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Virginia Sea Turtle and Marine Mammal Stranding Network 2015 Grant Report

W.M. Swingle, S.G. Barco, E.B. Bates, G.G. Lockhart, K.M. Phillips, K.R. Rodrique, S.A. Rose, K.M. Williams

VIRGINIA
AQUARIUM
STRANDING RESPONSE

Virginia Coastal Zone
MANAGEMENT PROGRAM

VIRGINIA AQUARIUM FOUNDATION
STRANDING RESPONSE PROGRAM

Virginia Sea Turtle and Marine Mammal Stranding Network 2015 Grant Report

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By

W. Mark Swingle
Director of Research & Conservation

Susan G. Barco
Research Coordinator

Erin B. Bates
Stranding Response Technician

Gwen G. Lockhart
Research Specialist, GIS Analyst

Kristy M. Phillips
Stranding Response Necropsy Manager

Krystle R. Rodrique
Stranding Response Technician

Sarah A. Rose
Research Technician

Kristine M. Williams
Live Animal Care Manager

Virginia Aquarium Foundation Stranding Response Program
717 General Booth Boulevard
Virginia Beach, Virginia 23451

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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 Repsonse Program is dedicated to conservation of marine animal species through stranding response, research, rehabilitation and education.

Virginia Coastal Zone
MANAGEMENT PROGRAM

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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 6,400) in Virginia since 1987. The Aquarium and 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 80 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 (USFWS), NOAA Fisheries Service (NMFS), The Nature Conservancy, Virginia Marine Resources Commission, 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 and species 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 years since 2000 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 (UME).

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 often provides the best information available on the species' natural history. Stranding records can represent viable measures of the biological diversity and the spatial and temporal changes that are occurring in adjacent waters, especially when long-term datasets are developed and maintained (Pyenson 2010; Pyenson 2011; Pikesley *et al* 2012). In addition, stranding data 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, 2000). 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 dry containers such as 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 5.9 cetaceans and 3.8 pinniped live strandings in Virginia each year. The VAQS Team also responds to live marine mammal emergencies in northeastern North Carolina (5.8 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 4,400 sea turtle strandings, with an average of 233 per year for the last ten years 2006-2015 (Fig. 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 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 sea turtles nest on Virginia beaches each year, primarily loggerheads. In addition, several green and Kemp's ridley sea turtles have been recorded nesting recently in Virginia. The VAQS Team participates in a nesting beach monitoring program with the USFWS, Back Bay National Wildlife Refuge and VDGIF. Live strandings of sea turtles have also increased and the VAQS Team has successfully rehabilitated and released many of the stranded turtles. VAQS recently developed the Virginia Pier Partner Program to better respond to the large numbers of sea turtles that are incidentally caught by pier fishermen each year. This program has been very successful in both recovering and rehabilitating hooked sea turtles and providing outreach to fishermen and pier owners about the proper sea turtle handling techniques. The program has also allowed for the collection of data on the fishing practices that are associated with hooked sea turtles. As a result of its success, other stranding network organizations in the region are contacting VAQS to learn more about the program. Since 2000, an average of 11.5 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 65) 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 yearling loggerheads and 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 15 million people through innovative Aquarium exhibits and public programs. In 2015, a major new exhibit area devoted to the stranding response program opened at the Aquarium. 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 rehabilitation and response 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 can 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, B, and C 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 manager 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 support 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 has been put into action on many occasions, including during response to the BP Deepwater Horizon Oil Spill in the Gulf of Mexico in 2010 and the mass cold-stun event in the northeast in 2014-15. 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 from the oil spill, and for more than six weeks in Massachusetts for the 2014-15 event.

DISCUSSION OF 2015 VIRGINIA STRANDING DATA

MARINE MAMMALS

Virginia stranding data are presented for the calendar year 2015. A total of 101 marine

mammal strandings were recorded during 2015 (Table 1). This number was slightly higher than in 2014 (95) and much lower than in 2013 (427) when Virginia experienced the highest number of marine mammal strandings ever recorded in a single year. In the past ten years, the number of marine mammal strandings has varied between 119 (2005) and 75 (2012), not including the historic year of 2013 (Fig. 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, common dolphins and seals) tend to strand seasonally, while others (*i.e.* large whales and other cetaceans) can occur at any time of the year (Fig. 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). 2015 was a typically high year for bottlenose dolphin strandings and they comprised 84% of the strandings (Fig. 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 (Fig. 4-5). Pictures and descriptions of notable marine mammal strandings from 2015 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 2015, VAQS responded to nine live marine mammal strandings in Virginia (Table 2). These strandings occurred at various times throughout the year and consisted of five cetaceans and four pinnipeds. VAQS also rehabilitated and released one pinniped from North Carolina. The cetaceans included four bottlenose dolphins and one minke whale. All of the cetaceans that stranded either died on the beach or were humanely euthanized. The pinnipeds included three gray seals and two harp seals. One gray seal was temporarily captured on the beach, examined and released. The other Virginia gray seal was recovered and sent to the Marine Mammal Stranding Center in Brigantine, NJ, for rehabilitation, but eventually died. VAQS assisted North Carolina partners by responding to a gray seal near the North Carolina/Virginia state line. Once determined the animal was a rehabilitation candidate, it was admitted into the Stranding Center. This seal was successfully rehabilitated, outfitted with a satellite tag, and became the first gray seal to be released in Virginia. The last known transmission in August gave the seal's location in an area common for gray seal sightings near Martha's Vineyard, MA. The harp seals were in extremely poor condition: one died on the beach prior to recovery and the other died within 24 hours of transport to the Stranding Center.

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; Fig. 2). During 2015, 85 bottlenose dolphin strandings were recorded in Virginia (Figure 6A). This is the third highest number of

strandings ever recorded in a single year and is exceeded only by the UME years of 1987 and 2013. The UME that began in 2013 impacted bottlenose dolphins from New York to Florida and continued into 2015, though it was officially ended in April. Bottlenose dolphin strandings in 2015 occurred primarily along the Atlantic Ocean and lower Chesapeake Bay shorelines (Fig. 4). In 2015, 38.6% (39) of the strandings occurred in Virginia Beach, 28.7% (29) on the eastern shore, 6.0% (6) in Norfolk/Portsmouth and 26.7% (27) on the western shores of Chesapeake Bay north of the James River. Gender was determined for 69 of the stranded dolphins. Females comprised 33% (23) and males comprised 67% (46) of the known gender animals. Of the 73 stranded dolphins with recorded lengths (includes estimated lengths and observer descriptions), 19 (26%) were less than 160 cm (defined as "young of the year", YOY), the approximate size of a one-year old dolphin (Fig. 6A; Urian *et al.* 1996). Past 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 = 32), signs of human interaction could not be determined in 21 (66%), were positive in five (15%), and were not observed in six (19%). 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 some years, harbor porpoises have been the second most commonly stranded marine mammals in Virginia. Harbor porpoises typically strand in late winter and early spring (Fig. 2), and strandings occur along the ocean shorelines (Fig. 5). 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 three harbor porpoise strandings in Virginia in 2015 (Fig. 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 2015, VAQS responded to one humpback whale (*Megaptera novaeangliae*) and one minke whale (*Balaenoptera acutorostrata*) in Virginia. Overall, there have been 2.3 large whale strandings annually in Virginia during the last ten years (Fig. 6C). In addition to strandings, VAQS also responds to large whale entanglements. VAQS staff has been qualified to respond to entangled whales by the 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 only two strandings during 2015. These strandings typically occur along the ocean and lower bay shorelines and sometimes involve live animals. In 2015, there were two common dolphin (*Delphinus delphis*) strandings.

Pinnipeds

Pinniped strandings have generally increased in Virginia since the early 1990s and there were nine strandings recorded from Virginia during 2015 (Fig. 3, 6D). The species included two harbor seals (*Phoca vitulina*), four gray seals (*Halichoerus grypus*) and three harp seals (*Pagophilus groenlandica*). Two gray seals and two harp seals stranded alive. One gray seal was captured on the beach, examined and released on the site. The others died on the beach or during attempted rehabilitation. VAQS also rehabilitated and released a gray seal from North Carolina.

Regular sightings of seals in Virginia continue to be common occurrences in winter and early spring and there is current interest in studying the growing winter aggregations of pinnipeds. 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 2015, there was another significant increase in the number of sea turtle strandings (295) 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 232 annually in the last ten years, Virginia remains an area of high sea turtle mortality as measured by strandings (Fig. 7). The VAQS Team responded to 266 sea turtle strandings during the year and an additional 29 strandings were reported by stranding network cooperators trained by VAQS (Table 3). Cooperators' reports are entered into the state sea turtle stranding database and the responder's affiliation is listed. In some cases, unique numbers are sometimes provided by responding groups and these numbers are also recorded in the stranding database. Cooperator reports originate from VDGIF, Chincoteague, Eastern Shore and Back Bay National Wildlife refuges, and also from Kiptopeke and False Cape State Parks. November was the busiest month with 63 strandings (21%), followed by October, June, August and July with 55 (19%), 54 (18%), 31 (11%) and 29 (10%) strandings, respectively. There were also significant numbers of strandings in the months of May and September, as well. This was an unusual year due to the very strong fall peak in strandings that exceeded the typical spring and early summer peaks (Fig. 8). Loggerheads (*Caretta caretta*, n = 125) were the primary species recorded, followed by Kemp's ridleys (*Lepidochelys kempii*, n = 90), greens (*Chelonia mydas*, n = 69), leatherbacks (*Dermochelys coriacea*, n = 4) and seven sea turtles that were unidentified to species (Fig. 10). The distribution of strandings was primarily along the ocean and lower bay shorelines (Fig. 11-15). The eastern shore of Virginia was the area where 34% (102) of the sea turtle strandings were found. Accomack County accounted for 9% (9) and Northampton County for 91% (93) of the eastern shore total. Strandings in Virginia Beach, Norfolk and other southside cities contributed to 53% (155) of the total. The remainder 13% (38) originated from the western shores of the Chesapeake Bay north of the James River.

In addition to strandings, there were six sea turtle takes associated with dredging projects in Virginia during 2015 (Table 4, Fig. 9, 12). These sea turtles, all loggerheads, are represented in some of the data tables. Three of the loggerheads were alive when recovered and two remained in rehabilitation at the end of 2015. One was transferred to North Carolina Aquarium at Roanoke Island for most of the rehabilitation period but then released in Virginia waters with a satellite tag (Table 7).

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 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 2015 are included in Appendix III.

Live strandings

2015 was a record-breaking year for the VAQS Team with 63 live sea turtle strandings recorded from Virginia – 18 loggerheads, 31 Kemp's ridleys, four greens, three leatherbacks and seven unidentified to species (Table 5). Thirty seven of these turtles were successfully recovered, rehabilitated and released and 13 were disentangled and/or released from commercial and recreational fishing gear. Many of these turtles were recovered through the successful Virginia Pier Partner Program. Of special note, two leatherbacks were disentangled from pound net leaders in the mouth of Chesapeake Bay. Five sea turtles that stranded in 2014 were also released during 2015. In addition, nine sea turtles from the New England Aquarium in Massachusetts and three from the Brigantine Marine Mammal Stranding Center in New Jersey were transferred to VAQS for rehabilitation in 2015 (Table 6). 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 11 sea turtles in rehabilitation at the VAQS Stranding Center.

VAQS ACTIVITIES DURING 2015

VAQS conducted trainings on biology, ecology and stranding response protocols for sea turtles and marine mammals during the year. These trainings provide important information 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, sea turtle rehabilitation, new findings from sea turtle and marine mammal research, large whale status in ocean waters off Virginia, 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 and their ecology and life history 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. VAQS outreach volunteers utilized a portable exhibit to present the activities of the Virginia stranding network, and promoted conservation of marine animal species and their habitats. Significantly, a new permanent exhibition, *Stranded*, opened at the Aquarium in September. The exhibit tells the story of the Virginia marine mammal and sea turtle stranding networks through expansive graphics, videos and interactive experiences – including a live look at patients in the standing center. This new exhibit experience will reach more than 600,000 visitors annually. 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 Stranding Center with a full-time stranding response manager, live animal care manager, necropsy manager, volunteer coordinator/stranding response technician, stranding response technician, and several part-time 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 and the volunteer coordinator, the on-call system greatly enhances the Team's readiness and rapid response. VAQS Team volunteers logged more than 17,500 hours during 2015.

VAQS continued several research projects that have been ongoing for many years. Staff participated in photo-identification and stock-ID research on bottlenose dolphins and humpback whales. Photo-ID catalogs contain records of numerous individuals, 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 and marine mammals to investigate causes of mortalities and to determine baseline health information for regional populations. Sea turtle and marine mammal diet studies continued in 2015 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 NC 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 response to the bottlenose dolphin UME that began in July 2013 along the east coast. Virginia also experienced the highest number of dolphin mortalities (345) associated with the UME and had a record number of strandings for a non-UME year in 2015. 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 may aspects of 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 2015, continuing a trend seen in 2012, 2013 and 2014. Monitoring Virginia sea turtle strandings in 2016 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 True's beaked whale stranding 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 2015, 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 in the design phase for a new 18,000 sq. ft. marine animal conservation center. This project has been formally initiated with the architectural design and development phase continuing in 2016 and is expected to be completed in 2019.

Marine mammal and sea turtle strandings in Virginia were once again at high levels during 2015. As a result, managing the Virginia stranding networks for these federally and state protected species continues to be a priority for VAQS and is vitally important for the state and federal agencies who depend on this information. At the same time, federal funding from NOAA Fisheries for the marine mammal stranding network through the Prescott Stranding Grant Program continues to be challenged and is constantly under threat of elimination. It is possible that this Program will disappear unless Congress and NOAA continue to act to maintain 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 Virginia stranding network in 2016.

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Table 1: Marine mammal strandings in Virginia during 2015, n=101. Total number does not include one fetus (VAQS20151029F)
(Data from the VAQS Marine Mammal Stranding Database)
[Length=cm; * indicates estimated length; ND=no data; U=unknown]

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20151001	01/20/2015	harbor seal	Northampton	37.0856	-75.9693	dead	U	105.0
VAQS20151002	01/26/2015	common dolphin	Northampton	37.3907	-75.9706	dead	M	213.1
VAQS20151003	02/04/2015	bottlenose dolphin	Virginia Beach	36.9188	-75.9937	dead	F	274.3
VAQS20151004	02/14/2015	bottlenose dolphin	Virginia Beach	36.7496	-75.9440	dead	M	184.9
VAQS20151005	02/14/2015	bottlenose dolphin	Virginia Beach	36.6552	-75.9026	dead	U	ND
VAQS20151006	02/20/2015	harp seal	Hampton	37.0177	-76.2965	dead	M	ND
VAQS20151007	02/23/2015	bottlenose dolphin	Virginia Beach	36.9167	-75.9925	dead	M	ND
VAQS20151008	03/17/2015	harp seal	Northampton	37.1077	-75.9527	live	F	ND
VAQS20151009	03/19/2015	harp seal	Virginia Beach	36.7337	-75.9384	live	F	ND
VAQS20151010	03/21/2015	gray seal	Virginia Beach	36.5964	-75.8782	live	M	ND
VAQS20151011	03/29/2015	bottlenose dolphin	Virginia Beach	36.5622	-75.8703	dead	M	ND
VAQS20151012	03/29/2015	bottlenose dolphin	Northampton	37.1140	-75.9091	dead	U	ND
VAQS20151013	04/01/2015	bottlenose dolphin	Virginia Beach	36.8710	-76.0055	dead	M	ND
VAQS20151014	04/04/2015	bottlenose dolphin	Virginia Beach	36.6255	-75.8886	live	M	ND
VAQS20151015	04/05/2015	harbor porpoise	Virginia Beach	36.5523	-75.8682	dead	M	ND
VAQS20151016	04/12/2015	harbor porpoise	Accomack	37.9355	-75.6559	dead	M	115.8
NY5089-2014	04/13/2015	harbor seal	Accomack	37.8669	-75.4405	dead	M	158.2
VAQS20151017	04/13/2015	common dolphin	Accomack	37.8669	-75.4405	dead	M	238.2
VAQS20151018	04/15/2015	bottlenose dolphin	Virginia Beach	36.7053	-75.9278	dead	M	226.0
VAQS20151019	04/20/2015	bottlenose dolphin	Northampton	37.0892	-75.9783	dead	U	ND
VAQS20151020	04/21/2015	bottlenose dolphin	Virginia Beach	36.7635	-75.9501	dead	F	194.2
VAQS20151021	04/21/2015	gray seal	Virginia Beach	36.5971	-75.8783	live	M	100.0*
VAQS20151022	04/25/2015	bottlenose dolphin	Hampton	37.0929	-76.2732	dead	M	206.8
VAQS20151026	04/27/2015	bottlenose dolphin	Northampton	37.1125	-75.9230	dead	M	ND
VAQS20151023	04/28/2015	bottlenose dolphin	Virginia Beach	36.9194	-76.0547	dead	F	87.8*
VAQS20151024	04/29/2015	harbor porpoise	Hampton	37.0128	-76.2993	dead	F	128.2
VAQS20151032	05/01/2015	humpback whale	Northampton	37.4000	-75.6987	dead	U	900.0*
VAQS20151025	05/02/2015	bottlenose dolphin	Virginia Beach	36.6560	-75.9034	dead	F	211.0
VAQS20151027	05/02/2015	bottlenose dolphin	Northumberland	37.7817	-76.2300	dead	M	262.4
VAQS20151028	05/02/2015	gray seal	Norfolk	36.9649	-76.2696	dead	F	109.2
VAQS20151029	05/02/2015	bottlenose dolphin	Virginia Beach	36.6047	-75.8807	dead	F	235.0
VAQS20151029F	05/02/2015	bottlenose dolphin	Virginia Beach	36.6047	-75.8807	dead	M	101.2
VAQS20151030	05/02/2015	bottlenose dolphin	Virginia Beach	36.7297	-75.9368	dead	M	217.4
VAQS20151031	05/02/2015	bottlenose dolphin	Virginia Beach	36.8639	-75.9779	dead	M	237.2
VAQS20151048	05/02/2015	bottlenose dolphin	Northampton	37.1386	-75.8763	dead	U	ND
VAQS20151033	05/06/2015	bottlenose dolphin	Essex	38.0908	-77.0345	dead	F	279.0
VAQS20151034	05/07/2015	bottlenose dolphin	Virginia Beach	36.8488	-75.9736	dead	M	247.2
VAQS20151035	05/07/2015	bottlenose dolphin	Accomack	37.8619	-76.0020	dead	M	310.0
VAQS20151036	05/08/2015	gray seal	Accomack	37.8816	-75.3477	dead	M	117.2*
VAQS20151037	05/08/2015	bottlenose dolphin	Mathews	37.3406	-76.2711	dead	F	107.8
VAQS20151038	05/10/2015	bottlenose dolphin	Hampton	37.0588	-76.2825	dead	F	90.5
VAQS20151039	05/10/2015	bottlenose dolphin	Mathews	37.5085	-76.2802	dead	M	109.7
VAQS20151040	05/17/2015	bottlenose dolphin	Accomack	37.8654	-75.3626	dead	F	202.0*
VAQS20151041	05/18/2015	bottlenose dolphin	Virginia Beach	36.7809	-75.8510	dead	F	113.0*
VAQS20151042	05/19/2015	bottlenose dolphin	Northampton	37.0828	-75.9541	dead	U	106.6*
VAQS20151044	05/20/2015	bottlenose dolphin	Virginia Beach	36.9172	-76.1255	dead	M	110.0
VAQS20151043	05/21/2015	bottlenose dolphin	Virginia Beach	36.9205	-76.1343	dead	F	126.3
VAQS20151045	05/22/2015	bottlenose dolphin	Virginia Beach	36.9135	-76.1138	dead	M	105.2*
VAQS20151047	05/23/2015	bottlenose dolphin	Northampton	37.1089	-75.9555	dead	M	ND
VAQS20151046	05/25/2015	bottlenose dolphin	Mathews	37.4081	-76.2495	dead	M	194.0
VAQS20151049	05/26/2015	bottlenose dolphin	Northampton	37.0877	-75.9773	dead	M	105.7
VAQS20151050	05/28/2015	bottlenose dolphin	Northampton	37.1565	-75.9770	dead	U	94.0
VAQS20151051	06/03/2015	bottlenose dolphin	Virginia Beach	36.6238	-75.8880	dead	M	110.2
VAQS20151054	06/05/2015	minke whale	Mathews	37.3151	-76.2798	live	M	475.0
VAQS20151055	06/05/2015	bottlenose dolphin	Lancaster	37.6576	-76.3392	dead	M	280.4
VAQS20151056	06/06/2015	bottlenose dolphin	Norfolk	36.9689	-76.2881	dead	M	197.0*
VAQS20151057	06/07/2015	bottlenose dolphin	Northumberland	37.6885	-76.3248	dead	F	205.8
VAQS20151052	06/12/2015	bottlenose dolphin	Virginia Beach	36.5680	-76.0187	dead	U	244.0*

