1 PURPOSE AND NEED

Introduction

The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) proposes to implement the *North Atlantic Right Whale Ship Strike Reduction Strategy* (Strategy), to reduce ship strikes of North Atlantic right whales, an endangered species under the Endangered Species Act (ESA). North Atlantic right whales are also considered depleted under the Marine Mammal Protection Act (MMPA). This draft environmental impact statement (DEIS) analyzes the potential environmental impacts of implementing the *operational measures* component of the Strategy (the Strategy includes other components that are not addressed in this DEIS). Except when specifically stated otherwise, when Strategy is referred to throughout this DEIS, it is in reference to the operational measures to reduce ship strikes only. This EIS has been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the NOAA environmental review procedures (NOAA Administrative Order 216-6) (NOAA, 1999).

1.1 Background

The North Atlantic right whale (*Eubalaena glacialis*), whose habitat extends from waters off the coasts of southern Canada to northern Florida, is a critically endangered large whale species. This species was overharvested by aboriginal and commercial whaling operations during the 16th to 18th centuries. Right whales were easy targets because they are slow swimmers and their high body fat content causes them to float after death. Hence their English name: they were the "right" whale to hunt.

Right Whales

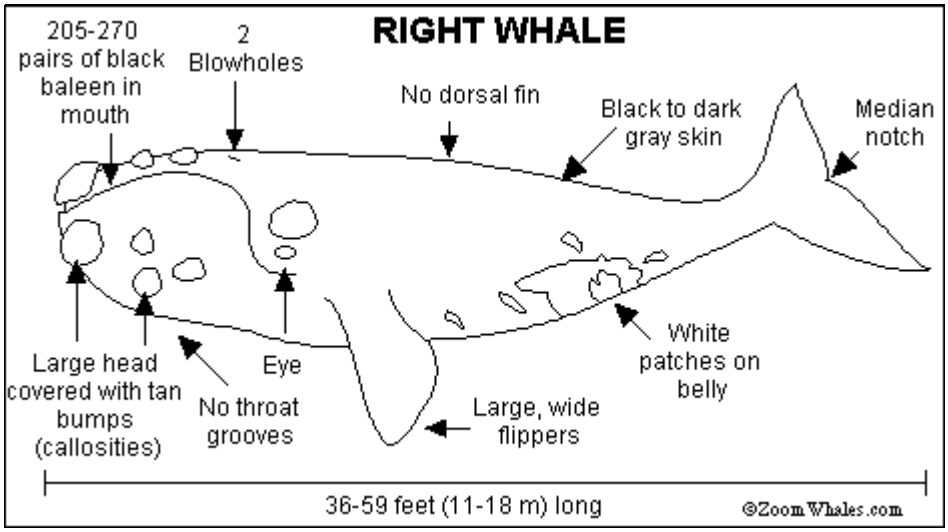
Right whales are found in three general regions: the North Atlantic, the North Pacific, and the Southern Hemisphere.

The **North Pacific right whale** (*Eubalaena japonica*) was considered until recently to be the same species as the North Atlantic right whale. Although genetic studies now provide evidence that they are in fact a different species, the ESA still combines them into one species, the Northern right whale.

The **Southern right whale** (*Eubalaena australis*) is a distinct species of right whale that occurs only in the Southern Hemisphere off the coasts of South America, Australia, New Zealand, and South Africa. It is a larger population than the North Atlantic right whale (estimated at over 10,000 animals with a 7.2 percent annual growth rate [Best *et al.*, 2001]), but remains classified as vulnerable by the World Conservation Union (IUCN) and listed under Australia's endangered species legislation.

Additionally, there are two distinct populations of **North Atlantic right whales** (*Eubalaena glacialis*): the eastern population, once found from northern Europe to the northwest coast of Africa, and now appears to be nearly extinct; and the western population. Unless otherwise specified, **all references to "right whales" in this EIS are to the western North Atlantic right whale**.

