

**VIRGINIA SEA TURTLE AND
MARINE MAMMAL
STRANDING NETWORK
2013 GRANT REPORT**

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**VIRGINIA
AQUARIUM
STRANDING RESPONSE**



Virginia Coastal Zone
MANAGEMENT PROGRAM

*VIRGINIA AQUARIUM FOUNDATION
STRANDING RESPONSE PROGRAM*

*Virginia Sea Turtle and
Marine Mammal Stranding Network
2013 Grant Report*

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VIRGINIA
AQUARIUM
& MARINE SCIENCE CENTER

The mission of the Virginia Aquarium & Marine Science Center is to inspire conservation of the marine environment through education, research and sustainable practices. The Aquarium is operated by the City of Virginia Beach in cooperation with the Virginia Aquarium Foundation (VAQF) and the Commonwealth of Virginia.

The Virginia Aquarium Research & Conservation Section is responsible for directing the organization's efforts in these areas. With primary support from the VAQF, the Section's Stranding Response Program is dedicated to conservation of the marine animal species through stranding response, research, rehabilitation and education.



Virginia Coastal Zone
M A N A G E M E N T P R O G R A M

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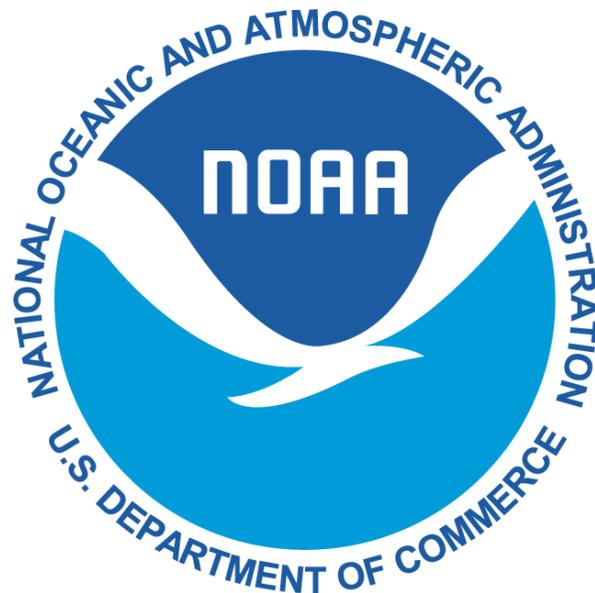


TABLE OF CONTENTS

Introduction.....	2
Stranding Response Methods.....	4
Discussion of 2013 Stranding Data.....	5
VAQS Activities During 2013.....	9
Summary.....	10
Literature Cited.....	11
Tables.....	13
Figures.....	29
Appendix I: Professional and Education Activities.....	38
Appendix II: Highlights of the Year - Marine Mammals.....	43
Appendix III: Highlights of the Year - Sea Turtles.....	45
Appendix IV: Stranding Network Datasheets.....	46
Appendix V: Virginia Species Lists.....	48

INTRODUCTION

All marine mammals and sea turtles are designated as protected species by the Marine Mammal Protection Act (1972) and/or the Endangered Species Act (1973). The Virginia Aquarium & Marine Science Center Foundation Stranding Response Program (VAQS) holds permits from state and federal authorities for all activities in this report related to marine mammal and sea turtle stranding response and research. VAQS has been responding to marine mammal and sea turtle strandings (more than 6,000) in Virginia since 1987. The Aquarium and its Marine Animal Care Center that houses the VAQS Stranding Center are located in Virginia Beach, VA. VAQS responds to all marine mammal strandings in Virginia and currently maintains the state marine mammal stranding database. In addition, VAQS and their cooperators coordinate the Virginia Sea Turtle Stranding and Salvage Network throughout Virginia. All sea turtle stranding data are recorded by VAQS into the state sea turtle stranding database.

VAQS uses staff, volunteers and other organizations (cooperators) to report, record, document, examine and recover stranded animals. The organization and training of primary response cooperators is crucial to the stranding network. Rapid response to strandings can result in the rescue of live animals and the collection of valuable data that may otherwise be lost due to decomposition and/or scavenging. Formed in 1991, the VAQS Stranding Response Team (Team) is composed of staff and volunteers trained to respond to stranded animals. VAQS staff provides training programs for approximately 65 Team volunteers and personnel from cooperating agencies and organizations. Instruction in biology, ecology and both live and dead stranding response protocols are provided for marine mammal and sea turtle species found in Virginia. These cooperative training efforts have included the U.S. Coast Guard, U.S. Fish and Wildlife Service, NOAA Fisheries Service (NMFS), The Nature Conservancy, Virginia Marine Resources Commission (VMRC), Virginia Department of Game and Inland Fisheries (VDGIF), Virginia Institute of Marine Science (VIMS), state parks, national wildlife refuges, regional law enforcement authorities and lifeguards. As a result of these continuing efforts, VAQS continues to maintain and improve statewide marine animal stranding response.

Marine mammal groups found in Virginia include cetaceans (dolphins, porpoises and whales), pinnipeds (seals) and sirenians (manatees) (Appendix V). Marine mammal strandings occur in all months of the year. During the 1990s, Virginia averaged 63 marine mammal strandings per year with a high of 106 in 1994. Since then, stranding numbers have increased dramatically. For the years 2000-2012, Virginia averaged 100 marine mammal strandings per year. This could represent increasing marine mammal mortality, though it also may partially be the result of an improved state-wide stranding response network. The last ten years have continued with high numbers of marine mammal strandings in Virginia, culminating in the historic total from 2013 (427 strandings) that included a bottlenose dolphin unusual mortality event (Figure 1).

It is important for organizations such as VAQS to examine stranded marine mammals because these species are very difficult to study in the wild. Little is known about the natural history of many marine mammal species and strandings provide a rare opportunity to thoroughly examine these animals. With the advent of new techniques such as molecular genetic analyses, stranded animals provide a wealth of information about wild populations that are difficult and very costly to study in situ. In some species, such as pygmy/dwarf sperm whales and beaked whales, data collected from stranded animals provides the best information available on the animals' natural history. Stranding records can indicate seasonal trends in presence and suggest areas of high concentration of marine mammal species such as bottlenose dolphins and harbor porpoises (Read and Murray, 2002). Spatial and temporal trends in marine mammal mortalities, such as those caused by unusual mortality events and/or fisheries interactions, can also be

monitored from stranding records. Each stranded marine mammal is thoroughly examined, whenever possible, including body measurements, external appearance and internal condition (via necropsy). Data and tissues are collected for life history, histology, bacteriology, virology and toxicology studies. Samples are collected by VAQS and have been supplied to the Smithsonian Institution, Armed Forces Institute of Pathology, NMFS, and numerous other research organizations.

In addition to dead strandings, the VAQS Team responds to live marine mammals each year. The level of response depends on the type of animal. Sick or injured baleen whales and toothed whales larger than 10 feet in length are virtually impossible for VAQS to rescue and often must be humanely euthanized. Some smaller cetaceans can be rescued if found quickly and in suitable condition. They must be supported in water as soon as possible and treated for shock. Successful cetacean rehabilitation requires large tanks, experienced personnel and access to sophisticated equipment. Currently, VAQS is not equipped to attempt long-term rehabilitation of a cetacean. As soon as possible, animals that are good candidates for rehabilitation are transferred to other facilities. Pinnipeds (seals), on the other hand, are amphibious animals and can be transported in canine kennels. The VAQS Stranding Center has a seal holding pen adequate for short-term triage and a seal rehabilitation unit capable of holding one animal. Seals in triage can be held in a 4' x 4' dry pen with gated entry into a 4' x 4' pool. Following triage, animals are placed in a seal rehabilitation area (large enough for one animal) or are transferred to other facilities in the stranding network that specialize in long-term rehabilitation and release of pinnipeds. Since 2000, VAQS has responded to an average of 5.7 cetaceans and 3.9 pinniped live strandings in Virginia each year. The VAQS Team also responds to live marine mammal emergencies in northeastern North Carolina (7.4 per year since 2000).

Five species of sea turtles (loggerhead, Kemp's ridley, leatherback, green, and hawksbill) are found in Virginia (Appendix V). Sea turtle strandings occur primarily in the late spring, summer and fall. The VAQS Team responded to an average of 86 sea turtle strandings per year during the 1990s. Since then, strandings have increased dramatically. Since 2000, Virginia has recorded more than 3,800 sea turtle strandings, with an average of 235 per year for the last ten years 2004-2013 (Figure 7).

Sea turtles are examined in much the same way as marine mammals. Data are recorded for all strandings, and necropsies are performed on many fresh stranded carcasses. Stranding trends, including probable causes of mortalities, are monitored through stranding records. Stranded sea turtles are checked for flipper and PIT tags and results are reported to NMFS. A small number of loggerhead sea turtles nest on Virginia beaches each year. In addition, several green sea turtles and a single Kemp's ridley have been recorded nesting recently in Virginia. The VAQS Team participates in a nesting beach monitoring program with the Back Bay National Wildlife Refuge and the Virginia Department of Game and Inland Fisheries (VDGIF). Live strandings of sea turtles have also increased and the VAQS Team has successfully rehabilitated and released many of the stranded turtles. Since 2000, an average of 14.6 live sea turtles have stranded in Virginia each year. In addition, VAQS Team expertise in sea turtle rehabilitation has resulted in many turtles (more than 55) that have stranded outside Virginia being transferred to VAQS for rehabilitation and release.

In addition to stranding response, VAQS conducts research on marine mammals and sea turtles. Photo-identification is a non-invasive technique that takes advantage of naturally occurring marks on animals. Photo-ID is used to study both bottlenose dolphins and large whales, primarily humpback whales, in the nearshore waters of Virginia and North Carolina. VAQS has also been conducting research on loggerhead sea turtles since 1990. Early research involved the study of growth potentials of loggerhead hatchlings in controlled environments. Post-release satellite tracking of aquarium-reared loggerheads was conducted with the help of

VIMS in the 1990s. Growth and nutritional studies continue with hatchling loggerheads and non-releasable loggerheads, Kemp's ridleys and greens. With the support of additional grants and donations in recent years, VAQS has been able to conduct numerous satellite tagging projects with rehabilitated sea turtles.

VAQS Team staff and volunteers present the results of their research at national and regional workshops, at professional meetings and in numerous publications (Appendix I). In addition, VAQS research has been presented to more than 14 million people through innovative Aquarium exhibits and public programs. Staff and volunteers present educational programs related to stranding events, on-going stranding response and research throughout the year. On a continual basis, staff provide training/assistance and gain valuable experience in live animal rehab by visiting and working with staff at other facilities. VAQS staff also serves on federal management and scientific teams studying the interactions of protected species with commercial fisheries and other potentially threatening human activities. They regularly use their expertise and data to comment on projects that may have an impact on regional marine mammal and sea turtle populations, including a proposed naval undersea training range off Virginia's eastern shore, and possible offshore energy exploration and development. Finally, public and private organizations conducting natural resource surveys and environmental assessments routinely utilize the VAQS stranding database and expertise for information regarding protected species in Virginia.

STRANDING RESPONSE METHODS

When examining dead stranded marine mammals and sea turtles, the VAQS Team follows data collection protocols developed by NMFS (Appendix IV). For marine mammals, Level A data are collected on all strandings and recorded in the marine mammal stranding database. Level A data include:

observer	date
species	location
condition	body length
weight	gender
findings of human interaction *	
sample collection and dissemination	
disposition of carcass	

(* Findings of human interaction consist of clues on a carcass that human activities were responsible for injuries and/or the death of the animal. The most common types of human interactions are fishery entanglements, vessel strikes and marine debris ingestion. In addition, special data collection protocols and forms have been developed by VAQS for assessing human interactions in marine mammal and sea turtle strandings).

Level B and C data are collected from fresh carcasses. Level B and C data are recorded on specialized data sheets and are often shared with other collaborating research organizations.

These more involved data include:

- age
- extensive body measurements
- descriptions and photographs of external & internal appearance
- parasite and pathology occurrence
- stomach contents
- reproductive status
- genetic information
- tissue contaminant levels
- information for specific research

In order to provide timely, accurate and usable information, VAQS compiles these data in a database. The computer system, database and software allow for analytical study of the data including GIS mapping. When combined with the extensive VAQS photo and video catalogs, the marine mammal stranding database can be an invaluable tool for scientists, natural resource managers and other state and federal agencies.

Sea turtle data are collected in much the same manner as for marine mammals (Appendix IV). In addition to the Level A data listed above, the VAQS Team also examines sea turtle carcasses for several types of tags. PIT tags and wire tags require specialized equipment in order to be detected. Fresh turtles are examined for stomach contents, gender and findings of human interaction.

Live marine mammals and sea turtles have become an increasing part of stranding response for the VAQS Team. Live stranding response is quite different from responding to dead animals. While time is important when responding to a fresh dead stranding, timely response is crucial to the welfare and potential survival of live stranded animals. Once a live stranding is confirmed, staff and volunteers can be ready to respond in minutes. Cooperating agencies, especially on Virginia's eastern shore, have immensely improved the VAQS Team's ability to quickly respond to live strandings. Whenever possible, live stranded animals are rushed to the Stranding Center where they are immediately treated for shock and other obvious injuries. VAQS veterinary staff and live animal care coordinator have developed protocols and data sheets for live animal response and rehabilitation. VAQS staff has established an excellent working relationship with medical diagnostic service companies and with local vet clinics that provide valuable services in the form of blood and sample analyses, radiograph support and doses of less common drugs. In addition, the medical team works with several specialized veterinarians and technicians, including eye specialists and advanced diagnostic technicians, on special cases. The VAQS Team is now experienced at working with live stranded sea turtles and seals and has gained valuable experience with live cetaceans. VAQS sea turtle rehabilitation experience was put into action during response to the BP Deepwater Horizon Oil Spill in the Gulf of Mexico in 2010. Three VAQS staff were deployed over a total period of more than six weeks to assist sea turtle recovery and rehabilitation efforts in Louisiana and Florida.

DISCUSSION OF 2013 VIRGINIA STRANDING DATA

MARINE MAMMALS

Virginia stranding data are presented for the calendar year 2013. A total of 427 marine mammal strandings were recorded during 2013 (Table 1). This is the highest number of marine mammal strandings ever recorded in a single year in Virginia. In the past ten years, the number of marine mammal strandings varied between 119 (2005) and 75 (2012) until this historic year (Figure 1). The unprecedented numbers of strandings in 2013 were caused by an unusual mortality event that affected coastal bottlenose dolphins from New York to Florida. Temporally, marine mammal strandings occur in all months of the year, but some marine mammals (i.e. bottlenose dolphins, harbor porpoises and seals) tend to strand seasonally, while others (i.e. large whales and other cetaceans) can occur at any time of the year (Figure 2). Bottlenose dolphins comprise the majority of the marine mammals that strand each year, but the Virginia stranding database is very diverse and now includes 32 species (Appendix V). 2013 was an unprecedented year for bottlenose dolphin strandings and they comprised 90% of the strandings (Figure 3). Spatially, marine mammal strandings occur throughout Virginia's ocean and bay waters. Normally, strandings are most common along the eastern shore and southern shore of the Chesapeake Bay mouth and the southern ocean coast (Figures 4-5). Pictures and descriptions of

notable marine mammal strandings from 2013 are included in Appendix II.

Marine mammals are divided into five data groups for analyses. These data groups are: (1) bottlenose dolphin - the most common marine mammal in Virginia, (2) harbor porpoise - a common small cetacean that occurs in late winter and spring, (3) large whales - primarily baleen whales such as humpback, fin, right and minke whales, (4) other cetaceans - primarily oceanic species with low stranding rates such as pilot whales, pygmy and dwarf sperm whales, pelagic dolphins and beaked whales, and (5) pinnipeds - harbor, harp, hooded and gray seals. Live stranded animals are included in these analyses and are also addressed separately below.

Live strandings

In 2013, VAQS responded to 24 live marine mammal strandings, one of which occurred in northeastern North Carolina (Table 2). These strandings occurred at various times throughout the year and consisted of 21 cetaceans and three pinnipeds. The cetaceans included 11 bottlenose dolphin, six common dolphin, two pygmy sperm whales and two pygmy killer whales. All of the cetaceans that stranded either died on the beach or were humanely euthanized. The pinnipeds included two gray seals and one harbor seal. One gray seal was rehabilitated and released and the other was recovered and transported to the Marine Mammal Stranding Center in Brigantine, NJ for evaluation. This animal was eventually deemed non-releasable and was transferred to a public display facility. The harbor seal was in extremely poor condition and died within hours of its recovery.

Bottlenose dolphin

Bottlenose dolphins (*Tursiops truncatus*) are the most common marine mammals sighted in Virginia waters. They are also the most commonly stranded marine mammal in the state. Most bottlenose dolphins strand from April to October, which is concurrent with their seasonal appearance in Virginia coastal waters (Barco *et al.* 1999; Figure 2). During 2013, 382 bottlenose dolphin strandings were recorded in Virginia (Figure 6A). This historic dolphin stranding event was declared an unusual mortality event (UME) by NMFS in August 2013 and the primary cause was determined to be a virus known as cetacean morbillivirus. The UME impacted bottlenose dolphins from New York to Florida and continued into 2014. Virginia stranding numbers were the highest in recorded history and far surpassed the numbers from the 1987-88 bottlenose dolphin mortality event that was caused by the same morbillivirus. Bottlenose dolphin strandings in 2013 occurred primarily along the Atlantic Ocean and lower Chesapeake Bay shorelines, but they were also recovered throughout other regions of the bay (Figure 4). In 2013, 39.0% (149) of the strandings occurred in Virginia Beach, 28.5% (109) on the eastern shore, 11.0% (42) in Norfolk/Suffolk and 21.5% (82) on the western shores of Chesapeake Bay north of the James River. Gender was determined for 239 of the stranded dolphins. Females comprised 37% (89) and males comprised 63% (150) of the known gender animals. Of the 314 stranded dolphins with recorded lengths (includes estimated lengths and observer descriptions), 64 (20%) were less than 160 cm (defined as “young of the year”, YOY), the approximate size of a one-year old dolphin (Fig. 5A; Urian *et al.* 1996). Examination of YOY has revealed evidence of infanticide in the form of broken bones, hemorrhaging and organ damage (Dunn *et al.* 2002). Of the dolphins that were fresh to moderately decomposed (n = 159), signs of human interaction could not be determined in 108 (68%), were positive in 11 (7%), and were not observed in 40 (25%). Most of the signs of interactions were related to fisheries entanglements.

Harbor porpoise

Harbor porpoise (*Phocoena phocoena*) were observed only occasionally in Virginia stranding records during the 1980's. Increases in harbor porpoise strandings occurred along the mid-Atlantic coast in 1993-1994 and the increases were most dramatic in Virginia (Cox *et al.* 1998, Swingle *et al.* 1995). In recent years, they have often been the second most commonly stranded marine mammals in Virginia. Harbor porpoises typically strand in late winter and early spring (Figure 2), and strandings occur along the ocean shorelines (Figure 4). During 1999, 40 harbor porpoise strandings were recorded in Virginia, but in 2000, that number dropped precipitously to only four. 2001 was another big year (30 strandings), followed by only six harbor porpoise strandings in 2002. Subsequent years have seen the numbers vary widely, from a high of 22 strandings in 2005, to a low of two strandings in 2011 and 2012. There were 15 harbor porpoise strandings in Virginia in 2013, the highest annual number in the last eight years (Figure 6B). How these stranding patterns relate to fluctuations in abundance of the population or stocks, threats that are cyclical in nature (such as potential fisheries bycatch), or other factors, is constantly under review.

Large whales

Large whales do not strand often in Virginia. With the exception of the sperm whale, large whales are typically baleen whales such as humpbacks or fins. All of the large whales normally found in Virginia are endangered species. Because of the logistics involved in examinations of large whales, an extensive large whale response protocol was developed (Blaylock *et al.* 1996). The protocol was developed in response to increased strandings of humpback whales in Virginia and North Carolina in the early 1990's (Swingle *et al.* 1993, Barco *et al.* 2002). The response protocol has since been further developed and is specifically applied to northern right whales (McLellan *et al.* 2004). During 2008, there were no large whale strandings in Virginia. In 2013, VAQS responded to two humpback whales (*Megaptera novaeangliae*) in Virginia, and one sperm whale (*Physeter macrocephalus*) in North Carolina. Overall, there have been 2.4 large whale strandings annually in Virginia during the last ten years (Figure 6C). In addition to strandings, VAQS also responds to large whale entanglements. VAQS staff has been qualified to respond to entangled whales by the Provincetown Center for Coastal Studies in MA. Specialized whale disentanglement gear and supplies are stored at the VAQS Stranding Center for use in the mid-Atlantic region. This equipment and training were essential in the successful disentanglement of a humpback whale in the waters off Virginia Beach in 2007.

Other cetaceans

“Other cetacean” species generally include pelagic delphinids, *Kogia* species and beaked whales. This group accounted for 20 strandings during 2013. These strandings typically occur along the ocean and lower bay shorelines and sometimes involve live animals. In 2013, there were 14 common dolphins (*Delphinus delphis*), one dwarf sperm whale (*Kogia sima*), two pygmy sperm whales (*Kogia breviceps*) and three pygmy killer whales (*Feresa attenuata*). The pygmy killer whales, two of which were alive when discovered, stranded in November in Virginia Beach. These were the very first records of this species in the Virginia stranding database (Appendix V). Though none of the animals survived stranding, this rarely seen species created great interest at the Smithsonian where the necropsies were conducted.

Pinnipeds

Pinniped strandings have generally increased in Virginia since the early 1990s and there were eight strandings recorded from Virginia during 2013 (Figure 3, 6D). The species included five harbor seals (*Phoca vitulina*), two gray seals (*Halichoerus grypus*) and one harp seal (*Pagophilus groenlandica*). One gray seal had previously stranded in North Carolina, was very habituated to people, and became a nuisance animal after constantly approaching boaters and beach-goers seeking food.

Regular sightings of seals in Virginia continue to be common occurrences in winter and early spring. Improved education and training of stranding network personnel have decreased the unwarranted captures of otherwise healthy seals which have hauled-out to rest on Virginia shorelines, piers, jetties and rock islands.

SEA TURTLES

During 2013, there was another significant increase in the level of sea turtle strandings (263) in Virginia (Table 3). Since 2000, Virginia has experienced both extremely high (531 in 2003) and relatively low (173 in 2011) numbers of sea turtle strandings. With an average of 235 annually in the last ten years, Virginia remains an area of high sea turtle mortality as measured by strandings (Figure 7). The VAQS Team responded to 233 sea turtle strandings during the year and an additional 30 strandings were reported by stranding network cooperators trained by VAQS (Table 3). Cooperators' reports are given VASC, VDGIF, and other unique numbers in the database. VASC reports originate from Chincoteague, Eastern Shore and Back Bay National Wildlife refuges, and also from Kiptopeke and False Cape State Parks. June was the busiest month with 60 strandings (23%), followed by October, September and August with 43 (16%), 41 (15%) and 34 (13%) strandings, respectively. There were also significant numbers of strandings in the months of January, July and November, as well (Figure 8). Loggerheads (*Caretta caretta*, n = 171) were the primary species recorded, followed by Kemp's ridleys (*Lepidochelys kempii*, n = 70), greens (*Chelonia mydas*, n = 11), leatherbacks (*Dermochelys coriacea*, n = 6) and five sea turtles that were unidentified to species (Figure 9). The distribution of strandings was primarily along the ocean and lower bay shorelines (Figure 10). The eastern shore of Virginia was the area where 40% (106) of the sea turtle strandings were found. Accomack County accounted for 11% (12) and Northampton County for 89% (94) of the eastern shore total. Strandings in Virginia Beach, Norfolk and other southside cities contributed to 47% (123) of the total. The remainder 13% (34) originated from the western shores of the Chesapeake Bay north of the James River.

