

Assateague Island National Seashore, MD

Marine Animal Strandings

2002



Northern Right Whale, *Eubalaena glacialis*, National Park Service, 2002

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TABLE OF CONTENTS

INTRODUCTION	2
METHODS	3
<i>DEAD STRANDINGS</i>	3
<i>LIVE STRANDINGS</i>	4
<i>DATA STORAGE</i>	4
RESULTS	5
<i>DEAD STRANDINGS</i>	5
Sea Turtles	5
Marine Mammals	6
<i>LIVE STRANDINGS</i>	7
<i>MISCELLANEOUS</i>	7
DISCUSSION	7
ACKNOWLEDGEMENTS	8
FIGURE	11
Figure 1. Approximate stranding locations on Assateague Island, Maryland, 2002.	
TABLES	12
Table 1. Field Definitions for Stranded Marine Animals Database).	12
Table 2. Historic Marine Animal Strandings at Assateague Island National Seashore, MD.	12

Assateague Island National Seashore, MD Marine Animal Strandings 2002

ABSTRACT

During 2002, a total of 30 stranded dead marine animals came ashore on Assateague Island National Seashore in Maryland. Of the total animals stranded dead on the ocean shore, there were 26 sea turtles and 4 marine mammals. Dead sea turtle strandings included 23 loggerhead turtles, *Caretta caretta*, two leatherback turtles, *Dermochelys coriacea*, and a Kemp's Ridley, *Lepidochelys kempii*. Dead marine mammals included four bottlenose dolphins, *Tursiops truncatus*, and a Northern Right whale, *Eubalaena glacialis*. The Marine Mammal and Sea Turtle Stranding Network, through the Cooperative Oxford Laboratory in Maryland, examined all dead strandings and prepared written reports. The National Aquarium in Baltimore's Marine Animal Rescue Program recovered one live stranded marine mammal. A bottlenose dolphin was found stranded above the outgoing tide, recovered and treated at the National Aquarium where it later died of health complications. Strandings were documented from 29 May through 17 October. The total number of strandings for 2002 was 31 animals, a new high. The average number of total strandings per year between 1991 – 2001 for the Maryland portion of Assateague Island was 16, with a range of seven to thirty animals.

INTRODUCTION

The Maryland portion of Assateague Island is approximately 35 kilometers (km) in length and is bordered by the Atlantic Ocean, and Sinepuxent and Chincoteague Bays. This portion of the island is managed by either the National Park Service (NPS) as Assateague Island National Seashore (ASIS) or Maryland Department of Natural Resources (DNR) as Assateague State Park (ASP). Assateague Island National Seashore is open year-round and the combined beach use by park staff and visitors usually results in fairly quick reports of stranded marine animals. This annual report details sea turtle and marine mammal strandings that occurred within the Maryland portion of Assateague Island in 2002.

NPS Management Policies recognizes that naturally occurring wildlife injuries, disease, and death are important factors driving the process of natural selection, and ultimately contribute to the overall health and vigor of native wildlife populations. In recognition of the scientific opportunities any live or dead marine animal offers, ASIS allows stranded animals to be examined and sampled by experienced cooperators, and occasionally removed from the park for further study or rehabilitative efforts. Ideally, animals removed or rescued from ASIS should be released from the island when possible. Only animals rescued from ASIS should be released from the island, unless extenuating circumstances warrant the release of animals taken from locations other than ASIS. Requests to release

any animal from ASIS are reviewed and approved by the Chief of Resources Management. Recovery assistance is provided for federally threatened and endangered species, or non-listed species suffering from human induced injury or illness. All live and dead strandings are documented, regardless of condition or recovery efforts. Refer to the ASIS Sick, Injured and Dead Wildlife Response Protocol for more detailed handling procedures and management guidelines.

The Cooperative Oxford Laboratory (COL) is operated under a partnership between DNR and the National Oceanic and Atmospheric Administration (NOAA). Through COL, the Marine Mammal and Sea Turtle Stranding Network (MMSTSN), established in 1990, coordinates response and collects data on all dead strandings on the Delmarva Peninsula. Facilities at COL include a laboratory equipped to necropsy marine animals. Their efforts help determine stranding patterns, human interaction, and information on population health of marine animals. Dead or alive, stranded marine animals provide researchers, resource managers, and others with an invaluable source of information from species that may not otherwise be available for study. The staff at ASIS has worked cooperatively with MMSTSN since 1991, and will continue this team effort so data collection is consistent and readily available.