Right whales belong to the family of baleen whales, also referred to as mysticetes (Suborder *Mysticeti*). Adults are generally between 45 and 55 feet (ft) (14 and 17 meters [m]) long and can weigh up to 70 tons, with females being somewhat larger than males. Calves are 18 to 20 ft (5.5 to 6 m) long at birth. Distinguishing features for right whales include a stocky body, a generally black coloration (although some individuals have white patches on their undersides), a lack of a dorsal fin, a large head (about one-quarter of the body length), a strongly bowed margin of the lower lip, and callosities (raised patches of roughened skin) about the head. Two rows of long (up to 8 ft [2.4 m] long), dark baleen plates hang from the upper jaw, with an average of 225 plates on each side. The tail is broad, deeply notched, and all black with a smooth trailing edge.[1]



1.1.1 Right Whale Population Status

International protection for the right whale began in 1935 when the Convention for the Regulation of Whaling placed a ban on commercial whaling. Prior to the whaling ban, and primarily in the 16th, 17th, and 18th centuries, right whales were severely overharvested. The North Atlantic right whale has been listed as endangered under the ESA since the passage of the act in 1973. Despite protective measures, right whale populations in the Northern Hemisphere continue to be depleted and show no signs of recovering. The best estimate of the size of the North Atlantic right whale population is 300 to 350 animals. Recent models indicate that this population is likely declining rather than remaining static or increasing (Caswell *et al.,* 1999). While the life span of the right whale is relatively long and complete extinction is unlikely in the immediate future, studies have shown that if current conditions continue (i.e. high death rates due to human activities), extinction is probable in less than 200 years (Caswell *et al.,* 1999; Fujiwara and Caswell, 2001).

Today, the right whale population is sufficiently fragile that the premature death of a single mature female could make recovery of the species untenable (for biological reasons, the number of reproductive-age females is more essential to a species' ability to maintain itself or grow than the number of males). Because the primary causes of premature mortality among right whales are anthropogenic, mainly due to ship strikes and fishing gear entanglement, any recovery of the

[1] www.nmfs.noaa.gov/pr/species/mammals/cetaceans/right_whales.doc

right whale population is contingent upon reducing the effects of human activities on the species, in addition to maintaining optimal habitat conditions. These threats are reflected in the recent increase in known anthropogenic mortality and serious injury; from 1999 to 2003, this number has increased from 2.0 right whales per year to 3.2 (NMFS, 2005f).

Sixty-six known right whale deaths have occurred from 1970 to (May) 2005; this number is a minimum as additional deaths are undetected. Of these, 17 (26 percent) have occurred since 2000, suggesting an increase in the frequency of such occurrences. The increase may also be attributable to increased awareness, and increased survey effort and detectability, suggesting the death rate may have been high for some time and further indicating the rate is not sustainable. In the 16-month period from January 2004 to May 2005, there have been eight confirmed right whale deaths (Kraus *et al.*, 2005). Three (possibly four) of these eight deaths were caused by ship strikes and one by fishing gear. The cause of the other deaths is unknown at this time. Six of the eight whales were adult females, and three of the females were carrying near-term fetuses (Kraus *et al.*, 2005). Four were attaining sexual maturity and therefore beginning a period to bear calves. Since the average lifetime calf production of a female right whale is 5.25 calves, the deaths of four females represent a lost reproductive potential of as many as 21 animals (Kraus *et al.*, 2005).

The premature right whale mortality over the last two decades well exceeded the NMFS potential biological removal (PBR) level for the species. The PBR level is the maximum number of individuals that can be removed from a marine mammal population by nonnatural mortality while still allowing that population to reach or maintain its optimum sustainable population (OSP).[2] NMFS develops PBR levels to assess the effects on a population of nonnatural mortalities. NMFS estimates that the North Atlantic right whale population is well below the OSP. Therefore, the PBR for the species has been set to zero, meaning that any mortality or serious injury is significant. Again, these are known deaths; others may go undetected.