Improved efforts by VAQS to recruit and train cooperators have greatly enhanced stranding response on the eastern shore. Externally, a number of dead stranded turtles appeared to have been hit by vessels. In some cases, the carcasses were fresh enough to conduct thorough necropsies. Necropsies on stranded turtles sometimes reveal signs of human interaction in the form of fish lures, hooks, line and plastic debris in the gut. The fishing equipment could be from recreational or commercial (long-line) gear and may have been actively fishing or was "ghost" gear. Further understanding of the impacts that recreational and commercial fishing have on turtles is needed. Lastly, the VAQS Team participated in several research projects with NMFS and USFWS. Flippers were collected from sea turtles for studies on aging, and skin and muscle samples were collected for genetic studies. Live turtles rehabilitated by VAQS were used in tracking studies of post-release movements. Pictures of some of the notable sea turtle strandings in 2013 are included in Appendix III.

Live strandings

2013 was a very busy year for the VAQS Team with 49 live sea turtle strandings recorded from Virginia – 33 loggerheads, seven Kemp’s ridleys, two greens, three leatherbacks and four unidentified to species. Sixteen of these turtles were successfully recovered, rehabilitated and released and 13 were disentangled and/or released from commercial and recreational fishing gear. Six sea turtles that stranded in 2012 were also released during 2013. In addition, five sea turtles (1 from New Jersey, 4 from Massachusetts) that were transferred to VAQS in 2012 from other stranding network facilities outside of Virginia were released in 2013. Throughout the year, the VAQS Team spent many hours medicating and feeding sea turtles. Some of the sea turtles had stranded in previous years and had been in rehabilitation for many months prior to release. When the year ended, there were nine sea turtles in rehabilitation at the VAQS Stranding Center (Table 4).

VAQS ACTIVITIES DURING 2013

VAQS conducted trainings on biology, ecology and stranding response protocols for sea turtles and marine mammals during the year. Trainings were provided to Virginia Aquarium Outreach Instructors, VAQS Team volunteers and to other cooperators in the state stranding network including: Back Bay National Wildlife Refuge, Eastern Shore National Wildlife Refuge, Chincoteague National Wildlife Refuge; Kiptopeke and False Cape State Parks; Virginia Beach police, animal control and beach maintenance personnel; U.S. Coast Guard; Dam Neck and other military base natural resources personnel; personnel from VMRC and VDGIF; The Nature Conservancy and other natural resources groups. In addition, lectures were presented on the topics of marine mammal and sea turtle necropsies, new findings from sea turtle research, the bottlenose dolphin UME, and federal efforts to manage and protect marine mammals. VAQS staff attended numerous conferences and workshops and shared knowledge of sea turtle and marine mammal strandings in Virginia. Educational programs were presented at many local and regional festivals, to school groups and civic organizations as well as during special Aquarium events. A portable exhibit and group of outreach volunteers presented the activities of the VAQS and the Virginia stranding network, and promoted conservation of marine animal species and their habitats. A complete list of all professional, education and training activities is included in Appendix I of this report.

Grant funds were used in conjunction with funds from the Virginia Aquarium Foundation to staff the Aquarium’s Marine Animal Care Center with a full-time stranding response manager, stranding response volunteer & information specialist, two full-time stranding response technicians, and two hourly stranding assistants. Aquarium research staff also assisted with stranding response as needed and in support of research projects. The VAQS Team completed another calendar year using an on-call system developed to ensure that volunteers were available for stranding response, seven days per week, for the entire year. Created and managed by volunteer team response leaders, the on-call system greatly enhances the Team’s readiness and rapid response. VAQS Team volunteers logged more than 16,500 hours during 2013.

VAQS continued several research projects that have been ongoing for many years, but suspended its annual dolphin count for the first time in more than 20 years as a result of the UME. Photo-identification research on bottlenose dolphins continued for the 23rd year. The photo-ID catalog contains more than 1250 individual dolphins, some of which are regular visitors to Virginia and have been observed in multiple years. VAQS continued to curate the Mid-Atlantic Humpback Whale Photo-Identification Catalog. Results of matching efforts between the mid-Atlantic catalog and others from the western North Atlantic continues to result

in new data about the origin of many whales observed in Virginia (Barco *et al.* 2002). The catalog contains images from stranded and live whales observed in coastal waters from New Jersey through North Carolina. VAQS staff continues to conduct advanced necropsies on fresh-dead sea turtles to investigate causes of mortalities and to determine baseline health information for regional populations. Sea turtle and marine mammal diet studies continued in 2013 as part of grant funded projects. Sea turtle and marine mammal population assessment studies were also conducted in Virginia waters, including both aerial surveys and satellite and acoustic tracking of individual sea turtles. Finally, nutritional and growth studies continued with sea turtles in the Virginia Aquarium's long-term and short-term collections.

SUMMARY

Data collected by VAQS and the Virginia stranding network continue to be critical to the long-term monitoring efforts for sea turtle and marine mammal populations in the mid-Atlantic region. Fresh-stranded cetaceans continue to be extensively sampled as part of cooperative research (involving the University of North Carolina at Wilmington, Duke University and the North Carolina State Vet School) to better assess marine mammal health. These studies are crucial to developing a better understanding of the overall health status of marine mammal populations in the wild. Stranding response and data collection from Virginia were crucial to the identification and evaluation of the bottlenose dolphin UME that began in July 2013 along the east coast. Virginia also has experienced the highest number of dolphin mortalities (345) associated with the UME. Studies associated with the vast amount of data and samples collected will continue to help researchers better understand the impact of these mortalities on coastal bottlenose dolphin stocks. In addition, the unprecedented levels of mortalities have also provided a wealth of potential data for further understanding the life history of these iconic regional marine mammals.

Marine mammal strandings, particularly bottlenose dolphins, remain very high and a significant percentage of the mortalities are related to human activities such as commercial fishing. For this reason, VAQS staff serves as expert members on three federal Take Reduction Teams working to reduce the incidental mortalities of marine mammals in commercial fishing operations. The recently enacted changes to the rules regulating pound net leaders, supported by VAQS research efforts, are reducing the incidental takes of dolphins and sea turtles in Chesapeake Bay.

Sea turtle strandings increased significantly in 2012 and 2013 following several years of reduced numbers in 2010 and 2011. Monitoring Virginia sea turtle strandings in 2014 should continue to provide valuable information to help understand the causes of sea turtle mortalities and if the increasing numbers represent a significant trend, or only a temporary change. The VAQS continues to work closely to monitor and investigate the high rates of sea turtle strandings on Virginia's eastern shore.

Data collected from strandings provides excellent information on life histories of the many species of marine mammals and sea turtles that inhabit Virginia waters. Stranded animals are the only source of this type of scientific information for most species of marine mammals. The sei whale and True's beaked whale strandings in 2003, the melonheaded whale strandings in 2008, the Sowerby's beaked whale strandings in 2009 and the pygmy killer whale strandings in 2013 provide excellent examples of the unique opportunities that strandings provide to study rare and previously unknown species from Virginia.

The VAQS Stranding Center has increased its role in the response, rescue and rehabilitation of sea turtles and seals. The high level of live stranding responses continued in 2013, and the need for a fully functional response and rehabilitation facility is clear. VAQS is

planning to continue its efforts on behalf of live stranded sea turtles and marine mammals in Virginia and northeastern North Carolina and plans are being developed for a larger and better-equipped marine animal care facility. This project is proposed to formally begin the architectural design and development phase in late 2014.

Marine mammal and sea turtle strandings in Virginia reached unprecedented levels during 2013. As a result, managing the Virginia stranding networks for these federally and state protected species was more challenging than at any time in history. At the same time, federal funding from NOAA Fisheries for the marine mammal stranding network through the Prescott Stranding Grant Program was reduced by more than 75%. It is possible that this Program will disappear unless Congress acts to reinstate the only federal funding available to the national marine mammal stranding network. At a time when marine mammal strandings are at record levels, and stranding data are crucial to monitoring ocean health and supporting fishery management and ocean resource-use planning efforts, stranding network organizations like VAQS are trying to operate with declining federal financial support. There remains much work to do and it is hoped that management efforts informed by quality stranding data will begin to reduce the high levels of sea turtle and marine mammal mortalities in Virginia and elsewhere in the region. Continued monitoring and reporting of trends in strandings of protected species will be priorities for the stranding network in 2014.

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Table 1: Marine mammal strandings in Virginia during 2013, n=427.

(Data from the VAQS Marine Mammal Stranding Database)

[Length=cm; * indicates estimated length; ND=no data; U=unknown]

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131001	1/8/2013	harbor seal	Northampton	37.4518	-75.6710	dead	U	ND
VAQS20131002	1/16/2013	bottlenose dolphin	Virginia Beach	36.9166	-76.1233	dead	M	94.2
VAQS20131003	1/17/2013	bottlenose dolphin	Virginia Beach	36.6248	-75.8882	dead	M	265.4
VAQS20131004	1/21/2013	bottlenose dolphin	Northampton	37.2016	-76.0112	dead	F	216.8
VAQS20131005	2/8/2013	harbor porpoise	Virginia Beach	36.5722	-75.8722	dead	F	116.5
VAQS20131006	2/17/2013	dwarf sperm whale	Virginia Beach	36.6069	-75.8815	dead	F	158.6
VAQS20131007	2/22/2013	harbor porpoise	Virginia Beach	36.6292	-75.8909	dead	U	108.1
VAQS20131009	3/1/2013	harbor porpoise	Accomack	37.9600	-75.2953	dead	U	ND
VAQS20131008	3/2/2013	common dolphin	Virginia Beach	36.6511	-75.9010	dead	M	228.1
VAQS20131010	3/24/2013	common dolphin	Virginia Beach	36.9106	-76.0869	alive	F	204.6
VAQS20131011	3/28/2013	harbor porpoise	Virginia Beach	36.6239	-75.8881	dead	F	120.2
VAQS20131012	3/31/2013	bottlenose dolphin	Accomack	37.7197	-75.8164	dead	M	195.4
VAQS20131013	4/3/2013	humpback whale	Virginia Beach	36.9238	-75.7958	dead	M	942
VAQS20131014	4/4/2013	common dolphin	Northampton	37.0951	-75.9806	dead	F	207.2
VAQS20131015	4/5/2013	common dolphin	Accomack	37.7639	-75.7635	alive	U	ND
VAQS20131016	4/5/2013	common dolphin	Accomack	37.7639	-75.7635	alive	M	182.6
VAQS20131017	4/5/2013	common dolphin	Accomack	37.7639	-75.7635	alive	U	180*
VAQS20131018	4/5/2013	common dolphin	Accomack	37.7639	-75.7635	alive	U	160*
VAQS20131019	4/5/2013	common dolphin	Mathews	37.3420	-76.3039	dead	M	167
VAQS20131020	4/5/2013	common dolphin	Mathews	37.3420	-76.3039	dead	M	174
VAQS20131022	4/9/2013	common dolphin	Mathews	37.3418	-76.3043	dead	F	160*
VAQS20131021	4/9/2013	harbor seal	Virginia Beach	36.9259	-76.1568	dead	F	141
VAQS20131023	4/12/2013	common dolphin	Accomack	37.9995	-75.2644	dead	F	201
VAQS20131024	4/15/2013	gray seal	Virginia Beach	36.9303	-76.0393	alive	M	101.9
VAQS20131025	4/16/2013	bottlenose dolphin	Virginia Beach	36.9212	-75.9958	dead	F	230.6
VAQS20131026	4/19/2013	bottlenose dolphin	Accomack	37.8694	-75.3584	dead	F	178.8
VAQS20131027	4/22/2013	harbor porpoise	Virginia Beach	36.6274	-75.8896	dead	M	109.5
VAQS20131028	4/22/2013	harbor porpoise	Virginia Beach	36.8290	-75.9692	dead	F	112.8*
VAQS20131029	4/23/2013	bottlenose dolphin	Virginia Beach	36.6564	-75.9035	dead	F	185.3*
VAQS20131031	4/23/2013	bottlenose dolphin	Virginia Beach	36.6075	-75.8817	dead	M	186.2
VAQS20131030	4/23/2013	harbor porpoise	Virginia Beach	36.6513	-75.9009	dead	M	118.5
VAQS20131033	4/24/2013	harbor porpoise	Virginia Beach	36.6348	-75.8928	dead	F	117.5*
VAQS20131032	4/24/2013	harbor seal	Northampton	37.0446	-76.0648	dead	F	124.6*
VAQS20131034	4/25/2013	common dolphin	Northampton	37.1874	-75.8250	dead	U	152*
VAQS20131035	4/27/2013	bottlenose dolphin	Northumberland	37.8276	-76.2656	dead	M	226.2
VAQS20131036	4/28/2013	harbor porpoise	Northampton	37.3421	-75.7382	dead	U	122
VAQS20131037	4/29/2013	bottlenose dolphin	Virginia Beach	36.7147	-75.9313	dead	M	180*
VAQS20131038	4/29/2013	harbor porpoise	Hampton	37.0254	-76.2961	dead	M	115.3*
VAQS20131039	5/1/2013	harbor porpoise	Norfolk	36.9389	-76.2216	dead	M	118.3
VAQS20131041	5/2/2013	bottlenose dolphin	Northampton	37.1160	-75.9698	dead	M	167.6
VAQS20131042	5/2/2013	bottlenose dolphin	Virginia Beach	36.6762	-75.9143	dead	F	ND
VAQS20131040	5/2/2013	harbor seal	Virginia Beach	36.9268	-76.1577	dead	F	136*
VAQS20131043	5/3/2013	bottlenose dolphin	Virginia Beach	36.9305	-76.0136	dead	M	183.4
VAQS20131044	5/3/2013	bottlenose dolphin	Hampton	37.0466	-76.2870	dead	M	265
VAQS20131046	5/4/2013	harbor porpoise	Accomack	37.8586	-75.3688	dead	U	112*
VAQS20131045	5/4/2013	harbor seal	Norfolk	36.9362	-76.2121	dead	M	159.5
VAQS20131047	5/5/2013	harbor porpoise	Virginia Beach	36.6600	-75.9051	dead	F	103*
VAQS20131049	5/8/2013	bottlenose dolphin	York	37.2202	-76.4299	dead	F	254.2
VAQS20131048	5/9/2013	bottlenose dolphin	Virginia Beach	36.8075	-75.9644	dead	U	114*
VAQS20131051	5/14/2013	bottlenose dolphin	Northumberland	37.8652	-76.2445	dead	U	215.6*
VAQS20131058	5/16/2013	bottlenose dolphin	Northampton	37.3909	-75.7047	dead	U	266*
VAQS20131050	5/19/2013	harbor porpoise	Virginia Beach	36.7861	-75.9581	dead	M	102*
VAQS20131054	5/21/2013	bottlenose dolphin	Northampton	37.1958	-75.8167	dead	U	167.6*
VAQS20131052	5/23/2013	bottlenose dolphin	Northampton	37.3557	-75.9946	dead	M	201.8*
VAQS20131053	5/27/2013	bottlenose dolphin	Accomack	37.8134	-75.9964	dead	U	210*
VAQS20131055	5/28/2013	bottlenose dolphin	Virginia Beach	36.6762	-75.9144	dead	U	191*
VAQS20131056	5/28/2013	bottlenose dolphin	Accomack	37.8670	-75.3710	dead	U	195*
VAQS20131057	6/5/2013	bottlenose dolphin	Northampton	37.4277	-75.9813	dead	U	123*

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131062	6/5/2013	bottlenose dolphin	Accomack	37.8083	-75.9894	dead	M	98.5*
DAP039	6/5/2013	gray seal	Virginia Beach	36.8295	-75.9693	alive	M	ND
VAQS20131059	6/6/2013	bottlenose dolphin	Hampton	37.0048	-76.3023	dead	F	120*
VAQS20131060	6/12/2013	bottlenose dolphin	Accomack	37.8199	-75.7433	dead	M	294
VAQS20131061	6/14/2013	bottlenose dolphin	Northampton	37.4863	-75.9616	dead	M	266*
VAQS20131063	6/15/2013	bottlenose dolphin	Accomack	37.7201	-75.8160	dead	U	ND
VAQS20131064	6/17/2013	bottlenose dolphin	Northampton	37.2533	-76.0238	dead	M	210*
VAQS20131065	6/18/2013	bottlenose dolphin	Northumberland	37.8695	-76.2446	dead	F	234
VAQS20131066	6/21/2013	bottlenose dolphin	Northumberland	37.9370	-76.3215	dead	F	242
VAQS20131067	6/21/2013	bottlenose dolphin	Westmoreland	38.0706	-76.5353	dead	M	268.7
VAQS20131073	6/24/2013	bottlenose dolphin	Northampton	37.5440	-75.9309	dead	U	203*
VAQS20131068	6/25/2013	bottlenose dolphin	Northampton	37.2662	-76.0226	dead	U	ND
VAQS20131069	6/26/2013	bottlenose dolphin	Accomack	37.6015	-75.6015	dead	U	222
VAQS20131070	6/26/2013	bottlenose dolphin	Lancaster	37.6183	-76.2972	dead	M	ND
VAQS20131071	6/27/2013	bottlenose dolphin	Accomack	37.6929	-75.5976	dead	U	ND
VAQS20131072	7/1/2013	bottlenose dolphin	Northumberland	37.8391	-76.2498	dead	M	205
VAQS20131074	7/3/2013	bottlenose dolphin	Northampton	37.2453	-76.0192	dead	F	212.2
VAQS20131075	7/4/2013	bottlenose dolphin	Northumberland	37.8183	-76.2654	dead	M	260.4
VAQS20131076	7/8/2013	pygmy sperm whale	Accomack	37.9875	-75.2750	alive	M	220
VAQS20131077	7/9/2013	bottlenose dolphin	Northampton	37.4403	-75.9775	dead	F	240
VAQS20131080	7/9/2013	bottlenose dolphin	Northampton	37.4287	-75.9812	dead	F	245*
VAQS20131079	7/10/2013	bottlenose dolphin	Northampton	37.1651	-75.9844	dead	U	133
VAQS20131078	7/11/2013	bottlenose dolphin	Northampton	37.2516	-76.0231	dead	U	192*
VAQS20131081	7/13/2013	bottlenose dolphin	Accomack	37.9172	-75.3936	dead	M	256.3
VAQS20131082	7/16/2013	bottlenose dolphin	Northampton	37.4280	-75.9815	dead	U	ND
VAQS20131088	7/16/2013	bottlenose dolphin	Northumberland	37.8162	-76.2676	dead	U	ND
VAQS20131083	7/17/2013	bottlenose dolphin	Accomack	ND	ND	dead	U	ND
VAQS20131084	7/17/2013	bottlenose dolphin	Norfolk	36.9449	-76.2342	dead	F	256.4
VAQS20131085	7/19/2013	bottlenose dolphin	Mathews	37.4083	-76.2494	dead	M	305
VAQS20131086	7/20/2013	bottlenose dolphin	Northampton	37.0854	-75.9737	dead	F	ND
VAQS20131087	7/21/2013	bottlenose dolphin	Northampton	37.2187	-76.0119	dead	M	192
VAQS20131089	7/22/2013	bottlenose dolphin	Hampton	37.0070	-76.3142	dead	F	206.5*
VAQS20131090	7/22/2013	bottlenose dolphin	Hampton	37.0144	-76.2987	dead	M	265
VAQS20131091	7/23/2013	bottlenose dolphin	Northampton	37.2145	-76.0128	dead	U	227.8
VAQS20131092	7/25/2013	bottlenose dolphin	Norfolk	36.9444	-76.2336	dead	F	233
VAQS20131093	7/25/2013	bottlenose dolphin	Hampton	37.0777	-76.2750	dead	M	263.2*
VAQS20131094	7/25/2013	harbor porpoise	Northampton	37.1115	-75.9194	dead	U	ND
VAQS20131096	7/26/2013	bottlenose dolphin	Norfolk	36.9324	-76.1970	alive	M	207
VAQS20131095	7/26/2013	bottlenose dolphin	Virginia Beach	36.9226	-76.0468	dead	F	203.4
VAQS20131097	7/26/2013	bottlenose dolphin	Mathews	37.5140	-76.2882	dead	U	281
VAQS20131098	7/26/2013	bottlenose dolphin	Virginia Beach	36.9190	-76.1295	dead	U	ND
VAQS20131099	7/27/2013	bottlenose dolphin	Northampton	37.2323	-76.0366	dead	M	222.4
VAQS20131100	7/27/2013	bottlenose dolphin	Northampton	37.1999	-76.0103	dead	U	215.4
VAQS20131101	7/27/2013	bottlenose dolphin	Virginia Beach	37.2350	-76.3117	dead	U	ND
VAQS20131102	7/27/2013	bottlenose dolphin	Mathews	37.4838	-76.2734	dead	U	230*
VAQS20131103	7/28/2013	bottlenose dolphin	Northumberland	37.8038	-76.3074	dead	F	142.6
VAQS20131104	7/28/2013	bottlenose dolphin	Virginia Beach	36.9263	-76.0473	dead	M	238
VAQS20131105	7/28/2013	bottlenose dolphin	York	37.2045	-76.2659	dead	M	188.7
VAQS20131106	7/28/2013	bottlenose dolphin	Virginia Beach	36.9809	-76.1169	dead	M	182.2
VAQS20131107	7/28/2013	bottlenose dolphin	Hampton	37.0158	-76.2980	dead	U	ND
VAQS20131108	7/29/2013	bottlenose dolphin	Virginia Beach	36.8899	-75.9842	dead	M	132.6
VAQS20131109	7/29/2013	bottlenose dolphin	Northampton	37.2495	-76.0211	dead	U	ND
VAQS20131110	7/29/2013	bottlenose dolphin	Northampton	37.2290	-76.0338	dead	M	184.7
VAQS20131111	7/30/2013	bottlenose dolphin	Norfolk	36.9470	-76.2380	dead	U	ND
VAQS20131112	7/30/2013	bottlenose dolphin	Virginia Beach	36.9273	-76.1648	dead	M	209.2
VAQS20131113	7/30/2013	bottlenose dolphin	Hampton	37.0740	-76.2404	dead	M	254.3
VAQS20131114	7/30/2013	bottlenose dolphin	Hampton	37.0740	-76.2404	dead	M	237
VAQS20131115	7/30/2013	bottlenose dolphin	Virginia Beach	36.8389	-75.9704	dead	M	221.4
VAQS20131119	7/30/2013	bottlenose dolphin	Northampton	37.2012	-76.0110	dead	M	173
VAQS20131120	7/30/2013	bottlenose dolphin	Northampton	37.1997	-76.0105	dead	M	141
VAQS20131117	7/31/2013	bottlenose dolphin	Virginia Beach	36.9315	-76.0379	alive	M	281
VAQS20131118	7/31/2013	bottlenose dolphin	Virginia Beach	36.8476	-75.9731	alive	U	ND