In addition to COL staff, other members of MMSTSN include the National Aquarium in Baltimore (NAIB) which directs the Marine Animal Rescue Program (MARF) and the Smithsonian Institution (SI). MARF focuses its efforts towards rescue and rehabilitation efforts, and SI assists with events involving unusual or rare species.

METHODS

DEAD STRANDINGS

After a dead animal was observed by or reported to ASIS staff, a simple assessment of its overall condition, estimated size, tentative species identification, and the stranding location was made. This information was reported to the stranding team through the DNR Police Hotline. If response from MMSTSN was delayed, RM staff tried to confirm the presence and location of the carcass, especially if the carcass was near the intertidal zone and subject to tidal action. Occasionally, arrangements were made to transfer small carcasses from the beach to a more accessible area such as the ASIS Ranger Station or Seashore Headquarters.

MMSTSN staff usually conduct an examination for all responses, whether on site or in their lab. The resulting report documents evidence of human-induced or other interactions, internal and external condition of animal, abnormalities, and evidence of disease or parasites. Measurements were taken from whole and partial specimens. All reports included the location, species, sex, condition of the animal and general observations. Complete necropsies and histology could only be performed on freshly dead specimens. Following examination, the possible cause of death and final disposition of the animal was noted.

MMSTSN maintains current collection permits required by the National Marine Fisheries Service (NMFS) through NOAA, as well as a list of approved research requests for specific species or tissue. Authorization letters are specific to the individual response person and affiliation, and justification for possession of the requested samples. Carcass condition of the stranded animals was a critical factor determining the types of samples harvested. Samples collected from stranded animals from ASIS were listed on the completed stranding reports.

Reports were catalogued by MMSTSN including reports of special findings and photographs when applicable. A copy of the final stranding report for each animal was sent to ASIS for its reference. Carcasses were either left to naturally decay at the original stranding location, placed on the beach away from public areas, preserved for educational or research purposes, or incinerated at the laboratory.

LIVE STRANDINGS

Live stranding of a marine animal, particularly the cetaceans, is usually the result of a severe illness or injury. A combination of issues has led the NPS to support attempts to intervene in these natural events. They include a high frequency of human-related injuries, high public interest in such events, a rare opportunity for the scientific and rehabilitation community to examine live marine animals, and a network of cooperators and facilities that can treat subject animals quickly and effectively. Ethical treatment is paramount during live strandings, and when successful rehabilitation is doubtful, rescuers utilize (veterinarian assisted) euthanasia to terminate the animal's suffering. Live animals are only recovered with the intent to rehabilitate for release.

When a live stranded marine animal was reported, ASIS staff contacted MARP with a description and location of the animal. Recovery efforts are started almost immediately, in part due to network members from the local area that included veterinarians and trained responders. Most equipment needed for handling a live stranded animal was provided through MARP. Members who responded to a stranding event driving privately owned 4x4 vehicles were allowed on the beach without an ORV permit, as long as an official placard of the response team was displayed.

DATA STORAGE

All stranded animals at ASIS are documented in NPS files. The ASIS electronic database for Stranded Marine Animals is stored in Microsoft Office Access '97 for Windows 97/NT database. The database is currently located in the Division of Resource Management's (RM) Electronic Library under H:\Electronic Library \ T&E Animals \ Stranded Marine Mammals \ Data and Information \ Stranded Marine.mdb (see Table 1 for field definitions). All hard copy stranding reports are located in the RM library in two orange storage boxes labeled *Marine Animal Strandings 1977-2001*. This includes report copies from MMSTSN and MARP.

The MMSTSN maintains records for dead strandings in Maryland, and has access to data from other states. Records for live, rescued animals are maintained by MARP, although formal documents are usually not prepared for external use. The Smithsonian has a restricted Internet accessible database, which has data and information on marine animals.

RESULTS

There were 31 strandings in 2002, including one live stranding event (Figure 1). The number of animals sets a new high for the Maryland portion of Assateague Island and continues a trend of increased events over the last four years (Table 2). Unlike most years, when a few strandings occurred during most months, 2002 events did not begin until the last days of May and concluded in mid-October.

DEAD STRANDINGS

In 2002, the MMSTSN stranding team responded to and examined all dead strandings, regardless of carcass condition or location. Of the total animals stranded dead on the ocean beach, there were 26 sea turtles and 4 marine mammals. The MMSTSN team was timely in response, and promptly examined and completed reports on each animal. No marked/tagged animals were recorded.