1.1.2 Anthropogenic Causes of Right Whale Injury and Mortality

1.1.2.1 Ship Strikes

Ship strikes are responsible for the majority of human-caused right whale mortalities (Jensen and Silber, 2003; Knowlton and Kraus, 2001; NMFS, 2005b). As such, ship strikes are a primary cause of the lack of recovery of the species. In waters off the United States and Canadian East Coast, several major shipping corridors overlap with, or are adjacent to, right whale habitat and migratory corridors, and pose a grave threat to these animals. Presumably, right whales are either unable to detect approaching vessels or ignore them if they are involved in important activities such as feeding, nursing, or mating. On the other hand, given the density of ships and the distribution of right whales, overlap is nearly inevitable thereby increasing the probability of a collision, even if one entity or the other is actively avoiding a collision. Additionally, right whales are very buoyant and slow swimmers, which may make it difficult for them to avoid oncoming vessels even if they are aware of a vessel's approach.

[2] The term "optimum sustainable population" means, with respect to any population stock, the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element [16 U.S.C. § 1362 (9)].

NMFS published a database in 2003 of all known ship strikes to large whales worldwide. Because not all ship strikes are documented, available data likely underestimate the actual number. Based on a recent estimate of the mortality rate and records of ship strikes, scientists estimate that less than a quarter (17 percent) of ship strikes are actually detected (Kraus *et al*., 2005). Collisions occur off almost every US coastal state, but strikes are most common along the East Coast. More than half (56 percent) of the recorded ship strikes from 1975 to 2002 occurred off the coasts of Northeast United States and Canada, while the mid-Atlantic and Southeast areas each accounted for 22 percent (Jensen and Silber, 2003). Records from Knowlton and Kraus (2001) show similar results; of 15 confirmed ship strikes in the western North Atlantic (including Canada) from 1970 to 1999, nine (60 percent) occurred in the Northeast, and three (20 percent) occurred in both the mid-Atlantic and Southeast.

Records of deaths from 1970 to 1999 indicate that ship strikes are responsible for over one-third (16 out of 45, or 35.5 percent) of all "confirmed" right whale mortalities (a "confirmed" mortality is one observed under specific conditions defined by NMFS).[3] Of the remaining "confirmed" mortalities, three (6.7 percent) were due to entanglement in fishing gear; 13 (28.9 percent) were neonate deaths, and another 13 (28.9 percent) were deaths of noncalf animals from unknown causes (Knowlton and Kraus, 2001). Based on criteria developed by Knowlton and Kraus (2001), 56 additional ("unconfirmed") serious injuries and mortalities from entanglement or ship strikes were found to have occurred between 1970 and 1999: 25 (44.6 percent) from ship strikes and 31 (55.4 percent) from entanglement. Of these, 19 were fatal interactions (16 ship strikes, three entanglements); 10 possibly fatal (two ship strikes, eight entanglements); and 27 nonfatal (seven ship strikes, 20 entanglements) (Knowlton and Kraus, 2001).

Another study conducted over a similar period, 1970 to 2002, examined 30 (18 adults and juveniles, and 12 calves) out of 54 reported right whale mortalities from Florida to Canada (Moore *et al.*, 2004). Human interaction (ship strike or gear entanglement) was evident in 14 of the 18 adults examined, and trauma, presumably from vessel collision, was apparent in 10 out of 14 cases. Trauma was also present in four out of 12 calves, although the cause of death was more difficult to determine in these cases. In 14 cases, the assumed cause of death was vessel collision, and an additional four deaths were attributed to entanglement. The cause of death was undetermined in the other 12 cases (Moore *et al.*, 2004).

A NMFS reference document on mortality and serious injury determinations for large whales contains 50 reports of right whale events from 1999 to 2003 (Cole *et al.*, 2005). During this period there were five right whale mortalities and no serious injuries from ship strikes, while entanglements resulted in three right whale mortalities and seven reports of serious injury. Over this five-year period, there were 18 verified right whale mortalities, of which 27.8 percent resulted from ship strikes and 16.7 percent resulted from entanglement (Cole *et al.*, 2005).