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131121	7/31/2013	bottlenose dolphin	Mathews	37.3227	-76.2727	alive	M	122
VAQS20131116	7/31/2013	bottlenose dolphin	Norfolk	36.9389	-76.2301	dead	U	239.4
VAQS20131123	7/31/2013	bottlenose dolphin	Mathews	37.2648	-76.4180	dead	U	ND
VAQS20131122	8/1/2013	bottlenose dolphin	Norfolk	36.9645	-76.2672	dead	M	190.2
VAQS20131124	8/1/2013	bottlenose dolphin	Northampton	37.2920	-76.0134	dead	M	255*
VAQS20131125	8/2/2013	bottlenose dolphin	Northampton	37.1891	-75.9996	dead	U	170*
VAQS20131128	8/2/2013	bottlenose dolphin	Hampton	36.9947	-76.3812	dead	U	123*
VAQS20131130	8/2/2013	bottlenose dolphin	Accomack	37.6715	-75.6590	dead	U	ND
VAQS20131132	8/2/2013	bottlenose dolphin	Northampton	37.1783	-75.9911	dead	F	232.4
VAQS20131126	8/3/2013	bottlenose dolphin	Hampton	37.0492	-76.2863	dead	F	255
VAQS20131127	8/3/2013	bottlenose dolphin	Mathews	37.3533	-76.3275	dead	F	223
VAQS20131129	8/3/2013	bottlenose dolphin	Mathews	37.3245	-76.2962	dead	F	168
VAQS20131131	8/3/2013	bottlenose dolphin	Mathews	37.3861	-76.3694	dead	U	ND
VAQS20131135	8/3/2013	bottlenose dolphin	Northampton	37.2200	-76.0126	dead	M	209.8
VAQS20131133	8/4/2013	bottlenose dolphin	Northampton	37.2300	-76.0105	dead	M	247
VAQS20131134	8/4/2013	bottlenose dolphin	Middlesex	37.6398	-76.5711	dead	M	174.3
VAQS20131138	8/4/2013	bottlenose dolphin	Northampton	37.4682	-75.9584	dead	U	ND
VAQS20131136	8/5/2013	bottlenose dolphin	Accomack	37.5797	-75.9361	dead	U	ND
VAQS20131137	8/5/2013	bottlenose dolphin	Northampton	37.3184	-76.0182	dead	F	201
VAQS20131139	8/5/2013	bottlenose dolphin	Virginia Beach	36.9266	-76.0037	dead	F	138
VAQS20131140	8/5/2013	bottlenose dolphin	Northampton	37.3289	-76.0148	dead	M	260*
VAQS20131144	8/7/2013	bottlenose dolphin	Hampton	37.0394	-76.2904	alive	M	265
VAQS20131141	8/7/2013	bottlenose dolphin	Richmond	37.8169	-76.6742	dead	F	255
VAQS20131142	8/7/2013	bottlenose dolphin	Northampton	37.2368	-76.0128	dead	U	253.4*
VAQS20131143	8/7/2013	bottlenose dolphin	Accomack	37.5968	-75.6153	dead	M	214
VAQS20131145	8/7/2013	bottlenose dolphin	Accomack	37.6893	-75.5903	dead	M	247
VAQS20131150	8/7/2013	bottlenose dolphin	Northampton	37.2518	-76.0233	dead	M	109.4*
VAQS20131152	8/7/2013	bottlenose dolphin	Northampton	37.3465	-76.0008	dead	U	217*
VAQS20131153	8/7/2013	bottlenose dolphin	Mathews	37.3283	-76.2717	dead	U	ND
VAQS20131146	8/8/2013	bottlenose dolphin	Northampton	37.1660	-75.9882	dead	M	251
VAQS20131147	8/8/2013	bottlenose dolphin	Virginia Beach	36.9151	-75.9914	dead	U	197.6*
VAQS20131148	8/9/2013	bottlenose dolphin	Accomack	37.8710	-75.3566	alive	F	241.6
VAQS20131149	8/9/2013	bottlenose dolphin	Northampton	37.1380	-75.9728	alive	M	216
VAQS20131151	8/9/2013	bottlenose dolphin	Northampton	37.1323	-75.9708	dead	U	280*
VAQS20131154	8/11/2013	bottlenose dolphin	Virginia Beach	36.6892	-75.9213	dead	M	145.2
VAQS20131156	8/11/2013	bottlenose dolphin	Northampton	37.2292	-76.0064	dead	U	ND
VAQS20131157	8/11/2013	bottlenose dolphin	Northampton	37.2460	-76.0201	dead	M	143
VAQS20131161	8/11/2013	bottlenose dolphin	Northampton	37.3094	-76.0204	dead	U	119*
VAQS20131162	8/11/2013	bottlenose dolphin	Northampton	37.3095	-76.0204	dead	F	226
VAQS20131163	8/11/2013	bottlenose dolphin	Northampton	37.2168	-76.0124	dead	U	102.2*
VAQS20131164	8/11/2013	bottlenose dolphin	Mathews	37.3732	-76.2510	dead	U	ND
VAQS20131155	8/12/2013	bottlenose dolphin	Virginia Beach	36.6066	-75.8812	dead	U	ND
VAQS20131159	8/12/2013	bottlenose dolphin	Northampton	37.2668	-76.0233	dead	F	261.3
VAQS20131160	8/12/2013	bottlenose dolphin	Northampton	37.1650	-75.9843	dead	M	241
VAQS20131167	8/13/2013	bottlenose dolphin	Northampton	37.1464	-75.9744	dead	M	242
VAQS20131165	8/14/2013	bottlenose dolphin	Virginia Beach	36.9130	-76.0790	dead	F	245
VAQS20131166	8/14/2013	bottlenose dolphin	Northampton	37.1897	-76.0002	dead	U	183
VAQS20131158	8/15/2013	bottlenose dolphin	Norfolk	36.9298	-76.1822	dead	M	127
VAQS20131168	8/15/2013	bottlenose dolphin	Norfolk	36.9389	-76.2206	dead	M	132.5
VAQS20131169	8/15/2013	bottlenose dolphin	Virginia Beach	36.9013	-76.1004	dead	F	148*
VAQS20131172	8/15/2013	bottlenose dolphin	Northumberland	37.8152	-76.2717	dead	U	ND
VAQS20131183	8/15/2013	bottlenose dolphin	Northampton	37.1762	-75.9898	dead	M	187.5
VAQS20131170	8/16/2013	bottlenose dolphin	Norfolk	36.9396	-76.2226	dead	F	230
VAQS20131171	8/16/2013	bottlenose dolphin	Hampton	37.0040	-76.3404	dead	F	248
VAQS20131173	8/16/2013	bottlenose dolphin	Northampton	37.0859	-75.9758	dead	U	96*
VAQS20131174	8/16/2013	bottlenose dolphin	Virginia Beach	36.6603	-75.9054	dead	M	209
VAQS20131175	8/16/2013	bottlenose dolphin	Virginia Beach	36.7990	-75.9562	dead	M	112
VAQS20131176	8/16/2013	bottlenose dolphin	Hampton	37.0485	-76.2864	dead	U	ND
VAQS20131177	8/16/2013	bottlenose dolphin	Norfolk	36.9611	-76.2609	dead	M	181.5
VAQS20131178	8/17/2013	bottlenose dolphin	Virginia Beach	36.6769	-75.9145	dead	M	188.5
VAQS20131179	8/17/2013	bottlenose dolphin	Virginia Beach	36.8433	-75.9715	dead	U	ND
VAQS20131180	8/17/2013	bottlenose dolphin	Virginia Beach	36.6735	-75.9125	dead	U	290

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131181	8/17/2013	bottlenose dolphin	Norfolk	36.9438	-76.2328	dead	U	ND
VAQS20131182	8/17/2013	bottlenose dolphin	Virginia Beach	36.8239	-75.9678	dead	U	ND
VAQS20131184	8/17/2013	bottlenose dolphin	Hampton	37.0840	-76.2736	dead	F	210
VAQS20131185	8/17/2013	bottlenose dolphin	Virginia Beach	36.7410	-75.9414	dead	F	240*
VAQS20131186	8/17/2013	bottlenose dolphin	Virginia Beach	36.8211	-75.9673	dead	U	ND
VAQS20131187	8/17/2013	bottlenose dolphin	Northampton	37.3073	-76.0034	dead	U	172.5*
VAQS20131188	8/17/2013	bottlenose dolphin	Norfolk	36.9294	-76.1732	dead	U	227*
VAQS20131215	8/17/2013	bottlenose dolphin	Northumberland	37.8139	-76.2727	dead	M	236
VAQS20131194	8/18/2013	bottlenose dolphin	Virginia Beach	36.9248	-76.0488	alive	M	235
VAQS20131190	8/18/2013	bottlenose dolphin	Norfolk	36.9631	-76.2110	dead	M	204.5
VAQS20131191	8/17/2013	bottlenose dolphin	Virginia Beach	36.9261	-76.0029	alive	M	267
VAQS20131192	8/18/2013	bottlenose dolphin	Hampton	37.0433	-76.2882	dead	U	274.8
VAQS20131193	8/18/2013	bottlenose dolphin	Hampton	37.0569	-76.2829	dead	F	125
VAQS20131195	8/18/2013	bottlenose dolphin	Virginia Beach	36.7881	-75.9584	dead	F	225*
VAQS20131196	8/18/2013	bottlenose dolphin	Virginia Beach	36.8167	-75.9661	dead	U	231*
VAQS20131197	8/18/2013	bottlenose dolphin	Virginia Beach	36.6603	-75.9048	dead	F	134
VAQS20131199	8/18/2013	bottlenose dolphin	Northumberland	37.7967	-76.3095	dead	M	ND
VAQS20131200	8/18/2013	bottlenose dolphin	Norfolk	36.9581	-76.2454	dead	U	ND
VAQS20131201	8/18/2013	bottlenose dolphin	Norfolk	36.9285	-76.1701	dead	M	204*
VAQS20131202	8/18/2013	bottlenose dolphin	Virginia Beach	36.9247	-76.0481	dead	M	126
VAQS20131203	8/18/2013	bottlenose dolphin	Virginia Beach	36.7609	-75.9489	dead	U	182*
VAQS20131204	8/18/2013	bottlenose dolphin	Norfolk	36.9556	-76.2516	dead	U	137
VAQS20131209	8/18/2013	bottlenose dolphin	Northumberland	37.7989	-76.3079	dead	M	267
VAQS20131213	8/18/2013	bottlenose dolphin	Hampton	37.0734	-76.2785	dead	U	ND
VAQS20131205	8/19/2013	bottlenose dolphin	Virginia Beach	36.8443	-75.9690	dead	F	240
VAQS20131207	8/19/2013	bottlenose dolphin	Virginia Beach	36.9128	-76.0795	dead	M	192
VAQS20131217	8/19/2013	bottlenose dolphin	Newport News	36.9767	-76.4344	dead	U	ND
VAQS20131206	8/20/2013	bottlenose dolphin	Poquoson	37.1113	-76.3082	dead	U	ND
VAQS20131208	8/20/2013	bottlenose dolphin	Norfolk	36.9372	-76.2155	dead	M	122
VAQS20131210	8/20/2013	bottlenose dolphin	Virginia Beach	36.7159	-75.9321	dead	U	ND
VAQS20131211	8/20/2013	bottlenose dolphin	Virginia Beach	36.9319	-76.0292	dead	U	152
VAQS20131198	8/21/2013	bottlenose dolphin	Hampton	37.0532	-76.2846	dead	M	186
VAQS20131212	8/21/2013	bottlenose dolphin	Virginia Beach	36.9245	-76.1498	dead	U	133
VAQS20131214	8/21/2013	bottlenose dolphin	Poquoson	37.1186	-76.2997	dead	U	ND
VAQS20131216	8/21/2013	bottlenose dolphin	Hampton	37.0551	-76.2839	dead	M	200.5*
VAQS20131218	8/21/2013	bottlenose dolphin	Hampton	37.0962	-76.2758	dead	M	234.5
VAQS20131219	8/21/2013	bottlenose dolphin	Gloucester	37.2531	-76.4524	dead	U	242
VAQS20131220	8/22/2013	bottlenose dolphin	Northampton	37.1659	-75.9867	dead	F	189
VAQS20131224	8/22/2013	bottlenose dolphin	Hampton	37.0031	-76.3583	dead	U	145*
VAQS20131221	8/23/2013	bottlenose dolphin	Virginia Beach	36.7915	-75.9594	dead	F	204
VAQS20131223	8/23/2013	bottlenose dolphin	Virginia Beach	36.7483	-75.9439	dead	M	185
VAQS20131227	8/23/2013	bottlenose dolphin	Virginia Beach	36.5937	-75.8773	dead	U	235*
VAQS20131230	8/24/2013	common dolphin	Portsmouth	36.8422	-76.3226	alive	M	218
VAQS20131225	8/24/2013	bottlenose dolphin	Virginia Beach	36.8586	-75.9765	dead	M	209*
VAQS20131226	8/24/2013	bottlenose dolphin	Norfolk	36.9261	-76.1568	dead	M	249
VAQS20131228	8/24/2013	bottlenose dolphin	Virginia Beach	36.7432	-75.9422	dead	U	115
VAQS20131229	8/24/2013	bottlenose dolphin	Hampton	37.0825	-76.2744	dead	M	151
VAQS20131231	8/24/2013	bottlenose dolphin	Virginia Beach	36.9298	-76.0110	dead	M	252*
VAQS20131232	8/24/2013	bottlenose dolphin	Poquoson	37.1113	-76.3020	dead	U	ND
VAQS20131233	8/24/2013	bottlenose dolphin	Virginia Beach	36.7090	-75.9292	dead	F	170
VAQS20131234	8/24/2013	bottlenose dolphin	Virginia Beach	36.9210	-75.9961	dead	F	255
VAQS20131235	8/24/2013	bottlenose dolphin	Virginia Beach	36.9094	-75.9895	dead	F	198
VAQS20131236	8/24/2013	bottlenose dolphin	Virginia Beach	36.9276	-76.0065	dead	U	161*
VAQS20131237	8/24/2013	bottlenose dolphin	Norfolk	36.9423	-76.2280	dead	M	210*
VAQS20131238	8/24/2013	bottlenose dolphin	Virginia Beach	36.8524	-75.9746	dead	M	241
VAQS20131253	8/24/2013	bottlenose dolphin	Virginia Beach	36.7615	-75.9496	dead	M	158
VAQS20131254	8/24/2013	bottlenose dolphin	Virginia Beach	36.7698	-75.9529	dead	M	233
VAQS20131258	8/24/2013	bottlenose dolphin	Middlesex	37.6113	-76.4852	dead	U	ND
VAQS20131261	8/24/2013	bottlenose dolphin	Northampton	37.7012	-75.5764	dead	M	128
VAQS20131264	8/24/2013	bottlenose dolphin	Northumberland	37.8712	-76.3158	dead	U	ND
VAQS20131267	8/24/2013	bottlenose dolphin	Northampton	37.1456	-75.8689	dead	M	235.5
VAQS20131245	8/25/2013	bottlenose dolphin	Virginia Beach	36.6603	-75.9049	alive	F	189

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131240	8/25/2013	bottlenose dolphin	Virginia Beach	36.9106	-76.1025	dead	F	234*
VAQS20131241	8/25/2013	bottlenose dolphin	Virginia Beach	36.5914	-75.8769	dead	U	180*
VAQS20131242	8/25/2013	bottlenose dolphin	Virginia Beach	36.6040	-75.8806	dead	U	ND
VAQS20131243	8/25/2013	bottlenose dolphin	Virginia Beach	36.9157	-76.1200	dead	F	240*
VAQS20131244	8/25/2013	bottlenose dolphin	Northampton	37.1071	-75.9758	dead	U	216*
VAQS20131246	8/25/2013	bottlenose dolphin	Hampton	-36.9999	-76.3685	dead	F	220.4
VAQS20131247	8/25/2013	bottlenose dolphin	Virginia Beach	36.6362	-75.8935	dead	U	44*
VAQS20131248	8/25/2013	bottlenose dolphin	Norfolk	36.8868	-76.3326	dead	F	220
VAQS20131249	8/25/2013	bottlenose dolphin	Virginia Beach	36.9284	-76.0076	dead	U	265
VAQS20131250	8/25/2013	bottlenose dolphin	Virginia Beach	36.7487	-75.9438	dead	M	156
VAQS20131251	8/25/2013	bottlenose dolphin	Virginia Beach	36.9273	-76.0055	dead	U	240*
VAQS20131262	8/25/2013	bottlenose dolphin	Virginia Beach	36.9215	-76.1276	dead	M	199
VAQS20131239	8/26/2013	bottlenose dolphin	Virginia Beach	36.6868	-75.9197	dead	M	271
VAQS20131252	8/26/2013	bottlenose dolphin	Virginia Beach	36.9318	-76.0297	dead	M	140
VAQS20131255	8/26/2013	bottlenose dolphin	Norfolk	36.9259	-76.1559	dead	M	131
VAQS20131256	8/26/2013	bottlenose dolphin	Virginia Beach	36.7455	-75.9425	dead	M	129
VAQS20131257	8/26/2013	bottlenose dolphin	Virginia Beach	36.9137	-76.1130	dead	M	201*
VAQS20131259	8/26/2013	bottlenose dolphin	Virginia Beach	36.9291	-76.0091	dead	F	190.5
VAQS20131260	8/26/2013	bottlenose dolphin	Virginia Beach	36.7183	-75.9327	dead	U	267*
VAQS20131263	8/26/2013	bottlenose dolphin	Virginia Beach	36.5837	-75.8748	dead	U	ND
VAQS20131265	8/26/2013	bottlenose dolphin	Virginia Beach	36.7721	-75.9533	dead	M	233*
VAQS20131268	8/27/2013	bottlenose dolphin	Northampton	37.2720	-76.0218	dead	M	180
VAQS20131269	8/27/2013	bottlenose dolphin	Northampton	37.0846	-75.9687	dead	M	145*
VAQS20131270	8/27/2013	bottlenose dolphin	Northampton	37.1570	-75.9850	dead	M	273
VAQS20131271	8/27/2013	bottlenose dolphin	Lancaster	37.6201	-76.3221	dead	M	ND
VAQS20131275	8/27/2013	bottlenose dolphin	Virginia Beach	36.7608	-75.9487	dead	U	261*
VAQS20131276	8/27/2013	bottlenose dolphin	Virginia Beach	36.8524	-75.9747	dead	M	138.5
VAQS20131277	8/27/2013	bottlenose dolphin	Virginia Beach	36.8417	-75.9698	dead	F	218.1
VAQS20131272	8/28/2013	bottlenose dolphin	Hampton	37.0778	-76.2751	dead	U	250*
VAQS20131274	8/28/2013	bottlenose dolphin	Virginia Beach	36.8137	-75.9654	dead	F	225*
VAQS20131285	8/28/2013	bottlenose dolphin	Virginia Beach	36.6731	-75.9123	dead	U	198*
VAQS20131282	8/29/2013	bottlenose dolphin	Virginia Beach	36.9141	-75.9908	alive	M	139
VAQS20131222	8/29/2013	bottlenose dolphin	Virginia Beach	36.9128	-76.1095	dead	M	269
VAQS20131273	8/29/2013	bottlenose dolphin	Virginia Beach	36.9196	-75.9944	dead	U	256*
VAQS20131278	8/29/2013	bottlenose dolphin	Accomack	37.8591	-75.3922	dead	M	256
VAQS20131279	8/29/2013	bottlenose dolphin	Virginia Beach	36.8654	-75.9779	dead	M	232
VAQS20131280	8/29/2013	bottlenose dolphin	Northampton	37.4271	-75.9814	dead	U	276
VAQS20131281	8/29/2013	bottlenose dolphin	Virginia Beach	36.8732	-75.9805	dead	M	266
VAQS20131283	8/29/2013	bottlenose dolphin	Virginia Beach	36.6967	-75.9240	dead	M	197
VAQS20131284	8/29/2013	bottlenose dolphin	Virginia Beach	36.5726	-75.8725	dead	M	204
VAQS20131286	8/30/2013	bottlenose dolphin	Norfolk	36.9411	-76.2271	dead	U	144
VAQS20131288	8/30/2013	bottlenose dolphin	Virginia Beach	36.7843	-75.9572	dead	U	250*
VAQS20131289	8/30/2013	bottlenose dolphin	Virginia Beach	36.8144	-75.9656	dead	M	310
VAQS20131291	8/30/2013	bottlenose dolphin	Virginia Beach	36.8188	-75.9670	dead	M	304*
VAQS20131292	8/30/2013	bottlenose dolphin	Norfolk	36.9455	-76.2280	dead	M	133
VAQS20131293	8/30/2013	bottlenose dolphin	Norfolk	36.9648	-76.2678	dead	U	263
VAQS20131294	8/30/2013	bottlenose dolphin	Virginia Beach	36.8796	-75.9826	dead	U	288
VAQS20131287	8/30/2013	common dolphin	Virginia Beach	36.7635	-75.9492	dead	F	191
VAQS20131290	8/31/2013	bottlenose dolphin	Virginia Beach	36.9712	-76.1080	dead	F	133
VAQS20131295	8/31/2013	bottlenose dolphin	Lancaster	37.6462	-76.3332	dead	U	ND
VAQS20131296	8/31/2013	bottlenose dolphin	Northampton	37.1551	-75.9768	dead	F	157
VAQS20131297	8/31/2013	bottlenose dolphin	Accomack	37.8619	-75.3664	dead	M	253
VAQS20131299	8/31/2013	bottlenose dolphin	Hampton	37.0065	-76.3492	dead	F	253
VAQS20131298	9/1/2013	bottlenose dolphin	Accomack	37.8519	-75.3802	dead	U	ND
VAQS20131300	9/1/2013	bottlenose dolphin	Northampton	37.2146	-76.0128	dead	U	275*
VAQS20131301	9/2/2013	bottlenose dolphin	Northampton	37.2541	-76.0241	dead	U	304*
VAQS20131302	9/2/2013	bottlenose dolphin	Northampton	37.1606	-75.9792	dead	U	178
VAQS20131303	9/2/2013	bottlenose dolphin	Northampton	37.1883	-75.9986	dead	M	291
VAQS20131304	9/2/2013	bottlenose dolphin	Northampton	37.1922	-76.0033	dead	U	120.5
VAQS20131305	9/2/2013	bottlenose dolphin	Northampton	37.1955	-76.0066	dead	M	151
VAQS20131306	9/2/2013	bottlenose dolphin	Northampton	37.0913	-75.9796	dead	U	245*
VAQS20131307	9/4/2013	bottlenose dolphin	Norfolk	36.9398	-76.2232	dead	F	203