Sea Turtles

Loggerhead turtle, *Caretta caretta*

Loggerhead turtles accounted for 23 of the 30 dead strandings in 2002. Of those, nine turtles washed in during a 24 hour period on 29-30 May. The bodies were all moderately decomposed suggesting that if the causes of death were related, the place and time of death was not contemporary. One turtle of this group was partially entangled in a section of gillnet, and several others bore flipper or neck marks suggesting net entanglement, but the animal's condition was not suitable for evaluating a direct cause and effect. Most of the remaining turtles from this incident, as well as the other stranded loggerheads this year, were missing limbs. That complicated the ability to recover flipper tags and to assess the frequency of entanglement with fishing rigs. Responders to the 30 May event also noted a number of dead Sooty Shearwater (*Puffinus griseus*), Gannet (*Sula bassanus*), and a Sand Tiger shark (*Odontaspis taurus*) along the high tide line. This observation reinforces the probability that a massive commercial fishing bycatch event occurred offshore, and currents washed a portion of the bycatch onshore en-mass. Loggerhead turtles are federally listed as a threatened species.

Leatherback turtle, *Dermochelys coriacea*

The remains of one leatherback turtle was found in the active tidal zone on 26 August. Due to the animal's size, it was not removed from the water. A second leatherback stranded on October 17. Both turtles were in the advanced stages of decomposition and cause of death was undetermined. Leatherback turtles are federally listed as an endangered species.

Kemp's Ridley turtle, *Lepidochelys kempi*

ASIS's first documented stranding of a Kemp's Ridley occurred on 27 September. The smallest, and most endangered of the sea turtles, the Kemp's Ridley females are only known to utilize one breeding location which is located along the Gulf coast of northern Mexico. The ASIS individual had lost part of a front flipper to a past injury, and tears or wounds on the same flipper and shoulder suggested a recent injury that may have resulted in death.

Marine Mammals**Northern Right whale, *Eubalaena glacialis***

Another first for ASIS was the 23 August assisted stranding of a Northern Right whale. Considered one of the rarest of whales, there was a high level of interest in acquiring the specimen for examination and sampling. The whale was initially observed some 37 km off of Ocean City, Maryland. The U.S. Coast Guard towed the carcass to the north end of Assateague, where a towline was transferred to awaiting front-end loaders that secured it on the high beach. Whale specialists flew in to assist in the necropsy and media coverage was high. The nearly 13 m long immature female was in an advanced state of decomposition, which hampered a definitive assessment. The probable cause of death was a ship strike. Much of the soft tissue remains were left on the beach for decomposition. The Northern Right whale is federally listed as an endangered species.

Bottlenose dolphin, *Tursiops truncatus*

Three Bottlenose dolphin stranded during the Fall season, all in moderate to advanced decomposed condition. Nothing remarkable could be found during the field exams.

LIVE STRANDINGS

Bottlenose dolphin, *Tursiops truncatus*

A live bottlenose dolphin was observed and reported by visitors on the ASIS beach on 30 August. MARP team members recovered the animal and transported it to the NAIB, where it died the following day. No additional information has been provided by NAIB.

MISCELLANEOUS

Beginning in early December and continuing through early 2003, several seals were observed by visitors and park staff along the length of Assateague, and in the coastal bays. ASIS staff was not able to verify the species, but both healthy and infirm individuals were reported, with at least one bearing some type of cut or puncture injury. All seals observed by NPS staff on Assateague were able to run into the ocean when approached too closely.

DISCUSSION

The record number of strandings in 2002 was made notable due to an apparent fisheries bycatch of 9 Loggerhead turtles that washed ashore in a 24 hour period along with a number of seabirds and fish. But even if that event was disregarded, the number of dead Loggerheads in 2002 exceeded the total of all other marine animals for a second consecutive year. Only 9 of 26 turtle deaths could be attributed to human causes including 6 from net entanglement and 3 from boat/propeller impacts. Flipper or neck area abrasions and hemorrhage were noted on some turtles and many others had missing appendages or heads that hamper the ability to document entanglement events.

Digestive tract examination continues to indicate a diet primarily composed of crustaceans and gastropods. Crabs were found in most turtles with Lady crabs most common. Horseshoe crabs were found in 20% of the turtles as were whelk and/or moon snails. A variety of other invertebrates were also observed, but more infrequently. In past years, fresh specimens have yielded jellyfish, but in the moderate to advanced decomposed state of the 2002 turtles, it is not possible to detect their presence. None of the digestive tracts examined in 2002 yielded plastic or other human debris.