Table 1: Marine mammal strandings *cont.*

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20151053	06/14/2015	bottlenose dolphin	Northampton	37.4481	-75.9737	dead	U	200.0*
VAQS20151058	06/15/2015	bottlenose dolphin	Lancaster	37.6181	-76.2967	dead	F	190.6
VAQS20151059	06/15/2015	bottlenose dolphin	Northumberland	37.7187	-76.3196	dead	M	269.8
VAQS20151060	06/19/2015	bottlenose dolphin	Norfolk	36.9663	-76.2984	dead	M	ND
VAQS20151061	06/22/2015	bottlenose dolphin	Northampton	37.1063	-75.9776	dead	M	274.0
VAQS20151062	06/22/2015	bottlenose dolphin	Virginia Beach	36.9186	-76.0560	dead	U	ND
VAQS20151063	06/24/2015	bottlenose dolphin	Virginia Beach	36.8145	-75.9658	dead	M	115.0
VAQS20151064	06/26/2015	bottlenose dolphin	Mathews	37.5147	-76.2888	dead	M	276.4
VAQS20151065	06/29/2015	bottlenose dolphin	Virginia Beach	36.8849	-75.9689	dead	M	282.2
VAQS20151066	06/30/2015	bottlenose dolphin	Lancaster	37.6177	-76.2957	dead	F	129.8
VAQS20151067	07/02/2015	bottlenose dolphin	Northumberland	37.8769	-76.2412	dead	M	260.0*
VAQS20151068	07/03/2015	bottlenose dolphin	Virginia Beach	36.6942	-75.9202	dead	U	171.2*
VAQS20151069	07/06/2015	bottlenose dolphin	Accomack	37.8657	-75.4449	dead	M	276.1
VAQS20151070	07/06/2015	bottlenose dolphin	Hampton	37.0002	-76.3119	dead	M	251.2
VAQS20151071	07/15/2015	bottlenose dolphin	Norfolk	36.8386	-76.2888	dead	M	131.2
VAQS20151072	07/16/2015	bottlenose dolphin	Accomack	37.9027	-75.3337	live	F	103.5
VAQS20151073	07/17/2015	bottlenose dolphin	Virginia Beach	36.8729	-76.0126	dead	F	150.1
VAQS20151074	07/24/2015	bottlenose dolphin	Middlesex	37.7657	-76.6331	dead	M	ND
VAQS20151075	07/26/2015	bottlenose dolphin	Mathews	37.5091	-76.2822	dead	U	110.0*
VAQS20151076	07/30/2015	bottlenose dolphin	Northumberland	37.8197	-76.2639	dead	U	280.0*
VAQS20151077	07/30/2015	bottlenose dolphin	Norfolk	36.9448	-76.2297	dead	F	119.0
VAQS20151078	08/03/2015	bottlenose dolphin	Accomack	37.6954	-75.8529	live	U	ND
VAQS20151079	08/09/2015	bottlenose dolphin	Virginia Beach	36.8671	-75.9790	dead	F	226.6
VAQS20151080	08/15/2015	bottlenose dolphin	Virginia Beach	36.8527	-75.9721	live	M	209.0
VAQS20151081	08/19/2015	bottlenose dolphin	Virginia Beach	36.9122	-76.1068	dead	M	287.0
VAQS20151082	08/21/2015	bottlenose dolphin	Virginia Beach	36.9233	-75.9985	dead	M	264.2
VAQS20151083	08/28/2015	bottlenose dolphin	Virginia Beach	36.6833	-75.9178	dead	F	261.0
VAQS20151084	08/29/2015	bottlenose dolphin	Hampton	36.9838	-76.3170	dead	M	204.0
VAQS20151086	09/11/2015	bottlenose dolphin	Northampton	37.1029	-75.9791	dead	U	ND
VAQS20151085	09/11/2015	bottlenose dolphin	Lancaster	37.6218	-76.3039	dead	F	226.3
VAQS20151087	09/12/2015	bottlenose dolphin	Virginia Beach	36.8683	-75.9794	dead	U	ND
VAQS20151088	09/16/2015	bottlenose dolphin	Hampton	37.0314	-76.2883	dead	F	195.6
VAQS20151089	09/19/2015	bottlenose dolphin	Mathews	37.5108	-76.2841	dead	M	160.0
VAQS20151090	09/25/2015	bottlenose dolphin	Lancaster	37.6608	-76.3362	dead	M	198.0
VAQS20151092	10/06/2015	bottlenose dolphin	Accomack	37.6566	-75.5953	dead	M	252.5
VAQS20151091	10/14/2015	bottlenose dolphin	Accomack	37.5762	-75.6033	dead	M	251.0
VAQS20151093	10/29/2015	bottlenose dolphin	Virginia Beach	36.9889	-76.1081	dead	M	268.0
VAQS20151094	10/30/2015	bottlenose dolphin	Northampton	37.2088	-76.0131	dead	M	190.0
VAQS20151095	11/17/2015	bottlenose dolphin	Virginia Beach	36.9086	-75.9890	dead	F	224.6
VAQS20151096	11/27/2015	bottlenose dolphin	Virginia Beach	36.7257	-75.9351	dead	M	198.5*
VAQS20151097	12/14/2015	bottlenose dolphin	Mathews	37.3399	-76.2721	dead	F	268.8
VAQS20151098	12/16/2015	bottlenose dolphin	Northampton	37.0933	-75.9404	dead	M	205.0
VAQS20151099	12/26/2015	bottlenose dolphin	Northampton	37.1271	-75.9698	dead	U	203.0
VAQS20151100	12/29/2015	bottlenose dolphin	Lancaster	37.7889	-76.6249	dead	M	265.0

Table 2: Live stranded marine mammals recorded by VAQS in 2015, n=10.

Field Number	Species	Strand Date	State	Final Disposition
KMP001	gray seal	04/09/2015	NC	transferred to VAQS rehab, released 05/19/2015
VAQS20151008	harp seal	03/17/2015	VA	died on 03/17/2015
VAQS20151009	harp seal	03/19/2015	VA	transferred to VAQS rehab, died on 03/21/2015
VAQS20151010	gray seal	03/21/2015	VA	transferred to MMSC, died on 03/30/2015
VAQS20151014	bottlenose dolphin	04/04/2015	VA	euthanized on 04/04/2015
VAQS20151021	gray seal	04/21/2015	VA	released on site
VAQS20151054	minke whale	06/05/2015	VA	euthanized on 06/05/2015
VAQS20151072	bottlenose dolphin	07/16/2015	VA	euthanized on 07/16/2015
VAQS20151078	bottlenose dolphin	08/03/2015	VA	disentangled on 08/03/2015
VAQS20151080	bottlenose dolphin	08/15/2015	VA	died on 08/15/2015

Table 3: Sea turtle strandings in Virginia during 2015, n=295.
(Data from the VAQS Sea Turtle Stranding Database)
[Length = cm, carapace length notch to tip; * indicates estimated length; ND = no data; U = unknown]

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20152002	1/7/2015	Kemp's ridley	Portsmouth	36.8542	-76.3360	dead	U	32.2
VAQS20152001	1/8/2015	loggerhead	Norfolk	36.9331	-76.2003	dead	U	62.0
VAQS20152003	1/17/2015	Kemp's ridley	Northampton	37.2417	-76.0176	dead	U	36.8
VAQS20152004	1/17/2015	loggerhead	Northampton	37.3385	-76.0081	dead	F	67.9
VAQS20152005	1/21/2015	loggerhead	Northampton	37.1400	-75.9730	dead	U	51.9*
VAQS20152006	3/29/2015	Kemp's ridley	Northampton	37.1376	-75.8776	dead	U	37.6*
VAQS20152007	4/22/2015	loggerhead	Northampton	37.0863	-75.9752	dead	U	58.7
VAQS20152008	5/9/2015	Kemp's ridley	Virginia Beach	36.7710	-75.9530	alive	U	38.1
VAQS20152009	5/11/2015	Kemp's ridley	Hampton	37.0359	-76.2896	alive	U	43.3
VAQS20152010	5/17/2015	Kemp's ridley	Hampton	37.0361	-76.2899	alive	U	28.5
VAQS20152011	5/18/2015	Kemp's ridley	Virginia Beach	36.8291	-75.9702	dead	M	33.0
VAQS20152014	5/18/2015	Kemp's ridley	Northampton	37.0379	-75.9475	alive	U	ND
VAQS20152012	5/19/2015	Kemp's ridley	Hampton	37.0361	-76.2899	alive	U	46.8
VAQS20152013	5/19/2015	leatherback	Virginia Beach	36.9264	-76.0497	alive	U	ND
VAQS20152017	5/19/2015	Kemp's ridley	Virginia Beach	36.9166	-76.1234	dead	U	47.6
VAQS20152015	5/20/2015	Kemp's ridley	Hampton	37.0367	-76.2918	alive	U	48.6
VAQS20152016	5/21/2015	Kemp's ridley	Virginia Beach	36.6944	-75.9219	alive	U	31.6
VAQS20152018	5/23/2015	Kemp's ridley	Virginia Beach	36.6944	-75.9219	alive	U	26.7
VAQS20152019	5/24/2015	loggerhead	Northampton	37.2304	-76.0101	dead	F	73.7
VAQS20152020	5/25/2015	Kemp's ridley	Virginia Beach	36.7667	-75.9649	dead	U	25.2
VAQS20152021	5/25/2015	Kemp's ridley	Virginia Beach	36.9256	-76.0482	dead	M	42.5
VAQS20152022	5/25/2015	Kemp's ridley	Virginia Beach	36.8437	-75.9707	alive	U	24.8
VAQS20152033	5/25/2015	leatherback	Northampton	37.1840	-76.0523	alive	U	ND
VAQS20152023	5/26/2015	Kemp's ridley	Norfolk	36.9639	-76.2576	alive	U	26.4
VAQS20152024	5/26/2015	Kemp's ridley	Virginia Beach	36.8437	-75.9707	alive	U	30.6
VAQS20152025	5/26/2015	loggerhead	Northampton	37.2332	-76.2205	dead	U	ND
VAQS20152026	5/28/2015	loggerhead	Norfolk	36.9430	-76.3286	dead	M	84.0
VAQS20152027	5/30/2015	Kemp's ridley	Norfolk	36.9639	-76.2575	alive	U	35.6
VAQS20152028	5/30/2015	unidentified	Norfolk	36.9639	-76.2575	alive	U	ND
VAQS20152029	5/30/2015	Kemp's ridley	Virginia Beach	36.8438	-75.9697	alive	U	23.2
VAQS20152030	5/31/2015	Kemp's ridley	Accomack	38.0071	-75.3843	dead	U	23.5
VAQS20152031	5/31/2015	Kemp's ridley	Virginia Beach	36.9146	-75.9913	dead	M	25.8
VAQS20152032	6/2/2015	leatherback	Virginia Beach	36.9239	-76.0556	alive	U	ND
VAQS20152034	6/2/2015	loggerhead	Northumberland	37.8807	-76.2395	dead	U	65.5*
VAQS20152035	6/3/2015	loggerhead	Hampton	37.0101	-76.2999	dead	F	95.5*
VAQS20152036	6/3/2015	Kemp's ridley	Virginia Beach	36.9171	-76.1248	dead	F	52.6*
VAQS20152037	6/3/2015	loggerhead	Northumberland	37.7301	-76.3085	dead	F	82.1*
VAQS20152038	6/4/2015	loggerhead	Virginia Beach	36.7271	-75.9356	dead	U	71.1*
VAQS20152040	6/4/2015	loggerhead	Virginia Beach	36.7959	-75.9606	dead	M	89.7
VAQS20152042	6/4/2015	Kemp's ridley	Hampton	37.0396	-76.2900	dead	F	30.3
VAQS20152053	6/4/2015	loggerhead	Mathews	37.3226	-76.2726	dead	M	73.5
VAQS20152039	6/5/2015	Kemp's ridley	Hampton	37.0362	-76.2902	alive	U	28.1
VAQS20152041	6/5/2015	green	Virginia Beach	36.9168	-76.0606	dead	U	29.9
VAQS20152043	6/5/2015	unidentified	Norfolk	36.9625	-76.2590	alive	U	ND
VAQS20152044	6/5/2015	Kemp's ridley	Hampton	37.0360	-76.2896	alive	U	31.5
VAQS20152045	6/6/2015	loggerhead	Norfolk	36.9447	-76.2856	alive	F	70.4
VAQS20152046	6/6/2015	Kemp's ridley	Norfolk	36.9632	-76.3218	alive	U	28.2
VAQS20152047	6/7/2015	loggerhead	Virginia Beach	36.8698	-75.9795	dead	F	81.1*
VAQS20152048	6/7/2015	loggerhead	Hampton	37.0171	-76.3405	alive	U	47.2
VAQS20152052	6/7/2015	Kemp's ridley	Virginia Beach	36.9196	-75.9940	alive	U	ND
VAQS20152055	6/7/2015	loggerhead	Northampton	37.1568	-75.8577	dead	U	ND
VAQS20152049	6/8/2015	Kemp's ridley	Hampton	37.0360	-76.2896	alive	U	35.0
VAQS20152050	6/8/2015	loggerhead	Mathews	37.4277	-76.2526	dead	U	76.7*
VAQS20152051	6/8/2015	Kemp's ridley	Virginia Beach	36.6943	-75.9221	alive	U	27.4
VAQS20152054	6/8/2015	Kemp's ridley	Northampton	37.0863	-75.9436	dead	M	49.4
VAQS20152056	6/9/2015	loggerhead	Northampton	37.3891	-75.7056	dead	F	ND
VAQS20152057	6/9/2015	Kemp's ridley	Norfolk	36.9631	-76.2583	alive	U	32.2
VAQS20152058	6/9/2015	Kemp's ridley	Virginia Beach	36.8438	-75.9698	alive	U	29.6