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131308	9/4/2013	bottlenose dolphin	Virginia Beach	36.9122	-76.0832	dead	M	265
VAQS20131309	9/4/2013	bottlenose dolphin	Virginia Beach	36.6487	-75.8986	dead	F	246
VAQS20131310	9/5/2013	bottlenose dolphin	Virginia Beach	36.8781	-75.9814	dead	M	285
VAQS20131311	9/6/2013	bottlenose dolphin	Norfolk	36.9428	-76.2307	dead	M	262
VAQS20131312	9/6/2013	bottlenose dolphin	Norfolk	36.9588	-76.3206	dead	M	ND
VAQS20131313	9/6/2013	bottlenose dolphin	Virginia Beach	36.9294	-76.0102	dead	M	197
VAQS20131314	9/6/2013	bottlenose dolphin	Norfolk	36.9638	-76.2660	dead	F	192
VAQS20131315	9/6/2013	bottlenose dolphin	Virginia Beach	36.7498	-75.9443	dead	U	ND
VAQS20131318	9/6/2013	bottlenose dolphin	Hampton	37.0067	-76.3491	dead	F	237
VAQS20131316	9/7/2013	bottlenose dolphin	Virginia Beach	36.9030	-76.0867	dead	F	163
VAQS20131317	9/7/2013	bottlenose dolphin	Gloucester	37.3794	-76.4173	dead	U	160*
VAQS20131328	9/7/2013	bottlenose dolphin	York	37.2222	-76.4117	dead	M	242
VAQS20131319	9/8/2013	bottlenose dolphin	Hampton	37.0427	-76.2886	dead	F	146
VAQS20131322	9/8/2013	bottlenose dolphin	Accomack	37.9355	-75.3122	dead	M	277
VAQS20131323	9/8/2013	bottlenose dolphin	Accomack	37.9438	-75.3066	dead	F	245*
VAQS20131320	9/9/2013	bottlenose dolphin	Norfolk	36.9449	-76.2346	dead	F	172
VAQS20131324	9/9/2013	bottlenose dolphin	Accomack	37.9541	-75.3006	dead	F	243
VAQS20131325	9/9/2013	bottlenose dolphin	Northampton	37.1289	-75.9701	dead	U	220*
VAQS20131321	9/10/2013	bottlenose dolphin	Virginia Beach	36.7474	-75.9434	dead	U	ND
VAQS20131326	9/10/2013	bottlenose dolphin	Hampton	37.0503	-76.2857	dead	M	175
VAQS20131327	9/10/2013	bottlenose dolphin	Accomack	37.9085	-75.3296	dead	U	210*
VAQS20131329	9/10/2013	bottlenose dolphin	Virginia Beach	36.8294	-75.9695	dead	F	140
VAQS20131333	9/10/2013	bottlenose dolphin	Northampton	37.1444	-75.9741	dead	U	ND
VAQS20131344	9/10/2013	bottlenose dolphin	Mathews	37.4105	-76.2498	dead	U	ND
VAQS20131330	9/11/2013	bottlenose dolphin	Hampton	37.3794	-76.3160	dead	F	161
VAQS20131331	9/12/2013	bottlenose dolphin	Hampton	36.9148	-76.0637	dead	M	273
VAQS20131332	9/12/2013	bottlenose dolphin	Northampton	37.4243	-75.9815	dead	U	ND
VAQS20131336	9/12/2013	bottlenose dolphin	Newport News	36.9699	-76.4293	dead	U	ND
VAQS20131334	9/13/2013	bottlenose dolphin	Virginia Beach	36.6443	-75.8972	dead	U	231*
VAQS20131337	9/13/2013	bottlenose dolphin	Virginia Beach	36.7436	-75.9420	dead	U	ND
VAQS20131339	9/13/2013	bottlenose dolphin	Virginia Beach	36.9294	-76.0094	dead	M	168
VAQS20131335	9/13/2013	humpback whale	York	37.2028	-76.3814	dead	M	1055
VAQS20131338	9/14/2013	bottlenose dolphin	Virginia Beach	36.9241	-76.0492	dead	F	147
VAQS20131340	9/14/2013	bottlenose dolphin	York	37.2062	-76.4020	dead	M	253
VAQS20131347	9/14/2013	bottlenose dolphin	Virginia Beach	36.7202	-75.9332	dead	U	ND
VAQS20131341	9/15/2013	bottlenose dolphin	Virginia Beach	36.6388	-75.8945	dead	M	238
VAQS20131342	9/15/2013	bottlenose dolphin	Suffolk	36.8965	-76.4082	dead	M	245
VAQS20131343	9/15/2013	bottlenose dolphin	Virginia Beach	36.6153	-75.8843	dead	U	243
VAQS20131346	9/15/2013	bottlenose dolphin	Northampton	37.1535	-75.9761	dead	M	255*
VAQS20131345	9/16/2013	bottlenose dolphin	Accomack	37.9000	-75.4065	dead	F	130
VAQS20131348	9/17/2013	bottlenose dolphin	Virginia Beach	36.9119	-76.0843	dead	F	195
VAQS20131349	9/17/2013	bottlenose dolphin	Virginia Beach	36.9261	-76.1649	dead	U	170
VAQS20131350	9/17/2013	bottlenose dolphin	Virginia Beach	36.8942	-75.9859	dead	F	173
VAQS20131351	9/18/2013	bottlenose dolphin	Virginia Beach	36.9210	-76.1354	dead	U	ND
VAQS20131352	9/18/2013	bottlenose dolphin	Virginia Beach	36.9120	-76.1068	dead	F	149*
VAQS20131353	9/18/2013	bottlenose dolphin	Virginia Beach	36.7684	-75.9520	dead	U	ND
VAQS20131354	9/19/2013	bottlenose dolphin	Virginia Beach	36.8979	-75.9868	dead	U	207*
VAQS20131355	9/19/2013	bottlenose dolphin	Virginia Beach	36.5979	-75.8797	dead	F	250
VAQS20131356	9/19/2013	bottlenose dolphin	Virginia Beach	36.8342	-75.9690	dead	U	200*
VAQS20131357	9/19/2013	bottlenose dolphin	Norfolk	36.9558	-76.2518	dead	F	139
VAQS20131358	9/20/2013	bottlenose dolphin	Hampton	37.0887	-76.2710	dead	F	164
VAQS20131361	9/20/2013	bottlenose dolphin	Accomack	38.0217	-75.2468	dead	U	ND
VAQS20131362	9/20/2013	bottlenose dolphin	Accomack	38.0053	-75.2603	dead	U	ND
VAQS20131359	9/22/2013	bottlenose dolphin	Norfolk	36.9339	-76.2036	dead	M	165
VAQS20131360	9/23/2013	bottlenose dolphin	Norfolk	36.9356	-76.2097	dead	U	300*
VAQS20131363	9/23/2013	bottlenose dolphin	Norfolk	36.9481	-76.2397	dead	M	179.9
VAQS20131364	9/23/2013	bottlenose dolphin	Norfolk	36.9288	-76.1709	dead	U	ND
VAQS20131365	9/23/2013	bottlenose dolphin	Virginia Beach	36.9265	-76.0033	dead	F	172.2
VAQS20131366	9/24/2013	bottlenose dolphin	Mathews	37.5075	-76.3560	dead	M	200.2
VAQS20131368	9/24/2013	bottlenose dolphin	Virginia Beach	36.7772	-75.9549	dead	U	ND
VAQS20131369	9/24/2013	bottlenose dolphin	Northampton	38.0027	-75.3999	dead	F	214

Table 1: Marine mammal strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20131367	9/25/2013	bottlenose dolphin	Virginia Beach	36.9153	-76.0649	dead	M	175
VAQS20131370	9/25/2013	bottlenose dolphin	Virginia Beach	36.8444	-75.9681	dead	M	161.2
VAQS20131371	9/26/2013	bottlenose dolphin	Virginia Beach	36.8346	-75.9691	dead	M	261.2
VAQS20131372	9/26/2013	bottlenose dolphin	Northampton	37.1192	-75.9655	dead	U	258*
VAQS20131374	9/26/2013	bottlenose dolphin	Norfolk	36.9353	-76.2086	dead	U	ND
VAQS20131375	9/26/2013	bottlenose dolphin	Hampton	37.0824	-76.3402	dead	F	193
VAQS20131376	9/26/2013	bottlenose dolphin	Norfolk	36.9689	-76.2841	dead	U	ND
VAQS20131377	9/27/2013	bottlenose dolphin	Virginia Beach	36.6049	-75.8808	dead	U	ND
VAQS20131373	9/27/2013	harp seal	Virginia Beach	36.6078	-75.8818	dead	M	113.4
VAQS20131378	9/28/2013	bottlenose dolphin	Virginia Beach	36.9362	-76.2117	dead	M	274
VAQS20131379	9/29/2013	bottlenose dolphin	Lancaster	37.6239	-76.3436	dead	F	263
VAQS20131380	9/29/2013	bottlenose dolphin	Virginia Beach	36.9167	-76.0605	dead	F	180
VAQS20131381	9/29/2013	bottlenose dolphin	Suffolk	36.8510	-76.4843	dead	F	203
VAQS20131382	9/30/2013	bottlenose dolphin	Virginia Beach	36.9093	-76.0981	dead	U	190*
VAQS20131383	9/30/2013	bottlenose dolphin	Virginia Beach	36.9139	-76.0731	dead	F	214
VAQS20131386	10/1/2013	pygmy sperm whale	Accomack	37.8679	-75.4428	alive	F	289.9
VAQS20131384	10/1/2013	bottlenose dolphin	Norfolk	36.9318	-76.1935	dead	U	190*
VAQS20131385	10/1/2013	bottlenose dolphin	Virginia Beach	36.8190	-75.9668	dead	F	161
VAQS20131387	10/2/2013	bottlenose dolphin	Virginia Beach	36.9099	-76.0881	dead	M	148.8
VAQS20131388	10/2/2013	bottlenose dolphin	Virginia Beach	36.9173	-76.1254	dead	M	148
VAQS20131389	10/3/2013	bottlenose dolphin	Norfolk	36.9223	-76.1872	dead	U	180.4*
VAQS20131391	10/3/2013	bottlenose dolphin	Isle of Wight	36.9956	-76.5806	dead	U	ND
VAQS20131390	10/4/2013	bottlenose dolphin	Virginia Beach	36.7454	-75.9425	dead	U	ND
VAQS20131392	10/4/2013	bottlenose dolphin	Gloucester	37.3808	-76.4351	dead	M	126
VAQS20131393	10/4/2013	bottlenose dolphin	Virginia Beach	36.8927	-75.9854	dead	F	192
VAQS20131394	10/4/2013	bottlenose dolphin	Gloucester	37.2643	-76.4204	dead	U	ND
VAQS20131395	10/4/2013	bottlenose dolphin	Accomack	37.5802	-75.6067	dead	M	231*
VAQS20131396	10/5/2013	bottlenose dolphin	Virginia Beach	36.8218	-75.9667	dead	M	143
VAQS20131397	10/5/2013	bottlenose dolphin	Virginia Beach	36.6308	-75.8910	dead	F	192
VAQS20131398	10/5/2013	bottlenose dolphin	Hampton	37.0042	-76.3025	dead	M	162
VAQS20131399	10/8/2013	bottlenose dolphin	Virginia Beach	36.7162	-75.9316	dead	M	134
VAQS20131400	10/9/2013	bottlenose dolphin	Norfolk	36.9293	-76.1731	dead	U	270*
VAQS20131401	10/9/2013	bottlenose dolphin	Norfolk	36.9364	-76.2135	dead	M	132.5
VAQS20131402	10/10/2013	bottlenose dolphin	Virginia Beach	36.5761	-75.8734	dead	U	ND
VAQS20131403	10/11/2013	bottlenose dolphin	Virginia Beach	36.5906	-75.8764	dead	F	266
VAQS20131405	10/12/2013	bottlenose dolphin	Mathews	37.4345	-76.2529	dead	U	135
VAQS20131404	10/13/2013	bottlenose dolphin	Virginia Beach	36.7535	-75.9459	dead	M	148.4
VAQS20131406	10/15/2013	bottlenose dolphin	Virginia Beach	36.7628	-75.9498	dead	U	ND
VAQS20131407	10/16/2013	bottlenose dolphin	Virginia Beach	36.6456	-75.8995	dead	F	251.4
VAQS20131408	10/20/2013	bottlenose dolphin	Virginia Beach	36.6523	-75.9015	dead	U	206*
VAQS20131409	10/21/2013	bottlenose dolphin	Accomack	37.9535	-75.3639	dead	M	233
VAQS20131410	10/22/2013	bottlenose dolphin	Hampton	37.0134	-76.2992	dead	M	160.2
VAQS20131411	10/22/2013	bottlenose dolphin	Northampton	37.4799	-75.9625	dead	M	281*
VAQS20131412	10/22/2013	bottlenose dolphin	Northampton	37.1660	-75.9881	dead	M	206
VAQS20131413	10/24/2013	bottlenose dolphin	Virginia Beach	36.9146	-76.0684	dead	F	189
VAQS20131414	10/25/2013	bottlenose dolphin	Virginia Beach	36.9285	-76.0458	dead	M	254
VAQS20131415	10/27/2013	bottlenose dolphin	Northampton	37.4634	-75.9642	dead	F	259
VAQS20131416	11/3/2013	bottlenose dolphin	Northampton	37.0984	-75.9799	dead	M	155.8
VAQS20131417	11/3/2013	bottlenose dolphin	Northampton	37.0964	-75.9804	dead	F	152
VAQS20131418	11/6/2013	bottlenose dolphin	Virginia Beach	36.8504	-75.9737	dead	M	284
VAQS20131423	11/8/2013	bottlenose dolphin	Accomack	37.9923	-75.2701	dead	U	177.8
VAQS20131421	11/9/2013	pygmy killer whale	Virginia Beach	36.9214	-75.9959	alive	F	200*
VAQS20131422	11/9/2013	pygmy killer whale	Virginia Beach	36.9237	-75.9989	alive	F	225*
VAQS20131419	11/9/2013	bottlenose dolphin	Virginia Beach	36.6064	-75.8812	dead	M	186.2
VAQS20131420	11/9/2013	bottlenose dolphin	Virginia Beach	36.6253	-75.8888	dead	F	149
VAQS20131424	11/18/2013	pygmy killer whale	Virginia Beach	36.8662	-75.9783	dead	F	110
VAQS20131425	12/11/2013	bottlenose dolphin	Virginia Beach	36.5729	-75.8725	dead	U	165*
VAQS20131426	12/12/2013	bottlenose dolphin	Virginia Beach	36.9285	-76.1694	dead	M	282
VAQS20131427	12/23/2013	bottlenose dolphin	Northampton	37.4397	-75.6675	dead	U	295*
VAQS20131428	12/27/2013	bottlenose dolphin	Northampton	37.4766	-75.9627	dead	U	261

Table 2: Live stranded marine mammals recorded by VAQS in 2013.

<u>Field Number</u>	<u>Species</u>	<u>Strand Date</u>	<u>State</u>	<u>Final Disposition</u>
CAHA145	harbor seal	3/13/2013	NC	died 13 March 2013
VAQS20131010	common dolphin	3/24/2013	VA	euthanized 24 March 2013
VAQS20131015	common dolphin	4/5/2013	VA	released at site 5 April 2013
VAQS20131016	common dolphin	4/5/2013	VA	died 5 April 2013
VAQS20131017	common dolphin	4/5/2013	VA	released at site 5 April 2013
VAQS20131018	common dolphin	4/5/2013	VA	released at site 5 April 2013
VAQS20131024	gray seal	4/15/2013	VA	transferred to NAIB, released 5 July 2013
DAP039	gray seal	5/30/2013	VA	initial stranding in NC, subsequent capture in VA; transferred to MMSC*; non-releasable
VAQS20131076	pygmy sperm whale	7/8/2013	VA	euthanized 8 July 2013
VAQS20131096	bottlenose dolphin	7/26/2013	VA	died 26 July 2013
VAQS20131117	bottlenose dolphin	7/31/2013	VA	euthanized 31 July 2013
VAQS20131118	bottlenose dolphin	7/31/2013	VA	unknown; washed out
VAQS20131121	bottlenose dolphin	7/31/2013	VA	died 31 July 2013
VAQS20131144	bottlenose dolphin	8/7/2013	VA	died 7 August 2013
VAQS20131148	bottlenose dolphin	8/9/2013	VA	died 9 August 2013
VAQS20131149	bottlenose dolphin	8/9/2013	VA	euthanized 9 August 2013
VAQS20131191	bottlenose dolphin	8/17/2013	VA	washed out; found dead 18 August 2013
VAQS20131194	bottlenose dolphin	8/18/2013	VA	euthanized 18 August 2013
VAQS20131230	common dolphin	8/24/2013	VA	euthanized 24 August 2013
VAQS20131245	bottlenose dolphin	8/25/2013	VA	euthanized 25 August 2013
VAQS20131282	bottlenose dolphin	8/29/2013	VA	died 29 August 2013
VAQS20131386	pygmy sperm whale	10/1/2013	VA	euthanized 1 October 2013
VAQS20131421	pygmy killer whale	11/9/2013	VA	euthanized 9 November 2013
VAQS20131422	pygmy killer whale	11/9/2013	VA	euthanized 9 November 2013

*MMSC=Marine Mammal Stranding Center, Brigantine, NJ

Table 3: Sea turtle strandings in Virginia during 2013, n=263.

(Data from the VAQS Sea Turtle Stranding Database)

[Length = cm, carapace length notch to tip; * indicates estimated length; ND = no data; U = unknown]

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20132001	1/1/2013	loggerhead	Northampton	37.4229	-75.9795	dead	F	73
VAQS20132002	1/1/2013	loggerhead	Northampton	37.3681	-75.9870	dead	F	59.2
VAQS20132003	1/2/2013	loggerhead	Newport News	37.0407	-76.4872	alive	U	67.5
VAQS20132004	1/3/2013	Kemp's ridley	Northampton	37.2731	-76.0212	dead	M	42.1
VAQS20132005	1/5/2013	loggerhead	Northampton	37.2811	-76.0119	alive	U	66.7*
VAQS20132006	1/5/2013	loggerhead	Northampton	37.3377	-76.0088	alive	U	47.2
VAQS20132009	1/5/2013	loggerhead	Northampton	37.3247	-76.0165	alive	F	55.5
VAQS20132007	1/5/2013	Kemp's ridley	Northampton	37.3329	-76.0126	dead	F	39.7
VAQS20132008	1/5/2013	Kemp's ridley	Northampton	37.3329	-76.0126	dead	U	38.2
VAQS20132010	1/5/2013	Kemp's ridley	Northampton	37.3558	-75.9948	dead	F	34.7
VAQS20132011	1/5/2013	loggerhead	Northampton	37.3546	-75.9955	dead	F	75.6
VAQS20132012	1/5/2013	Kemp's ridley	Northampton	37.3546	-75.9955	dead	F	34.4
VAQS20132013	1/5/2013	Kemp's ridley	Northampton	37.3546	-75.9955	dead	F	39
VAQS20132014	1/6/2013	Kemp's ridley	Northampton	37.3488	-75.9992	dead	F	42.1
VAQS20132019	1/7/2013	Kemp's ridley	Accomack	37.6068	-75.9192	dead	U	37.7
VAQS20132015	1/14/2013	loggerhead	Virginia Beach	36.8301	-75.9763	dead	M	79.4
VAQS20132020	1/16/2013	Kemp's ridley	Accomack	37.5961	-75.9083	dead	U	33.6
VAQS20132016	1/18/2013	loggerhead	Virginia Beach	36.9261	-76.1591	dead	U	53.7
VAQS20132017	1/19/2013	Kemp's ridley	Northampton	37.1659	-75.9868	dead	F	35.3
VAQS20132018	1/21/2013	green	Northampton	37.1661	-75.9879	dead	U	25.6
VAQS20132021	1/25/2013	loggerhead	Norfolk	36.9413	-76.2272	dead	F	61.2
VAQS20132022	2/9/2013	Kemp's ridley	Northampton	37.4160	-75.9830	dead	U	ND
VAQS20132023	2/10/2013	loggerhead	Northampton	37.4431	-75.9767	dead	M	60.2
VAQS20132024	2/11/2013	Kemp's ridley	Northampton	37.4310	-75.9808	dead	F	38.7
VAQS20132025	5/17/2013	leatherback	Virginia Beach	36.9160	-76.0740	alive	U	ND
VAQS20132026	5/21/2013	loggerhead	Virginia Beach	36.8310	-75.9717	alive	U	ND
VASC20132001	5/23/2013	Kemp's ridley	Northampton	37.0877	-75.9778	dead	F	52.1
VAQS20132053	5/26/2013	leatherback	Virginia Beach	36.7667	-75.7500	alive	U	ND
VAQS20132027	5/26/2013	leatherback	Virginia Beach	36.5561	-75.8688	dead	F	145.2
VAQS20132028	5/26/2013	loggerhead	Virginia Beach	36.9204	-76.0528	dead	F	60.1
VAQS20132031	5/29/2013	Kemp's ridley	Northampton	37.0571	-75.9299	alive	U	ND
VAQS20132029	5/29/2013	loggerhead	Northampton	37.1005	-75.9793	dead	U	68.2
VAQS20132030	5/31/2013	Kemp's ridley	Virginia Beach	36.8655	-75.9769	dead	U	ND
VASC20132002	5/31/2013	loggerhead	Northampton	37.1367	-75.9722	dead	U	72.6
VAQS20132032	6/1/2013	loggerhead	Northampton	37.1585	-75.9780	dead	M	55.4
VAQS20132033	6/4/2013	loggerhead	Northampton	37.2671	-76.0243	dead	F	54.3*
VAQS20132034	6/4/2013	Kemp's ridley	Northampton	37.4947	-75.9595	dead	F	54
VAQS20132035	6/4/2013	loggerhead	Virginia Beach	36.9155	-76.0640	dead	M	65.7
VAQS20132036	6/5/2013	loggerhead	Virginia Beach	36.9190	-76.0721	dead	F	59.6
VAQS20132037	6/5/2013	loggerhead	Virginia Beach	36.7744	-75.9540	dead	F	75.5
VAQS20132038	6/5/2013	loggerhead	Northampton	37.4098	-75.6917	dead	F	64*
VASC20132003	6/5/2013	loggerhead	Northampton	37.0987	-75.9406	dead	U	ND
VAQS20132039	6/6/2013	Kemp's ridley	Hampton	36.9992	-76.3739	dead	F	45.3
VDGIF2013001	6/6/2013	loggerhead	Northampton	37.2571	-75.7956	dead	F	ND
VAQS20132045	6/7/2013	loggerhead	Gloucester	37.4822	-76.7520	alive	U	ND
VAQS20132040	6/7/2013	Kemp's ridley	Mathews	37.4870	-76.2726	dead	F	51.7
VAQS20132085	6/8/2013	unidentified sp	Norfolk	36.9619	-76.2594	alive	U	ND
VAQS20132041	6/8/2013	loggerhead	Middlesex	37.5580	-76.3140	dead	F	64.1
VAQS20132042	6/8/2013	leatherback	Virginia Beach	36.7536	-75.9461	dead	U	ND
VASC20132004	6/8/2013	loggerhead	Northampton	37.0831	-75.9573	dead	M	71.6
VAQS20132080	6/9/2013	loggerhead	Northampton	37.1434	-75.8694	dead	U	ND
VAQS20132043	6/9/2013	Kemp's ridley	Hampton	37.0415	-76.2891	dead	U	ND
VAQS20132044	6/9/2013	loggerhead	Poquoson	37.1940	-76.3552	dead	U	ND
VAQS20132046	6/9/2013	loggerhead	Hampton	37.0040	-76.3022	dead	U	ND
VAQS20132050	6/9/2013	loggerhead	Norfolk	36.9630	-76.2644	dead	M	71.9
VAQS20132048	6/11/2013	loggerhead	Accomack	37.9461	-75.3772	alive	U	ND
VAQS20132084	6/11/2013	loggerhead	Norfolk	36.9621	-76.2592	alive	U	ND