It was also interesting to note that a number of turtles were examined within a day of coming ashore, but had heavy internal infestations of maggots. Due to the shelled body and high fat content, turtles heat up and deteriorate rapidly after death and typically float at the surface. The existence of flesh-feeding invertebrates offshore that can find and colonize floating animals to sustain their lifecycle is remarkable.

In addition to calling in initial stranding reports to MMSTSN, ASIS law enforcement and resource management staff occasionally assisted the response team by moving small turtles or cetaceans to a developed area pick-up location. This streamlined the response time for the responders, who have a three hour round-trip commute from their lab, which is lengthened when they must also travel off-road to reach the stranding location. The four-wheeled drive vehicle used by MMSTSN personnel was diverted by the state for other purposes. Delayed responses are expected in 2003 since the team will have to arrange for a four-wheel drive vehicle loan from other state programs.

The landing of the Northern Right whale on Assateague by the U.S. Coast Guard was highly publicized by MARP to the regional press. This led to logistical issues due to the timing of the landing (evening), the number of independent news crews, the need to limit the number of vehicles traveling off-road to a sensitive section of the island and both response crews and reporters that needed to be shuttled to the site. All public relations were handled by response personnel and attending specialists.

One shortcoming of live stranding program is the continued absence of post-event reports prepared by MARP. While NAIB usually updates their website with information regarding rehabilitation efforts, it appears that formal documentation of live stranding events is not prepared. This is based on the fact that the NPS has made multiple requests for live stranding reports for ASIS events over the past few years without response by the MARP staff. We have learned through word of mouth, sometimes third-party accounts, that ASIS-recovered animals have been rehabilitated and released at other sites, or that rehabilitated animals from other sites have been released on Assateague. In addition, animals that fail to recover are disposed of, but ASIS is not provided information about the probable cause of the stranding or the cause of death. It is unfortunate that the NPS is provided more information on marine animals that are found dead than those that are rescued live.

ACKNOWLEDGEMENTS

During the year, several employees assisted with the recovery of stranded marine animals on ASIS. Assistance included discovery and reporting from the field, protecting the animal from the surf or scavengers, or transporting a dead carcass from the beach. It also included persons in the office who reported the animal and made arrangements with the stranding team for recovery. Most stranding events this year occurred during the summer, when employee workloads were the heaviest. The ASIS Protection division handled several strandings this year and their willingness to assist was appreciated by the ASIS RM staff as well as the cooperating agencies.

Undoubtedly, the initiation of the MMSTSN provided an organized system that has proven beneficial in documenting stranded species. While Assateague beaches are only a small portion of shoreline in this region, the

information collected from all marine animals is important when management decisions regarding those species is necessary. The team members of this network include those working at the Cooperative Oxford Laboratory and National Aquarium in Baltimore. Their professionalism and dedication to marine animals and to the consistency of the recovery programs was evident and that was appreciated by ASIS RM staff.