Table 3: Sea turtle strandings *cont.*

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20152059	6/9/2015	Kemp's ridley	Virginia Beach	36.8438	-75.9698	alive	U	27.2
VAQS20152061	6/9/2015	loggerhead	Northampton	37.3696	-75.7270	dead	U	ND
VAQS20152060	6/10/2015	loggerhead	Northampton	37.0918	-75.9797	dead	U	64.1
VAQS20152062	6/10/2015	loggerhead	Hampton	37.0360	-76.2896	alive	U	60.8
VAQS20152063	6/10/2015	loggerhead	Hampton	37.0360	-76.2896	alive	U	65.1
VAQS20152069	6/10/2015	loggerhead	Accomack	37.8110	-75.9906	dead	U	ND
VAQS20152064	6/11/2015	loggerhead	Northampton	37.0852	-75.9702	dead	U	80.8*
VAQS20152065	6/11/2015	loggerhead	Virginia Beach	36.9102	-76.0998	dead	U	54.3*
VAQS20152066	6/12/2015	leatherback	Northampton	37.2300	-76.0567	dead	U	ND
VAQS20152067	6/14/2015	unidentified	Norfolk	36.9639	-76.2575	alive	U	ND
VAQS20152068	6/14/2015	unidentified	Virginia Beach	36.9166	-76.0783	alive	U	ND
VAQS20152070	6/15/2015	loggerhead	Accomack	37.7167	-75.5705	dead	U	ND
VAQS20152071	6/16/2015	loggerhead	Norfolk	36.9463	-76.1781	dead	U	ND
VAQS20152072	6/16/2015	loggerhead	Northampton	37.0500	-76.0668	alive	U	56.8
VAQS20152073	6/16/2015	green	Northampton	37.1660	-75.9879	dead	U	ND
VAQS20152078	6/17/2015	loggerhead	Northampton	37.5978	-75.6157	dead	U	76.2
VAQS20152074	6/19/2015	Kemp's ridley	Virginia Beach	36.8437	-75.9706	alive	U	27.2
VAQS20152075	6/19/2015	Kemp's ridley	Virginia Beach	36.8437	-75.9704	alive	U	29.7
VAQS20152076	6/19/2015	Kemp's ridley	Hampton	37.0474	-76.2870	dead	M	33.5
VAQS20152077	6/19/2015	loggerhead	Virginia Beach	36.7395	-75.9407	dead	U	ND
VAQS20152093	6/19/2015	Kemp's ridley	Northampton	37.1369	-75.9722	dead	M	25.1
VAQS20152079	6/21/2015	loggerhead	Virginia Beach	36.7803	-75.9557	dead	U	51.0*
VAQS20152080	6/21/2015	loggerhead	Virginia Beach	36.9669	-76.1138	alive	U	ND
VAQS20152081	6/21/2015	Kemp's ridley	Northampton	37.1657	-75.9857	dead	U	24.1
VAQS20152082	6/22/2015	loggerhead	Northampton	37.1565	-75.9771	dead	F	56.2
VAQS20152083	6/25/2015	loggerhead	Virginia Beach	36.6071	-75.8812	dead	U	ND
VAQS20152084	6/29/2015	loggerhead	Virginia Beach	36.9241	-76.1475	dead	M	115.1*
VAQS20152085	6/29/2015	loggerhead	Northampton	37.0954	-75.9368	dead	M	ND
VAQS20152086	7/1/2015	loggerhead	Virginia Beach	36.8437	-75.9699	alive	U	66.2
VAQS20152087	7/3/2015	loggerhead	Virginia Beach	36.9115	-76.0851	dead	F	60.0
VAQS20152088	7/3/2015	loggerhead	Virginia Beach	36.7908	-75.9588	dead	F	ND
VAQS20152089	7/3/2015	green	Hampton	37.0359	-76.2896	alive	U	25.5
VAQS20152090	7/4/2015	green	Virginia Beach	36.8760	-76.0084	alive	M	26.8
VAQS20152091	7/5/2015	loggerhead	Northampton	37.1912	-75.8206	dead	F	ND
VAQS20152094	7/7/2015	green	Northampton	37.1660	-75.9882	dead	U	27.3
VAQS20152092	7/8/2015	Kemp's ridley	Virginia Beach	36.8437	-75.9705	alive	U	31.9
VAQS20152095	7/9/2015	loggerhead	Virginia Beach	36.9136	-76.0756	dead	F	71.1*
VAQS20152096	7/11/2015	Kemp's ridley	Virginia Beach	36.9283	-76.1695	dead	M	24.2
VAQS20152097	7/13/2015	loggerhead	Virginia Beach	36.6862	-75.9192	dead	F	93.1
VAQS20152098	7/13/2015	loggerhead	Virginia Beach	36.6862	-75.9192	dead	F	93.1
VAQS20152099	7/14/2015	loggerhead	Northampton	37.0822	-75.9592	dead	U	ND
VAQS20152100	7/15/2015	Kemp's ridley	Virginia Beach	36.8438	-75.9698	alive	U	32.4
VAQS20152101	7/15/2015	Kemp's ridley	Accomack	37.9678	-75.2890	dead	U	22.6
VAQS20152102	7/17/2015	loggerhead	Accomack	37.9871	-75.2740	dead	U	61.0*
VAQS20152103	7/17/2015	loggerhead	Norfolk	36.9638	-76.2575	alive	U	ND
VAQS20152104	7/18/2015	loggerhead	Hampton	37.0126	-76.2994	dead	U	55.0*
VAQS20152105	7/18/2015	loggerhead	Northumberland	37.8413	-76.2494	dead	U	ND
VAQS20152106	7/19/2015	loggerhead	Virginia Beach	36.8282	-75.9717	alive	U	67.4
VAQS20152109	7/21/2015	loggerhead	Northampton	37.2787	-76.0136	dead	U	ND
VAQS20152107	7/22/2015	loggerhead	Virginia Beach	36.8739	-75.9804	dead	U	ND
VAQS20152108	7/23/2015	Kemp's ridley	Hampton	37.0363	-76.2904	alive	U	25.7
VAQS20152110	7/27/2015	loggerhead	Northampton	37.5249	-75.9476	alive	U	66.5
VAQS20152111	7/29/2015	Kemp's ridley	Virginia Beach	36.8795	-75.9818	dead	U	22.6*
VAQS20152112	7/29/2015	loggerhead	Virginia Beach	36.9271	-76.0051	dead	U	75.5*
VAQS20152113	7/29/2015	loggerhead	Northampton	37.1658	-75.9869	dead	F	61.1
VAQS20152114	7/30/2015	loggerhead	Virginia Beach	36.6679	-75.9094	dead	U	65.6
VAQS20152115	7/31/2015	Kemp's ridley	Norfolk	36.9634	-76.2579	alive	U	25.4
VAQS20152116	8/1/2015	Kemp's ridley	Hampton	37.0361	-76.2895	alive	U	26.1
VAQS20152118	8/2/2015	unidentified	Virginia Beach	36.8300	-75.9697	alive	U	ND
VAQS20152117	8/3/2015	loggerhead	Hampton	37.0391	-76.2903	dead	F	ND
VAQS20152119	8/3/2015	loggerhead	Northampton	37.1734	-75.9885	dead	U	89.5
VAQS20152120	8/4/2015	Kemp's ridley	Virginia Beach	36.6944	-75.9214	dead	F	54.5

Table 3: Sea turtle strandings *cont.*

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20152121	8/7/2015	loggerhead	Virginia Beach	36.9196	-76.1266	dead	U	ND
VAQS20152122	8/8/2015	loggerhead	Virginia Beach	36.7582	-75.9477	dead	U	ND
VAQS20152123	8/8/2015	loggerhead	Virginia Beach	36.9149	-76.1177	dead	M	66.1
VAQS20152124	8/8/2015	green	Virginia Beach	36.6947	-75.9229	alive	M	25.7
VAQS20152125	8/9/2015	loggerhead	Norfolk	36.9504	-76.2433	dead	U	68.2*
VAQS20152126	8/9/2015	loggerhead	Virginia Beach	36.9138	-76.0724	dead	U	64.9*
VAQS20152127	8/9/2015	loggerhead	Virginia Beach	36.9278	-76.0456	dead	F	103.4
VAQS20152128	8/10/2015	Kemp's ridley	Hampton	37.0546	-76.2841	dead	U	ND
VAQS20152129	8/13/2015	loggerhead	Virginia Beach	36.9319	-76.1717	dead	M	100.1
VAQS20152130	8/16/2015	loggerhead	Virginia Beach	36.8909	-75.9850	dead	U	55.5*
VAQS20152131	8/16/2015	loggerhead	Virginia Beach	36.8250	-75.9740	alive	F	67.6*
VAQS20152132	8/19/2015	loggerhead	Gloucester	37.2534	-76.4514	dead	U	78.0*
VAQS20152133	8/21/2015	loggerhead	Accomack	37.9485	-75.3041	dead	U	89.2*
VAQS20152134	8/21/2015	Kemp's ridley	Accomack	37.8686	-75.4311	dead	U	ND
VAQS20152135	8/22/2015	loggerhead	Hampton	37.0360	-76.2895	alive	U	58.9
VAQS20152136	8/22/2015	loggerhead	Norfolk	36.9683	-76.2811	dead	U	87.7*
VAQS20152137	8/23/2015	loggerhead	Virginia Beach	36.9264	-76.0035	dead	F	65.6
VAQS20152138	8/23/2015	loggerhead	Norfolk	36.9493	-76.2415	alive	F	79.5
VAQS20152139	8/23/2015	unidentified	Norfolk	36.9604	-76.2609	alive	U	ND
VAQS20152140	8/23/2015	loggerhead	Mathews	37.4478	-76.2608	dead	U	70.2*
VAQS20152142	8/24/2015	loggerhead	Northampton	37.1775	-75.8322	dead	M	ND
VAQS20152141	8/25/2015	loggerhead	Virginia Beach	36.8266	-75.9684	dead	F	86.9
VAQS20152143	8/26/2015	loggerhead	Virginia Beach	36.8521	-75.9754	dead	U	61*
VAQS20152144	8/26/2015	loggerhead	Accomack	37.5805	-75.6074	dead	M	ND
VAQS20152145	8/29/2015	loggerhead	Virginia Beach	36.6783	-75.9153	dead	F	98.3
VAQS20152146	8/30/2015	loggerhead	Northampton	37.0486	-76.0656	alive	U	ND
VAQS20152147	9/4/2015	loggerhead	Virginia Beach	36.9674	-76.1145	alive	U	ND
VAQS20152148	9/7/2015	loggerhead	Virginia Beach	36.7082	-75.9284	dead	U	61.6
VAQS20152149	9/7/2015	loggerhead	Virginia Beach	36.6760	-75.9141	dead	U	98.7*
VAQS20152150	9/7/2015	loggerhead	Virginia Beach	36.9630	-76.1127	alive	U	61.2
VAQS20152157	9/11/2015	Kemp's ridley	Norfolk	36.9639	-76.2575	alive	U	36.6
VAQS20152151	9/15/2015	loggerhead	Virginia Beach	36.7077	-75.9284	dead	F	81.5*
VAQS20152161	9/15/2015	loggerhead	Northampton	37.1285	-75.8862	dead	U	ND
VAQS20152152	9/16/2015	loggerhead	Northampton	37.2284	-76.0112	dead	U	ND
VAQS20152153	9/16/2015	green	Accomack	37.5695	-75.6186	dead	F	24.2
VAQS20152154	9/17/2015	loggerhead	Northampton	37.4959	-75.9591	dead	U	80.6
VAQS20152155	9/19/2015	unidentified	Virginia Beach	36.8438	-75.9698	alive	U	ND
VAQS20152156	9/20/2015	loggerhead	Virginia Beach	36.6513	-75.9010	dead	U	87.2
VAQS20152158	9/20/2015	loggerhead	Norfolk	36.9344	-76.2050	dead	F	102.2*
VAQS20152159	9/21/2015	loggerhead	Virginia Beach	36.6731	-75.9136	dead	U	110*
VAQS20152160	9/21/2015	loggerhead	Virginia Beach	36.6717	-75.9080	dead	M	109.5
VAQS20152162	9/23/2015	loggerhead	Virginia Beach	36.6327	-75.8919	dead	U	83.0
VAQS20152163	9/25/2015	loggerhead	Norfolk	36.9689	-76.2845	dead	U	59.9*
VAQS20152164	9/25/2015	Kemp's ridley	Gloucester	37.3049	-76.4379	alive	U	31.2
VAQS20152165	9/26/2015	Kemp's ridley	Hampton	37.0510	-76.2857	dead	F	63.5*
VAQS20152166	9/29/2015	loggerhead	Norfolk	36.9669	-76.2740	dead	F	73.1
VAQS20152167	10/1/2015	Kemp's ridley	Virginia Beach	36.8719	-75.9801	dead	M	36.1
VAQS20152168	10/1/2015	loggerhead	Norfolk	36.9495	-76.2419	dead	M	74.9
VAQS20152169	10/1/2015	Kemp's ridley	Norfolk	36.9319	-76.1951	dead	U	60.0*
VAQS20152170	10/2/2015	loggerhead	Norfolk	36.9498	-76.2423	dead	U	82.1*
VAQS20152171	10/3/2015	Kemp's ridley	Virginia Beach	36.6904	-75.9217	dead	F	53.9*
VAQS20152172	10/3/2015	green	Norfolk	36.9425	-76.2303	dead	F	25.5
VAQS20152173	10/3/2015	loggerhead	Norfolk	36.9460	-76.2367	dead	U	73*
VAQS20152174	10/3/2015	Kemp's ridley	Norfolk	36.9347	-76.2069	dead	F	31.2
VAQS20152175	10/4/2015	Kemp's ridley	Virginia Beach	36.7185	-75.9329	dead	U	46.7*
VAQS20152176	10/5/2015	green	Norfolk	36.9366	-76.2141	dead	F	31.6
VAQS20152177	10/5/2015	Kemp's ridley	Virginia Beach	36.9261	-76.1587	dead	M	29.3
VAQS20152179	10/5/2015	green	Norfolk	36.9334	-76.2015	dead	U	ND
VAQS20152180	10/5/2015	loggerhead	Northumberland	37.9882	-76.4926	alive	U	73.5
VAQS20152178	10/6/2015	loggerhead	Virginia Beach	36.6294	-75.8805	dead	M	116.1
VAQS20152181	10/6/2015	loggerhead	Hampton	37.0871	-76.2713	dead	F	84.2*
VAQS20152211	10/6/2015	Kemp's ridley	Virginia Beach	36.8980	-75.9884	dead	U	33.4

Table 3: Sea turtle strandings *cont.*

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20152182	10/7/2015	loggerhead	Virginia Beach	36.9246	-76.0488	dead	F	75.2*
VAQS20152183	10/7/2015	loggerhead	Hampton	37.0835	-76.2739	dead	U	104.0*
VAQS20152184	10/7/2015	loggerhead	Virginia Beach	36.6809	-75.9167	dead	U	95.0*
VAQS20152185	10/8/2015	green	Northampton	37.0955	-75.9808	dead	F	27.5
VAQS20152186	10/10/2015	loggerhead	Northumberland	37.9725	-76.4332	dead	F	77.6
VAQS20152187	10/11/2015	Kemp's ridley	Norfolk	36.9311	-76.1894	dead	F	39.7
VAQS20152188	10/11/2015	loggerhead	Virginia Beach	36.7003	-75.9257	dead	U	73.6*
VAQS20152189	10/12/2015	Kemp's ridley	Norfolk	36.9442	-76.2334	dead	F	55.2
VAQS20152190	10/13/2015	loggerhead	Norfolk	36.9624	-76.2590	alive	U	60.3
VAQS20152191	10/14/2015	Kemp's ridley	Norfolk	36.9395	-76.2231	dead	F	31.8
VAQS20152192	10/14/2015	green	Northampton	37.2641	-76.0172	alive	U	24.6
VAQS20152193	10/15/2015	green	Northampton	37.1659	-75.9865	dead	F	26.0
VAQS20152194	10/15/2015	loggerhead	Northampton	37.2035	-76.0126	dead	U	89.2*
VAQS20152195	10/16/2015	loggerhead	Northumberland	37.8168	-76.2670	dead	F	82.8
VAQS20152196	10/17/2015	loggerhead	Northumberland	37.9570	-76.3880	dead	F	86.0
VAQS20152197	10/19/2015	loggerhead	Virginia Beach	36.9117	-76.1056	dead	F	64.1
VAQS20152198	10/19/2015	loggerhead	Northampton	37.1094	-75.9704	dead	U	ND
VAQS20152199	10/19/2015	green	Northampton	37.1008	-75.9790	dead	U	27.0
VAQS20152200	10/19/2015	green	Northampton	37.1032	-75.9446	dead	U	24.6
VAQS20152201	10/19/2015	Kemp's ridley	Northampton	37.1075	-75.9524	dead	M	23.0
VAQS20152202	10/21/2015	green	Northampton	37.1559	-75.9768	dead	U	29.3
VAQS20152203	10/21/2015	green	Northampton	37.0864	-75.9729	dead	M	31.0
VAQS20152204	10/24/2015	Kemp's ridley	Virginia Beach	36.8280	-75.9687	dead	F	40.0
VAQS20152205	10/24/2015	Kemp's ridley	Virginia Beach	36.9137	-76.1138	dead	U	40.0*
VAQS20152206	10/24/2015	green	Virginia Beach	36.9080	-75.9911	dead	M	29.5*
VAQS20152207	10/25/2015	green	Northampton	37.1658	-75.9858	dead	F	29.7
VAQS20152208	10/26/2015	loggerhead	Norfolk	36.9564	-76.2528	dead	F	90.6
VAQS20152209	10/26/2015	green	Northampton	37.1607	-75.9793	dead	M	25.6
VAQS20152210	10/26/2015	Kemp's ridley	Virginia Beach	36.7761	-75.9547	dead	F	32*
VAQS20152212	10/27/2015	Kemp's ridley	Norfolk	36.9440	-76.2330	dead	F	53.1
VAQS20152213	10/27/2015	loggerhead	Northumberland	37.9210	-76.2884	dead	U	ND
VAQS20152214	10/27/2015	loggerhead	Virginia Beach	36.5748	-75.8731	dead	F	63.6
VAQS20152216	10/27/2015	Kemp's ridley	Virginia Beach	36.8568	-75.9765	dead	M	30.0*
VAQS20152217	10/28/2015	Kemp's ridley	Virginia Beach	36.5706	-75.8723	dead	U	30.5
VAQS20152218	10/28/2015	Kemp's ridley	Virginia Beach	36.5778	-75.8737	dead	M	33.0
VAQS20152219	10/28/2015	loggerhead	Hampton	37.0206	-76.2970	dead	U	59.2
VAQS20152220	10/29/2015	Kemp's ridley	Virginia Beach	36.8887	-75.9848	dead	F	29.1
VAQS20152221	10/29/2015	Kemp's ridley	Virginia Beach	36.9160	-76.1212	dead	U	28.5*
VAQS20152215	10/31/2015	green	Virginia Beach	36.9218	-75.9961	dead	M	30.5
VAQS20152225	11/2/2015	loggerhead	Northampton	37.0927	-75.9804	dead	U	90.0
VAQS20152222	11/3/2015	Kemp's ridley	Norfolk	36.9267	-76.1592	dead	F	46.0*
VAQS20152223	11/3/2015	Kemp's ridley	Norfolk	36.9271	-76.1651	dead	U	51.5*
VAQS20152224	11/3/2015	Kemp's ridley	Virginia Beach	36.8650	-75.9779	dead	F	34.5*
VAQS20152227	11/3/2015	green	Norfolk	36.9320	-76.1958	dead	U	26.6
VAQS20152228	11/3/2015	Kemp's ridley	Norfolk	36.9365	-76.2134	dead	F	33.0
VAQS20152231	11/3/2015	green	Northampton	37.1911	-76.0019	dead	M	25.1
VAQS20152232	11/3/2015	green	Northampton	37.1898	-76.0002	dead	M	29.5
VAQS20152229	11/4/2015	Kemp's ridley	Virginia Beach	36.8479	-75.9732	dead	F	28.2
VAQS20152230	11/4/2015	green	Norfolk	36.9275	-76.1664	dead	U	29.0
VAQS20152233	11/4/2015	green	Northampton	37.1904	-76.0009	dead	U	28.0
VAQS20152226	11/5/2015	Kemp's ridley	Virginia Beach	36.6078	-75.8814	dead	M	30.9
VAQS20152234	11/5/2015	Kemp's ridley	Norfolk	36.9265	-76.1599	dead	F	37.6*
VAQS20152235	11/5/2015	green	Virginia Beach	36.8346	-75.9692	dead	U	ND
VAQS20152236	11/5/2015	Kemp's ridley	Norfolk	36.9358	-76.2103	dead	U	45.0*
VAQS20152237	11/5/2015	Kemp's ridley	Virginia Beach	36.8406	-75.9710	dead	M	29.0*
VAQS20152238	11/5/2015	green	Virginia Beach	36.9080	-75.9892	dead	F	26.7*
VAQS20152239	11/5/2015	green	Virginia Beach	36.7013	-75.9260	dead	F	26.0
VAQS20152240	11/6/2015	green	Northampton	37.1608	-75.9794	dead	F	26.3
VAQS20152241	11/6/2015	green	Northampton	37.1608	-75.9794	dead	F	25.9
VAQS20152246	11/6/2015	green	Northampton	37.1678	-75.9877	dead	M	32.3
VAQS20152242	11/7/2015	green	Northampton	37.1661	-75.9875	dead	F	29.6
VAQS20152243	11/7/2015	green	Northampton	37.1660	-75.9865	dead	F	34.1