Table 3: Sea turtle strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20132047	6/11/2013	loggerhead	Lancaster	37.6153	-76.2929	dead	U	62.7*
VAQS20132049	6/11/2013	loggerhead	Northampton	37.1620	-75.9805	dead	F	69.7
VAQS20132050	6/11/2013	loggerhead	Gloucester	37.2649	-76.4250	dead	U	67.7*
VAQS20132054	6/11/2013	leatherback	Northampton	37.4278	-75.9814	dead	U	156.4
VASC20132005	6/11/2013	loggerhead	Northampton	37.0972	-75.9804	dead	U	ND
VASC20132006	6/11/2013	Kemp's ridley	Northampton	37.0856	-75.9751	dead	F	32
VASC20132007	6/11/2013	Kemp's ridley	Northampton	37.0844	-75.9675	dead	F	42.1
VAQS20132052	6/12/2013	loggerhead	Northampton	37.1559	-75.9801	alive	U	57.2
VAQS20132051	6/12/2013	loggerhead	Virginia Beach	36.9253	-76.0448	dead	M	53.4
VAQS20132055	6/13/2013	loggerhead	Virginia Beach	36.9218	-76.0514	dead	U	49.7*
VAQS20132056	6/14/2013	loggerhead	Virginia Beach	36.7307	-75.9370	dead	M	65.4
VAQS20132058	6/14/2013	Kemp's ridley	Northampton	37.1660	-75.9881	dead	F	25.3
VAQS20132057	6/15/2013	Kemp's ridley	Virginia Beach	36.9195	-75.9943	dead	F	30.2
VAQS20132059	6/15/2013	loggerhead	Virginia Beach	36.9318	-76.0254	dead	U	76.3
VAQS20132060	6/15/2013	loggerhead	Northampton	37.1368	-75.9722	dead	F	90.9
VAQS20132061	6/16/2013	leatherback	Virginia Beach	36.9161	-76.0712	alive	U	ND
VAQS20132062	6/16/2013	loggerhead	Northampton	37.1484	-75.9747	dead	F	66.3
VAQS20132063	6/19/2013	loggerhead	Northumberland	37.8501	-76.2501	dead	F	70*
VAQS20132064	6/19/2013	Kemp's ridley	Hampton	37.0037	-76.3029	dead	F	40.5
VAQS20132065	6/19/2013	Kemp's ridley	Newport News	37.0278	-76.4644	dead	M	49
VAQS20132066	6/19/2013	Kemp's ridley	Virginia Beach	36.9171	-76.1250	dead	F	37.5*
VAQS20132067	6/20/2013	loggerhead	Hampton	37.0360	-76.2897	alive	U	ND
VAQS20132070	6/21/2013	loggerhead	Hampton	37.0471	-76.2868	alive	M	65.9*
VAQS20132068	6/21/2013	Kemp's ridley	Virginia Beach	36.9097	-75.9894	dead	M	42.7*
VAQS20132069	6/21/2013	Kemp's ridley	Northampton	37.5215	-75.9495	dead	M	51
VAQS20132071	6/21/2013	loggerhead	Hampton	37.0451	-76.1655	dead	U	68.4
VAQS20132074	6/22/2013	green	Virginia Beach	36.7561	-75.9452	alive	M	28.6*
VAQS20132073	6/22/2013	loggerhead	Gloucester	37.2733	-76.3814	dead	M	ND
VAQS20132072	6/23/2013	Kemp's ridley	Virginia Beach	36.7304	-75.9371	dead	U	19.2
VAQS20132075	6/26/2013	loggerhead	Northampton	37.2150	-76.0127	dead	F	71
VAQS20132076	6/26/2013	Kemp's ridley	Accomack	38.0070	-75.3831	dead	F	43.5*
VAQS20132077	6/27/2013	loggerhead	Northampton	37.1023	-75.9788	dead	F	80*
VAQS20132078	6/27/2013	loggerhead	Northampton	37.0850	-75.9708	dead	M	105.5
VAQS20132079	6/27/2013	loggerhead	Northampton	37.1714	-75.9875	dead	U	ND
VAQS20132081	6/28/2013	loggerhead	Norfolk	36.9430	-76.3280	dead	U	ND
VAQS20132083	6/28/2013	loggerhead	Northampton	37.4342	-75.9804	dead	U	77.8*
VAQS20132082	6/29/2013	loggerhead	Northampton	37.1941	-76.0052	dead	U	78.1*
VAQS20132086	7/4/2013	loggerhead	Norfolk	36.9603	-76.2608	alive	U	59.9
VAQS20132087	7/6/2013	loggerhead	Northampton	37.3152	-76.0203	dead	U	ND
VASC20132008	7/9/2013	loggerhead	Accomack	37.8557	-75.3924	dead	U	48*
VASC20132009	7/11/2013	Kemp's ridley	Northampton	37.1192	-75.9698	dead	U	ND
VAQS20132088	7/14/2013	loggerhead	Virginia Beach	36.7761	-75.9547	dead	U	62
VAQS20132089	7/14/2013	loggerhead	Norfolk	36.9356	-76.2096	dead	M	54.5*
VAQS20132090	7/15/2013	loggerhead	Virginia Beach	36.7225	-75.9332	dead	F	93
VAQS20132091	7/15/2013	Kemp's ridley	Hampton	37.0222	-76.2965	dead	M	37.5*
VAQS20132092	7/15/2013	loggerhead	Northampton	37.1592	-75.9785	dead	U	70.3
VAQS20132093	7/17/2013	loggerhead	Virginia Beach	36.8097	-75.9645	dead	U	57*
VAQS20132094	7/17/2013	loggerhead	Northampton	37.1600	-75.9789	dead	F	62.1
VAQS20122171	7/21/2013	green	Virginia Beach	36.8887	-76.0142	dead	F	36.1*
VAQS20132095	7/24/2013	loggerhead	York	37.2389	-76.5071	dea	M	66.2
VAQS20132096	7/25/2013	loggerhead	Virginia Beach	36.6510	-75.9021	dead	F	65.6
VAQS20132098	7/26/2013	loggerhead	Norfolk	36.9633	-76.2581	alive	U	58.6
VAQS20132099	7/26/2013	loggerhead	Norfolk	36.9633	-76.2580	alive	U	55.1*
VAQS20132097	7/26/2013	loggerhead	Norfolk	36.9341	-76.2040	dead	F	75*
VAQS20132100	7/27/2013	loggerhead	Northampton	37.2143	-76.0130	dead	F	29.8
VAQS20132101	7/27/2013	loggerhead	Virginia Beach	36.7589	-75.9476	dead	F	93.3*
VAQS20132103	7/29/2013	loggerhead	Virginia Beach	36.8437	-75.9698	alive	U	ND
VAQS20132102	7/30/2013	loggerhead	Virginia Beach	36.6944	-75.9219	alive	U	62.6
VAQS20132104	8/1/2013	Kemp's ridley	Northampton	37.2008	-76.0108	dead	U	29.3*
VAQS20132105	8/2/2013	Kemp's ridley	Virginia Beach	36.7868	-75.9584	dead	U	19.4
VAQS20132106	8/3/2013	loggerhead	Norfolk	36.9640	-76.2575	alive	U	70.4
VAQS20132107	8/3/2013	loggerhead	Norfolk	36.9640	-76.2575	alive	U	62.5

Table 3: Sea turtle strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20132108	8/3/2013	loggerhead	Norfolk	36.9640	-76.2575	alive	U	ND
VAQS20132109	8/4/2013	Kemp's ridley	Virginia Beach	36.9098	-76.0996	dead	F	52.2*
VAQS20132111	8/6/2013	loggerhead	Hampton	37.0735	-76.2784	dead	U	ND
VAQS20132112	8/7/2013	loggerhead	Virginia Beach	36.9220	-75.9966	dead	U	64.0*
VAQS20132116	8/8/2013	loggerhead	Hampton	37.0366	-76.2908	alive	U	ND
VAQS20132110	8/8/2013	loggerhead	Hampton	37.0094	-76.3001	dead	M	70.5*
VAQS20132117	8/9/2013	unidentified sp	Hampton	37.0366	-76.2908	alive	U	ND
VAQS20132113	8/9/2013	Kemp's ridley	Northampton	37.1642	-75.8483	dead	U	ND
VAQS20132114	8/9/2013	loggerhead	Northampton	37.1482	-75.8667	dead	U	ND
VAQS20132115	8/10/2013	loggerhead	Northampton	37.1674	-75.9880	dead	M	60.3
VAQS20132118	8/10/2013	loggerhead	Norfolk	36.9408	-76.2249	dead	U	ND
VAQS20132119	8/12/2013	loggerhead	Norfolk	36.9558	-76.2520	dead	U	ND
VAQS20132120	8/13/2013	unidentified sp	Virginia Beach	36.9250	-76.0910	alive	U	ND
VAQS20132126	8/14/2013	loggerhead	Virginia Beach	36.8437	-75.9699	alive	U	69.4
VAQS20132121	8/14/2013	loggerhead	Northampton	37.1636	-75.9823	dead	F	58.4*
VAQS20132122	8/14/2013	loggerhead	Northampton	37.1495	-75.9751	dead	M	74.8
VAQS20132123	8/15/2013	loggerhead	Virginia Beach	36.9120	-76.1067	dead	U	70.0*
VAQS20132124	8/15/2013	loggerhead	Virginia Beach	36.5543	-75.8678	dead	F	58.7
VAQS20132125	8/15/2013	loggerhead	Virginia Beach	36.9092	-76.0887	dead	M	91.0*
VAQS20132127	8/16/2013	loggerhead	Virginia Beach	36.9317	-76.0332	dead	M	75.0*
VAQS20132128	8/20/2013	loggerhead	Virginia Beach	36.9175	-76.0674	dead	F	60.4
VAQS20132129	8/24/2013	Kemp's ridley	Accomack	37.8587	-75.3698	alive	U	17.7
VAQS20132130	8/24/2013	loggerhead	Virginia Beach	36.7801	-75.9560	dead	U	91.8*
VDGIF2013002	8/24/2013	loggerhead	Accomack	37.6136	-75.6135	dead	U	96.5
VAQS20132131	8/26/2013	loggerhead	Virginia Beach	36.7051	-75.9274	dead	F	70.5
VAQS20132132	8/26/2013	loggerhead	Virginia Beach	36.7528	-75.9453	dead	F	57.9
VAQS20132133	8/27/2013	loggerhead	Virginia Beach	36.7670	-75.9513	dead	U	67.5*
VAQS20132134	8/27/2013	loggerhead	Northampton	37.1636	-75.9822	dead	M	55*
VASC20132010	8/27/2013	loggerhead	Northampton	37.1046	-75.9786	dead	U	ND
VAQS20132135	8/31/2013	loggerhead	Virginia Beach	36.6468	-75.8981	dead	F	93.7
VAQS20132136	9/2/2013	loggerhead	Northampton	37.1557	-75.9768	dead	F	46.9
VAQS20132138	9/3/2013	loggerhead	Northampton	37.3835	-75.7500	dead	M	ND
VAQS20132139	9/8/2013	loggerhead	Northampton	37.1527	-75.9759	dead	F	51.8*
VDGIF2013003	9/8/2013	loggerhead	Northampton	37.1152	-75.9053	dead	U	ND
VAQS20132140	9/9/2013	loggerhead	Virginia Beach	36.7830	-75.9570	dead	U	ND
VAQS20132137	9/10/2013	loggerhead	Virginia Beach	36.9154	-76.0647	dead	M	86.5
VAQS20132146	9/11/2013	loggerhead	Hampton	37.0827	-76.2740	dead	U	ND
VAQS20132141	9/12/2013	loggerhead	Northampton	37.1641	-75.9863	alive	U	74.3
VAQS20132142	9/13/2013	loggerhead	Northampton	37.1660	-75.9880	dead	U	ND
VAQS20132144	9/14/2013	loggerhead	Accomack	37.8466	-75.4743	alive	U	4.4
VAQS20132143	9/14/2013	loggerhead	Virginia Beach	36.9084	-76.0953	dead	U	ND
VAQS20132145	9/16/2013	loggerhead	Northampton	37.1460	-75.9770	alive	F	69.5
VASC20132011	9/16/2013	loggerhead	Northampton	37.1067	-75.9751	dead	U	ND
VASC20132012	9/16/2013	loggerhead	Northampton	37.0914	-75.9403	dead	U	ND
VAQS20132147	9/19/2013	loggerhead	Hampton	37.0099	-76.3001	dead	F	93
VAQS20132148	9/19/2013	loggerhead	Hampton	37.0013	-76.4659	dead	F	91.3*
VAQS20132149	9/23/2013	loggerhead	Virginia Beach	36.9131	-76.1113	dead	F	66.4
VAQS20132150	9/23/2013	loggerhead	Norfolk	36.9415	-76.2276	dead	U	86.9*
VAQS20132151	9/24/2013	loggerhead	Norfolk	36.9362	-76.2117	dead	U	104*
VAQS20132152	9/24/2013	loggerhead	Accomack	37.8437	-75.4765	dead	U	100.5
VAQS20132153	9/24/2013	green	Norfolk	36.9359	-76.2114	dead	U	ND
VAQS20132154	9/24/2013	Kemp's ridley	Virginia Beach	36.7267	-75.9353	dead	F	40
VAQS20132156	9/24/2013	loggerhead	Virginia Beach	36.7783	-75.9556	dead	U	ND
VAQS20132157	9/25/2013	loggerhead	Virginia Beach	36.6507	-75.8996	alive	M	4.5
VAQS20132155	9/25/2013	loggerhead	Virginia Beach	36.9270	-76.1641	dead	U	ND
VASC20132013	9/25/2013	loggerhead	Northampton	37.1014	-75.9791	dead	U	62.7*
VASC20132014	9/25/2013	Kemp's ridley	Northampton	37.1016	-75.9791	dead	U	ND
VAQS20132158	9/26/2013	loggerhead	Virginia Beach	36.7831	-75.9570	dead	U	ND
VAQS20132160	9/26/2013	Kemp's ridley	Virginia Beach	36.7018	-75.9261	dead	M	22.1
VAQS20132161	9/26/2013	unidentified sp	Hampton	37.0097	-76.3001	dead	U	ND
VAQS20132162	9/26/2013	Kemp's ridley	Norfolk	36.9353	-76.2086	dead	M	31.2*
VDGIF2013004	9/26/2013	loggerhead	Northampton	37.1411	-75.9732	dead	U	51

Table 3: Sea turtle strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VDGIF2013005	9/26/2013	loggerhead	Northampton	37.1420	-75.9734	dead	U	64.8
VAQS20132164	9/27/2013	loggerhead	Virginia Beach	36.9129	-76.1092	dead	U	67.4*
VAQS20132163	9/28/2013	unidentified sp	Norfolk	36.9639	-76.2574	alive	U	ND
VAQS20132165	9/28/2013	green	Norfolk	36.9461	-76.2365	dead	F	31
VAQS20132167	9/28/2013	loggerhead	Virginia Beach	36.8271	-75.9733	dead	F	64
VAQS20132168	9/28/2013	Kemp's ridley	Virginia Beach	36.7383	-75.9400	dead	M	42
VDGIF2013006	9/28/2013	loggerhead	Northampton	37.1411	-75.9732	dead	U	77.8*
VAQS20132169	9/30/2013	Kemp's ridley	Norfolk	36.9333	-76.2016	dead	M	24*
VAQS20132170	9/30/2013	Kemp's ridley	Virginia Beach	36.9283	-76.1695	dead	F	50
VAQS20132159	10/1/2013	Kemp's ridley	Norfolk	36.9297	-76.1815	dead	F	33.2
VAQS20132166	10/2/2013	loggerhead	Virginia Beach	36.9294	-76.1732	dead	U	ND
VAQS20132171	10/2/2013	loggerhead	Middlesex	37.5713	-76.3400	dead	F	70*
VAQS20132172	10/3/2013	loggerhead	Hampton	37.0053	-76.2950	alive	U	68.4
VAQS20132173	10/3/2013	loggerhead	Virginia Beach	36.8771	-75.9814	alive	M	ND
VAQS20132174	10/6/2013	loggerhead	Hampton	37.0141	-76.2989	dead	F	55.4*
VAQS20132176	10/6/2013	Kemp's ridley	Virginia Beach	36.9233	-76.0765	dead	U	ND
VDGIF2013007	10/6/2013	loggerhead	Northampton	37.1298	-75.9701	dead	U	ND
VDGIF2013008	10/7/2013	Kemp's ridley	Northampton	37.1660	-75.9882	dead	U	ND
VAQS20132175	10/8/2013	loggerhead	Virginia Beach	36.8704	-75.9795	alive	U	4.5
VAQS20132177	10/10/2013	loggerhead	Virginia Beach	36.6538	-75.9015	dead	U	71*
VAQS20132178	10/10/2013	Kemp's ridley	Virginia Beach	36.5782	-75.8733	dead	F	55*
VAQS20132180	10/10/2013	Kemp's ridley	Virginia Beach	36.7887	-75.9587	dead	U	ND
VAQS20132179	10/11/2013	loggerhead	Virginia Beach	36.6467	-75.8988	dead	U	64.1
VAQS20132181	10/11/2013	Kemp's ridley	Virginia Beach	36.8712	-75.9799	dead	U	42.2*
VAQS20132182	10/14/2013	Kemp's ridley	Norfolk	36.9673	-76.2749	dead	U	20.4*
VAQS20132183	10/14/2013	Kemp's ridley	Norfolk	36.9344	-76.2048	dead	F	37
VAQS20132184	10/14/2013	Kemp's ridley	Virginia Beach	36.9123	-76.0832	dead	F	40.8
VAQS20132185	10/14/2013	Kemp's ridley	Virginia Beach	36.9151	-76.0659	dead	M	24.9
VAQS20132186	10/15/2013	loggerhead	Virginia Beach	36.6597	-75.9050	dead	F	95
VAQS20132187	10/15/2013	loggerhead	Virginia Beach	36.8113	-75.9652	dead	U	74
VAQS20132188	10/16/2013	loggerhead	Norfolk	36.9542	-76.2490	dead	F	92.9*
VAQS20132189	10/17/2013	loggerhead	Hampton	37.0114	-76.3446	dead	F	84.1*
VDGIF2013009	10/17/2013	loggerhead	Northampton	37.1479	-75.9746	dead	U	67.1
VAQS20132190	10/18/2013	loggerhead	Virginia Beach	36.9264	-76.1614	dead	M	74.5*
VASC20132015	10/18/2013	loggerhead	Accomack	37.8785	-75.3501	dead	U	72.6
VAQS20132191	10/20/2013	Kemp's ridley	Virginia Beach	36.6208	-75.8869	dead	F	47.5
VAQS20132192	10/21/2013	loggerhead	Virginia Beach	36.7292	-75.9364	dead	F	65
VAQS20132193	10/21/2013	Kemp's ridley	Virginia Beach	36.8258	-75.9684	dead	M	26.2
VAQS20132194	10/21/2013	Kemp's ridley	Virginia Beach	36.6689	-75.9101	dead	U	45*
VAQS20132195	10/21/2013	Kemp's ridley	Virginia Beach	36.9211	-76.1354	dead	U	34
VAQS20132197	10/21/2013	loggerhead	Virginia Beach	36.7645	-75.9503	dead	M	70
VAQS20132204	10/22/2013	loggerhead	Isle of Wight	37.0627	-76.6404	alive	U	ND
VAQS20132196	10/22/2013	Kemp's ridley	Virginia Beach	36.9287	-76.1712	dead	U	46.1*
VAQS20132198	10/23/2013	loggerhead	Northampton	37.1658	-75.9861	dead	F	62.6
VAQS20132199	10/24/2013	green	Hampton	37.0962	-76.2949	dead	M	31.6
VAQS20132200	10/24/2013	loggerhead	Northampton	37.3536	-75.9960	dead	U	68.7
VAQS20132202	10/25/2013	loggerhead	Northampton	37.1830	-75.9947	dead	U	79.2*
VDGIF2013010	10/25/2013	loggerhead	Accomack	37.7393	-75.8250	dead	F	78
VAQS20132201	10/27/2013	Kemp's ridley	Northampton	37.1706	-75.9875	dead	U	34.2
VASC20132016	10/27/2013	green	Northampton	37.1177	-75.9700	dead	U	26.7
VAQS20132203	10/29/2013	loggerhead	Northampton	37.2491	-76.0215	dead	F	71.1
VAQS20132205	10/30/2013	Kemp's ridley	Virginia Beach	36.8216	-75.9675	dead	F	25
VAQS20132206	11/3/2013	Kemp's ridley	Virginia Beach	36.9278	-76.0067	dead	F	28.8
VAQS20132207	11/3/2013	loggerhead	Northampton	37.1182	-75.9698	dead	F	83.1
VAQS20132208	11/3/2013	Kemp's ridley	Virginia Beach	36.6224	-75.8867	dead	U	23.1
VAQS20132209	11/4/2013	loggerhead	Norfolk	36.9675	-76.2758	dead	M	75.4
VAQS20132210	11/5/2013	loggerhead	Virginia Beach	36.8409	-75.9713	dead	U	62*
VAQS20132211	11/6/2013	green	Northampton	37.1661	-75.9874	dead	F	27.2
VAQS20132212	11/9/2013	green	Northampton	37.2008	-76.0108	dead	U	24.5
VASC20132017	11/10/2013	loggerhead	Accomack	38.0165	-75.2511	dead	U	90.3
VAQS20132213	11/11/2013	Kemp's ridley	Virginia Beach	36.7018	-75.9262	dead	M	25.7
VAQS20132214	11/12/2013	loggerhead	Norfolk	36.9526	-76.3281	dead	M	53.1

Table 3: Sea turtle strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Sex</u>	<u>Length</u>
VAQS20132215	11/13/2013	loggerhead	Virginia Beach	36.9150	-76.1178	dead	F	64.5
VDGIF2013011	11/14/2013	loggerhead	Northampton	37.4062	-75.9735	dead	F	65.2
VAQS20132216	11/19/2013	loggerhead	Northampton	37.2524	-76.0235	dead	U	71.4
VAQS20132217	11/20/2013	loggerhead	Virginia Beach	36.9129	-76.1098	dead	F	59.5
VAQS20132218	11/21/2013	Kemp's ridley	Virginia Beach	36.5511	-75.8674	dead	M	41.6
VASC20132018	11/22/2013	loggerhead	Northampton	37.0982	-75.9800	dead	U	ND
VAQS20132219	11/25/2013	loggerhead	Virginia Beach	36.9086	-76.0897	alive	U	57.5
VAQS20132220	11/25/2013	green	Norfolk	36.9616	-76.2656	alive	U	29.9
VAQS20132221	11/29/2013	Kemp's ridley	Northampton	37.5124	-75.9538	dead	U	29.7
VAQS20132222	11/30/2013	loggerhead	Hampton	37.0089	-76.3006	dead	U	65*
VAQS20132223	12/2/2013	Kemp's ridley	Norfolk	36.9420	-76.2283	dead	F	22.1
VAQS20132225	12/4/2013	loggerhead	Portsmouth	36.9433	-76.3767	alive	U	71.3
VAQS20132224	12/4/2013	green	Virginia Beach	36.8585	-76.0109	dead	U	31.4
VAQS20132226	12/6/2013	loggerhead	Portsmouth	36.9105	-76.3527	dead	F	64.8
VDGIF2013012	12/6/2013	loggerhead	Northampton	37.3370	-76.0094	dead	F	60.7
VAQS20132227	12/13/2013	Kemp's ridley	Northampton	37.1943	-76.0223	alive	U	40.2
VAQS20132228	12/15/2013	loggerhead	Northampton	37.2470	-76.0200	alive	U	52
VAQS20132229	12/20/2013	Kemp's ridley	Northampton	37.4060	-75.9741	alive	U	34
VAQS20132230	12/24/2013	Kemp's ridley	Norfolk	6.9462	-76.2367	alive	U	24.7

Table 4: Live stranded sea turtles recorded by VAQS in 2013.