Figure

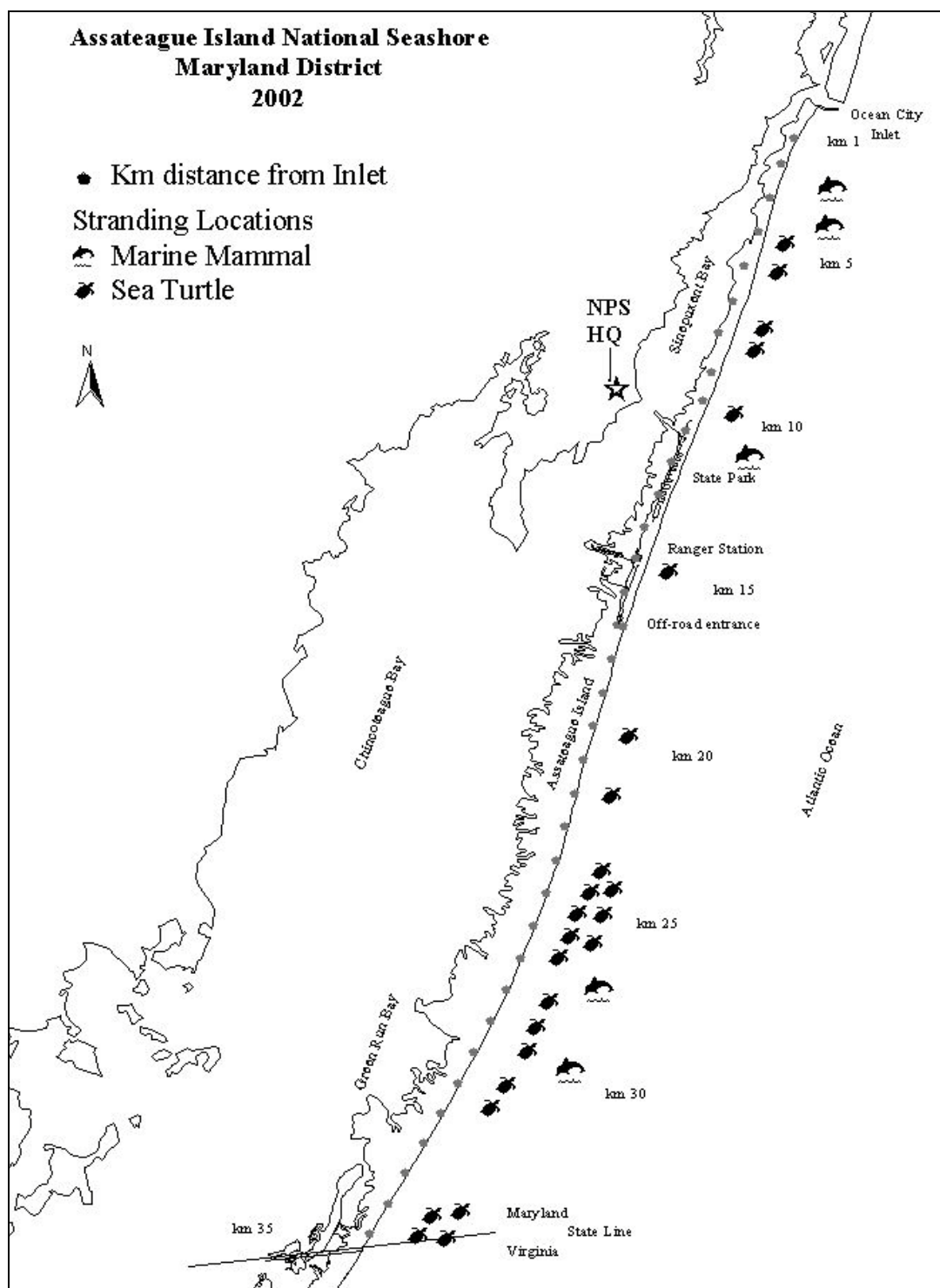


Figure 1. Approximate locations of Sea Turtle and Marine Mammal stranding locations. Assateague Island, Maryland, 2002.

TABLES

Scientific Name - scientific name	Common Name – common name
Date - date of stranding	DNR ID- DNR identification number
Location – general location of animal	Northing – UTM northing
Easting – UTM easting	Alive? – animal alive? Yes No
Condition - condition of carcass	Human Act? - stranding caused by human act? Yes No Unknown
Sampled? – samples taken? Yes No	Disposed – disposition of animal/carcass
Burial Site - burial site	Notes – comments

Table 1. Field Definitions. Assateague Island National Seashore, MD, Stranded Marine Animals Database (Microsoft Office Access '97 for Windows 97/NT).

Common Name	Pre-1991	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Fin whale	*												
Humpback whale	*		1								1		
Northern Right whale													1
Pygmy sperm whale	*												
Sperm whale						1					1		
True's beaked whale	*												
Atlantic white-sided dolphin				1				1					
Bottlenose dolphin	*	1		3	2	1	3	1		1	1	3	4
Common dolphin							1				1	1	
Harbor porpoise	*			2	10	1	2	8	1	15	1	3	
Long-finned Pilot whale				1						1			
Short-finned Pilot whale			3										
Risso's dolphin	*				1							1	
Striped dolphin	*		1			1						1	
Gray seal	*												
Harbor seal			1	1		1	1		1	1			
Harp seal							1		1			2	
Hooded seal								1				1	
Green turtle											1		
Kemp's Ridley turtle													1
Leatherback turtle						1					2	2	2
Loggerhead turtle	*	6	7	8	6	6	9	5	3	4	6	15	23

Table 2. Historic Marine Animal Strandings at Assateague Island National Seashore, MD.