Many types and sizes of vessels have been involved in ship strikes, including container/cargo ships/freighters, tankers, steamships, US Coast Guard (USCG) vessels, US Navy vessels, cruise ships, ferries, recreational vessels, fishing vessels, whale watching vessels, and other vessels (Jensen and Silber, 2003). Vessel speed (if recorded) at the time of a large whale collision has

[3] There are four main criteria used to determine whether serious injury or mortality resulted from ship strikes: (1) Propeller cut(s) or gashes which are more than approximately 8 cm in depth, (2) Evidence of bone breakage which was determined to have occurred premortem, (3) Evidence of haematoma or haemorrahaging, (4) Ship-struck animal appeared in poor health (Knowlton and Kraus, 2001).

ranged from 2 to 51 knots (Jensen and Silber, 2003). Vessels can be damaged during ship strikes; of the 13 records that include vessel damage, all of these vessels were traveling at least 10 knots (Jensen and Silber, 2003). (Occasionally, collisions with large whales have even harmed or killed humans on board the vessel.) A summary paper on ship collisions and whales by Laist *et al.* (2001), reported that of 28 recorded collisions causing lethal or severe injuries, 89 percent involved vessels traveling at 14 knots or faster and the remaining 11 percent involved vessels traveling at 10 to 14 knots. None occurred at speeds below 10 knots, although there is a predicted 45 percent chance of death or serious injury at 10 knots (Pace and Silber, 2005).

1.1.2.2 Fishing Gear Entanglement

Entanglement in fishing gear is another common anthropogenic cause of right whale mortality and serious injury. Because right whale occurrence can overlap with frequented fishing areas, gear entanglements are frequent and can cause death by drowning or serious injuries such as lacerations, which in turn can lead to severe infections. Most right whale entanglements appear to be with gillnets, lobster pots, crab pots, seines, fish weirs, and aquaculture equipment (NMFS, 2005a). Where right whales are feeding, entanglements in the mouth are common. Entanglements of juveniles are particularly dangerous because restrictions and infections can increase as the whale grows.

According to the 2003 Stock Assessment Report, 60 percent of right whale mortalities or serious injuries reported from 1997 to 2001 resulted from entanglements or fishery interactions (NMFS, 2003b). This number increased to approximately 69 percent from 1999 through 2003 (NMFS, 2005f). In January 1997, two lobster pot fisheries (the Gulf of Maine and the US mid-Atlantic) were reclassified from Category III to Category I fishery based on the number of large whales entangled by lobster pot gear. A fishery qualifies as a Category I if the annual mortality and serious injury of a marine mammal stock in that fishery is greater than or equal to 50 percent of the PBR level, whereas a Category III fishery is a fishery where the annual mortality and serious injury is less than or equal to 1 percent of the PBR level (16 U.S.C. § 1387).

Although entanglements do not always result in death or serious injury, they pose a serious threat to North Atlantic right whales. Analysis of the North Atlantic Right Whale Catalog[4] indicates that 61.6 percent of the overall population shows physical evidence of entanglements, such as scars, and between 10 and 28 percent experience entanglements each year (Hamilton *et al.*, 1998b from NMFS, 2003b; Knowlton *et al.*, 2001).

1.1.2.3 Other Anthropogenic Causes of Whale Mortality

Several other human activities may affect the health and survival of the right whale, although these have not been documented. The most notable are:

- Habitat destruction, which includes military activities, undersea mining exploration and development, dredging and associated disposal of dredged materials, and oil, and gas exploration (Perry *et al*., 1999).
- Pollution, which occurs in the forms of dredging, ocean dumping and disposal, and noise. Some contaminants dumped into the ocean affect right whales indirectly through their food supply (Perry *et al.*, 1999).

[4] The Right Whale Catalog is a database of whale sightings and photos maintained by the New England Aquarium.

- Chemical contaminants/endocrine disruptors, which can cause reduced fertility or reproductive failure (Reeves *et al*., 2000; Rolland *et al*., 2005).

1.2 NOAA's Current Right Whale Conservation Measures

To mitigate anthropogenic threats to the right whale population, NMFS currently implements various conservation measures.

1.2.1 Ship Strike Reduction Measures

Due to increasing concern in the 1990s over the disturbance to right whales caused by vessel approaches, NMFS issued an interim final rule in 1997 to reduce the disturbance and potential for a vessel collision caused by vessels transiting near whales. The rule states that it is illegal to knowingly approach a North Atlantic right whale within 500 yards (460 m) by vessel, aircraft, or any other means unless permitted by NMFS (50 CFR 222.32).