<u>Field Number</u>	<u>Species</u>	<u>Strand Date</u>	<u>Name</u>	<u>State</u>	<u>Final Disposition</u>
MMSC-12-079(*b)	loggerhead	07/30/12	Jenga	NJ	released 14 January 2013 from Jacksonville, FL
12-027-Lk (*a)	Kemp's ridley	11/08/12	Chunky Monkey	MA	released 7 April 2013 from Jacksonville, FL
12-038-Lk (*a)	Kemp's ridley	11/17/12	Phish Food	MA	released 15 February 2013 offshore North Carolina
12-039-Lk (*a)	Kemp's ridley	11/17/12	Cherry Garcia	MA	released 15 February 2013 offshore North Carolina
12-045-Lk (*a)	Kemp's ridley	11/18/12	What a Cluster	MA	released 7 April 2013 from Jacksonville, FL
VAQS20122163	loggerhead	11/09/12	BB Turkey	VA	released 21 August 2013 from Chesapeake Bay, VA
VAQS20122167	Kemp's ridley	11/25/12	Deep Creek (DC)	VA	released 14 January 2013 from Jacksonville, FL
VAQS20122171	green	12/14/12	Mint Chocolate Chip	VA	released 11 July 2013 from Virginia Beach, VA
VAQS20122175	Kemp's ridley	12/23/12	Triple Caramel Chunk	VA	released 21 June 2013 from offshore Virginia Beach, VA
VAQS20122176	loggerhead	12/23/12	Mud Pie	VA	released 5 July 2013 from offshore Virginia Beach, VA
VAQS20122177	loggerhead	12/24/12	Dublin Mudslide	VA	released 15 June 2013 from offshore Virginia Beach, VA
VAQS20122180	Kemp's ridley	12/26/12	Heath Bar	VA	released 21 August 2013 from offshore Virginia Beach, VA
VAQS20122186	loggerhead	12/28/12	Cannoli	VA	released 6 June 2013 from offshore Virginia Beach, VA
VAQS20122185	green	12/29/12	Pistachio	VA	released 11 July 2013 from Virginia Beach, VA
VAQS20132003	loggerhead	1/2/2013	S'mores	VA	released 6 June 2013 from offshore Virginia Beach, VA
VAQS20132005	loggerhead	1/5/2013	Chocolate Chip Cookie Dough	VA	released 5 June 2013 from offshore Virginia Beach, VA
VAQS20132006	loggerhead	1/5/2013	Rocky Road	VA	released 13 June 2013 from offshore Virginia Beach, VA
VAQS20132009	loggerhead	1/5/2013	Half Baked	VA	died 6 January 2013
VAQS20132025	leatherback	5/17/2013	NA	VA	disentangled and released by VMRC from pound net 17 May 2013 in Virginia Beach, VA
VAQS20132026	loggerhead	5/21/2013	NA	VA	reported disentangled from fishing line and released by fisher, 21 May 2013 in Virginia Beach, VA
VAQS20132053	leatherback	5/26/2013	NA	VA	unknown
VAQS20132031	Kemp's ridley	5/29/2013	NA	VA	reported hooked and released by fisher, 29 May 2013 in Nautilus Shoals
VAQS20132045	loggerhead	6/7/2013	NA	VA	reported hooked and released by fisher, 7 June 2013 in Gloucester, VA
VAQS20132085	unidentified	6/8/2013	NA	VA	reported hooked by fisher, disposition unknown
VAQS20132048	loggerhead	6/11/2013	NA	VA	disentangled from pot gear by USCG and released 11 June 2013 in Chincoteague Bay, VA
VAQS20132084	loggerhead	6/11/2013	NA	VA	reported hooked and released by fisher 11 June 2013 from Norfolk, VA
VAQS20132052	loggerhead	6/12/2013	Boston Bruin	VA	pending

Table 4: Live stranded sea turtles recorded by VAQS in 2013 *cont.*

<u>Field Number</u>	<u>Species</u>	<u>Strand Date</u>	<u>Name</u>	<u>State</u>	<u>Final Disposition</u>
VAQS20132061	leatherback	6/16/2013	NA	VA	disentangled and released from pound net 16 June 2013 in Virginia Beach, VA
VAQS20132067	loggerhead	6/20/2013	NA	VA	reported hooked and released by fisher, 20 June 2013 from Hampton, VA
VAQS20132070	loggerhead	6/21/2013	Buffalo	VA	euthanized 21 June 2013
VAQS20132074	green	6/22/2013	NA	VA	died 24 May 2013
VAQS20132086	loggerhead	7/4/2013	Portsmouth	VA	transferred 6 August 2013 to National Aquarium in Baltimore; released 20 October 2013 from Sandbridge, Virginia Beach, VA
VAQS20132098	loggerhead	7/26/2013	OV	VA	transferred 19 August 2013 to North Carolina Aquarium Pine Knoll Shores; released 5 October 2013 from Nags Head, NC
VAQS20132099	loggerhead	7/26/2013	Niagra	VA	transferred 6 August 2013 to National Aquarium in Baltimore; released 5 September 2013 from Assateague, MD
VAQS20132103	loggerhead	7/29/2013	NA	VA	released 29 July 2013 from Virginia Beach, VA
VAQS20132102	loggerhead	7/30/2013	Findlay	VA	released 20 October 2013 from Sandbridge, Virginia Beach, VA
VAQS20132106	loggerhead	8/3/2013	St. Louis	VA	released 28 Septemeber 2013 from First Landing State Park, Virginia Beach, VA
VAQS20132107	loggerhead	8/3/2013	Auburn Tiger	VA	transferred 19 August 2013 to North Carolina Aquarium Pine Knoll Shores; released 5 October 2013 from Ft. Macon Beach, NC
VAQS20132108	loggerhead	8/3/2013	NA	VA	hooked by fisher, VAQS present when line broke and turtle released, 3 August 2013 in Norfolk, VA
VAQS20132116	loggerhead	8/8/2013	NA	VA	reported hooked and released by fisher 3 August 2013 in Hampton, VA
VAQS20132117	unidentified	8/9/2013	NA	VA	reported hooked and released by fisher 9 August 2013 in Hampton, VA
VAQS20132120	unidentified	8/13/2013	NA	VA	struggling sea turtle reported; unable to verify
VAQS20132126	loggerhead	8/14/2013	Grenada	VA	released 20 October 2013 from Sandbridge, Virginia Beach, VA
VAQS20132129	Kemp's ridley	8/24/2013	Tahoe	VA	pending
VAQS20132141	loggerhead	9/12/2013	Staten Island	VA	released 22 November 2013 from offshore of NC
VAQS20132144	loggerhead	9/14/2013	Ray	VA	released 16 November 2013 from offshore of NC
VAQS20132145	loggerhead	9/16/2013	Va Beach	VA	died 19 September 2013
VAQS20132157	loggerhead	9/25/2013	NA	VA	died 25 September 2013
VAQS20132163	unidentified	9/28/2013	NA	VA	reported hooked and released by fisher 28 September 2013 from Norfolk, VA
VAQS20132172	loggerhead	10/3/2013	Sausalito	VA	pending
VAQS20132173	loggerhead	10/3/2013	Cyclops	VA	died 8 October 2013
VAQS20132175	loggerhead	10/8/2013	Zeus	VA	euthanized 21 October 2013
VAQS20132204	loggerhead	10/22/2013	NA	VA	reported disentangled and released by fisher from pot gear 22 October 2013 in James River, VA
VAQS20132219	loggerhead	11/25/2013	Hermes	VA	pending
VAQS20132220	green	11/25/2013	Thor	VA	pending
VAQS20132225	loggerhead	12/4/2013	Crush of Ares	VA	pending
VAQS20132227	Kemp's ridley	12/13/2013	Loki	VA	pending
VAQS20132228	loggerhead	12/15/2013	Hesperides	VA	died 16 December 2013
VAQS20132229	Kemp's ridley	12/20/2013	Gaia	VA	pending

Table 4: Live stranded sea turtles recorded by VAQS in 2013 *cont.*

<u>Field Number</u>	<u>Species</u>	<u>Strand Date</u>	<u>Name</u>	<u>State</u>	<u>Final Disposition</u>
VAQS20132230	Kemp's ridley	12/24/2013	Dionysus	VA	pending

(*a) Transferred from New England Aquarium, Quincy, MA for rehabilitation

(*b) Transferred from Marine Mammal Stranding Center, Brigantine, NJ for rehabilitation

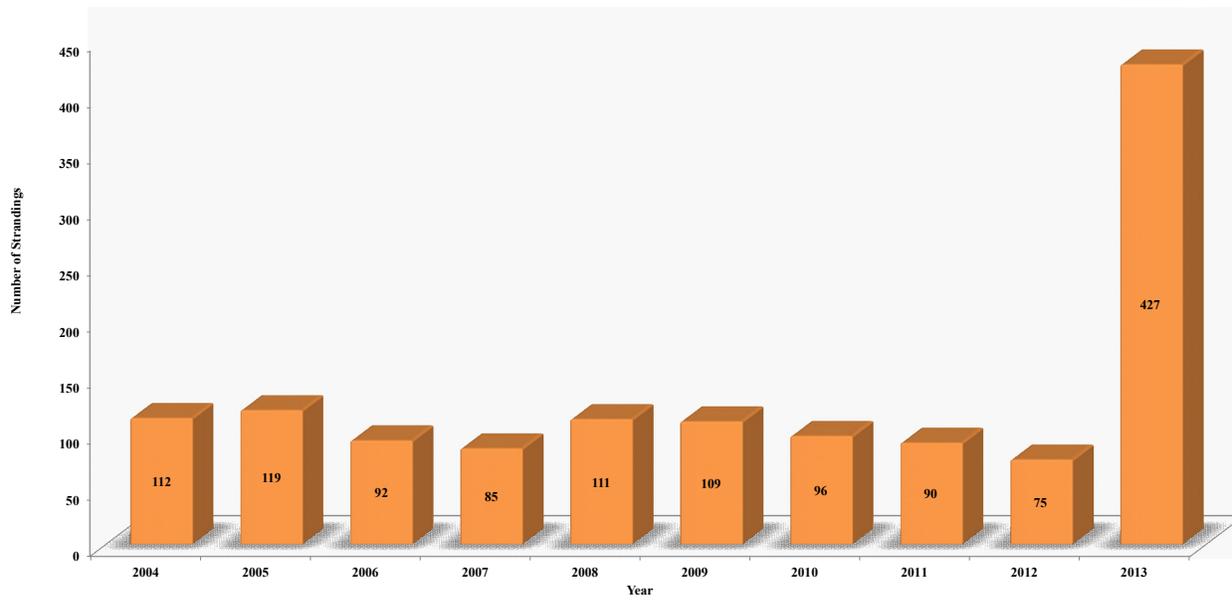


Figure 1: Yearly frequency of marine mammal strandings in Virginia, 2004-2013.

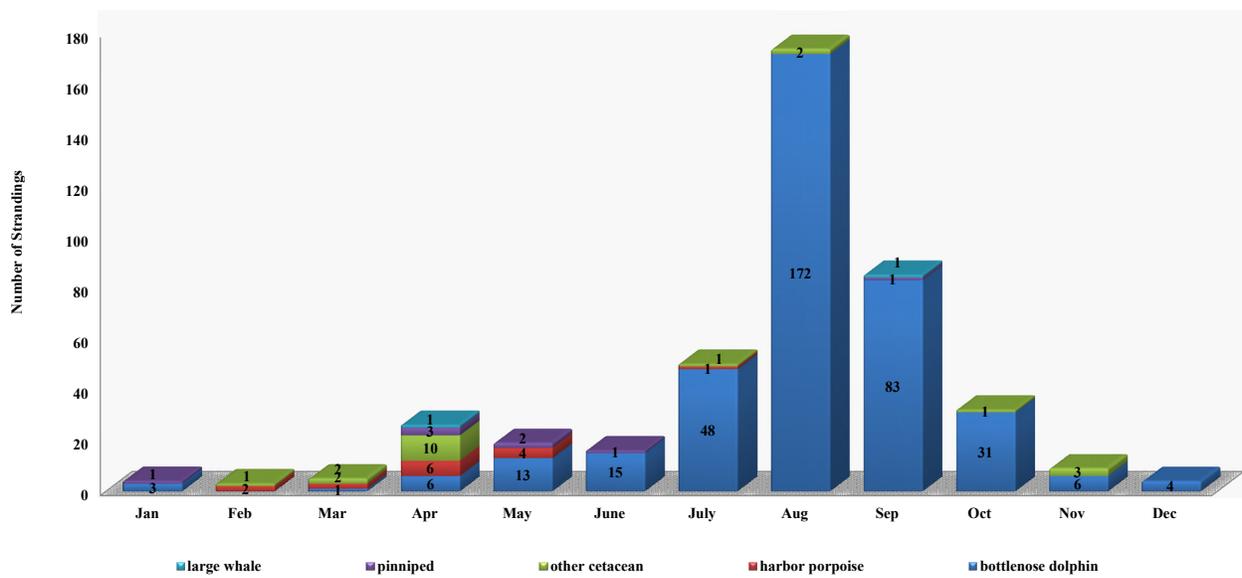


Figure 2: Monthly frequency of marine mammal strandings in Virginia from 2013.

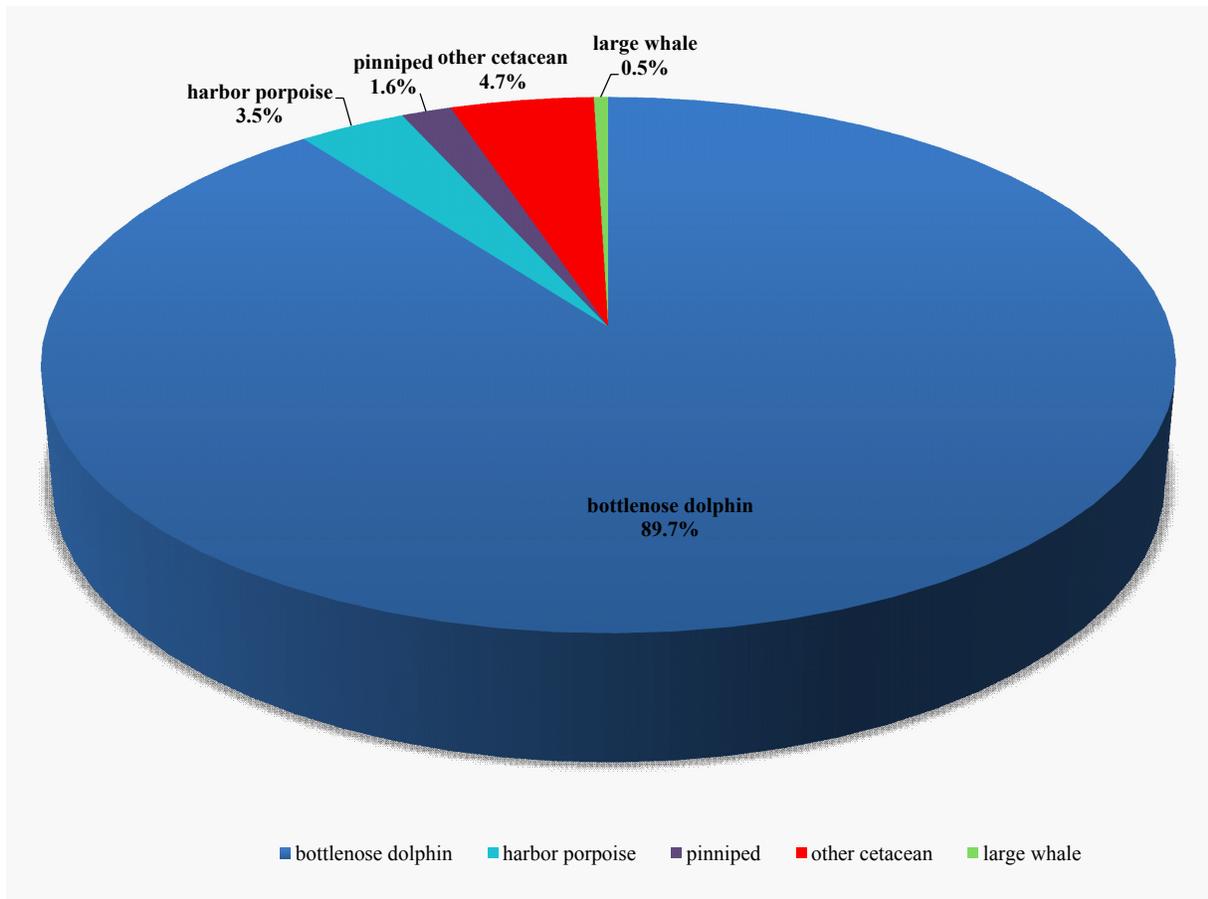
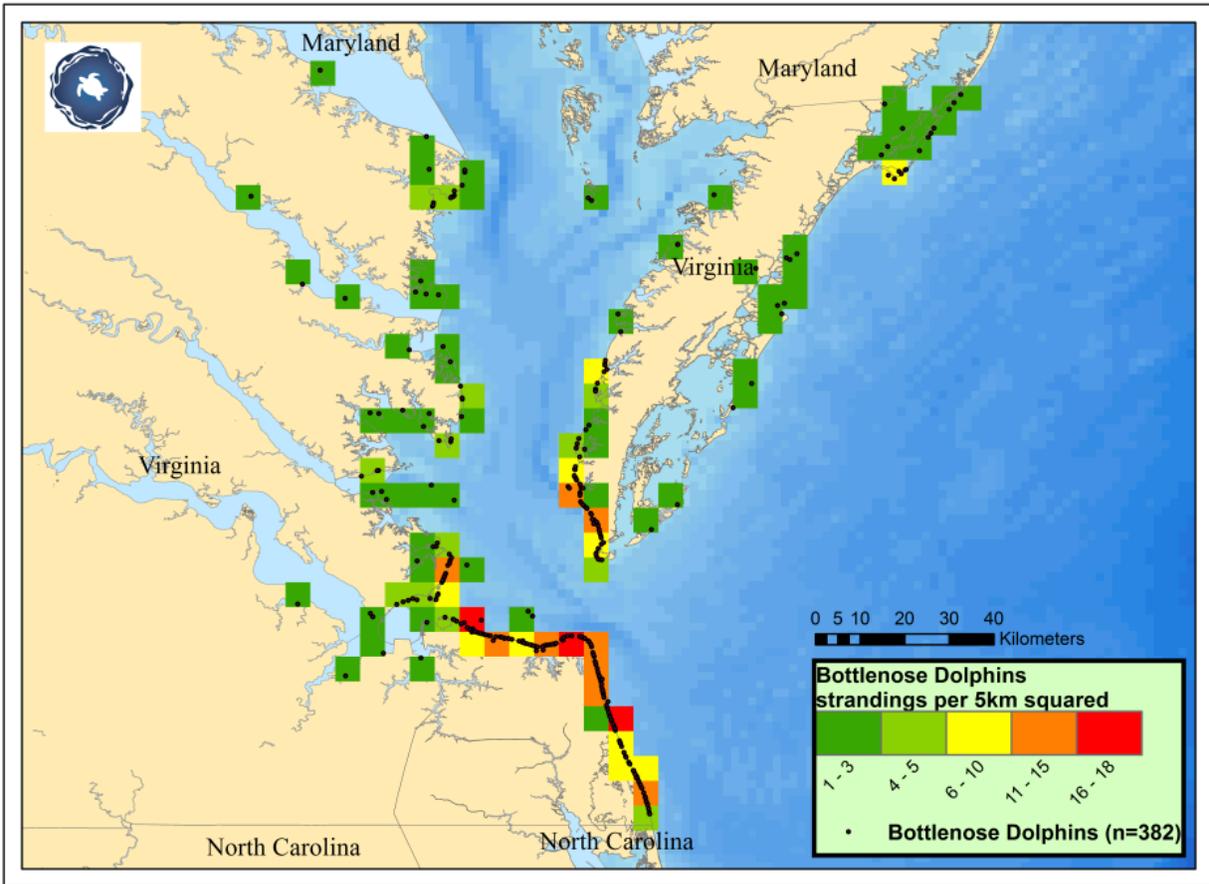
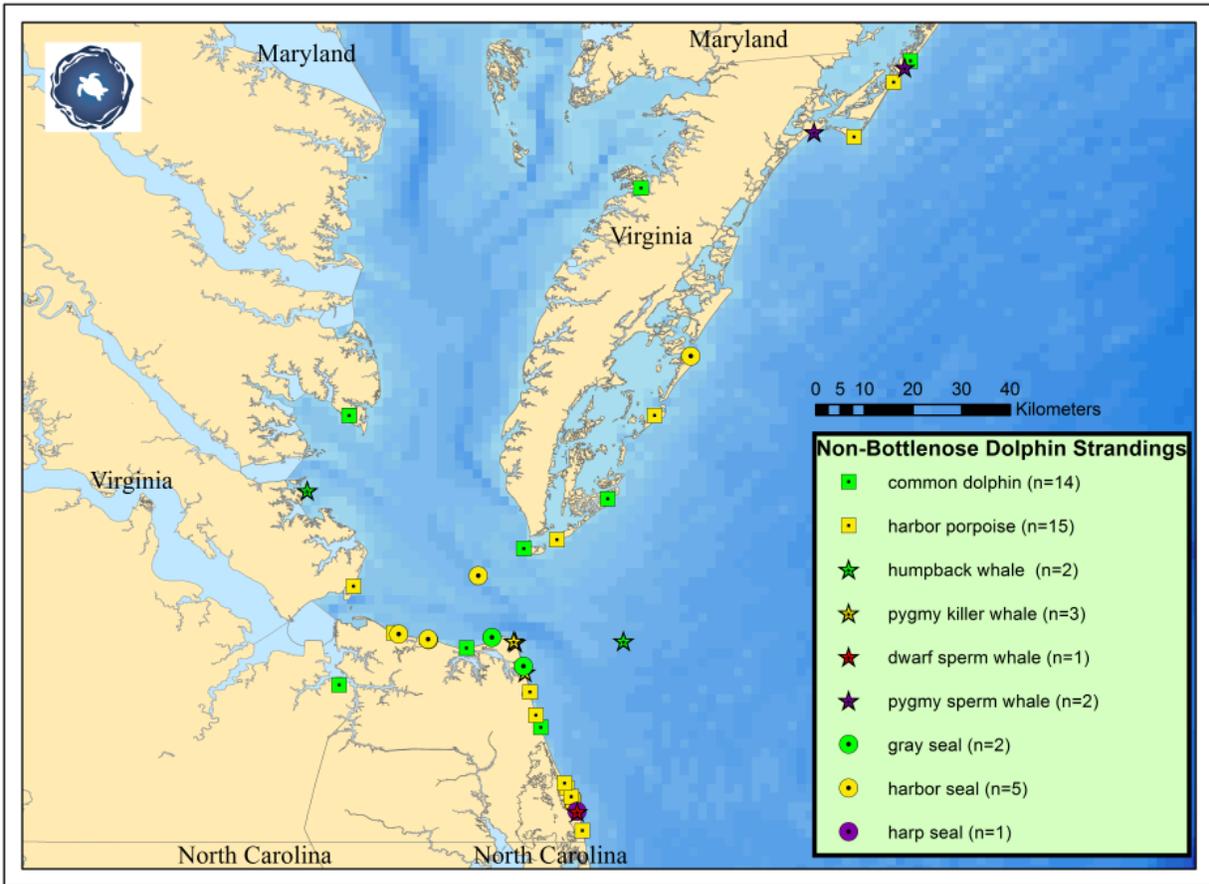


Figure 3: Marine mammal strandings in Virginia from 2013.



This map was created on Jan 15, 2014 - using coordinates recorded in World Geodetic System 1984.

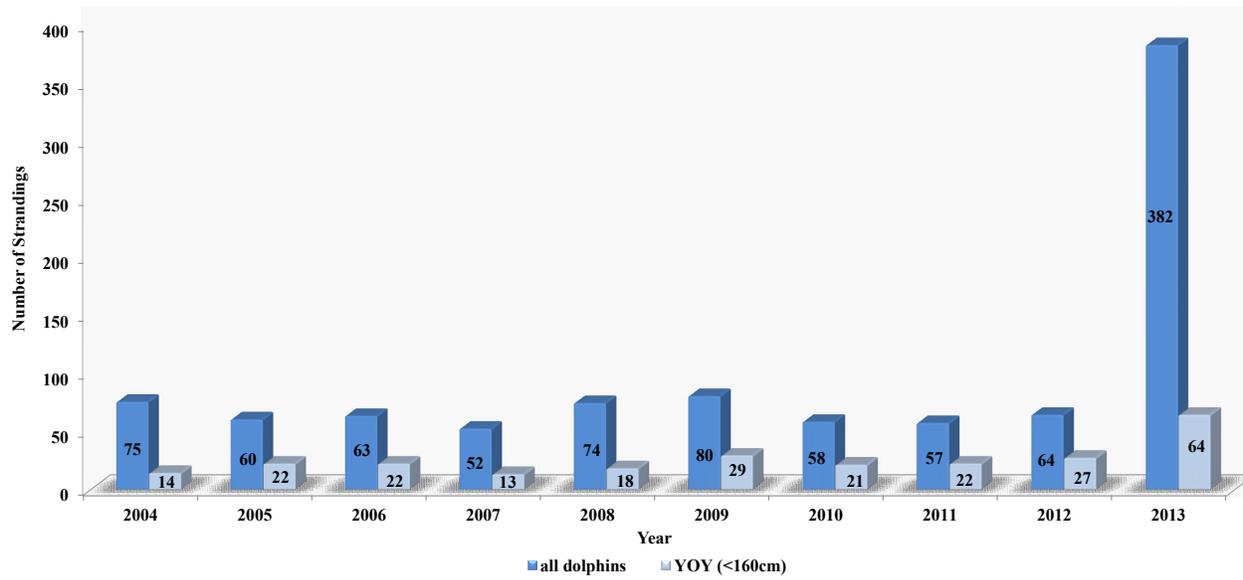
Figure 4: Point count of Virginia bottlenose dolphin strandings from 2013.



This map was created on Jan 15, 2014 - using coordinates recorded in World Geodetic System 1984.

Figure 5: Location of Virginia non-bottlenose dolphin marine mammal strandings from 2013.

A. Bottlenose dolphin



B. Harbor porpoise

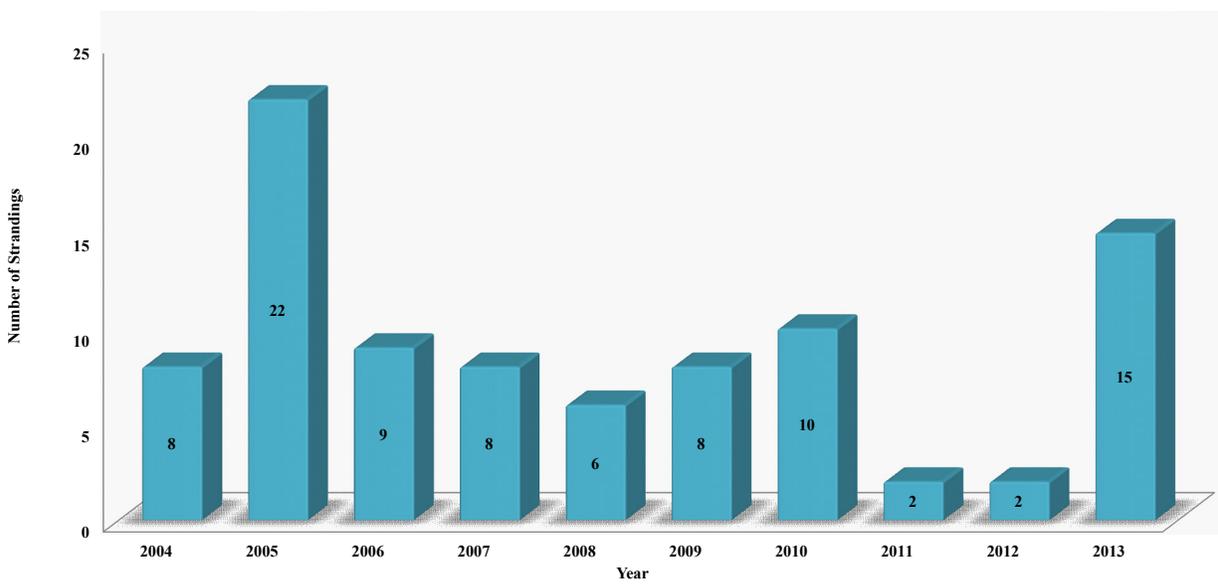


Figure 6 A-B: Yearly stranding frequency for bottlenose dolphin and harbor porpoise in Virginia, 2004-2013 (YOY = young of the year).