Table 3: Sea turtle strandings *cont.*

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
VAQS20152244	11/7/2015	green	Northampton	37.1575	-75.9775	dead	F	27.1
VAQS20152245	11/7/2015	green	Northampton	37.1575	-75.9775	dead	U	25.5
VAQS20152263	11/7/2015	green	Northampton	37.1016	-75.9788	dead	U	28.5
VAQS20152264	11/7/2015	green	Northampton	37.1296	-75.9702	dead	U	29.0
VAQS20152247	11/10/2015	Kemp's ridley	Virginia Beach	36.7380	-75.9400	dead	F	26.5
VAQS20152248	11/10/2015	green	Northampton	37.1850	-75.9956	dead	M	28.2
VAQS20152251	11/12/2015	Kemp's ridley	Northampton	37.2183	-76.0122	dead	U	31.4
VAQS20152250	11/12/2015	green	Northampton	37.2185	-76.0122	dead	U	25.6
VAQS20152257	11/12/2015	loggerhead	Northampton	37.4309	-75.9809	dead	U	83.4
VAQS20152249	11/13/2015	green	Northampton	37.1833	-75.9951	dead	F	29.8
VAQS20152258	11/13/2015	loggerhead	Northampton	37.4303	-75.9809	dead	U	63.8*
VAQS20152252	11/14/2015	green	Northampton	37.1676	-75.9879	dead	U	ND
VAQS20152253	11/14/2015	green	Northampton	37.1676	-75.9879	dead	U	ND
VAQS20152254	11/14/2015	green	Northampton	37.1676	-75.9879	dead	U	ND
VAQS20152255	11/14/2015	green	Northampton	37.1676	-75.9879	dead	U	ND
VAQS20152256	11/14/2015	green	Northampton	37.1676	-75.9879	dead	U	ND
VAQS20152259	11/15/2015	loggerhead	Northampton	37.3181	-76.0182	dead	U	71.3
VAQS20152260	11/15/2015	Kemp's ridley	Northampton	37.3101	-76.0200	dead	U	57.8*
VAQS20152261	11/15/2015	green	Northampton	37.3014	-76.0211	dead	U	28.2
VAQS20152262	11/15/2015	green	Northampton	37.3030	-76.0210	dead	U	28.1
VAQS20152265	11/15/2015	green	Northampton	37.1651	-75.9843	dead	U	ND
VAQS20152266	11/18/2015	Kemp's ridley	Norfolk	36.9231	-76.1408	dead	U	28.5
VAQS20152267	11/18/2015	Kemp's ridley	Virginia Beach	36.7622	-75.9497	dead	U	35.0*
VAQS20152268	11/18/2015	green	Northampton	37.1254	-75.9695	dead	U	29.0
VAQS20152269	11/18/2015	green	Northampton	37.1240	-75.9693	dead	U	31.0
VAQS20152270	11/18/2015	green	Northampton	37.1222	-75.9695	dead	U	23.5
VAQS20152274	11/18/2015	green	Northampton	37.1395	-75.9726	dead	U	27.5
VAQS20152275	11/18/2015	green	Northampton	37.1364	-75.9720	dead	M	25.0
VAQS20152276	11/18/2015	green	Northampton	37.1345	-75.9717	dead	M	32.0
VAQS20152271	11/20/2015	green	Northampton	37.0932	-75.9802	dead	U	28.9
VAQS20152272	11/22/2015	green	Virginia Beach	36.7202	-75.9334	dead	F	28.8
VAQS20152273	11/22/2015	green	Northampton	37.1355	-75.9719	dead	F	29.5
VAQS20152277	11/22/2015	green	Northampton	37.1396	-75.9727	dead	U	ND
VAQS20152283	11/25/2015	green	Northampton	37.0992	-75.9793	dead	U	28.5
VAQS20152278	11/26/2015	Kemp's ridley	Virginia Beach	36.8774	-75.9815	dead	M	35.3
VAQS20152279	11/27/2015	loggerhead	Norfolk	36.9564	-76.1504	dead	U	ND
VAQS20152280	11/27/2015	Kemp's ridley	Virginia Beach	36.8236	-75.9678	dead	M	26.6*
VAQS20152281	11/27/2015	Kemp's ridley	Virginia Beach	36.8252	-75.9684	dead	F	28.8
VAQS20152282	11/27/2015	loggerhead	Northampton	37.1100	-75.9696	dead	U	85.0
VAQS20152284	11/30/2015	green	Northampton	37.0883	-75.9777	dead	U	29.0
VAQS20152285	12/2/2015	loggerhead	Virginia Beach	36.5579	-75.8690	dead	F	62.0
VAQS20152286	12/4/2015	green	Virginia Beach	36.9120	-76.1059	dead	U	ND
VAQS20152287	12/4/2015	green	Norfolk	36.9326	-76.1978	dead	F	27.5
VAQS20152288	12/11/2015	green	Virginia Beach	36.8315	-75.9687	dead	M	30.1*
VAQS20152289	12/11/2015	loggerhead	Virginia Beach	36.8912	-76.0710	dead	M	92.0
VAQS20152290	12/12/2015	loggerhead	Northampton	37.1580	-75.9777	dead	F	ND
VAQS20152291	12/13/2015	green	Northampton	37.1544	-75.9763	dead	U	ND
VAQS20152292	12/20/2015	green	Northampton	37.0948	-75.9806	dead	U	28.1
VAQS20152293	12/21/2015	green	Northampton	37.0834	-75.9554	dead	U	ND
VAQS20152294	12/21/2015	green	Westmoreland	38.1680	-76.7832	dead	F	31.5
VAQS20152295	12/26/2015	green	Northampton	37.1320	-75.9708	dead	U	27.2

Table 4: Sea turtle dredge takes in Virginia during 2015, n=6.
(Data from the VAQS Sea Turtle Stranding Database)
[Length = cm, carapace length notch to tip; * indicates estimated length; ND = no data; U = unknown]

Field Number	Date	Species	Location	Latitude	Longitude	Condition	Sex	Length
YSCTI2405201501	5/24/2015	loggerhead	Northampton	37.2946	-76.0243	alive	U	66.4*
YorkSpit07-03-15-Cc	7/3/2015	loggerhead	Northampton	37.2917	-76.1172	dead	F	ND
YorkSpit07-19-15-Cc	7/19/2015	loggerhead	Northampton	37.1483	-76.1507	dead	M	ND
YorkSpit07-23-15-Cc	7/23/2015	loggerhead	Northampton	37.1277	-76.1239	dead	F	ND
YorkSpit07-30-15-Cc	7/30/2015	loggerhead	Northampton	37.2467	-76.1342	alive	U	67.7
YorkSpit08-03-15-Cc	8/3/2015	loggerhead	Northampton	37.2946	-76.0243	alive	U	62.8

Table 5: Live stranded sea turtles recorded by VAQS in 2015, n=63.

Field Number	Strand Date	Species	State	Final Disposition
VAQS20152008	5/9/2015	Kemp's ridley	VA	released 9 May 2015 from Northampton, VA
VAQS20152009	5/11/2015	Kemp's ridley	VA	released 29 May 2015 from offshore Virginia Beach, VA
VAQS20152010	5/17/2015	Kemp's ridley	VA	transferred from VAQS 3 March 2015, released 11 October 2015 by NAIB
VAQS20152014	5/18/2015	Kemp's ridley	VA	hooked and released 18 May 2015 offshore Northampton County
VAQS20152012	5/19/2015	Kemp's ridley	VA	released 21 May 2015 from Virginia Beach, VA
VAQS20152013	5/19/2015	leatherback	VA	disentangled 19 May 2015 from pound net leader off First Landing State Park
VAQS20152015	5/20/2015	Kemp's ridley	VA	released 3 June 2015 from Virginia Beach, VA
VAQS20152016	5/21/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152018	5/23/2015	Kemp's ridley	VA	released 29 May 2015 from offshore Virginia Beach, VA
VAQS20152022	5/25/2015	Kemp's ridley	VA	released 13 June 2015 from Virginia Beach, VA
VAQS20152033	5/25/2015	leatherback	VA	unknown
VAQS20152023	5/26/2015	Kemp's ridley	VA	released 13 June 2015 from Virginia Beach, VA
VAQS20152024	5/26/2015	Kemp's ridley	VA	released 10 June 2015 from Virginia Beach, VA
VAQS20152027	5/30/2015	Kemp's ridley	VA	released 10 June 2015 from Virginia Beach, VA
VAQS20152028	5/30/2015	unidentified	VA	hooked and released 30 May 2015 from Ocean View Fishing Pier
VAQS20152029	5/30/2015	Kemp's ridley	VA	transferred from VAQS 11 June 2015, released 4 September 2015 by NAIB
VAQS20152032	6/2/2015	leatherback	VA	disentangled 2 June 2015 from pound net leader off First Landing State Park
VAQS20152039	6/5/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152043	6/5/2015	unidentified	VA	hooked and released 5 June 2015 from Ocean View Fishing Pier
VAQS20152044	6/5/2015	Kemp's ridley	VA	transferred from VAQS 11 June 2015, released 16 July 2015 by NAIB
VAQS20152045	6/6/2015	loggerhead	VA	died 10 June 2015
VAQS20152046	6/6/2015	Kemp's ridley	VA	released 30 July 2015 from Virginia Beach, VA
VAQS20152048	6/7/2015	loggerhead	VA	released 15 August 2015 from offshore Virginia Beach, VA
VAQS20152052	6/7/2015	Kemp's ridley	VA	hooked and released 7 June 2015 from Fort Story
VAQS20152049	6/8/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152051	6/8/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152057	6/9/2015	Kemp's ridley	VA	transferred from VAQS 11 June 2015, euthanized 1 July 2015 by NAIB
VAQS20152058	6/9/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152059	6/9/2015	Kemp's ridley	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152062	6/10/2015	loggerhead	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152063	6/10/2015	loggerhead	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152067	6/14/2015	unidentified	VA	hooked and released 14 June 2015 from Ocean View Fishing Pier
VAQS20152068	6/14/2015	unidentified	VA	hooked and released 14 June 2015 from Lynnhaven Fishing Pier

Table 5: Live stranded sea turtles *cont.*

Field Number	Strand Date	Species	State	Final Disposition
VAQS20152072	6/16/2015	loggerhead	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152074	6/19/2015	Kemp's ridley	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152075	6/19/2015	Kemp's ridley	VA	released 24 June 2015 from Virginia Beach, VA
VAQS20152080	6/21/2015	loggerhead	VA	hooked and released 21 June 2015 from offshore the Chesapeake Bay Bridge Tunnel Pier
VAQS20152086	7/1/2015	loggerhead	VA	released 15 August 2015 from offshore Virginia Beach, VA
VAQS20152089	7/3/2015	green	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152090	7/4/2015	green	VA	died 5 July 2015
VAQS20152092	7/8/2015	Kemp's ridley	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152100	7/15/2015	Kemp's ridley	VA	released 23 July 2015 from Virginia Beach, VA
VAQS20152103	7/17/2015	loggerhead	VA	hooked and released 17 July 2015 from Ocean View Fishing Pier
VAQS20152106	7/19/2015	loggerhead	VA	died 19 July 2015
VAQS20152108	7/23/2015	Kemp's ridley	VA	released 31 July 2015 from Virginia Beach, VA
VAQS20152110	7/27/2015	loggerhead	VA	died 8 August 2015
VAQS20152115	7/31/2015	Kemp's ridley	VA	released 15 August 2015 from offshore Virginia Beach, VA
VAQS20152116	8/1/2015	Kemp's ridley	VA	released 1 September 2015 from offshore Virginia Beach, VA
VAQS20152118	8/2/2015	unidentified	VA	hooked and released 2 August 2015 from Rudee Inlet
VAQS20152124	8/8/2015	green	VA	died 9 August 2015
VAQS20152131	8/16/2015	loggerhead	VA	found dead 19 August 2015 near strand site
VAQS20152135	8/22/2015	loggerhead	VA	released 1 September 2015 from offshore Virginia Beach, VA
VAQS20152138	8/23/2015	loggerhead	VA	died 4 September 2015
VAQS20152139	8/23/2015	unidentified	VA	hooked and released from 23 August 2015 from Ocean View Fishing Pier
VAQS20152146	8/30/2015	loggerhead	VA	unknown
VAQS20152147	9/4/2015	loggerhead	VA	hooked and released 4 September from Sea Gull Fishing Pier
VAQS20152150	9/7/2015	loggerhead	VA	euthanized 11 September 2015
VAQS20152157	9/11/2015	Kemp's ridley	VA	released 19 September 2015 from Virginia Beach, VA
VAQS20152155	9/19/2015	unidentified	VA	hooked and released 19 September 2015 from Virginia Beach Fishing Pier
VAQS20152164	9/25/2015	Kemp's ridley	VA	euthanized 7 October 2015
VAQS20152180	10/5/2015	loggerhead	VA	current VAQS patient
VAQS20152190	10/13/2015	loggerhead	VA	released 22 October 2015 from Virginia Beach, VA
VAQS20152192	10/14/2015	green	VA	released 5 November from Dare, NC

NAIB = National Aquarium in Baltimore

Table 6: Live stranded sea turtles transferred to VAQS in 2015, n=12.

Field Number	Strand Date	Transfer Date	Transfer Org	Species	State	Final Disposition
MMSC-15-119	8/9/2015	8/11/2015	MMSC	green	NJ	euthanized 2 September 2015
NEST-15-002-Lk	9/18/2015	10/23/2015	NEAQ	Kemp's ridley	MA	released 5 November from Dare, NC
MMSC-15-153	10/22/2015	10/27/2015	MMSC	green	NJ	released 19 Dec 2015 from Duval, FL
MMSC-15-155	10/27/2015	11/2/2018	MMSC	green	NJ	released 5 November from Dare, NC
NEST-15-023-Lk	11/21/2015	12/24/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-131-Lk	12/7/2015	12/25/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-145-Lk	12/9/2015	12/26/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-162-Lk	12/15/2015	12/27/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-166-Lk	12/16/2015	12/28/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-167-Lk	12/16/2015	12/29/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-173-Lk	12/19/2015	12/30/2015	NEAQ	Kemp's ridley	MA	current VAQS patient
NEST-15-175-Lk	12/19/2015	12/31/2015	NEAQ	Kemp's ridley	MA	current VAQS patient

MMSC = Brigantine Marine Mammal Stranding Center; NEAQ = New England Aquarium

Table 7: Live sea turtles taken by dredge in Virginia and rehabilitated in 2015, n=3.

Field Number	Strand Date	Species	State	Final Disposition
YSCTI2405201501	5/24/2015	loggerhead	VA	transferred to NCARI 9 June 2015, released 11 September 2015 from Northampton, VA by VAQS
YorkSpit07-30-15-Cc	7/30/2015	loggerhead	VA	current VAQS patient
YorkSpit08-03-15-Cc	8/3/2015	loggerhead	VA	current VAQS patient

NCARI = North Carolian Aquarium at Roanoke Island

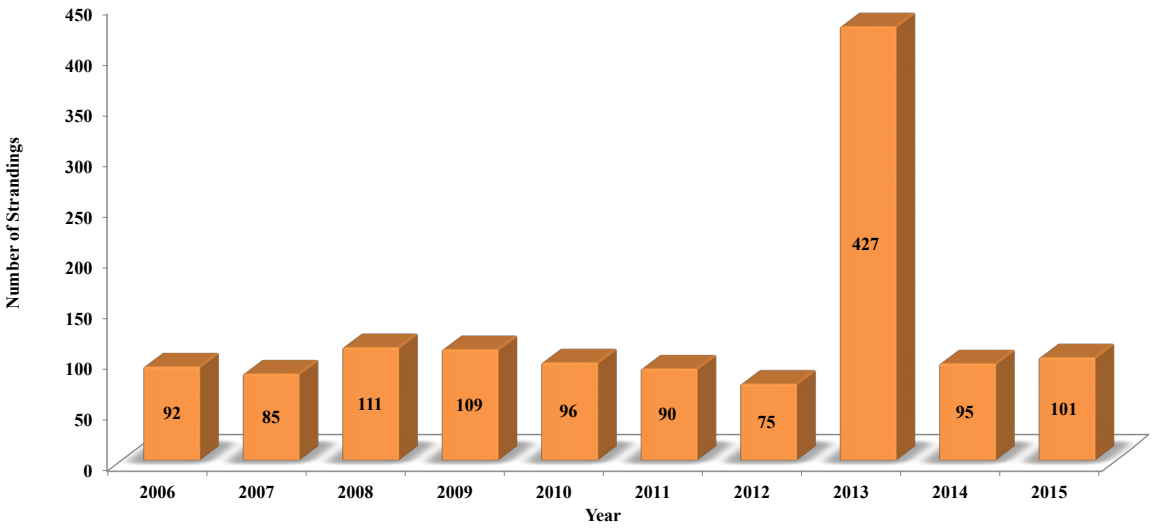


Figure 1: Yearly frequency of marine mammal strandings in Virginia, 2006-2015.