In addition to the vessel approach restrictions, NMFS has developed and implemented various programs to further reduce the potential for a vessel collision. NMFS also has several mechanisms in place to alert mariners of right whales' locations and help reduce ship strikes. The following sections describe these programs, research projects, and other conservation measures aimed towards reducing ship strikes.

1.2.1.1 Surveys

Systematic surveys from both aircraft and vessels are conducted to observe right whales in their migratory corridor and critical habitats to:

- Locate whales so mariners can be informed of their presence.
- Photograph individuals for identification and life history data collection.
- Document fishery or vessel interactions.
- Record ship traffic patterns or anomalies.
- Further quantify or refine distribution patterns, abundance estimates, etc.

Comprehensive surveys began in 1993 in the southeast Atlantic area (where it is known as the Right Whale Early Warning System) and in 1997 in the northeast Atlantic area (where it is known as the Right Whale Sighting Advisory System). The collected information is distributed through various means, including the Mandatory Ship Reporting Systems (MSRS).

1.2.1.2 Mandatory Ship Reporting System

In an effort to further raise mariner awareness of right whales and to disseminate information on the location of right whales and how to avoid them, NOAA designed the MSRS and prepared a proposal for the IMO. The US submitted the proposal to the IMO, and in December 1998, the IMO approved the proposal. Jointly funded by NOAA and the USCG, the MSRS began operations in July 1999, and these agencies continue to operate the program. The overall goals of MSRS are to:

- Alert mariners about right whale locations in two East Coast aggregation areas.
- Raise awareness about the whale's vulnerability to ship strikes.
- Obtain data on ship traffic volume and patterns from the incoming ship reports to aid in developing measures to reduce ship strikes.

When ships greater than 300 gross tons enter two key right whale habitats—one in waters off the northeastern US and one off the southeastern US—they are required to report to a shore-based station. Mariners report their ship location, speed, course, waypoints, and destination. In return, ships receive an automated message about right whales, their vulnerability to ship strikes, precautionary measures the ship can take to avoid hitting a whale, and locations of recent whale sightings. Mariners are advised to reduce speeds when near whales, in their critical habitat, or in conditions with poor visibility. The MSRS operates year-round in a predetermined area that includes Cape Cod Bay and in the Great South Channel and from November 15 to April 15 in waters off the Southeast US.

1.2.1.3 Charts and Publications

The National Ocean Service (NOS) routinely updates and publishes nautical charts with new or emerging navigational hazards, regulations, or requirements. Additionally, NOS publishes *Coast Pilots*, a series of regional references on navigation hazards, rules, and environmental conditions that ship captains of a certain vessel size class are expected to carry in US waters. NMFS routinely works with NOS to ensure this information is current. At the request of NMFS, NOS began including information for mariners on right whales. As a result, NOS' nautical charts and *Coast Pilots* contain information regarding right whale critical habitat, seasonal occurrence, MSRS, and regulations regarding approaching protected marine species. In 2005, updates to these navigational aids provided by NMFS included speed advisories, suggesting mariners proceed at 12 knots or less.

Additionally, National Geo-Spatial Intelligence (formerly National Imagery and Mapping Agency) began to include information at NOAA's request on right whales in its publications in 1998 and 1999 respectively, of *Notice to Mariners* and *Sailing Directions*. This information is updated annually.

1.2.1.4 Regional Recovery Plan Implementation Teams

Two recovery plan implementation teams (as provided for under the ESA) exist for the right whale, one in the US Southeast Atlantic region, and one in the US Northeast Atlantic region. In the past, these implementation teams focused on critical habitat areas, vessel strikes, and the take reduction process[5], as provided for under the MMPA. However, the Northeast Implementation Team was reorganized by NMFS in 2004, and now its focus is on ship strike reduction efforts. In the Southeast, the principal focus of the team is the collection and real-time dissemination of right whale sighting information to mariners through Navy, USCG, and US Army Corps of Engineers (USACE) collaborations. The Southeastern US Implementation Team has several ongoing efforts to protect right whales, including a geographic information system (GIS) subcommittee to analyze sightings, vessel traffic data, and environmental data to learn how to aid in reducing threats and enhancing recovery. This team also provided a contract for the

[5] The take reduction process is described in Section 1.2.2.

publication of the quarterly *Right Whale Newsletter*, until it recently changed hands to the Georgia Environmental Policy Institute.

1.2.1.5 Right Whale Grant Program for Research

Congressional funding for right whale research and management by NMFS began in 1986 and until recently, has generally increased each year. NMFS oversees and distributes a portion of this funding through a competitive grant program for right whale research. NMFS contributes funds to the recovery activities previously mentioned as well as for the following activities:

- Photo identification and sighting databases.
- VHF radio tracking and passive acoustic detection of vocalizing right whales.
- Detecting whales at sea.
- Predictive modeling.
- Habitat and zooplankton abundance monitoring.
- GIS analyses.

1.2.1.6 Ship Speed Advisories through NOAA-Based Communications

NOAA now issues ship speed advisories to help reduce ship strikes using NOAA-based communications (proposed in a July 26, 2005 internal NOAA decision memorandum). The National Weather Service (NWS) currently issues right whale advisories and speed advisories on NOAA weather radio when aggregations are sighted. Advisories are voluntary and apply to areas where right whale sightings have been confirmed. They indicate that neither navigational nor human safety is to be jeopardized as a result of reduced speeds. Speed advisories have also been integrated into NOAA publications.

As described in Section 1.2.1.3, the National Ocean Service's Office of Coast Survey publishes language on right whales in the US Coast Pilot series. These sections have been updated to include the proposed ship speed advisories. In addition, there is the possibility that real-time environmental data layers (including right whale advisories) could be incorporated into NOAA's Electronic Navigational Charts (ENCs).

1.2.1.7 Other Conservation Measures

NMFS also develops and implements education and outreach programs to raise mariner awareness about the right whale ship strike problem. NMFS and other organizations have produced a variety of materials to distribute to mariners, fishermen, shipping companies, cruise ships, and ports concerning right whales and ship strikes.

As provided in Section 7 of the ESA, NMFS has conducted several interagency consultations with other Federal agencies regarding fishing, dredging, and vessel operations in US waters. More consultations are expected as the threat of right whale ship strikes continues.

1.2.2 Fisheries Gear Entanglement Prevention Measures

The 1994 amendments to the MMPA required NMFS to establish teams comprised of stakeholder groups to determine ways to reduce serious injury and mortality of strategic stocks of

marine mammals, including threatened or endangered species, that interact with category I or II fisheries (Section 1.1.2.2). The Take Reduction Team assists NMFS in developing a Take Reduction Plan. The immediate goal of the Take Reduction Plan is to reduce incidental mortality or serious injury to the marine mammal stock's PBR level within six months of the plan's implementation. The longer term goal is to reduce serious injuries and mortality to an insignificant level approaching a zero mortality and serious injury rate (NMFS, 2005b). As right whales are endangered, NMFS established a Take Reduction Team and Plan that includes right whales.

In August 1996, NMFS established the Atlantic Large Whale Take Reduction Team (ALWTRT) to design an Atlantic Large Whale Take Reduction Plan (ALWTRP) for North Atlantic right whales, humpback whales, fin whales, and minke whales affected by the southeastern US shark gillnet fishery, the Northeast/mid-Atlantic lobster trap/pot fishery, the mid-Atlantic coastal gillnet fishery, and the Northeast sink gillnet fishery. The ALWTRP was first put into effect in 1997 and has been modified several times since, most recently in August 2003. The ALWTRP includes gear restrictions, research recommendations, time and area closures, outreach and education recommendations, and a disentanglement program. The ALWTRT most recently met in April 2005. NMFS released a draft EIS to analyze alternatives for gear modification and improved time and area management in the ALWTRP in February 2005 (NMFS, 2004d). The proposed rule for these modifications to the ALWTRP published in the *Federal Register* in June 2005.