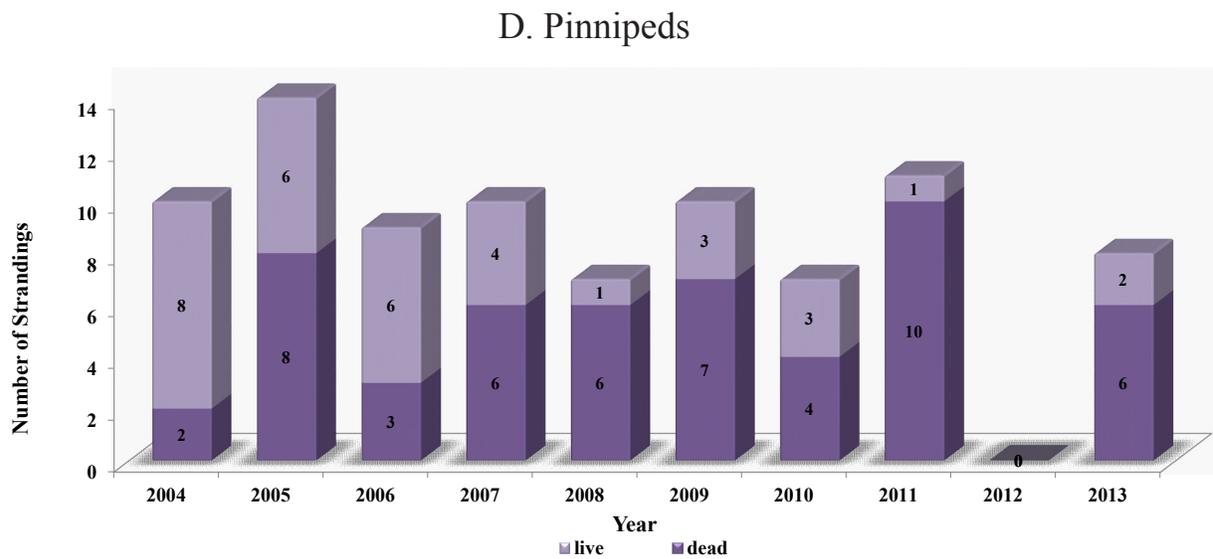
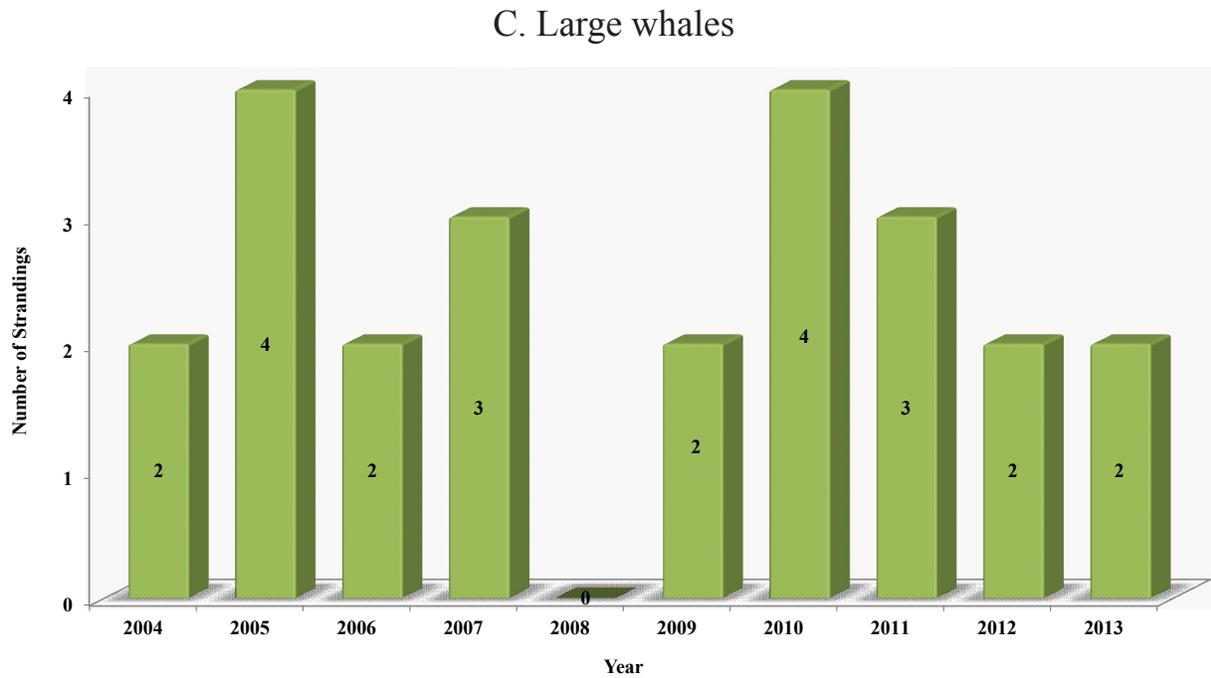


Figure 6 C-D: Yearly stranding frequency for large whales and pinnipeds in Virginia, 2004-2013.

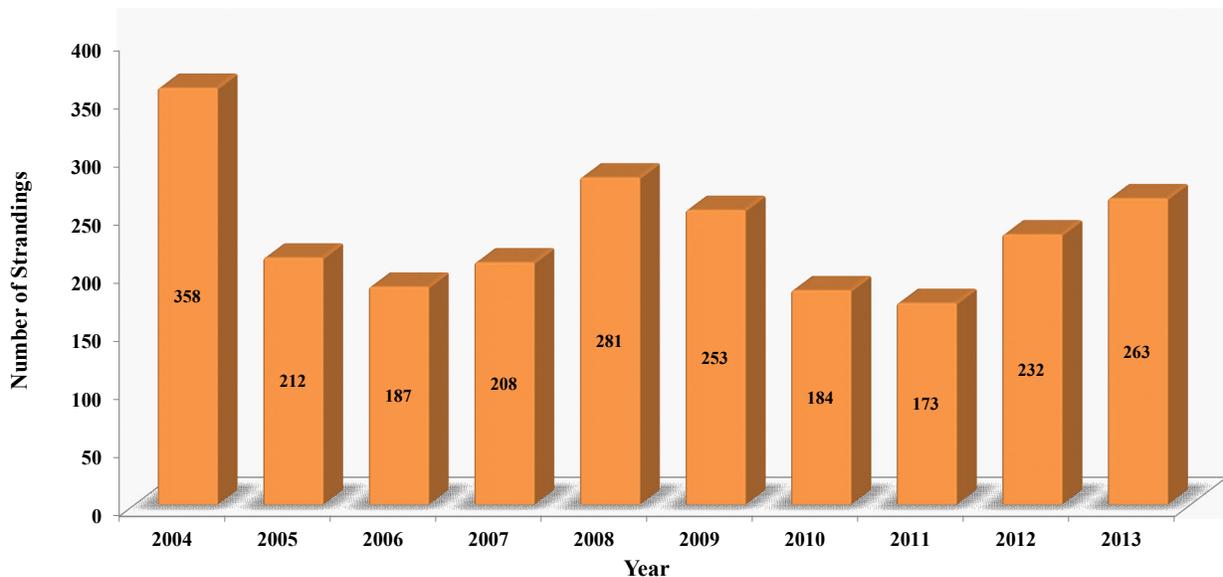


Figure 7: Yearly frequency of sea turtle strandings in Virginia, 2004-2013.

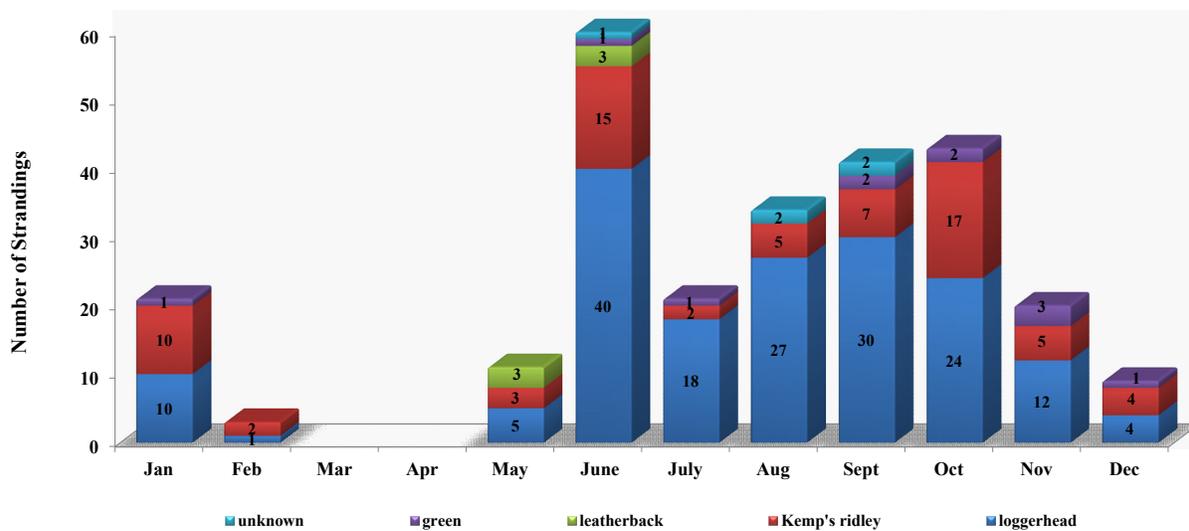


Figure 8: Monthly frequency of sea turtle strandings in Virginia from 2013.

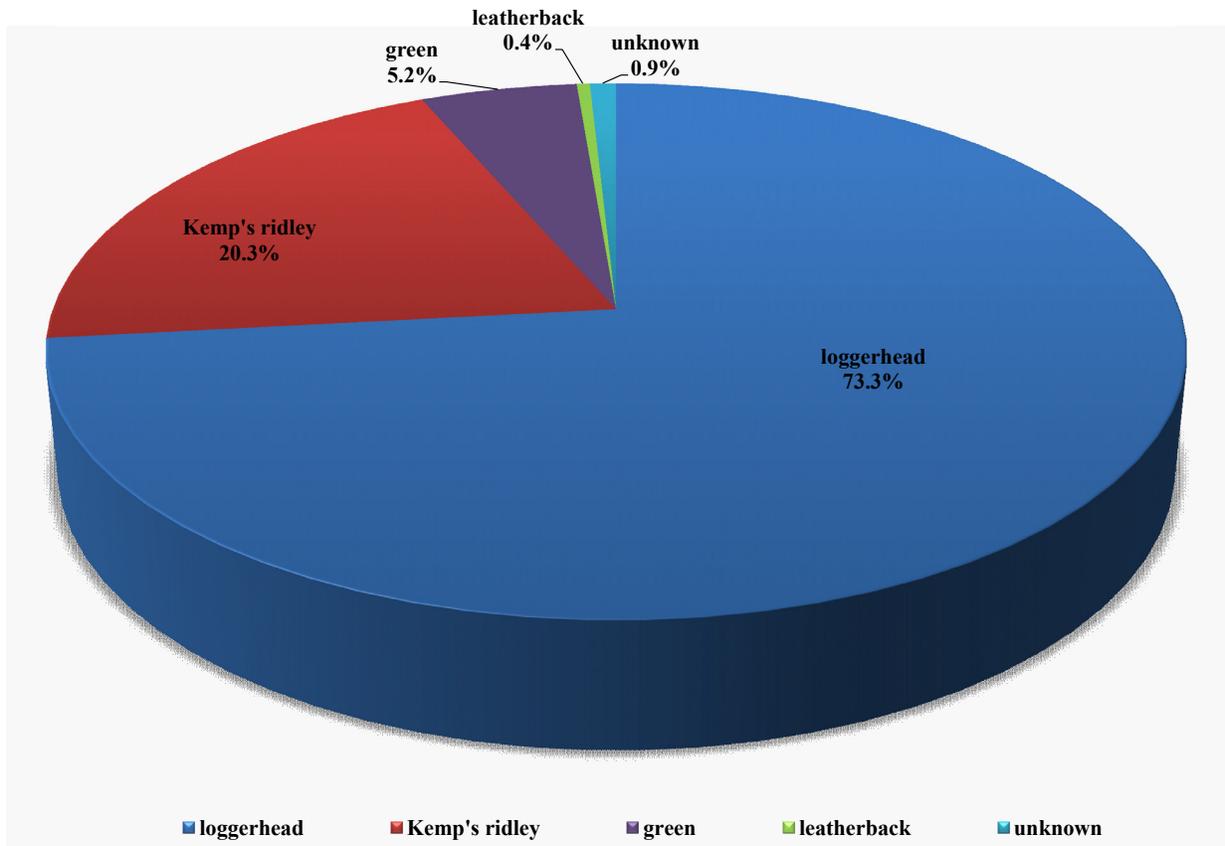
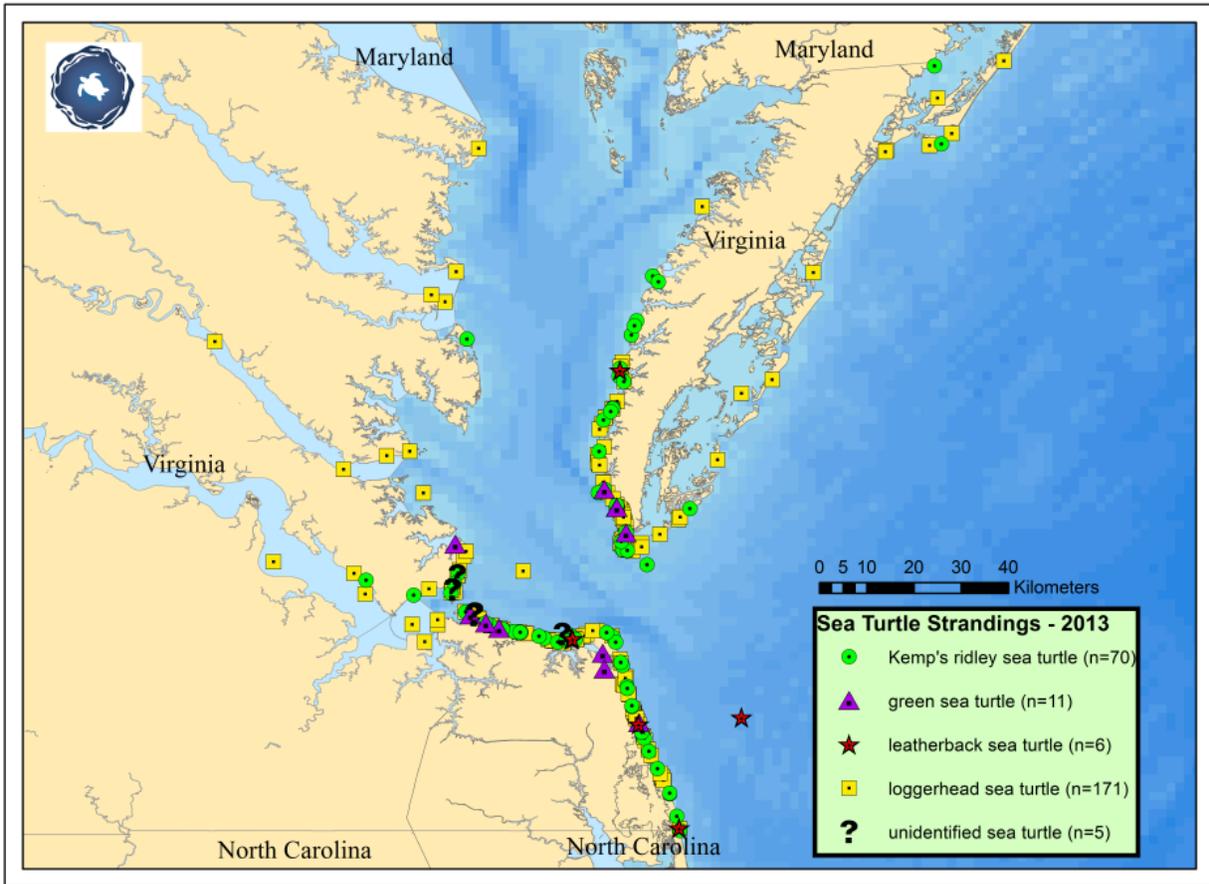


Figure 9: Sea turtle strandings in Virginia from 2013.



This map was created on Jan 15, 2014 - using coordinates recorded in World Geodetic System 1984.

Figure 10: Location of Virginia sea turtle strandings from 2013.

APPENDIX I: PROFESSIONAL AND EDUCATION ACTIVITIES**Educational Activities**

<u>Description</u>	<u>Date</u>	<u>Attendance</u>
<u>Outreach Opportunities</u>		
Seatack Elementary School 5th Grade	1/15/13	100
Winter Wildlife Festival	1/26/13	300
The Virginia Living Museum Reptile Weekend	2/18-19/13	2200
Thoroughgood Elementary River Quest Club	2/21/13	50
Virginia Beach Watershed Forum	3/21/13	250
Seatack Elementary School 4th Grade Science Night	4/16/13	250
St. Aidans Episcopal Church Talk for middle school age	5/19/13	40*
Sandbridge Event	5/19/13	50*
3rd Annual Youth Leadership Summit	8/21/13	unknown
Cannon Environmental Fair	8/7/13	hundreds
West Marine Opening	9/14/13	100*
Eastern Shore Birding Festival	10/12/13	500-600
Ducks Unlimited Greenwing Festival	10/20/13	250-300
Seatack Elementary "Meet our Neighbors" night	11/19/13	50
<u>Public Presentations</u>		
Scientists at the Pub	3/28/13	20
Princess Anne Country Club lecture series	3/28/13	40
<u>Stranding Center Tours & Group Presentations</u>		
Mentoring Young Scientists	1/19/13	25
Seatack Go Green Team	2/19/13	20
Whole Foods Employees MACC Tour	5/28/13	40
SWAT Camp	7/2/13	20*
SWAT Camp	7/16/13	20*
SWAT Camp	7/30/13	20*
Kingston Elementary Tour	12/9/13	20
<u>Virginia Aquarium Talks and Events</u>		
Norfolk Academy Trash Talking Turtle Interview	1/28/13	6
VAQ Volunteer Recruitment Event	1/24/13	50
Clean Up	2/10/13	20*
Virginia Marine Debris Summit	2/27-28/2013	50
VAQ Trash Bash 2.0	3/9-10/2013	hundreds
Large whales in Virginia	3/28/13	50*
VAQ Annual Golf Tournament	5/8/13	hundreds*
VA Aq & Marine Science Center Vol Open House	9/19/13	50*
Strandings, why should we care?	9/24/13	30
Strandings and dolphin die-off to Hammerheads Dive Club	10/2/13	30
Eleanor & Henry Watts Conservation Speaker Series	11/17/13	250

APPENDIX I: PROFESSIONAL AND EDUCATION ACTIVITIES CONT.

<u>Description</u>	<u>Date</u>	<u>Attendance</u>
<u>Stranding Response Team and Cooperator Trainings</u>		
Live Seal Response Training	1/3/13	25
VAQS volunteer Seal Natural History Training	1/6/13	40
2013 Annual Business Meeting	3/8/13	52
Tidewater Master Naturalist Training	4/8/13	25
2013 Hands on Response Training	5/4/13-5/11/2013	40*
Sea Turtle Natural History Training	5/5/13 and 5/15/13	68
ESNWR Cooperator Training	5/30/13	4
CNWR Cooperator Training	5/21/13	5*
BBNWR Cooperator Training	6/5/13	6
2013 VAQS Beach Driving Training	6/15/13 and 6/17/13	20*
2013 Live Animal Husbandry	6/2/13 and 6/11/13	26
Volunteer Advanced Necropsy Training	7/10/13	15
Live Seal Response Training	10/9/2013 & 10/19/2013	40
<u>Staff Training</u>		
Advanced Cetacean Anatomy and Necropsy Training	5/6-5/10/2013	12
Advanced Distance Workshop	8/26-8/30/2013	18
Helicopter Underwater Egress Training (Offshore Survival)	12/11/13	20
<u>Other</u>		
NOAA Research Boat Cruise	5/20/13-5/26/13	6*
NMFS Tt Biopsy	9/12/13	4
NMFS Tt Biopsy	9/13/13	5
NMFS Tt Biopsy	9/15/13	4
NMFS Tt Biopsy	9/16/13	4
NMFS Tt Biopsy	9/19/13	4

*attendance is estimated

APPENDIX I: PROFESSIONAL AND EDUCATION ACTIVITIES CONT.**Scientific Conferences, Professional Meetings and Workshops**

- NOAA Sea Turtle Gillnet Workshop, January 22-23, Ocean City, MD
- Atlantic States Marine Fisheries Commission, ACCSP Bycatch Prioritization Committee, January 31, webinar
- International Sea Turtle Symposium, February 1-9, Baltimore, MD
- Wildlife Rehabilitators Meeting, February 10, Virginia Beach, VA
- Harbor Porpoise Take Reduction Team Meeting, February 13-14, webinar
- Virginia Marine Debris Summit, February 27-28, Virginia Aquarium, VA
- Southeast and Mid-Atlantic Marine Mammal Symposium, March 22-24, Jacksonville, FL
- Mid-Atlantic Ocean Planning Workshop, April 4-5, Washington DC
- Alliance of Marine Mammal Parks and Aquariums Annual Meeting, April 13-16, Alexandria, VA
- Northeast Region Stranding Network Conference, April 29-May 2, Riverhead, NY
- Advanced Cetacean Anatomy and Necropsy Training Workshop, May 6-10, UNCW Wilmington, NC
- Harbor Porpoise Take Reduction Team Meeting, May 12-15, Providence, RI
- National Science Foundation Grant Writing Workshop, May 15, Williamsburg, VA
- Bottlenose Dolphin Take Reduction Team Orientation, May 21, webinar
- Bottlenose Dolphin Take Reduction Team Meeting, June 5-7, Wilmington, NC
- Virginia Marine Resource Commission/NOAA Office of Law Enforcement Disentanglement Training, June 20, Newport News, VA
- Prescott Stranding Grant Program Meetings with Congress, June 25-26, Washington DC
- Meeting to Discuss USFWS Captive Sea Turtle Guidelines, June 27, St. Petersburg, FL
- Harbor Porpoise Take Reduction Team Meeting, June 28, webinar
- Marine Mammal Health and Stranding Response Program Congressional Briefing, August 1, Washington DC
- Advanced Distance Workshop, August 26-30, University of St Andrews, Scotland
- Association of Zoos & Aquariums National Conference, September 7-12, Kansas City, MO
- Mid-Atlantic Regional Planning Body Meeting, September 24-25, Monmouth University, NJ
- Virginia Herpetological Society Fall Meeting, October 5, Richmond, VA
- Bottlenose Dolphin Take Reduction Team Meeting, December 2, webinar

Scientific Publications and Presentations

- Barco, S.G., G.G. Lockhart, L.R. D'Eri, S.J. Davis. 2013. Inshore Loggerhead Sea Turtle Tagging Effort 2012-2013. Final Report to NOAA/NMFS/NEFSC, Contract Number EA133F-12-SE-1220. VAQF Scientific Report 2013-03. 9 pp.
- Barco, S., M. Lynott. Virginia Aquarium Stranding Response Program Disentanglement Training. Oral Presentation to the Virginia Marine Resource Commission and the NOAA Office of Law Enforcement, June 20, Newport News, VA.
- Bates, E.B., S.G. Barco, M.C. Lynott, K.M. Phillips, W.M. Swingle. 2013. Analysis of Bottlenose Dolphin (*Tursiops truncatus*) Stranding in Virginia Beach, VA to Evaluate the Potential Effects of Pound Net Modifications. Oral Presentation at the Northeast Region Stranding Conference, April 29-May 2, Riverhead, NY.