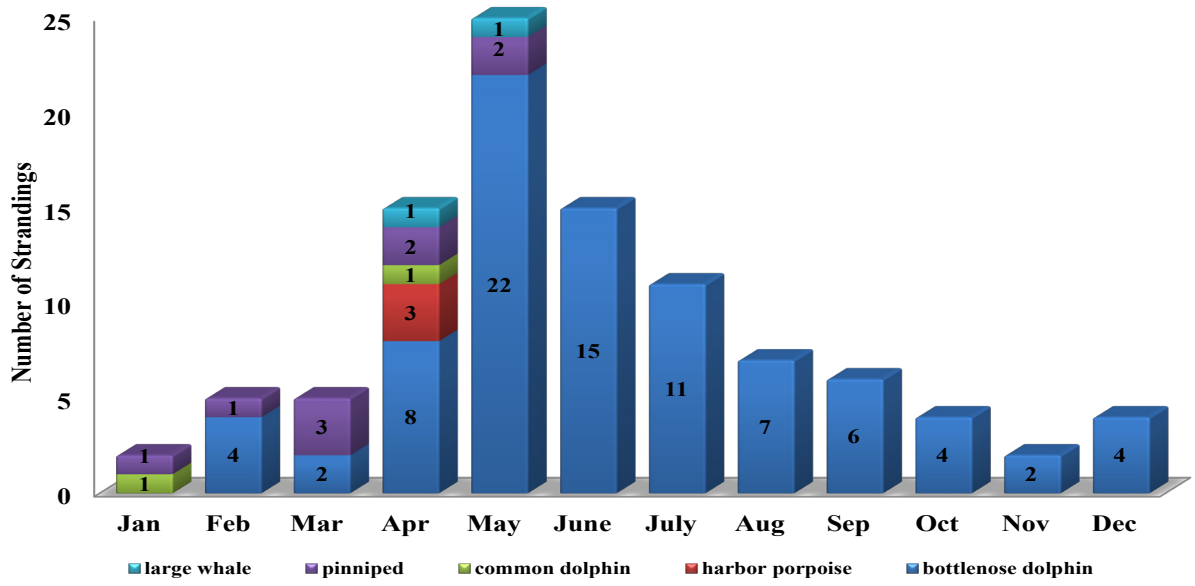


Figure 2: Monthly frequency of marine mammal strandings in Virginia from 2015.

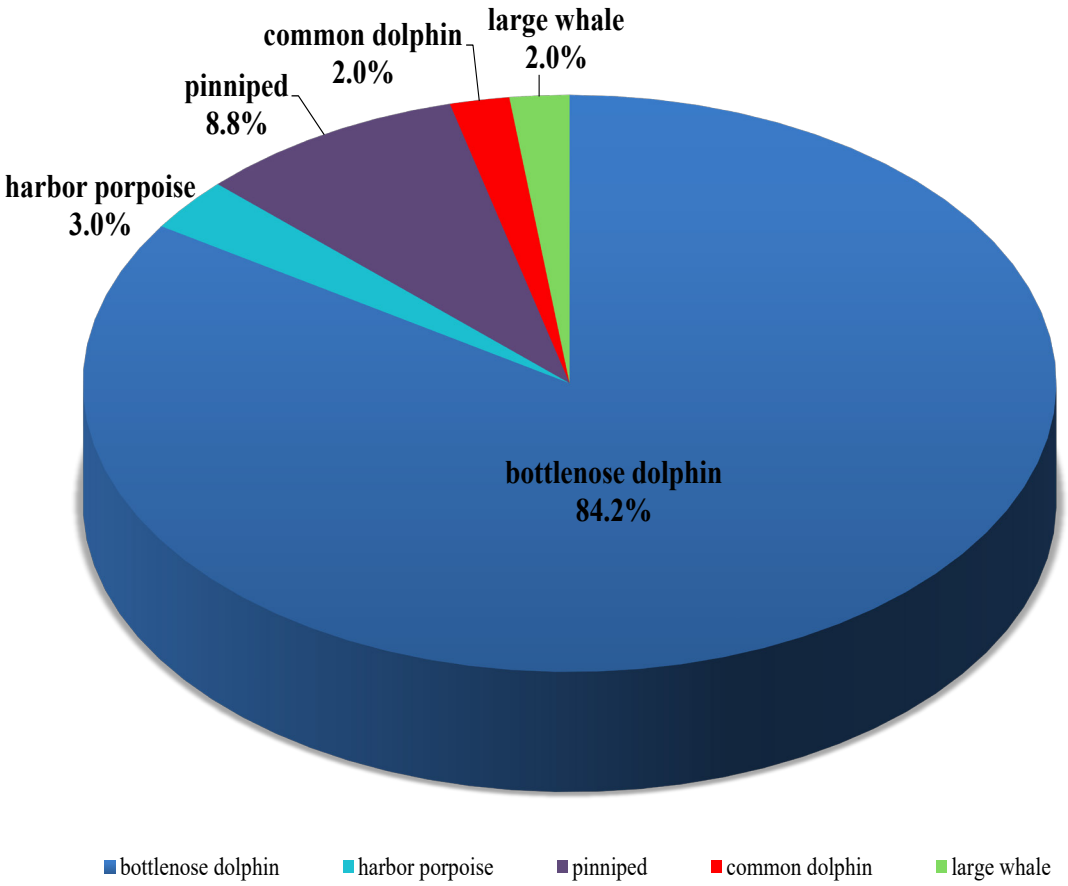


Figure 3: Marine mammal strandings in Virginia from 2015.

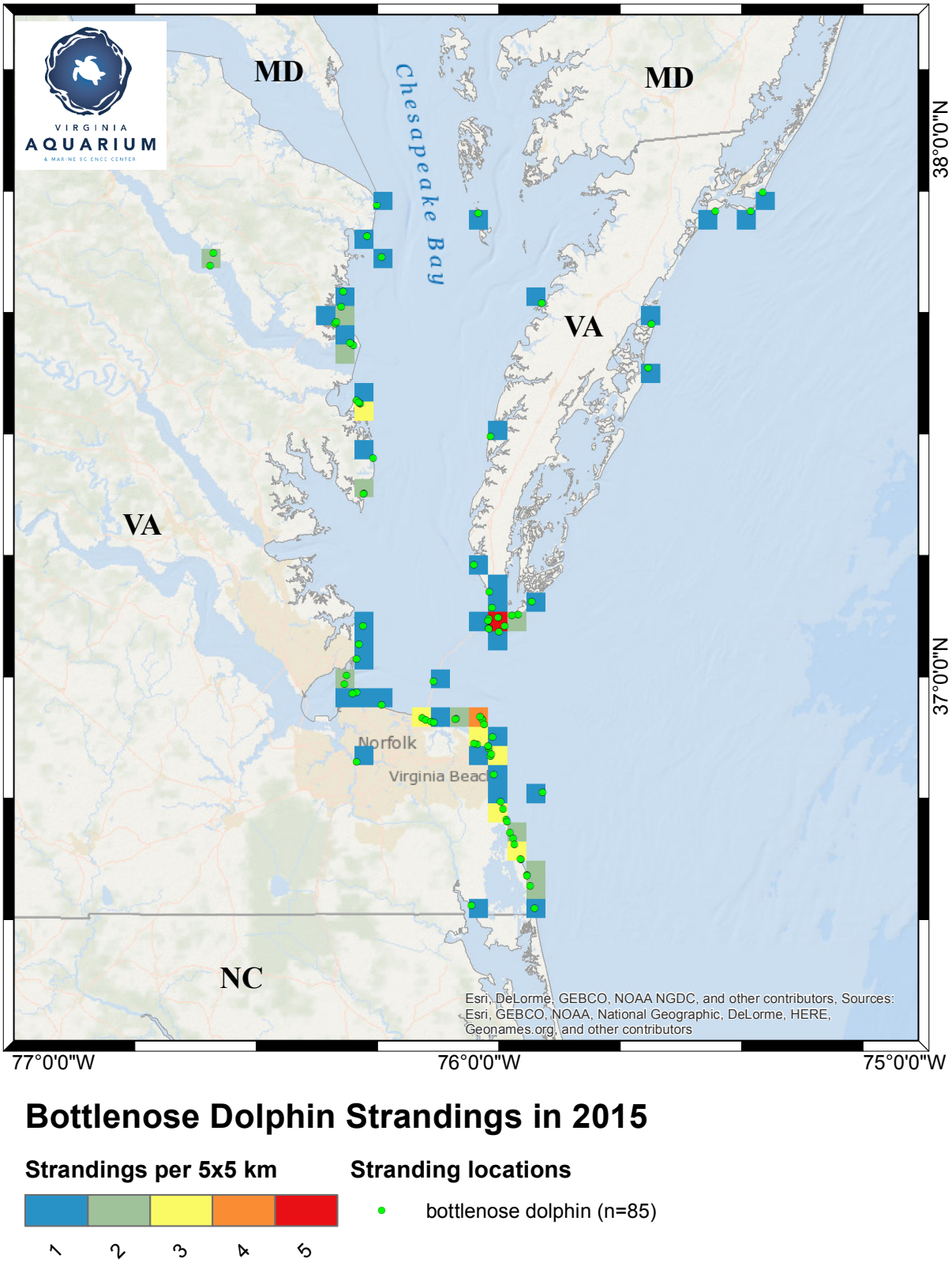
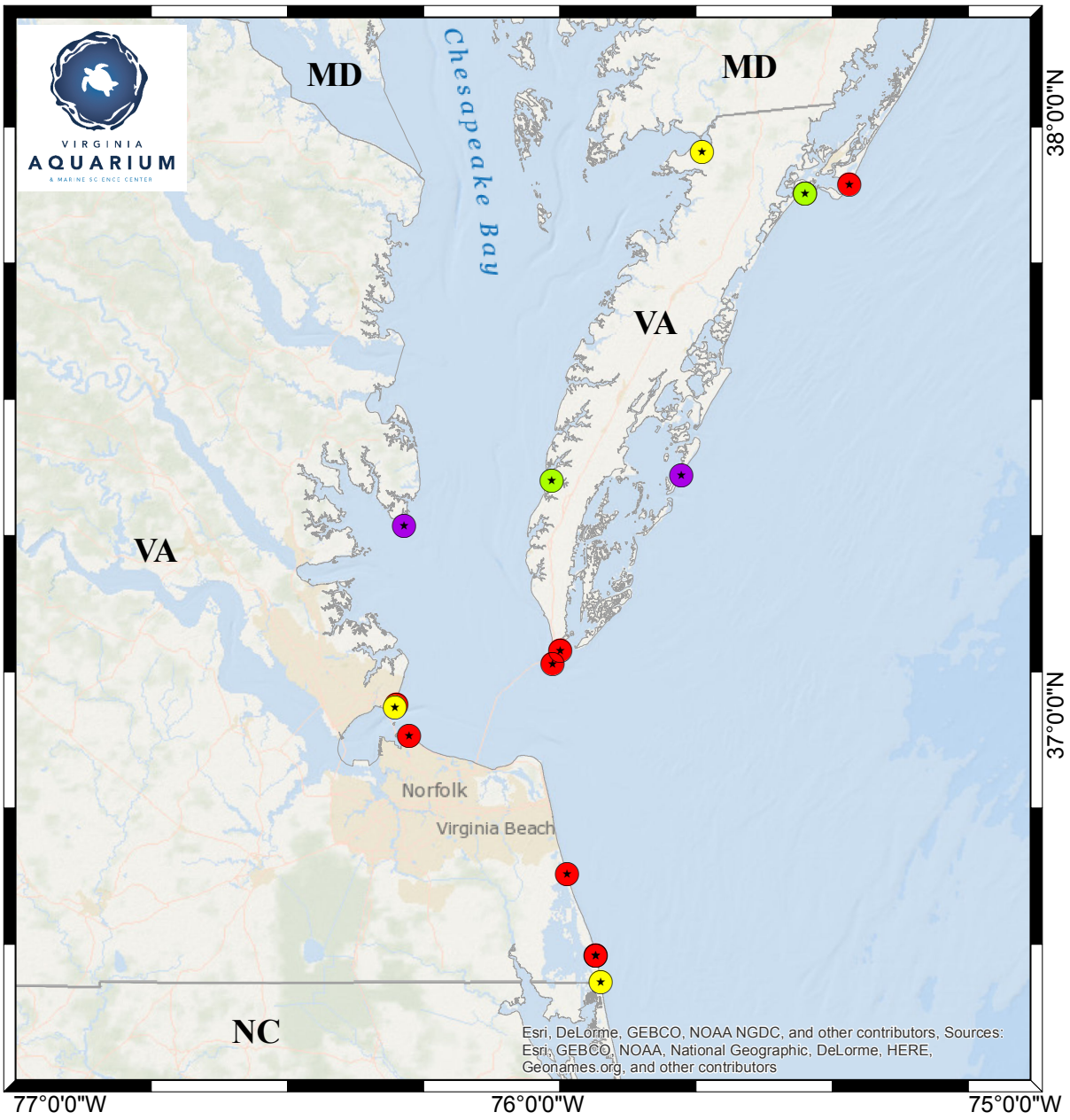


Figure 4: Point count of Virginia bottlenose dolphin strandings from 2015.



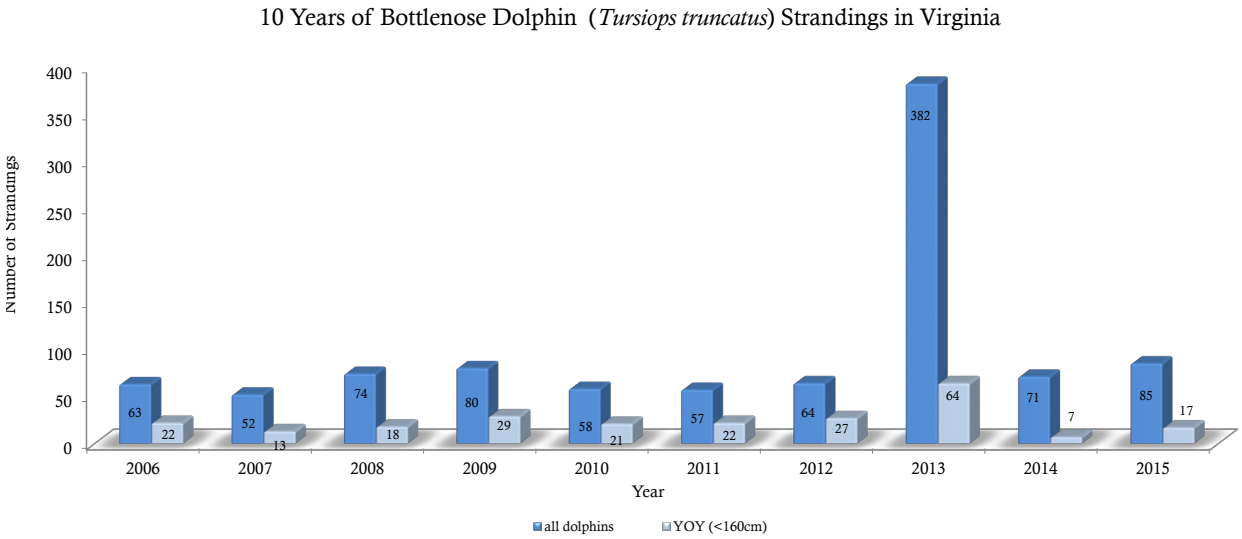
Other Marine Mammal Strandings in 2015

Stranding locations

- common dolphin (n=2)
- pinniped (n=9)
- harbor porpoise (n=3)
- large whale (n=2)

Figure 5: Location of Virginia non-bottlenose dolphin marine mammal strandings from 2015.

A. Bottlenose dolphin



B. Harbor porpoise

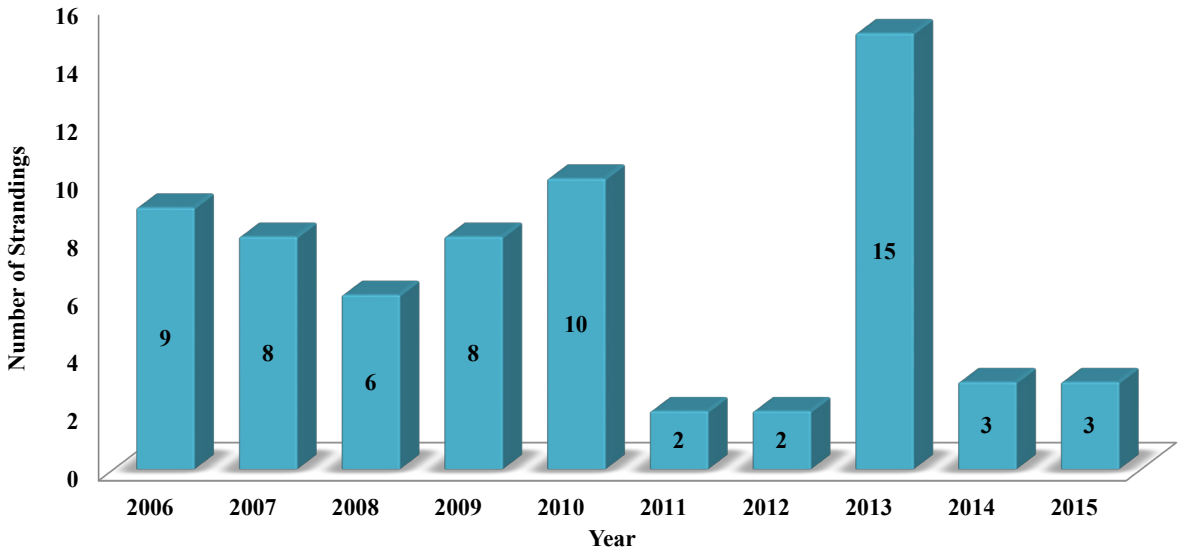
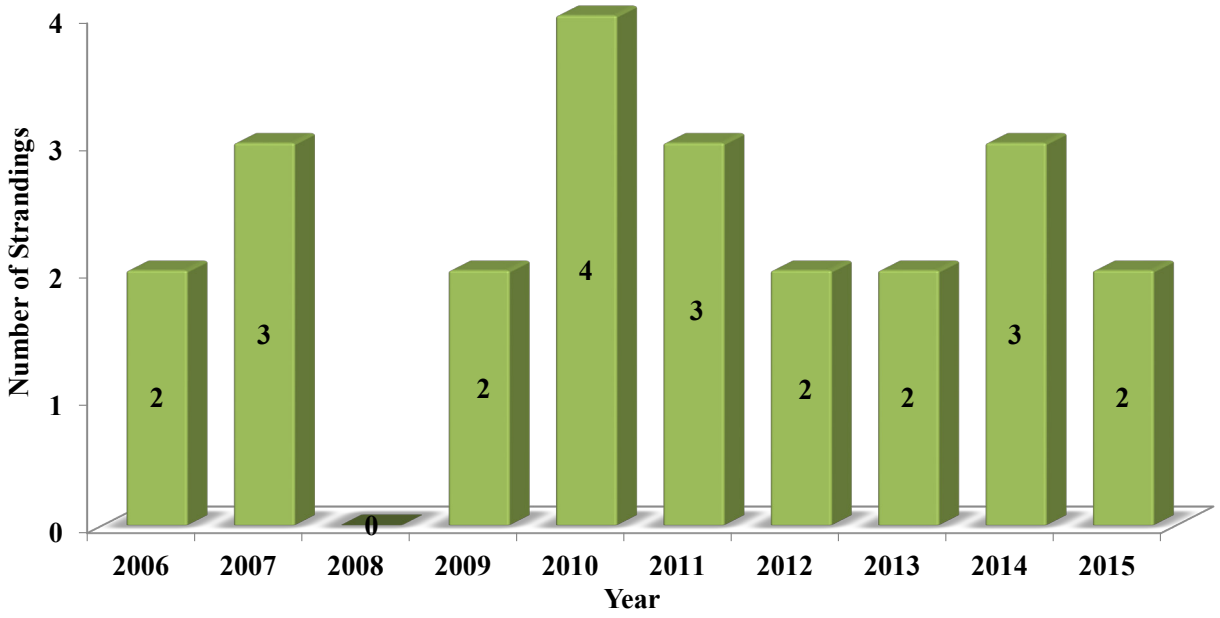


Figure 6 A-B: Yearly stranding frequency for bottlenose dolphin and harbor porpoise in Virginia, 2006-2015 (YOY = young of the year).

C. Large whales



D. Pinnipeds

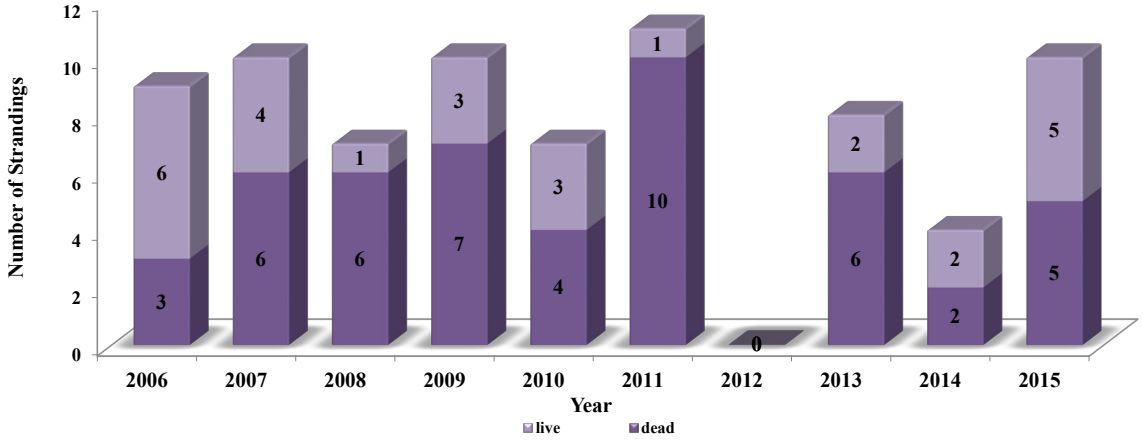


Figure 6 C-D: Yearly stranding frequency for large whales and pinnipeds in Virginia, 2006-2015.

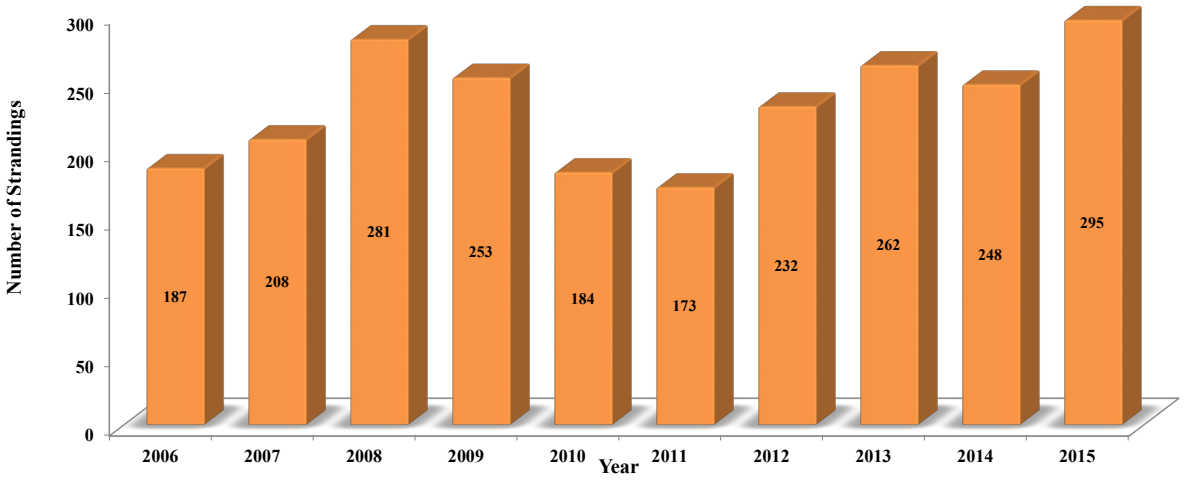


Figure 7: Yearly frequency of sea turtle strandings in Virginia, 2006-2015.

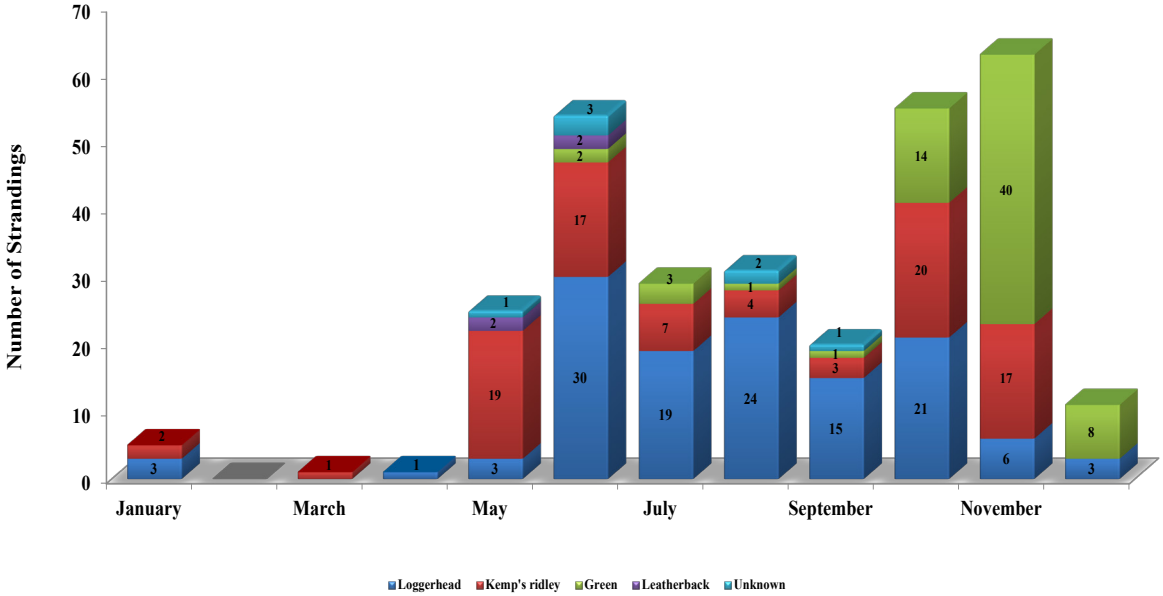


Figure 8: Monthly frequency of sea turtle strandings in Virginia from 2015.

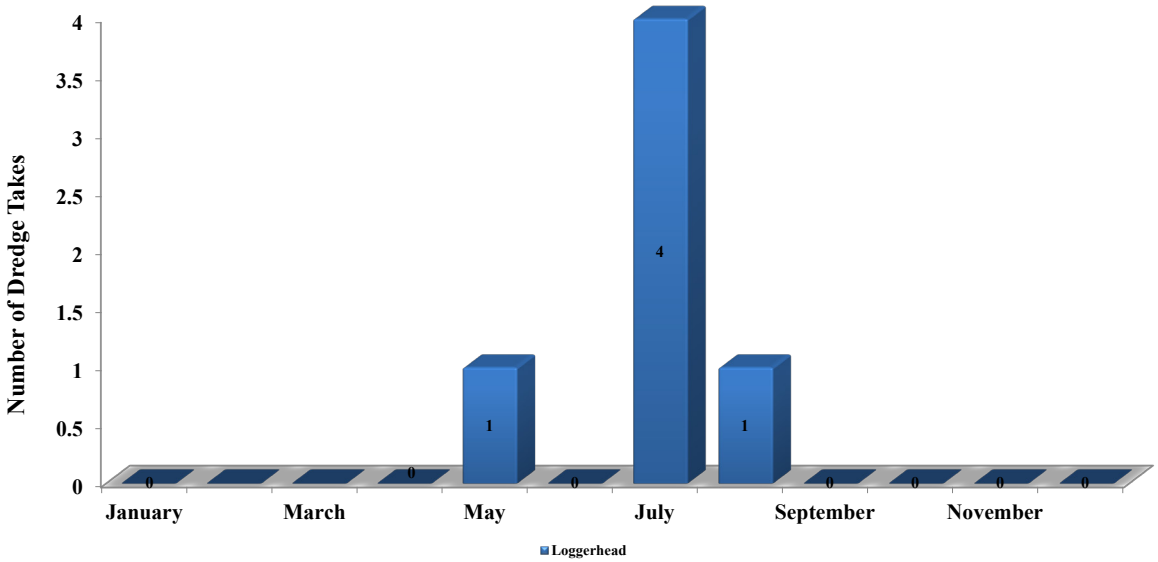


Figure 9: Monthly frequency of sea turtle dredge takes in Virginia from 2015.

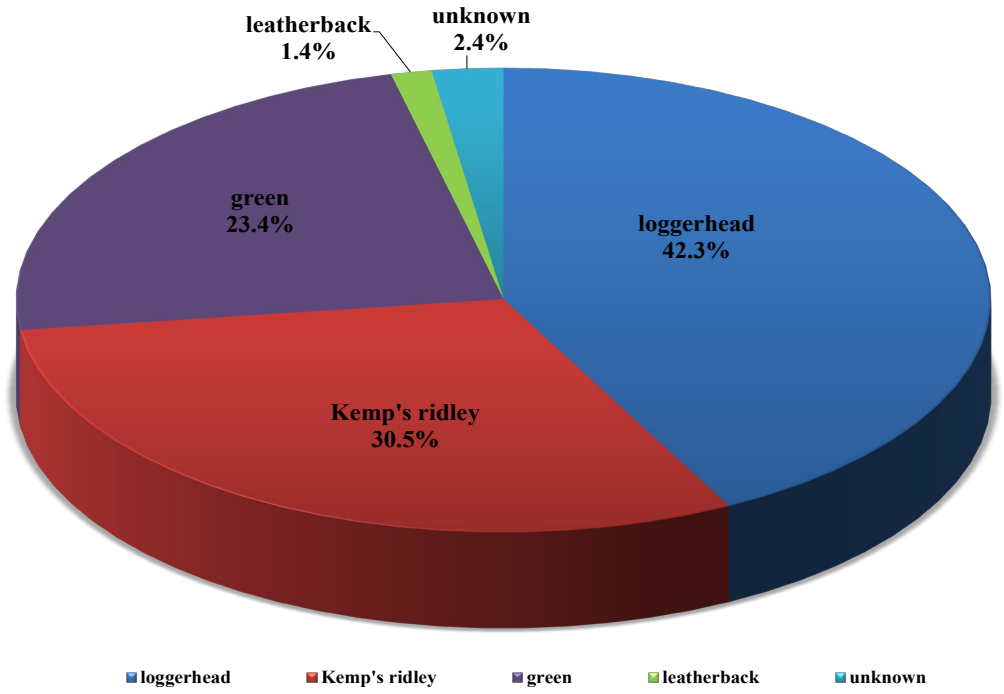


Figure 10: Sea turtle strandings in Virginia from 2015.

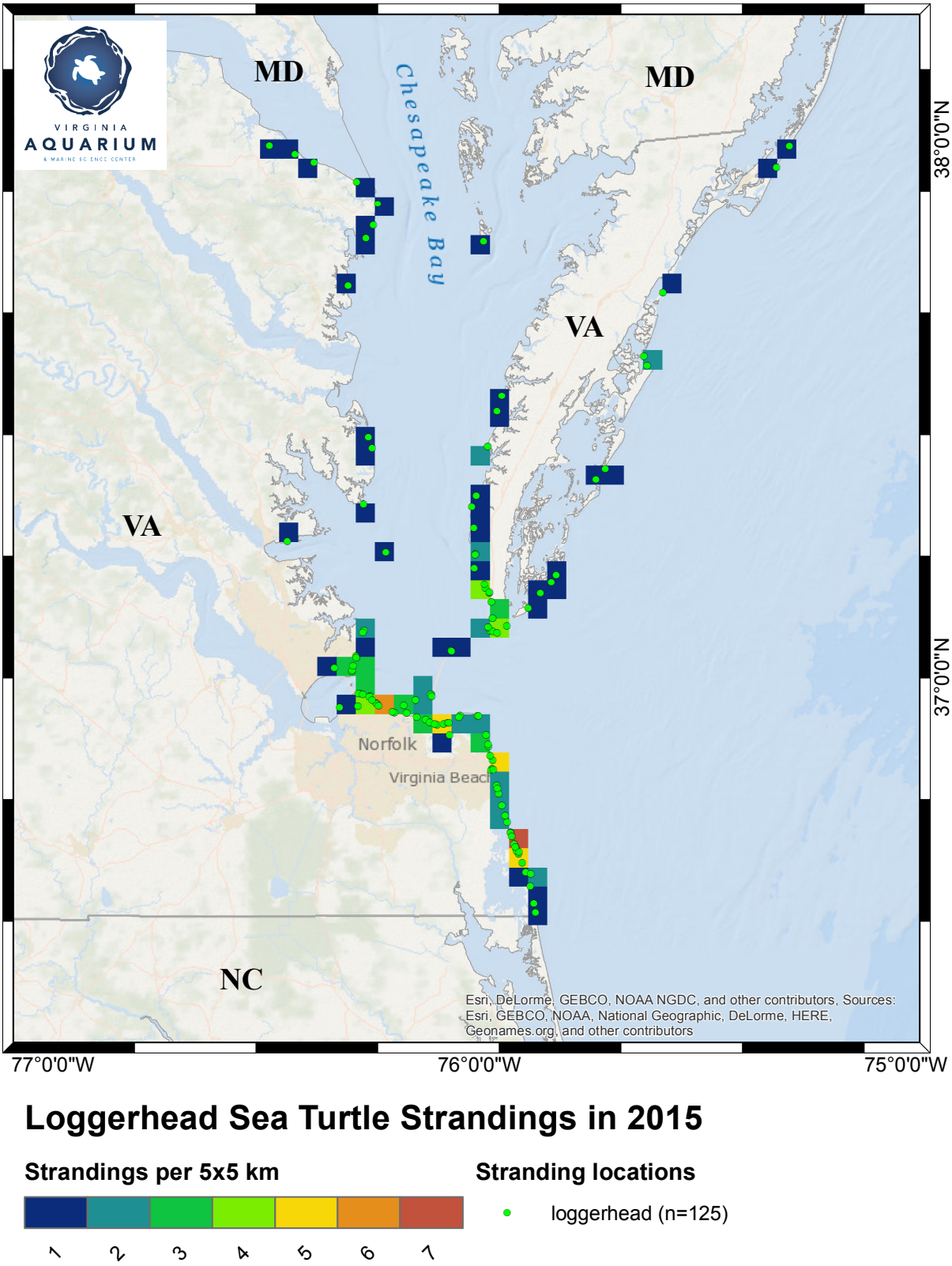


Figure 11: Point count of Virginia loggerhead sea turtle strandings from 2015.

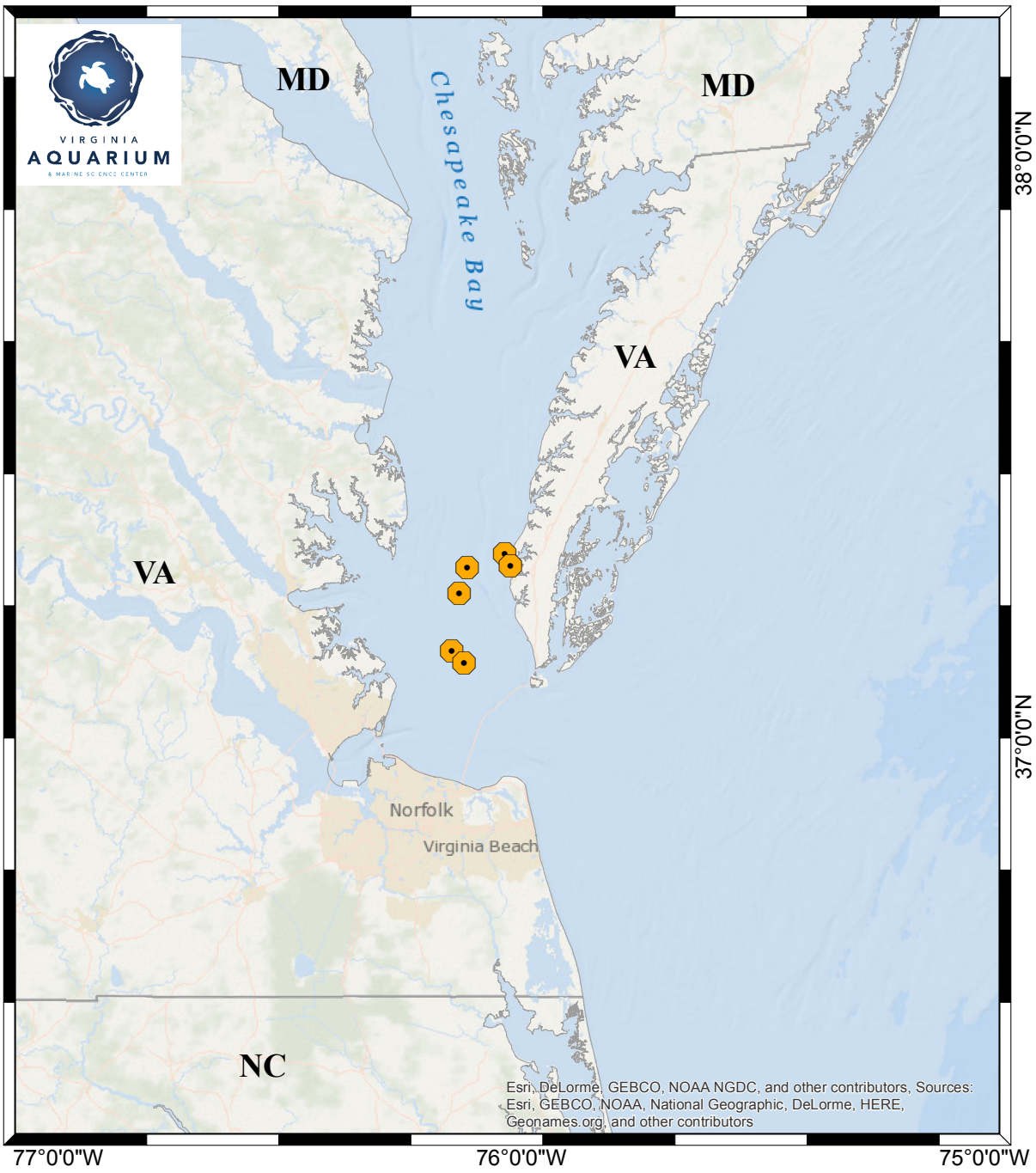


Figure 12: Location of Virginia loggerhead sea turtle dredge takes from 2015.

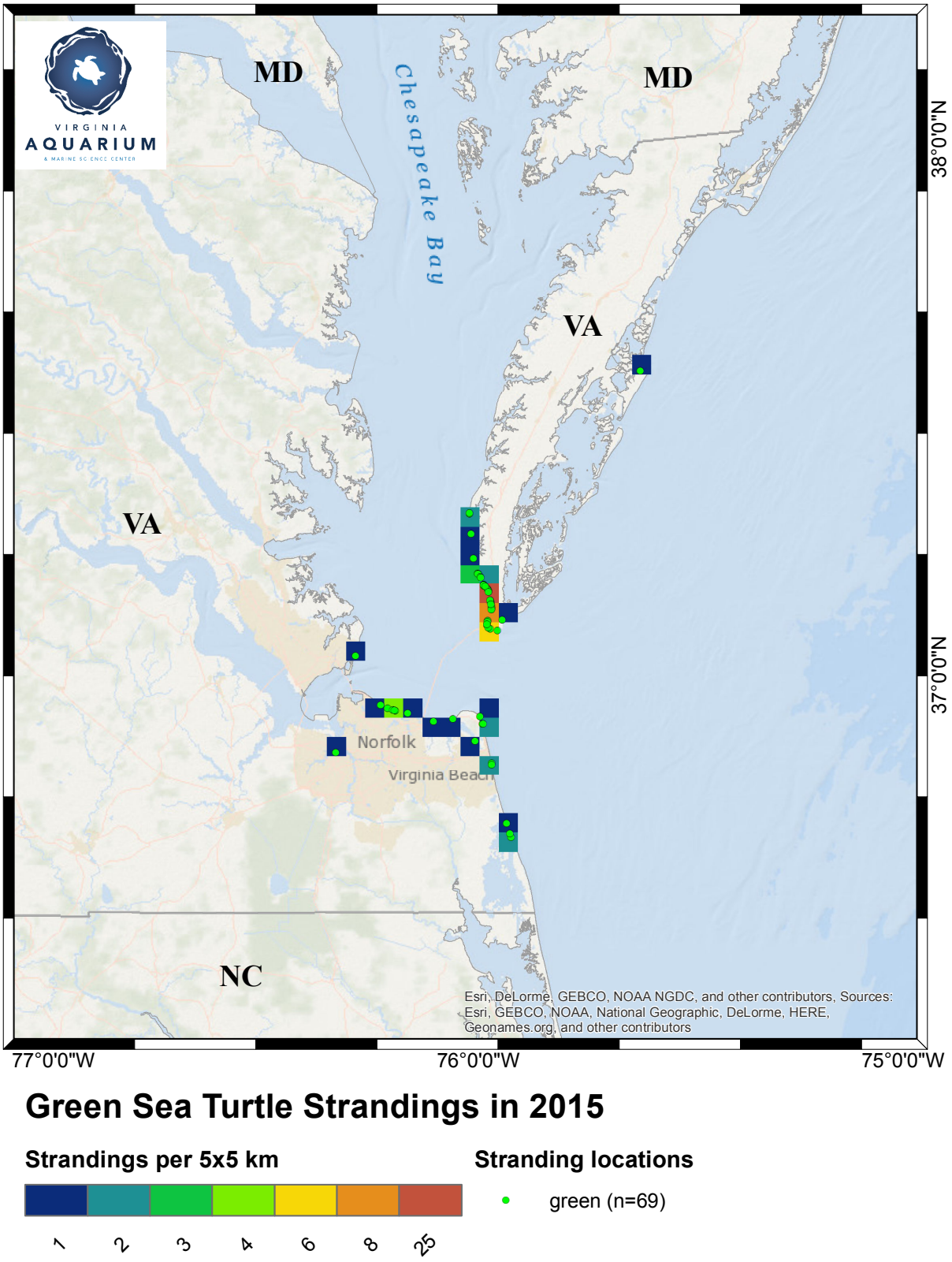


Figure 13: Point count of Virginia green sea turtle strandings from 2015.

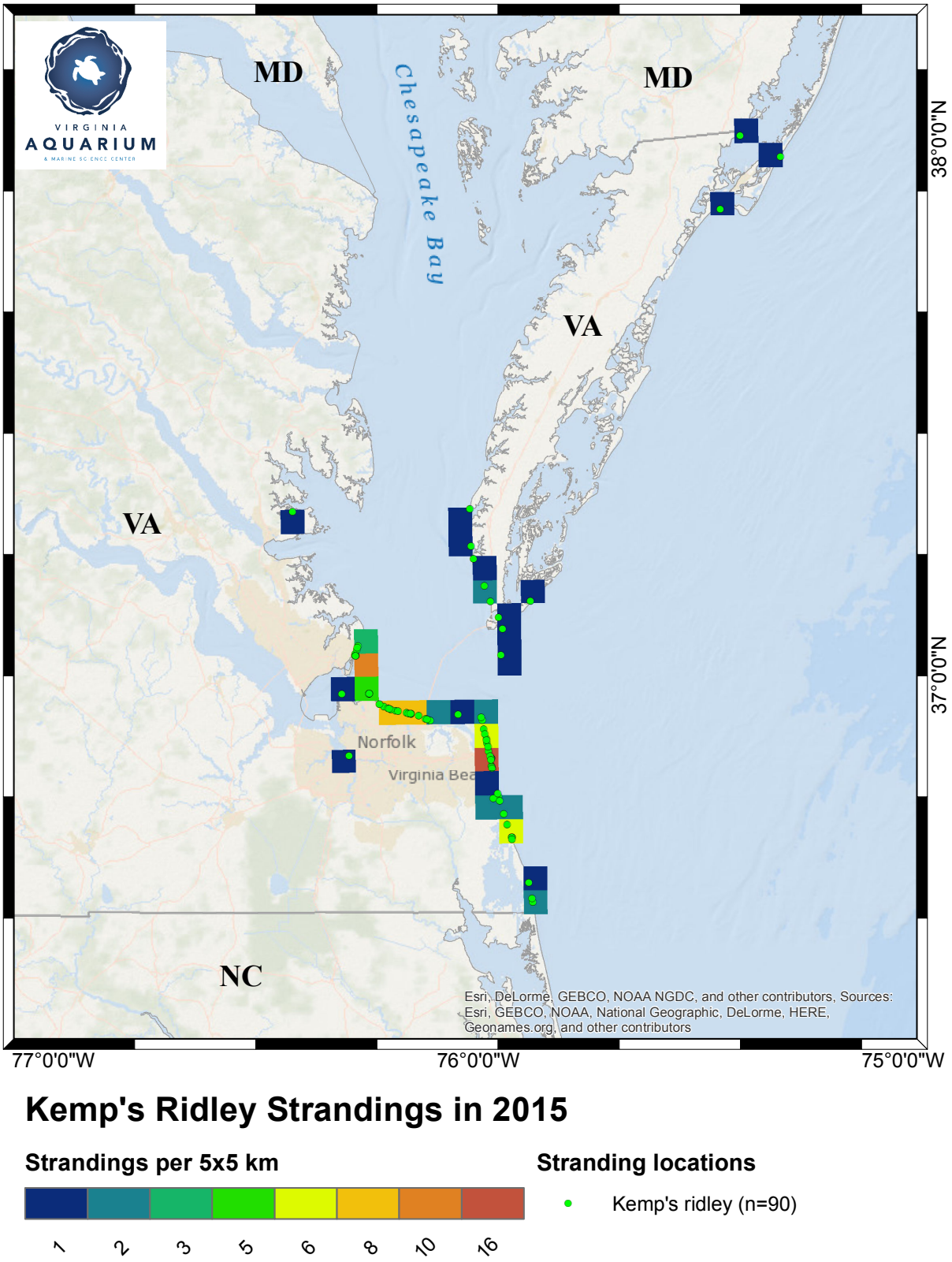


Figure 14: Point count of Virginia Kemp's ridley sea turtle strandings from 2015.

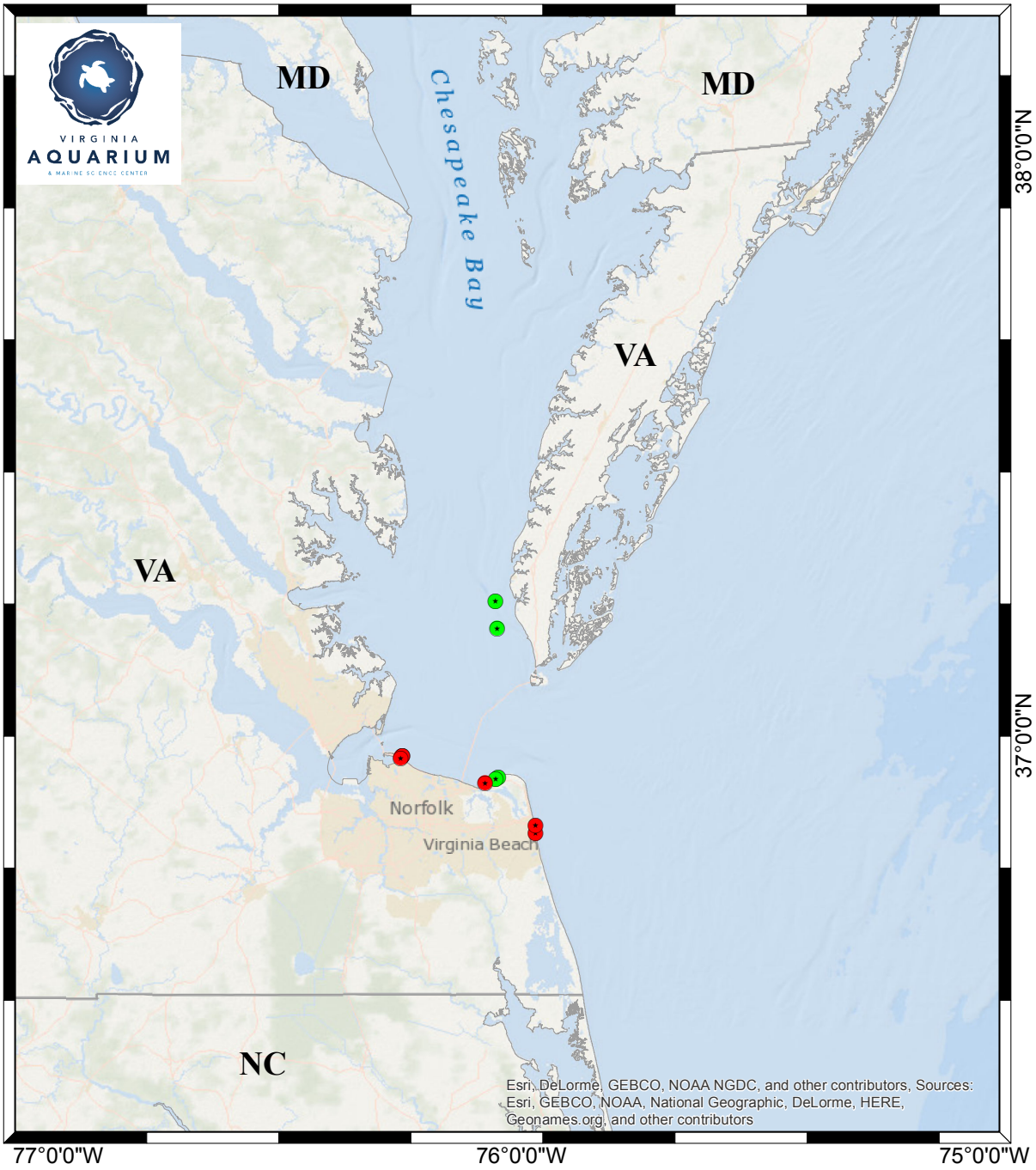


Figure 15: Location of Virginia leatherback and unidentified sea turtle strandings from 2015.

Appendix I: Professional and Education Activities

Educational Activities

Description	Date	Attendance
Outreach Opportunities		
Volunteer Open House	1/22/2015	ND
Winter Wildlife Festival	2/7/2015	600
Reptile Weekend at the Virginia Living Museum	2/14-15/2015	3000
Admiral's Mascot Mania Night	4/3/2015	4000
Earth Day at Mount Trashmore	4/18/2015	7000
Party for the Planet at Seatack Elementary	4/21/2015	100
Pinniped Release	5/19/2015	100
Virginia Master Naturalists	5/22/2015	30
Sea Turtle Release	6/24/2015	400
NOAA Boy Scout Merit Badge Program	7/11/2015	60
Sea Turtle Release	7/23/2015	800
Conservation Banks w/ Beach Municipal	8/19/2015	42
Conservation Banks w/ Beach Municipal	8/24/2015	60
Sandbridge SUP Race	9/19/2015	100
Cape Henry Oyster Crush	9/20/2015	1400
Capital Group Volunteer Fair	9/23/2015	100
Volunteer Open House	9/24/2015	100*
Eastern Shore Birding and Wildlife Festival	10/10/2015	ND
Commotion in the Ocean - Staff new Stranded exhibit	10/10/2015	ND
Ocean Park Civic League outreach	10/17/2015	100
Ducks Unlimited Greenwing Festival	10/18/2015	250
NAI Meeting - Staff new Stranded exhibit	11/10/2015	ND
St. John the Apostle Catholic School	12/3/2015	25
Public Presentations		
Presentation to Tidewater Home Funding	2/13/2015	50
Presentation to William & Mary Law School Class	3/31/2015	12
Tidewater Angler's Club Stranding/Hooked Turtle Presentation	9/8/2015	30
ODU Maxwell Vertebrate Ecology Class	11/5/2015	20
Stranding Center Interactions		
Marine Mammal Natural History Talk for Homeschool Day	1/30/2015	20
Mentoring Young Scientists	3/21/2015	40
Knee Deep in the Chesapeake	3/31/2015	30
SWAT Camp	6/30/2015	15
SWAT Camp	7/14/2015	15
SWAT Camp	8/4/2015	15
CNWR Intern MACC Visit	8/13/2015	10
ESNWR Intern/Volunteer MACC Visit	8/25/2015	2
ODU Engineering Class MACC Visit	9/15/2015	10
VIMS Middle School Group MACC Visit	11/3/2015	15
Knee Deep in the Chesapeake	11/17/2015	30
Coast Guard International Maritime Officers Course visit	11/25/2015	36

Appendix I: Professional and Education Activities *cont.*

Description	Date	Attendance
Virginia Aquarium Talks and Events		
Virginia Aquarium Research Symposium	4/7/2015	30
Sea Turtle Conservation at VAQ	10/21/2015	6
Staff Training		
Southeast Regional Sea Turtle Meeting Rehabilitation Workshop	2/7/2015	1
Controlling Controlled Drugs	3/2015	1
The Hazardous Waste Operations and Emergency Response Standard (HAZWOPER24)	3/26-27/2015	1
CCS Level 3 Large Whale Disentanglement Training	5/4-5/9/2015	2
IMMS Sea Turtle Hook Removal Training	5/19-23/2015	1
Sea Turtle Nesting Training with University of Central Florida	5/26-29/2015	2
Advanced GIS Training	6/15-19/2015	1
UNCW Advanced Necropsy Training	8/10-12/2015	3
Reptile Hematology	9/22, 29/2015	1
Stranding Response Team and Cooperator Trainings		
2015 Annual Stranding Response Team Business Meeting	3/13/2015	80
Sea Turtle Nest Monitoring Training	5/16, 20/2015	20
Nest Protection/Screening Demonstration	7/15, 18/2015	10
Pier Responder Training	5/13/2015	10
Sea Turtle and Marine Mammal Natural History Training	5/6, 16/2015	60
Seal & Cold Stun Sea Turtle Response and Rehab Training	11/21, 12/1/2015	60
Live Husbandry Training	12/1-7/2015	60
*attendance is estimated		
Other		
New England Aquarium Sea Turtle Emergency Assistance	1/7-12/15	1
New England Aquarium Sea Turtle Emergency Assistance	1/15-20/15	1
Georgia Bottlenose Dolphin Health Assessment	9/20-26/15	1
Allied Whale Humpback Whale Annual Matching and Photo-ID Meeting	10/19-23/2015	1
Scientific Conferences, Professional Meetings and Workshops		
Atlantic Large Whale Take Reduction Team Meeting	1/12-14/2015	1
ASMFC ACCSP Bycatch Committee Annual Meeting	1/21-23/2015	1
Virginia Sea Grant Symposium	1/29/2015	1
Southeast Regional Sea Turtle Meeting	2/4-7/2015	4
Southeast And Mid-Atlantic Marine Mammal Symposium	3/27-29/2015	10
Atlantic Marine Species Monitoring Technical Review Meeting	3/30-3/31	4
Naturalist Workshop	4/9-12/2015	1
Alliance of Marine Mammal Parks & Aquariums Annual Meeting	4/14-17/2015	1
Sea Turtle Nesting Stakeholder Meeting	4/21/2015	3
Southeast Implementation Team Meeting (SEIT)	4/21-22/2015	1
Pier Partner Workshop	5/5/2015	1

Appendix I: Professional and Education Activities *cont.*

Description	Date	Attendance
Scientific Conferences, Professional Meetings and Workshops cont.		
Necropsy Readiness Workshop	5/13-14/2015	1
ASMFC ACCSP Bycatch Committee Working Meeting	5/18-22/2015	1
Mid-Atlantic Marine Mammal Conservation Planning Meeting	6/15-16/2015	2
START Annual meeting	6/23/2024	1
Association of Zoos & Aquariums National Conference	9/17-21/2015	1
Mid-Atlantic Regional Planning Body Workshop	9/23/2015	2
Greater Atlantic Regional Stranding Conference (GARSCON)	10/13-16/2015	3
Zoos and Aquariums Committing to Conservation Conference	10/12-16/2015	1
Harbor Porpoise Take Reduction Team Webinar	11/18/2015	1
Atlantic Large Whale Take Reduction Team Webinar	11/19/2015	1
NE Seal Research Consortium Workshop on Commercial Takes	12/2-3/2015	1
21st Biennial Conference on the Biology of Marine Mammals	12/13-18/2015	4

Scientific Publications and Presentations

Albrittain, L., K. Phillips, S. Mallette, M. Lynott., S. Barco. 2015. Using Body Condition Indices to Compare Bottlenose Dolphins (*Tursiops truncatus*) That Stranded During the 2013-2015 Bottlenose Dolphin Unusual Mortality Event in the Mid-Atlantic to Previous Stranded Individuals. Poster presentation at 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Barco, SG, C Watterson, GG Lockhart, A DiMatteo. 2015. Acoustic Telemetry with Sea Turtles in Virginia. Presented to the Greater Atlantic Region Annual Stranding Conference, Hyannis, MA, October 2015.

Barco, SG and GL Lockhart. 2015. Turtle tagging and tracking in Chesapeake Bay and coastal waters of Virginia, 2014 Annual Progress Report. Prepared for US Fleet Forces command. Submitted to Naval Facilities Engineering Command Atlantic, Norfolk, under Contract #N62470-10-D-3011, Task Orders 41 & 50, issued to HDR Inc. Virginia Beach, VA, 28 February 2015.

Barco, SG, GG Lockhart, SA Rose, SD Mallette, WM Swingle, R Boettcher. 2015. Virginia/ Maryland Sea Turtle Research & Conservation Initiative. Final Report to NOAA for Award #NA09NMF4720033, VAQF Scientific Report 2015-05, 37 pp.

Bates, E.B., L.E. Albrittain, S.G. Barco, M.C. Lynott, S.D. Mallette, K.M. Phillips. 2015. Comparison of body condition of the common bottlenose dolphin (*Tursiops truncatus*) that stranded during the 2013-2015 Mid-Atlantic Unusual Mortality Event to previously defined baseline data. Poster presentation at 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Lockhart, G.G., DiMatteo, A., Barco, S.G. 2015. Characterizing foraging behavior for loggerhead sea turtles in Virginia and Maryland. Appendix A of the 2015 Virginia and Maryland Sea Turtle Conservation Plan. VAQF Scientific Report 2015-05, pp. 134-200.

Lockhart, G.G. and Barco, S.G. 2015. A preliminary home-range analysis of loggerhead sea turtles released in Virginia & North Carolina. Oral presentation to the 2nd Southeast Region Sea Turtle Meeting, Jekyll Island, GA, February 4-7.

Lockhart, G.G. and DiMatteo, A. 2015. Virginia sea turtle satellite telemetry project. Oral presentation to the Atlantic Marine Species Monitoring and Technical Review Meeting, Virginia Beach, VA, March 30-31.

Appendix I: Professional and Education Activities *cont.*

Scientific Publications and Presentations *cont.*

Mallette, S.D., Lockhart, G.G., McAlarney, R.J., Cummings, E.W., Yeo, D., Tackaberry, J., Stevick, P., Robbins J., McLellan, W.A., Fernald, T., Bort Thornton, J., Pepe, M., Pabst, D. A., Barco, S.G. 2015. A Review of Whale Occurrence in Virginia Utilizing Multiple Research Platforms. Poster Presentation to 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Mallette, S.D., Lockhart, G.G., Yeo, D., McAlarney, R.J., McLellan, W.A., Stevick, P., Robbins, J., Tackaberry, J., Fernald, T., Cummings, E.W., Pabst, D. A., Pepe, M., Rabon, A., Bort Thornton, J., Yeo, D., Barco, S.G. 2015. Baleen whales in the mid-Atlantic: U.S. historic and current efforts documenting whale presence. Oral Presentation: Baleen Whale Migration Workshop, 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Mallette, S.D., Lockhart, G.G., Yeo, D., Cummings, E.W., Fernald, T., McAlarney, R.J., McLellan, W.A., Pabst, D. A., Pepe, M., Rabon, A., Robbins, J., Stevick, P., Tackaberry, J., Bort Thornton, J., Barco, S.G. 2015. Whale Occurrence in Virginia: A Review of Humpback Whale Photo-ID Using Multiple Research Platforms. Presentation to Naturalist Workshop, Center for Coastal Studies, Provincetown, MA.

Phillips, K., Lynott, M., Chromik, M., Reinheimer, S., Gannon, D., Gaff, Holly., and Bartol, I. 2015. Diet analysis of stranded bottlenose dolphins (*Tursiops truncatus*) in Virginia, USA. Poster presentation at 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Phillips, K., Lynott, M., Chromik, M., Reinheimer, S., Gannon, D., Gaff, Holly., and Bartol, I. 2015. Diet analysis of stranded bottlenose dolphins (*Tursiops truncatus*) in Virginia. Oral presentation at Greater Atlantic Region Annual Stranding Network Conference, Hyannis, MA, Oct 13-16.

Phillips, K., Mallette, S., McLellan, W., Rotstein, D., and Barco, S. 2015. Death by plastic: partial DVD case found in sei whale's stomach. Oral presentation at the Southeast And Mid-Atlantic Marine Mammal Symposium, Virginia Beach, VA, March 27-29.

Rose, S.A., K.J. O'Hara, S.G. Barco. 2015. The Virginia Pier Partner Program. Oral Presentation at 2015 Southeast Regional Sea Turtle Meeting, Jekyll Island, GA, February 4-7.

Rose, S.A., K.J. O'Hara, S.G. Barco. 2015. The Virginia Pier Partner Program. Oral Presentation at the Greater Atlantic Region Stranding Network Conference, Hynannis, MA, October 13-16.

Rose, S.A., R. Boettcher, S.G. Barco. 2015. Creating a sea turtle nest monitoring team in Virginia Beach, VA. Final Report to the Dominion Foundation Environmental Stewardship Grant Program. VAQF Scientific Report 2015-07, 8 pp.

Swingle, W.M., Lynott, M.C., Bates, E.B., Lockhart, G.G., Phillips, K.M., Rodrique, K.R., Rose, S.A., and Williams, K.M. 2015. Virginia Sea Turtle and Marine Mammal Stranding Network 2014 Grant Report. Final report to the Virginia Coastal Zone Management Program, NOAA CZM Grant #NA13NOS4190135, Task 49. Virginia Aquarium Foundation Scientific Report 2015-02, 49 pp.

Williams, K.M, Rodrique, K.R., Rose, S.A., Bates, E.B., and Lynott, M.C. 2015. Pier pressure: Response and rehabilitation of sea turtles incidentally captured by recreational fishers. Presentation to the Southeast Regional Sea Turtle Meeting, Jekyll Island, GA, February 4-7.

Scientific Publications and Presentations *cont.*

Williams, K.M., Harvey, J.T., and Gulland, F.M. 2015. Diagnostic model using whole blood and serum chemistry variables of stranded and wild California sea lions (*Zalophus californianus*). Poster presented at 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, Dec 13-18.

Appendix II: Highlights of the year – Marine Mammals

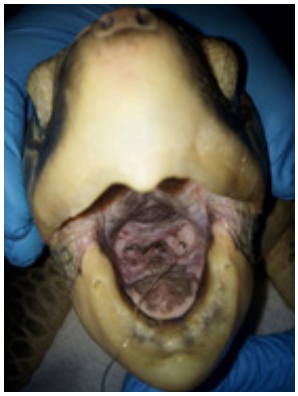
States along the east coast from New York to Virginia were officially included in the closure of the 2013-2015 Mid-Atlantic bottlenose dolphin (Tursiops truncatus) unusual mortality event on April 17, 2015. Virginia's marine mammal stranding numbers appeared closer to "normal" in 2015. Bottlenose dolphins still comprised the majority of our strandings with a total of 86. Marine mammal highlights from 2015 included the successful rehab and release of one live gray seal (Halichoerus grypus) admitted into rehab from North Carolina. VAQS also responded to one live minke whale (Balaenoptera acutorostrata) that had stranded in Port Haywood, VA.

VAQS successfully rehabbed and released one seal patient during 2015. Beetle, a young female gray seal, was initially reported to the North Carolina Stranding Network on 9 April 2015. The animal was reported as lethargic, thin and not getting in and out of the water. When VAQS staff responded, the animal was minimally responsive and observed eating sand, so the decision was made to capture and admit the animal to rehab at the VAQS Stranding Center. Upon admit, the animal was deemed underweight, had increased respiratory effort and exhibited ulcerative lesions over the body and inside the oral cavity. In rehab, staff treated the animal with antibiotics, fluid therapy, nutritional support and wound care. The animal gained weight and all abscess wounds healed and she was approved for release. Beetle was fitted with a satellite tag, flipper tagged and released from the Virginia Beach oceanfront on 19 May 2015. She was the first gray seal ever released in Virginia and was tracked to Martha's Vineyard, MA.

Also in 2015, VAQS responded to a minke whale in the marsh off New Point Comfort Natural Area Preserve in Port Haywood, VA. The animal initially stranded live on 5 June 2015 and was reported to VAQS that evening. VAQS enlisted the help of the Virginia Marine Resources Commission (VMRC) who were unable to re locate the animal. The following morning, the animal was again reported to VAQS. Staff responded immediately and found the animal in shallow water still alive. The whale was thin and exhibited several healing entanglement wounds on the rostrum, body and appendages. After consultation with a VAQS veterinarian and NOAA, the decision was made to humanely euthanize the animal. Post mortem cultures were positive for *Shewanella putrefaciens* and *Photobacterium damsel*, bacterium known to cause septicemia. The stomach was empty upon necropsy indicating the animal had not been feeding recently. Several lymph nodes appeared enlarged and active and the lungs were saturated with blood. The healing entanglement wounds did not appear to cause acute death though could have contributed indirectly to the stranding of this animal.

Appendix III: Highlights of the year - Sea Turtles

The VAQS found itself very busy with sea turtles during 2015 with 64 live strandings. A majority of those numbers could be attributed to the continued increase in reporting of hooked sea turtles by recreational fisherman thanks to the Virginia Pier Partner Program. During this time, VAQS admitted 36 hooked turtles (seven loggerheads, 28 Kemp's ridleys and one green) into rehab at the Stranding Center. Of those 36, 33 were successfully rehabilitated, tagged and released by VAQS off Virginia Beach, VA, and two were transferred to the National Aquarium in Baltimore (NAIB) and later released at Assateague State Park, MD. Unfortunately, one Kemp's ridley had to be euthanized after being transported to NAIB because of complications developed as a result of the initial hooking incident. An additional 12 turtles (three loggerheads, two Kemp's ridleys and seven unknown species) were hooked and released by local fisherman and reported after the incident.



Also in 2015, VAQS admitted three loggerhead sea turtles after they were accidentally taken in a hopper dredge operating in the York Spit Channel. These turtles were named after famous authors following along with the VAQS rehab naming theme for the year and were dubbed J.R. Tolkien, Maya Angelou and Shel Silverstein. All three turtles suffered from severe crushing injuries to the carapace, severe swelling of the limbs and superficial abrasions. Two of the turtles, Maya and Shel, suffered from fractures to the plastron and compound fractures of the ribs. Shel also suffered from a possible dislocation of the left rear flipper at the hip and severe ocular abrasions and swelling. VAQS staff cleaned and stabilized all carapace wounds, administered antibiotics and supported the animals nutritionally. Once stable, J.R. Tolkien was transferred to the North Carolina Aquarium on Roanoke Island (NCARI) on 9 June 2015 for continued rehabilitation. The turtled healed well and was transferred back to VAQS on 10 September 2015, was fitted with a satellite, PIT and rear flipper tags and released off Cape Charles, VA. The other two dredge turtles continue to heal from their wounds and are still in rehab at the VAQS Marine Animal Care Center. They will hopefully be released in spring or summer 2016.

Appendix IV: Stranding Network Datasheets

A: Marine Mammal Level A Datasheet

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

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

COMMON NAME: _____ **GENUS:** _____ **SPECIES:** _____

EXAMINER Name: _____ Affiliation: _____

Address: _____ Phone: _____

Stranding Agreement or Authority: _____

LOCATION OF INITIAL OBSERVATION

State: _____ County: _____

City: _____

Body of Water: _____

Locality Details: _____

_____

Lat (DD): _____ . _____ N

Long (DD): _____ . _____ W

☐ Actual ☐ Estimated

How Determined: (check ONE)

☐ GPS ☐ Map ☐ Internet/Software

OCURRENCE DETAILS ☐ Restrand GE# _____ (NMFS Use)

Group Event: ☐ YES ☐ NO

If Yes, Type: ☐ Cow/Calf Pair ☐ Mass Stranding # Animals: _____ ☐ Actual ☐ Estimated

Findings of Human Interaction: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Boat Collision ☐ 2. Shot ☐ 3. Fishery Interaction

☐ 4. Other Human Interaction:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

Gear Collected? ☐ YES ☐ NO Gear Disposition: _____

Other Findings Upon Level A: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Illness ☐ 2. Injury ☐ 3. Pregnant ☐ 4.Other:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

INITIAL OBSERVATION

Date: Year: _____ Month: _____ Day: _____

First Observed: ☐ Beach or Land ☐ Floating ☐ Swimming

CONDITION AT INITIAL OBSERVATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Condition Unknown

LEVEL A EXAMINATION ☐ Not Able to Examine

Date: Year: _____ Month: _____ Day: _____

CONDITION AT EXAMINATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Unknown

INITIAL LIVE ANIMAL DISPOSITION (Check one or more)

☐ 1. Left at Site ☐ 6. Euthanized at Site

☐ 2. Immediate Release at Site ☐ 7. Transferred to Rehabilitation:

☐ 3. Relocated Date: Year:_____ Month:_____Day:___ Facility:_____

☐ 4. Disentangled ☐ 8. Died during Transport

☐ 5. Died at Site ☐ 9. Euthanized during Transport

☐ 10. Other:_____

CONDITION/DETERMINATION (Check one or more)

☐ 1. Sick 7. Location Hazardous

☐ 2. Injured ☐ a. To animal

☐ 3. Out of Habitat ☐ b. To public

☐ 4. Deemed Releasable ☐ 8. Unknown/CBD

☐ 5. Abandoned/Orphaned ☐ 9.Other_____

☐ 6. Inaccessible _____

TAG DATA Tags Were:

Present at Time of Stranding (Pre-existing): ☐ YES ☐ NO

Applied during Stranding Response: ☐ YES ☐ NO

ID#	Color	Type	Placement* (Circle ONE)	Applied	Present
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐

* D= Dorsal; DF= Dorsal Fin; L= Lateral Body
LF= Left Front; LR= Left Rear; RF= Right Front; RR= Right Rear

MORPHOLOGICAL DATA

SEX (Check ONE)

☐ 1. Male

☐ 2. Female

☐ 3. Unknown

AGE CLASS (Check ONE)

☐ 1. Adult ☐ 4. Pup/Calf

☐ 2. Subadult ☐ 5. Unknown

☐ 3. Yearling

☐ Whole Carcass ☐ Partial Carcass

Straight length:_____ ☐ cm ☐ in ☐ actual ☐ estimated

Weight:_____ ☐ kg ☐ lb ☐ actual ☐ estimated

PHOTOS/VIDEOS TAKEN: ☐ YES ☐ NO

Photo/Video Disposition: _____

_____

CARCASS STATUS (Check one or more)

☐ 1. Left at Site ☐ 4. Towed: Lat_____Long_____ ☐ 7. Landfill

☐ 2. Buried ☐ 5. Sunk: Lat_____Long_____ ☐ 8. Unknown

☐ 3. Rendered ☐ 6. Frozen for Later Examination ☐ 9. Other_____

SPECIMEN DISPOSITION (Check one or more)

☐ 1. Scientific collection ☐ 2. Educational collection

☐ 3. Other:_____

Comments: _____

_____

NECROPSIED ☐ NO ☐ YES ☐ Limited ☐ Complete

☐ Carcass Fresh ☐ Carcass Frozen/Thawed

NECROPSIED BY: _____

Date: Year: _____**Month:**_____**Day:**_____

NOAA Form 89-864; OMB No.0648-0178; Expires 01/31/2014 PLEASE USE THE BACK SIDE OF THIS FORM FOR ADDITIONAL REMARKS

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 ☐☐

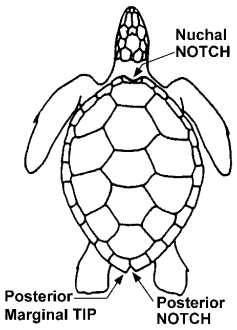
-State coordinator must be notified within 24 hrs; this was done by ☐phone (757)385-7575 ☐email ☐fax (757)437-4933

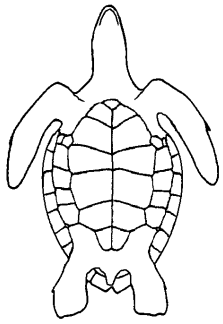
SPECIES: (check one)
- ☐ CC = Loggerhead
- ☐ CM = Green
- ☐ DC = Leatherback
- ☐ EI = Hawksbill
- ☐ LK = Kemp's Ridley
- ☐ LO = Olive Ridley
- ☐ UN = Unidentified

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

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)
_____

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? _____

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 2015, Potter 1991).

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

A. Marine mammal species *cont.*

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

B. Sea turtle species in stranding records from Virginia, U.S.A. (Virginia Aquarium Sea Turtle Stranding Database 2015).

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