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**THE CONSERVATION VALUE OF INVESTIGATING
MARINE MAMMAL STRANDINGS**

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Introduction

Marine mammal stranding events have been reported worldwide since antiquity. The Ancient Greeks, including Pliny, Plutarch, and Aristotle, recorded several accounts of dolphins coming ashore. A stranded (or beached) marine mammal is defined by the United States government as: any dead marine mammal on a beach or floating nearshore; any live cetacean on a beach or in water so shallow that it is unable to free itself and resume normal activity; or any live pinniped which is unable or unwilling to leave the shore because of injury or poor health. This definition encompasses strandings of single dead animals (the most commonly observed) as well as mass strandings (the simultaneous stranding of many cetaceans, often in the same place) and unusual mortality events (unexpected and significant die-off of any marine mammal population that demands an immediate response).

Conservation

Marine mammal strandings provide unparalleled opportunities to collect information about elusive and potentially rare species, which are difficult to study in the wild. The data collected from stranding events are a valuable tool for management and conservation efforts, primarily for threatened, and endangered species, and other animals of interest. Every stranded animal can provide new information about a species, and after investigations of multiple strandings, a sufficient sample size can be obtained to provide information on species occurrence, anthropogenic and environmental threats, abundance and status, and habitat quality. This information is very important for the development and implementation of management and conservation plans. Strandings can provide data on populations such as species occurrence, species range, and relative abundance that could only otherwise be gained from labor-intensive and costly aerial or boat-based survey programs. Other information from stranded animals including health and disease investigations could never be obtained from free-ranging marine mammals. Much of the professional literature on marine mammals has been the result of information gained from stranded animals. For example, pygmy sperm whales strand commonly but are seldom observed in the wild, and much of our knowledge of this species has come from stranded animals. Potential disease and environment threats to wild populations were not well studied until hundreds of bottlenose dolphins stranded in the late 1980's off the east coast of the United States. Other anthropogenic impacts (e.g., acoustic pollution) have been implicated with recent beaked whale strandings worldwide.

From a management perspective, it is important to have baseline data with which to make comparisons. Before it can be determined with certainty whether threats, both environmental and anthropogenic, have a deleterious impact on marine mammals, a baseline needs to be

established. The detection of an “unusual” event can only be made with knowledge of what the “usual” situation is. Therefore, it is vital that the protocols for stranding response, data collection, data analysis, and data reporting be standardized. Establishment of a stranding network is a mechanism to facilitate proper training and response protocol development as well as dissemination of information to the scientific community and the public.

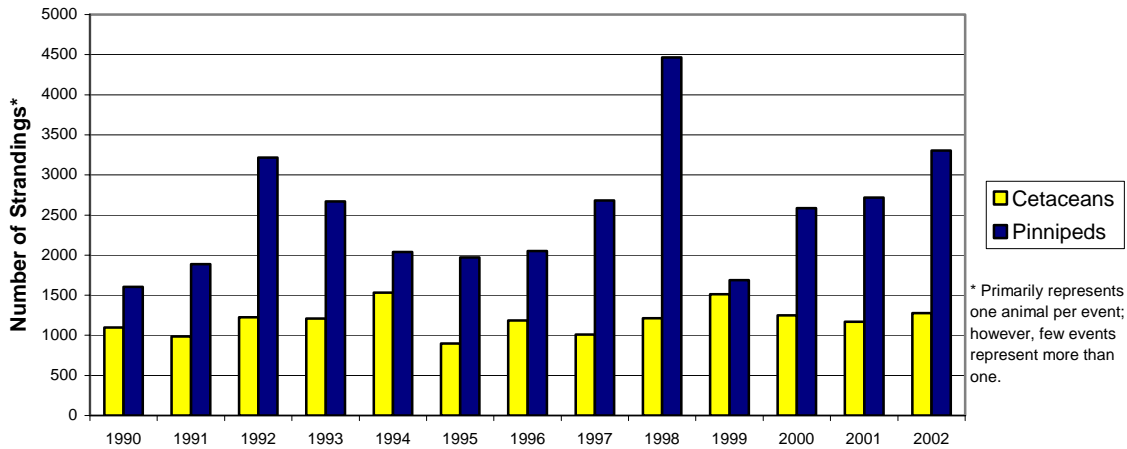
United States Stranding Network

Stranding organizations exist worldwide; the extent of the stranding network within each country varies depending on funding availability, degree of public interest, extent of cooperation among federal, academic and welfare organizations, facilities available, the number of strandings per year, and the duration of the existence of the network (Wilkinson and Worthy, 1999). In the United States, the marine mammal stranding network is managed by the Federal government under the auspices of the Marine Mammal Protection Act. The Marine Mammal Health and Stranding Response Program (MMHSRP) was established by the United States Congress in Title IV of the MMPA and has set out several goals for monitoring the health of marine mammal populations:

- to facilitate the collection and dissemination of reference data on the health of marine mammals and health trends of marine mammal populations in the wild;
- to correlate the health of marine mammals and marine mammal populations in the wild with available data on physical, chemical, and biological environmental parameters; and
- to detect and coordinate effective responses to unusual mortality events.

The U.S. stranding network consists of a wide range of organizations and individuals including academic institutions, research institutions, rehabilitation facilities, aquaria, and interested individuals. Other government agencies such as state and local authorities can also respond to non-endangered species and they coordinate with the appropriate Federal Agency. For species under NMFS’ jurisdiction, there are about 100 stranding network participating organizations responding to an average of 3,700 stranding events in the United States each year (Table). Some funding is available from NMFS through the Congressionally-funded John H. Prescott Marine Mammal Rescue Assistance Grant Program, but most stranding network participants must seek additional resources. All stranding network participants are required to submit monthly reports of each marine mammal stranding response to their NMFS regional coordinator. NMFS requires basic information to be collected such as: location, date, species identification, sex, length, condition of the animal, disposition of the animal or carcass, and signs of any human involvement or interaction such as malicious activity, fishery interaction, ship strike, and acoustic insult (called “Level A data”). These data are entered into a National Database maintained by NMFS in order to monitor for unusual mortality events on a real-time basis (see NOAA magazine article).

Total Number of Strandings in the U.S. 1990 - 2002



NMFS has developed and continues to advance the quality of standards for data collection and reporting. NMFS provides training for the stranding network on a routine basis regionally and nationally and has reached-out to other countries and provided some coordination and training opportunities to Mexico, Argentina, and Canada.

Strandings in the Caribbean

The Eastern Caribbean Cetacean Network (EECN) is a regional, volunteer network that records sightings and stranding of marine mammals in the eastern Caribbean. The ECCN is a research affiliate of the Smithsonian Institute's Marine Mammal Laboratory in Washington, D.C., and is sponsored by the United Nations Environmental Program. The ECCN does not currently have a formal rescue, rehabilitation, or specimen collection program, although such activities may occur opportunistically. There is no central clearing house for data collection, analysis, and reporting and no standard protocols have been put in place. Developing these protocols and procedures should be a priority. The mass stranding of beaked whales in the Bahamas in 2000 highlighted the need for an established and organized response program for marine mammal strandings throughout the Caribbean (NOAA/NMFS 2001).

An important component to the development of stranding networks within the Caribbean is the necessity of inter-island cooperation, since marine mammals are wide-ranging and certainly transboundary. This Fall, the ECCN, MARVET (Grenada), and the School of Veterinary Medicine at the University of the West Indies, Trinidad, Smithsonian Institution Marine Mammal Laboratory will collaborate with the MMHSRP to convene a workshop for government and non-government responders in selected islands of the Eastern Caribbean in order to provide a core of expertise and tools to for response to marine mammal stranding events in the region.

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