APPENDIX I: PROFESSIONAL AND EDUCATION ACTIVITIES CONT.

- Byrd, B. L., A. A. Hohn, G. N. Lovewell, K. M. Altman, S. G. Barco, A. Friedlaender, C. A. Harms, W. A. McLellan, K. T. Moore, P. E. Rosel, V. G. Thayer. 2014. Strandings Illustrate Marine Mammal Biodiversity and Human Impacts off the Coast of North Carolina, USA. *Fishery Bulletin*. 112:1-23.
- Davis, S.J., K.M. Phillips, C.M. Trapani, E.E. Seney, S.G. Barco. 2013. Diet Analysis of Stranded Loggerhead Sea Turtles in Virginia, 2011. Oral Presentation for the International Symposium on Sea Turtle Biology and Conservation, February 1-9, Baltimore, MD.
- Harms, C. A., McLellan, W. A., Moore, M. J., Barco, S. G., Clarke III, E. O., Thayer, V. G., & Rowles, T. K. 2013. Low-residue Euthanasia of Stranded Mysticetes. *Journal of Wildlife Diseases*. 50(1): 63-73.
- Lockhart, G.G. 2013. The Virginia and Maryland Sea Turtle Research and Conservation Initiative: 2011-2013. Oral Presentation at the International Symposium on Sea Turtle Biology and Conservation, February 1-9, Baltimore, MD.
- Lynott, M.C., L.R. D'Eri. 2013. The Virginia Aquarium Stranding Response Program. Oral Presentation at the 2013 Wildlife Rehabilitators Meeting, February 10, Virginia Beach, VA.
- Lynott, M., M. Stolen, K. Phillips, W. Swingle. 2013. Temporal Trends Associated with Age in Stranded Bottlenose Dolphins (*Tursiops truncatus*) in Virginia. Oral Presentation at the Northeast Region Stranding Conference, April 29-May 2, Riverhead, NY.
- Lynott, M., C. Trapani, L. D'Eri, K. Phillips, M. Swingle. 2013. Virginia Aquarium Stranding Response Program State Report 2012. Oral Presentation at the Northeast Region Stranding Conference, April 29-May 2, Riverhead, NY.
- Lynott, M., M. Stolen, I. Bartol, E. Stolen, T. Mazza and S. Barco. 2013. Analysis of Age, Growth and Fishery Interaction Status of Stranded Bottlenose Dolphins (*Tursiops truncatus*) in Virginia. Oral Presentation at the Southeast and Mid-Atlantic Marine Mammal Symposium, March 22-24, Jacksonville, FL.
- Malette, S., W. McLellan, H. Koopman, F. Scharf, S. Barco, and D. Pabst. 2013. Ontogenetic Allometry and Body Composition of the Common Bottlenose Dolphin (*Tursiops truncatus*) from the US Mid-Atlantic. Oral Presentation at the Southeast and Mid-Atlantic Marine Mammal Symposium, March 22-24, Jacksonville, FL.
- Moore, M., J. van der Hoop, S. Barco, A. Costidis, F. Gulland, P. Jepson, K. Moore, S. Raverty, W. McLellan. 2013. Criteria and Case Definitions for Serious Injury and Death of Pinnipeds and Cetaceans Caused by Anthropogenic Trauma. *Diseases of Aquatic Organisms*. Vol 103:229-264
- Phillips, K., M. Lynott, S. Davis, D. Gannon, S. Barco, I. Bartol. 2013. The Start of a New Life History Story for VAQS: Analysis of Stomach Contents from Stranded Bottlenose Dolphins (*Tursiops truncatus*) in Virginia. Oral Presentation at the Northeast Region Stranding Conference, April 29-May 2, Riverhead, NY.
- Phillips, K.M., M.C. Lynott, S.G. Barco, W.M. Swingle. 2013. Supporting Expert Response to Stranded Marine Mammals in Virginia and Beyond in 2012. Final Report to the John H. Prescott Marine Mammal Rescue Assistance Grant Program, Prescott Award Number NA11NMF4390084. VAQF Scientific Report 2013-02. 220 pp.
- Swingle, W.M., C.M. Trapani, L.R. D'Eri, M.C. Lynott. 2013. Marine Mammal and Sea Turtle Stranding Response 2012 Grant Report. Final Report to the Virginia Coastal Zone Management Program, NOAA CZM Grant #NA11NOS4190122, Task 49. VAQF Scientific Report 2013-01. Virginia Beach, VA. 39 pp.

APPENDIX I: PROFESSIONAL AND EDUCATION ACTIVITIES *CONT.*

Pepe, M., J. Bort, G. Lockhart, S. Barco, R. Asmutis-Silvia. Can Platforms of Opportunity in the Mid-Atlantic Be Used to Supplement Broad Scale Survey Data? Poster presentation at the Southeast and Mid-Atlantic Marine Mammal Symposium, March 22-24, Jacksonville, FL.

Vaughan, K., A. Rabon, R. Reisbeck, G. Lockhart, S. Barco, K. Burns. 2013. Celebrating Sea Turtles. Oral presentation at the International Symposium on Sea Turtle Biology and Conservation, February 1-9, Baltimore, MD.

APPENDIX II: HIGHLIGHTS OF THE YEAR – MARINE MAMMALS

2013 started off slowly as far as bottlenose dolphin strandings are concerned. Usually in Virginia, bottlenose dolphin (*Tursiops truncatus*) strandings peak in mid-late May through June, however, there were fewer strandings than normal during this period. Then July arrived and the Virginia Aquarium Stranding Response Program (VAQS) found itself in the midst of the largest unusual mortality event (UME) ever to affect the U.S. Atlantic coast. Since July, states from New York to Florida have responded to over 1,000 bottlenose dolphin strandings. During this time frame, Virginia alone experienced 345 bottlenose dolphin strandings including 11 live events (picture to right).



Normally, VAQS responds to ~100 stranded marine mammals per year. VAQS staff and volunteers struggled to keep up with the influx of carcasses that washed up on Virginia's shorelines on a daily basis. Stranding response experts from across the United States came to Virginia Beach and the Aquarium's Marine Animal Care Center to assist with the event and other stranding network facilities offered to accept carcasses and to assist with necropsies.

This tireless and cooperative effort contributed to the early identification of cetacean morbillivirus as the probable cause of the UME and the identification of secondary infections of potentially zoonotic diseases. The virus has affected all age classes and many dolphins have exhibited skin, oral, joint and lung lesions. The same virus wreaked havoc on the Atlantic coastal bottlenose dolphin population in the late 1980's. As a result of technological advances and the significant growth and development of the marine mammal stranding network, the identification of the virus in the 2013 UME was accomplished in weeks in comparison to the many years required following the 1980's die-off. While scientists have identified the virus as the primary cause of the UME, there are still many questions to be answered, including why this disease-causing virus has emerged after more than 20 years with such a devastating effect on these dolphins. A major epizootic mortality event such as this demonstrates the importance of the marine mammal stranding network and documenting stranded



animals. Samples and data from strandings help us understand the true impacts of such an unusual mortality event on a population, how they recover and how the population should be managed in the future. Bottlenose dolphins represent important sentinels of ocean health. Investigations like the one currently underway will help us better understand how ocean health is affecting bottlenose dolphins, and potentially how it could also affect us.



APPENDIX II: HIGHLIGHTS OF THE YEAR – MARINE MAMMALS CONT.

During this event, marine mammal species other than bottlenose dolphins also stranded. These species included pygmy sperm whales (*Kogia breviceps*), common dolphins (*Delphinus delphis*), harp seal (*Pagophilus groenlandica*), harbor porpoise (*Phocoena phocoena*), and humpback whale (*Megaptera novaengliae*).

While some of these species also tested positive for morbillivirus, it remains unclear how they may have been affected and if it is causing clinical disease. Especially notable was the first ever record of pygmy killer whales (*Feresa attenuata*) stranded in Virginia.

On November 9, 2013, VAQS responded to two live pygmy killer whales that had stranded on Ft. Story Joint Expeditionary Base in Virginia Beach (photo at right). A single dead juvenile pygmy killer



whale stranded nine days later in the Virginia Beach resort area. Both live whales had to be humanely euthanized and all three carcasses of this rarely seen species were frozen and sent to the Smithsonian for later examination by a team of expert marine mammal scientists.

APPENDIX III: HIGHLIGHTS OF THE YEAR - SEA TURTLES

Between July 4th and August 14th, VAQS admitted seven live loggerhead sea turtles for rehabilitation at the Aquarium's Marine Animal Care Center. These turtles had been hooked by fishers at fishing piers throughout Virginia. Five of the turtles were hooked at the Ocean View Fishing Pier in Norfolk. Three turtles arrived with multiple hooks: VAQS20132086 had two hooks embedded within the esophagus; VAQS20132106 was hooked bilaterally at the sides of its mouth and beak; and VAQS20132107 had one hook embedded in the left side of mouth and beak and one within the esophagus (photo at right). All hooks were successfully removed and all hooked turtles were rehabilitated and released in 2013. In recent years, and especially in 2013, the number of hook interactions seems to be increasing. In 2013, VAQS documented 16 cases of live sea turtles hooked on recreational fishing gear. While some of the increase was due to changes in NMFS reporting requirements, we believe that there were more interactions in 2013, especially with loggerhead sea turtles hooked by recreational fishers from large commercial fishing piers.



VAQS also documented six leatherback sea turtle strandings in 2013. Two of the leatherbacks were reported entangled in a modified pound net leader off Virginia Beach (photos below). The Virginia Marine Resources Commission was able to disentangle one of the animals in May. VAQS, with the help of the Virginia Beach Police Marine Unit, disentangled the second leatherback in June from the same pound net. Both turtles were released immediately at the site. Due to the large size and behavioral needs of leatherback sea turtles, rehabilitation is normally not a practical option. During the last eight years, modified leaders have been required on some Virginia pound nets by state and federal agencies to reduce sea turtle and marine mammal bycatch. Cases of entanglement in modified leaders are thoroughly investigated to potentially inform future bycatch reduction strategies.



APPENDIX IV: STRANDING NETWORK DATASHEETS

A: Marine Mammal Level A Datasheet

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: VAQS2013 NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
(NMFS USE) (NMFS USE)

COMMON NAME: _____ GENUS: _____ SPECIES: _____

EXAMINER Name: _____ Affiliation: Virginia Aquarium Stranding

Address: 717 General Booth Blvd, Virginia Beach, VA 23451 Phone: 757-385-7575

Stranding Agreement or Authority: Virginia Aquarium Stranding

<p>LOCATION OF INITIAL OBSERVATION</p> <p>State: _____ County: _____</p> <p>City: _____</p> <p>Body of Water: _____</p> <p>Locality Details: _____</p> <p>Lat (DD): _____ N Long (DD): _____ W</p> <p><input type="checkbox"/> Actual <input type="checkbox"/> Estimated</p> <p>How Determined: (check ONE)</p> <p><input type="checkbox"/> GPS <input type="checkbox"/> Map <input type="checkbox"/> Internet/Software</p>	<p>OCURRENCE DETAILS <input type="checkbox"/> Restrand GE# _____</p> <p>Group Event: <input type="checkbox"/> YES <input type="checkbox"/> NO <small>(NMFS Use)</small></p> <p>If Yes, Type: <input type="checkbox"/> Cow/Calf Pair <input type="checkbox"/> Mass Stranding # Animals: _____ <input type="checkbox"/> Actual <input type="checkbox"/> Estimated</p> <p>Findings of Human Interaction: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD)</p> <p>If Yes, Choose one or more: <input type="checkbox"/> 1. Boat Collision <input type="checkbox"/> 2. Shot <input type="checkbox"/> 3. Fishery Interaction</p> <p><input type="checkbox"/> 4. Other Human Interaction: _____</p> <p>How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy</p> <p><input type="checkbox"/> Other: _____</p> <p>Gear Collected? <input type="checkbox"/> YES <input type="checkbox"/> NO Gear Disposition: _____</p> <p>Other Findings Upon Level A: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD)</p> <p>If Yes, Choose one or more: <input type="checkbox"/> 1. Illness <input type="checkbox"/> 2. Injury <input type="checkbox"/> 3. Pregnant <input type="checkbox"/> 4. Other: _____</p> <p>How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy</p> <p><input type="checkbox"/> Other: _____</p>
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<p>INITIAL OBSERVATION</p> <p>Date: Year: <u>2012</u> Month: _____ Day: _____</p> <p>First Observed: <input type="checkbox"/> Beach or Land <input type="checkbox"/> Floating <input type="checkbox"/> Swimming</p> <p>CONDITION AT INITIAL OBSERVATION (Check ONE)</p> <p><input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Condition Unknown</p>	<p>LEVEL A EXAMINATION <input type="checkbox"/> Not Able to Examine</p> <p>Date: Year: <u>2013</u> Month: _____ Day: _____</p> <p>CONDITION AT EXAMINATION (Check ONE)</p> <p><input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Unknown</p>
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<p>INITIAL LIVE ANIMAL DISPOSITION (Check one or more)</p> <p><input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 6. Euthanized at Site <input type="checkbox"/> 2. Immediate Release at Site <input type="checkbox"/> 7. Transferred to Rehabilitation: Date: Year: _____ Month: _____ Day: _____ Facility: _____ <input type="checkbox"/> 3. Relocated <input type="checkbox"/> 8. Died during Transport <input type="checkbox"/> 4. Disentangled <input type="checkbox"/> 9. Euthanized during Transport <input type="checkbox"/> 5. Died at Site <input type="checkbox"/> 10. Other: _____</p> <p>CONDITION/DETERMINATION (Check one or more)</p> <p><input type="checkbox"/> 1. Sick <input type="checkbox"/> 7. Location Hazardous <input type="checkbox"/> 2. Injured <input type="checkbox"/> a. To animal <input type="checkbox"/> 3. Out of Habitat <input type="checkbox"/> b. To public <input type="checkbox"/> 4. Deemed Releasable <input type="checkbox"/> 8. Unknown/CBD <input type="checkbox"/> 5. Abandoned/Orphaned <input type="checkbox"/> 9. Other _____ <input type="checkbox"/> 6. Inaccessible</p>	<p>MORPHOLOGICAL DATA</p> <p>SEX (Check ONE) AGE CLASS (Check ONE)</p> <p><input type="checkbox"/> 1. Male <input type="checkbox"/> 1. Adult <input type="checkbox"/> 4. Pup/Calf <input type="checkbox"/> 2. Female <input type="checkbox"/> 2. Subadult <input type="checkbox"/> 5. Unknown <input type="checkbox"/> 3. Unknown <input type="checkbox"/> 3. Yearling</p> <p><input type="checkbox"/> Whole Carcass <input type="checkbox"/> Partial Carcass</p> <p>Straight length: _____ <input type="checkbox"/> cm <input type="checkbox"/> in <input type="checkbox"/> actual <input type="checkbox"/> estimated Weight: _____ <input type="checkbox"/> kg <input type="checkbox"/> lb <input type="checkbox"/> actual <input type="checkbox"/> estimated</p> <p>PHOTOS/VIDEOS TAKEN: <input type="checkbox"/> YES <input type="checkbox"/> NO Photo/Video Disposition: _____</p>
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<p>TAG DATA Tags Were:</p> <p>Present at Time of Stranding (Pre-existing): <input type="checkbox"/> YES <input type="checkbox"/> NO Applied during Stranding Response: <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ID#</th> <th>Color</th> <th>Type</th> <th>Placement* (Circle ONE)</th> <th>Applied</th> <th>Present</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L LF LR RF RR</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L LF LR RF RR</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L LF LR RF RR</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p><small>* D= Dorsal; DF= Dorsal Fin; L= Lateral Body LF= Left Front; LR= Left Rear; RF= Right Front; RR= Right Rear</small></p>	ID#	Color	Type	Placement* (Circle ONE)	Applied	Present	_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	<p>CARCASS STATUS (Check one or more)</p> <p><input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 4. Towed: Lat _____ Long _____ <input type="checkbox"/> 7. Landfill <input type="checkbox"/> 2. Buried <input type="checkbox"/> 5. Sunk: Lat _____ Long _____ <input type="checkbox"/> 8. Unknown <input type="checkbox"/> 3. Rendered <input type="checkbox"/> 6. Frozen for Later Examination <input type="checkbox"/> 9. Other _____</p> <p>SPECIMEN DISPOSITION (Check one or more)</p> <p><input type="checkbox"/> 1. Scientific collection <input type="checkbox"/> 2. Educational collection <input type="checkbox"/> 3. Other: _____</p> <p>Comments: _____</p> <p>NECROPSIED <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> Limited <input type="checkbox"/> Complete <input type="checkbox"/> Carcass Fresh <input type="checkbox"/> Carcass Frozen/Thawed</p> <p>NECROPSIED BY: _____ Date: Year: _____ Month: _____ Day: _____</p>
ID#	Color	Type	Placement* (Circle ONE)	Applied	Present																				
_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>																				
_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>																				
_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>																				

B: Sea Turtle Level A Datasheet

SEA TURTLE STRANDING AND SALVAGE NETWORK – STRANDING REPORT

OBSERVER'S NAME / ADDRESS / PHONE: First _____ M.I. _____ Last _____ Affiliation: Virginia Aquarium Stranding Response Program Address: 717 General Booth Blvd. Virginia Beach, VA 23451 vaqstranding@gmail.com Area code/Phone number: 757-385-7575	STRANDING DATE: Year 20__ Month __ Day __ Turtle number by day __ __ <hr/> -State coordinator must be notified within 24 hrs; this was done by <input type="checkbox"/> phone (757)385-7575 <input type="checkbox"/> email <input type="checkbox"/> fax (757)437-4933
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SPECIES: (check one)

CC = Loggerhead
 CM = Green
 DC = Leatherback
 EI = Hawksbill
 LK = Kemp's Ridley
 LO = Olive Ridley
 UN = Unidentified

Check Unidentified if not positive. Do Not Guess.

Carcass necropsied? Yes No
 Necropsied By _____
 Necropsy Date _____
 Photos taken? Yes No
 Species verified by state coordinator?
 Yes No Initial _____

SEX:

Undetermined
 Female Male
 Does tail extend beyond carapace?
 Yes; how far? _____ cm / in
 No
 How was sex determined?
 Necropsy
 Tail length (adult only)

STRANDING LOCATION: Offshore (Atlantic or Gulf beach) Inshore (bay, river, sound, inlet, etc)
 State _____ County _____
 Descriptive location (be specific) _____

 Latitude _____ Longitude _____

CONDITION: (check one)

0 = Alive
 1 = Fresh dead
 2 = Moderately decomposed
 3 = Severely decomposed
 4 = Dried carcass
 5 = Skeleton, bones only

FINAL DISPOSITION: (check)

1 = Left on beach where found; painted? Yes* No(5)
 2 = Buried: on beach / off beach;
 carcass painted before buried? Yes* No
 3 = Salvaged: all / part(s), what/why? _____

 4 = Pulled up on beach/dune; painted? Yes* No
 6 = Alive, released
 7 = Alive, taken to rehab. facility, where? _____
 8 = Left floating, not recovered; painted? Yes* No
 9 = Disposition unknown, explain _____

**If painted, what color?* _____

TAGS: Contact state coordinator before disposing of any tagged animal!!
 Checked for flipper tags? Yes No
Check all 4 flippers. If found, record tag number(s) / tag location / return address

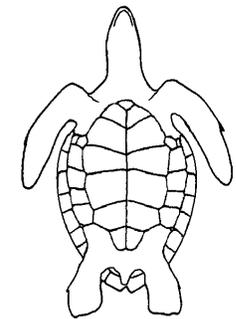
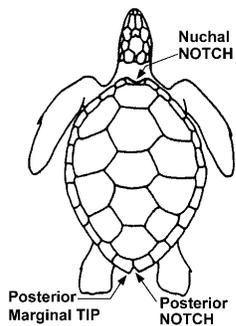
 PIT tag scan? Yes No
 If found, record number / tag location

 Coded wire tag scan? Yes No
 If positive response, record location (flipper)

 Checked for living tag? Yes No
 If found, record location (scute number & side)

CARAPACE MEASUREMENTS: (see drawing)

Using calipers Circle unit
 Straight length (NOTCH-TIP) _____ cm / in
 Minimum length (NOTCH-NOTCH) _____ cm / in
 Straight width (Widest Point) _____ cm / in
Using non-metal measuring tape Circle unit
 Curved length (NOTCH-TIP) _____ cm / in
 Minimum length (NOTCH-NOTCH) _____ cm / in
 Curved width (Widest Point) _____ cm / in
Circle unit
Weight actual / est. _____ kg / lb



Mark wounds / abnormalities on diagrams at left and describe below (note tar or oil, gear or debris entanglement, propeller damage, epibiota, papillomas, emaciation, etc.). **Please note if no wounds / abnormalities are found.**

APPENDIX V: VIRGINIA SPECIES LISTS

A. Marine mammal species in stranding records from Virginia, U.S.A. (Virginia Aquarium Marine Mammal Stranding Database 2013, Potter 1991).

Common Name	Scientific Name	Status
Class: Mammalia		
Order: Sirenia		
Family: Trichechidae		
Florida manatee	<i>Trichechus manatus latirostris</i>	Endangered
Order: Cetacea		
Suborder: Mysticeti		
Family: Balaenidae		
Northern right whale	<i>Eubalaena glacialis</i>	Endangered
Family: Balaenopteridae		
Fin whale	<i>Balaenoptera physalus</i>	Endangered
Sei whale	<i>Balaenoptera borealis</i>	Endangered
Bryde's whale	<i>Balaenoptera brydei</i>	Uncertain
Minke whale	<i>Balaenoptera acutorostrata</i>	Common
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered
Suborder: Odontoceti		
Family: Physeteridae		
Sperm whale	<i>Physeter macrocephalus</i>	Endangered
Pygmy sperm whale	<i>Kogia breviceps</i>	Uncertain
Dwarf sperm whale	<i>Kogia sima</i>	Uncertain
Family: Ziphiidae		
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Uncertain
Gervais' beaked whale	<i>Mesoplodon europaeus</i>	Uncertain
True's beaked whale	<i>Mesoplodon mirus</i>	Uncertain
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	Uncertain
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	Uncertain
Family: Delphinidae		
Longfinned pilot whale	<i>Globicephala melas</i>	Common
Shortfinned pilot whale	<i>Globicephala macrorhynchus</i>	Uncommon
Risso's dolphin	<i>Grampus griseus</i>	Common
Bottlenose dolphin	<i>Tursiops truncatus</i>	Common
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Common
Pygmy killer whale	<i>Feresa attenuata</i>	Uncertain
Melonheaded whale	<i>Peponocephala electra</i>	Uncertain

A. Marine mammal species *cont.*

Common Name	Scientific Name	Status
Family: Delphinidae (cont)		
Rough-toothed dolphin	<i>Steno bredanensis</i>	Uncommon
Common dolphin	<i>Delphinus delphis</i>	Common
Striped dolphin	<i>Stenella coeruleoalba</i>	Common
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Common
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Common
Family: Phocoenidae		
Harbor porpoise	<i>Phocoena phocoena</i>	Common
Order: Carnivora		
Suborder: Pinnipedia		
Family: Phocidae		
Harbor seal	<i>Phoca vitulina</i>	Common
Gray seal	<i>Halichoerus grypus</i>	Common
Hooded seal	<i>Cystophora cristata</i>	Common
Harp seal	<i>Pagophilus groenlandica</i>	Common

B. Sea turtle species in stranding records from Virginia, U.S.A. (Virginia Aquarium Sea Turtle Stranding Database 2013).

Common Name	Scientific Name	Status
Class: Reptilia		
Order: Testudines		
Family: Dermochelyidae		
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered
Family: Cheloniidae		
Green sea turtle	<i>Chelonia mydas</i>	Threatened
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered