine mammals is typically exposed to only a single threat from human activities at any given time. Depending on where they live, stocks of marine mammals may be faced with a suite of threats of human origin, including chemical and noise pollution, habitat degradation or loss, fisheries interactions, and harassment. The proposed language continues to expand the scope of protection for these animals beyond that related to directed takes and incidental takes in commercial fisheries.

Marine Mammal Bycatch Reduction Initiatives

The inclusion of recreational fisheries in the lists of fisheries that have frequent or occasional incidental mortality and serious injury of marine mammals is an important step forward. As a charter member, and

former Chair, of the Atlantic Scientific Review Group, a panel established under the 1994 amendments to the Marine Mammal Protection Act to provide guidance to NOAA Fisheries and the U.S. Fish and Wildlife Service regarding the scientific basis for management of marine mammal stocks in the Atlantic Ocean and Gulf of Mexico, I am well aware of complications imposed by the previous exemption of recreational fisheries from marine mammal regulations governing commercial fisheries in the same waters. When recreational fishers are using much the same gear as the commercial fishers, comparable mortalities and serious injuries are to be expected, but identification of the specific source of the mortality or injury when examining a carcass or injured animal is often impossible. Evaluation of fishery takes of marine mammals relative to Potential Biological Removal typically involves extrapolation from data from observers placed on commercial fishing boats. Observer data from commercial vessels alone lead to underestimates of mortality and serious injury because they do not include takes in recreational fisheries. Regulations limited to commercial fisheries only deal with a portion of the problem. Inclusion of recreational fisheries in the list of fisheries, with associated observer coverage as appropriate, will provide a much more complete and accurate basis for managing impacted stocks, and will create a more equitable situation for commercial fishers. While this change to the list of fisheries is an important and overdue step, it is only one step toward considering all sources of lethal take or serious injury for effective management of marine mammal stocks, as I will discuss later.

Captive Release Prohibition

The prohibition on captive release is a welcome addition to the Act. It can not necessarily be assumed that releasing a captive marine mammal into the wild is in the individual's or host population's best interests. My experience with this issue includes conducting the first (and one of very few) systematic study of the release of captive dolphins back into the wild, with the release of two bottlenose dolphins back into their native waters of Tampa Bay in 1990. This release was well-documented and successful, and the dolphins have been observed more than 10 years post-release, apparently fully-integrated into local dolphin communities.

In addition, I served as an expert witness for NOAA Fisheries in its 1999 case involving the illegal release of two dolphins into the waters of the Florida Keys. The releasers argued that NOAA Fisheries could not require them to operate under the conditions of a Scientific Research Permit. The two ex-Navy dolphins were not properly prepared for release, nor did they receive appropriate care at the holding facility. When the releasers learned that the government was planning to confiscate the animals because of animal welfare violations, the dolphins were taken offshore and released in waters hundreds of miles away from their original capture site, in unfamiliar habitat. The release occurred in front of a foreign film crew that paid for the opportunity. The release failed. The dolphins had separated and were found near shore, in poor condition, seeking contact with humans. The individuals responsible for the release were found guilty by a Federal Administrative Law Judge of violating the MMPA and were ordered to pay \$59,500 in civil penalties.

The release of long-term captive marine mammals into the wild can pose serious threats to the release candidates and to the host wild populations. Released dolphins may bring new diseases to wild populations, diseases they have obtained while in captivity, but to which the wild populations have had no previous exposure and therefore no immunity. Dolphins released outside of their original range may affect the genetic structure of the wild populations through interbreeding. Our research has demonstrated significant genetic differences across bottlenose dolphin habitats, reflecting long-term adaptations to specific suites of ecological influences. Released dolphins may also disrupt stable social structures in wild populations, established over many generations. Prior to release of captive animals, safeguards must be in place to ensure that: 1) the risks of disease transmission and inappropriate genetic exchange are minimized, 2) adequate preparations have been made and optimal conditions are established for the release candidate to survive upon return to the wild, 3) an adequate follow-up monitoring program is in place to track the released animal as well as any impacts it may be having on the wild population, and 4) contingency plans are in place to recover the released animal should it fail to thrive. The limited state of our knowledge in the area of release of long-term captive marine mammals into the wild is such that all releases must be considered experimental, and as such should only be conducted under a Scientific Research Permit.

Marine Mammal Health and Stranding Response

Increased support for the activities of the Marine Mammal Health and Stranding Response Program should be considered a high priority. This program is crucial for providing a window to some of the serious threats to marine mammals that are less obvious than fishing gear, but of equal concern for the future of marine mammal stocks. As a result of my involvement with marine mammal strandings for more than 33 years, and my field research on dolphin health during the last 15 years, I fully appreciate the challenges of

understanding the role of human activities in marine mammal health and reproduction problems. Some of our first indications of large scale health problems in marine mammals come from examination of sick or dead animals that wash up on shore. From examination of these cases and tissues collected from the animals, scientists can begin to understand relationships between marine mammal health and human activities. The Marine Mammal Health and Stranding Response Program brings a much-needed level of coordination to stranding response, including oversight of: 1) the activities of the people and institutions that volunteer to participate in the U.S. Stranding Network, 2) disentanglement of marine mammals from lines or gear, 3) rehabilitation and subsequent release of stranded marine mammals, 4) identifying and responding to unusual marine mammal mortality events, and 5) developing and engaging in research focused on health-related hypotheses resulting from stranding findings. I will provide more detail on the last two activities, as these are two of the areas with which I am most familiar from recent interactions with the program.

Large scale, "unusual" marine mammal mortality events were first noted in the U.S. in the late 1980s. I learned from serving on subsequent review panels that responses to these events were sometimes delayed or incomplete due to logistical or other constraints, limiting the information that could be derived. The Marine Mammal Health and Stranding Response Program came about in part in response to the need to improve responses to these events, and it has done much to meet this goal. As a charter member of the Working Group on Unusual Mortality Events (constituted under the Marine Mammal Health and Stranding Response Program), I have seen the value of advance preparations for responding to unusual stranding events. Preparations include having appropriately-trained field personnel on call, laboratories identified to process samples expeditiously, a panel of consultants to aid in the design of the response and interpretation of the findings, and appropriate financial support. It is critical to be able to mount a systematic response in a timely manner in order to ensure the collection of the appropriate sample materials of sufficient quality to offer the greatest chance of accurately determining cause of death.

Stranded marine mammals have provided us with much insight into the factors that can affect their populations. Among the more important findings in recent years has been that of the accumulation of high concentrations of environmental contaminant residues in the tissues of stranded marine mammals such as dolphins. Humans have released more than 10,000 chemicals into the environment. This pollution is pervasive in the marine environment, and many of the chemicals of concern are very persistent, remaining active in the environment for years or decades. It has been suggested that marine mammals such as dolphins can serve as sentinel species for the toxic effects of contaminants on the marine environment, because of their position as top predators in the marine food web. However, our understanding of the toxic effects of these contaminants on marine mammals is incomplete. The harmful health and/or reproductive effects of specific concentrations of some of these chemicals on selected terrestrial mammals are known from carefully controlled studies in which the animals are given measured doses of contaminants. Such cause and effect relationships are largely undetermined for marine mammals because of ethical considerations and logistical difficulties for conducting dosing studies.

In lieu of dosing studies, ecotoxicologists, biologists, and veterinarians working in collaboration with the Marine Mammal Health and Stranding Response Program are taking a "weight of evidence" approach. Such an approach requires the collection of large enough numbers of samples to be able to identify strong correlations between contaminants and health or reproductive effects. Research involving carcasses from strandings and field studies of free-ranging populations are beginning to provide some of the requisite information to identify apparent relationships between some contaminants and health or reproductive effects. For example, concentrations of PCBs and related organochlorine compounds well in excess of what would be of concern for humans are being documented in a variety of dolphins, including killer whales and bottlenose dolphins. In bottlenose dolphins, high concentrations appear to be correlated with high levels of first-born mortality, declines in immune system function, and reduced reproductive hormone concentrations in males.

More research is needed. Consistent significant correlations from a number of parallel tracks of investigation can provide sufficient confidence in findings to warrant management action. To address the threats of the new century, Congress should consider funding a major research program to identify and quantify the impacts from pervasive environmental threats to marine mammals, such as chemical contaminants and noise. This program could be directed to look at the concentrations of noise and chemicals of concern in the environment in order to establish the effects they have on growth, survival, and reproduction of marine mammals and stocks.

The ubiquitous nature of chemical pollutants in the marine environment creates severe challenges for management. Many of the compounds of current concern have already been regulated, but they persist in

the environment. Beyond regulation of chemicals of documented concern, direct mitigation through removing compounds already in the environment may not be practical. It is important, however, to assess the risks to specific stocks posed by chemical pollutants and other pervasive threats, so that the cumulative impacts of these and more directed takes can be considered in stock assessments. The research program proposed above should provide the quantitative basis for improving the resolution of threat evaluations in stock assessments. Responses to threats posed at the population level by pervasive environmental threats may require modification of the concept of the Take Reduction Team.

The Marine Mammal Health and Stranding Response Program is the front line for identifying the occurrence and scale of current and developing situations regarding marine mammal health and many of the pervasive environmental threats. Monitoring of stranded animals and research on wild populations provide the basis for detecting emerging toxic chemicals, diseases, and pathogen pollution. The authorization in H.R. 2693 for annual funding from MMPA funds into the Marine Mammal Unusual Mortality Event Fund is a very positive step toward ensuring that we can optimize our response to acute, large-scale marine mammal health situations. Alternative funding for emergency response is not available from any other sources, and grants programs, such as the John H. Prescott Marine Mammal Rescue Assistance Grant Program, do not work, and were not designed, for this kind of immediate response.

The Prescott grant program is very valuable, and its strength lies in maintaining and enhancing the capabilities and operations of stranding response programs around the country, and to provide research opportunities, to facilitate making important advances in our understanding of marine mammal health issues. I would like to take this opportunity to recommend reauthorization of the Prescott program, which is due to expire at the end of 2003. Marine mammals are closely tied to the health of the oceans, and demonstrate tremendous potential to serve as sentinels of ocean and human health.

Definition of Harassment

The proposed changes to the definition of harassment are most welcome. The proposed definitions should provide sufficient clarity to facilitate permitting and enforcement actions. The changes to the harassment definitions should be especially helpful in controlling burgeoning human interactions with wild marine mammals such as touching, feeding, or swimming with them. For example, since 1990 my colleagues and I have been monitoring a dolphin known as "Beggar", aptly named from his behavior of popping up with his mouth open alongside slow-moving boats in a narrow portion of the Intracoastal Waterway south of Sarasota Bay. Beggar ingests a wide variety of non-dolphin-food items that are dropped into his mouth, and bites many of the people who reach down to touch him without offering food. There are serious concerns about the spread of this behavior, as a number of other dolphins that pass through Beggar's range have begun to beg as well.

Over the years, law enforcement activity to control interactions with Beggar and other dolphins has been minimal due to a shortage of NOAA enforcement agents, other priorities within the agency, and a stated reluctance to commit resources because the harassment and feeding prohibitions already in the regulations were considered unenforceable. Working with the NOAA Fisheries "Protect Wild Dolphins" program, we participated in a program of educating the public through brochures, posters, signage, town hall meetings, and public service announcements. We also conducted a docent program in which people approaching Beggar were provided with explanations of the problems associated with feeding wild dolphins. Only about 1.3% of passing boaters interacted with Beggar in the presence of the docent boat. Boaters who interacted with Beggar were interviewed, and 60% acknowledged that they knew such activities were illegal. Following cessation of the docent program, the numbers of interactions increased by a factor of four. Thus, it appears that the educational messages were received, but in the absence of adequate law enforcement and the consequences thereof, the problem persists. Similar findings have been made by other Chicago Zoological Society scientists working at other sites around the world. The new definitions should provide sufficient clarity to support prosecutions for this kind of harassment, but increased support for law enforcement activities along with continuing educational efforts will be necessary to begin to control these kinds of situations that are clearly harmful to marine mammals.

The new definitions of harassment still lead to requirements for scientists to apply for permits for their research activities involving marine mammals. This is a burdensome process in terms of time required for preparation of applications and response to questions, but it is a necessary process for establishing standards for impacts of research on the animals. Questions about the over-regulating nature of the process are raised when researchers observe members of the general public engaging without legal consequences in the very activities for which the researchers had to apply for a permit, or when the process interferes with

the timely implementation of research of importance to marine mammal conservation. The latter case is often related to research situations requiring NEPA and/or ESA compliance, rather than simply MMPA considerations. Fortunately, most of my research is with animals for which the ESA does not apply and involves activities that have not required the preparation of an Environmental Assessment or Environmental Impact Statement under NEPA. In the course of developing more than ten permit applications since 1984, implementation of my research has never been held up due to delays from the permitting process.

There remain many other human-induced threats to marine mammals for which practical regulatory solutions are not immediately evident. Noise in the marine environment can interfere with marine mammal communication or feeding, but the risks in terms of costs to the animals have not been fully investigated, and practical means of controlling the widespread noise produced by vessels have not been identified. Vessel traffic can lead to disturbance responses, and in some cases serious injuries from collisions. For example, about 4% of the bottlenose dolphins in Sarasota Bay bear scars from collisions with vessels, all of which have been acquired during periods of heavy holiday boat traffic and boat races that attract thousands of spectator boats. Under normal circumstances, these dolphins have powerboats passing within 100 yards of them once every six minutes, leading to significant changes in dive patterns and acoustic communication. This disturbance occurs during daylight hours every day throughout the lives of the animals. It has not been possible to evaluate the cumulative effects of these repeated disturbance responses.

Recreational fishing involving rods, reels, and monofilament line is another widespread activity, also with serious consequences for marine mammals. In Sarasota Bay, nearly 5% of the 125 stranding cases for which cause of death could be determined with confidence by the Mote Marine Laboratory Stranding Investigations Program involved recreational fishing gear. One young female dolphin was found swimming slowly in Sarasota Bay with 1,600 feet of heavy fishing line trailing from and cutting through her flukes. If not for rescue actions such as those by our research team removing this line, the toll from this kind of recreational fishing would be higher.

In the new century, we have the opportunity to adjust our management approach to respond to different and emerging suites of threats to marine mammals. Fishery impacts have not been eliminated, but effective means of mitigating many of the problems have been developed during the first 30 years of the MMPA. In much the same way we should begin to look for solutions to reduce the potential impacts of some of the emerging, widespread, and equally dangerous, pervasive threats to marine mammals. Identifying technological or regulatory solutions to some of the emerging problems from environmental contaminants, noise, vessel disturbance, oil and gas exploration and development, military activities, habitat loss, recreational fishing, pathogen pollution, emerging diseases, and other issues may appear highly challenging now, but that does not mean that these threats can be ignored. Cumulatively, these threats have the potential to have significant effects on stocks. An important and feasible first step would be to educate stakeholders and members of the public to be aware of their potential impacts on the animals, and to make appropriate changes to their behavior and use of the habitats that form the animals' homes. This approach has been exemplified by the NOAA Fisheries "Protect Wild Dolphins" campaign. In addition, every effort should be made to obtain the requisite information to evaluate risks such that they may be considered in stock assessments along with other forms of "take" for determination of the status of specific stocks.

Conclusion

The Marine Mammal Protection Act remains a model around the world for marine mammal conservation. The process of this reauthorization exemplifies the flexibility of this Act to adjust to changing conditions. The shift over the last 10 years to consider more of the non-fishery-related threats to marine mammals is a very welcome and important improvement.

This concludes my testimony. Thank you very much for the opportunity to appear before you today. I would be pleased to respond to your questions.