One measure contained in the ALWTRP is seasonal area management (SAM). SAM restrictions are in place to protect the predictable aggregations of right whales in waters off Cape Cod out to the Exclusive Economic Zone (EEZ) from entanglement in fishing gear. The western zone is in effect from March 1 to April 30, and the eastern zone is in effect from May 1 to July 31. The SAM program restricts the use of lobster trap/pot and gillnet gear. Such gear may only be used if it meets the requirements allowing it to be considered low risk gear as described in the ALWTRP.

In addition, dynamic area management (DAM) measures are in place in Cape Cod Bay and the Gulf of Maine to limit fishery interactions with right whales when whales are sighted at unanticipated times or in unanticipated locations. For example, a right whale aggregation off Provincetown resulted in fishing restrictions until the aggregation dispersed. Three or more right whales in an area (75 square nautical miles [nm²]) is the density that results in DAM closures in that area to prevent right whale entanglements—a density equal to or greater than 0.04 right whales per nm² (NMFS, 2004g).

1.2.3 Other Conservation Measures

NMFS encourages research geared towards assessing the effects of habitat destruction and pollution on right whales. Other threats to the right whale population, including disease, loss of genetic diversity, and food availability, are accounted for through research and workshops. NOAA has also launched a collaborative effort to gather information and assess the impacts of shipping noise on all marine mammals. NMFS designated critical habitat for right whales in 1994, to further protect important feeding grounds in the Northeast and calving grounds in the Southeast. The specific locations of the critical habitat areas are discussed in Chapter 2.

1.3 Proposed North Atlantic Right Whale Ship Strike Reduction Strategy for Increased Protection of Right Whales

The conservation measures previously described have increased awareness of the endangered status of right whales and the threats of ship strikes, gear entanglement, and naturally occurring obstacles to recovery. However, they have failed to sufficiently reduce the occurrence of human-caused mortality among right whales. Therefore, while existing conservation programs will continue, NMFS proposes to more actively pursue the effort to reduce ship strikes. To this end, NMFS solicited comments on the *North Atlantic Right Whale Ship Strike Reduction Strategy* in an advanced notice of proposed rulemaking (ANPR) dated June 1, 2004 (69 FR 30857). The Strategy contains proactive measures to reduce the likelihood and threat of collisions between vessels and endangered North Atlantic right whales, primarily by proposing speed restrictions. It also aims to minimize the geographical overlap of shipping lanes and whale habitat to reduce the likelihood of ship strikes in a manner that minimizes adverse effects on the shipping industry and maritime commerce. The Strategy is customized for each region to accommodate for differences in (1) oceanography, (2) commercial ship traffic patterns, (3) navigational concerns, and (4) right whale migration patterns and behavior.

The Strategy is intended to supplement existing conservation plans and includes the following components:

- Continue ongoing research and conservation activities.
- Mariner education and outreach programs.
- Review the need for ESA Section 7 consultations with all Federal agencies that operate or authorize the use of vessels in waters inhabited by right whales, or whose actions directly or indirectly affect vessel traffic.
- Negotiate a Right Whale Conservation Agreement with the government of Canada.
- Establish new operational measures for commercial and recreational mariners, including consideration of routing and speed restrictions.

Only the last component (operational measures) is addressed in this EIS.

The three regions where implementation of the operational measures would occur are (from south to north):

1. The southeastern US (SEUS) Atlantic Coast region, bounded to the north by latitude 31º27'N, to the south by latitude 29º45'N, to the east by longitude 80º 51.6'W, and the west by the US shoreline (Figure 1-1, SEUS Proposed Regulatory Areas).
2. The mid-Atlantic US (MAUS) region, extending from the northernmost boundary of the SEUS to the southernmost boundary of the third region, the northeastern US Atlantic Coast, and 30 nautical miles (nm) (56 kilometers [km]) offshore (Figure 1-2, MAUS Proposed Regulatory Areas).
3. The northeastern US (NEUS) Atlantic Coast region, north and east of Block Island up to Canada (Figure 1-3, NEUS Proposed Regulatory Areas).

Southeastern U.S. (SEUS) Proposed Regulatory Measures

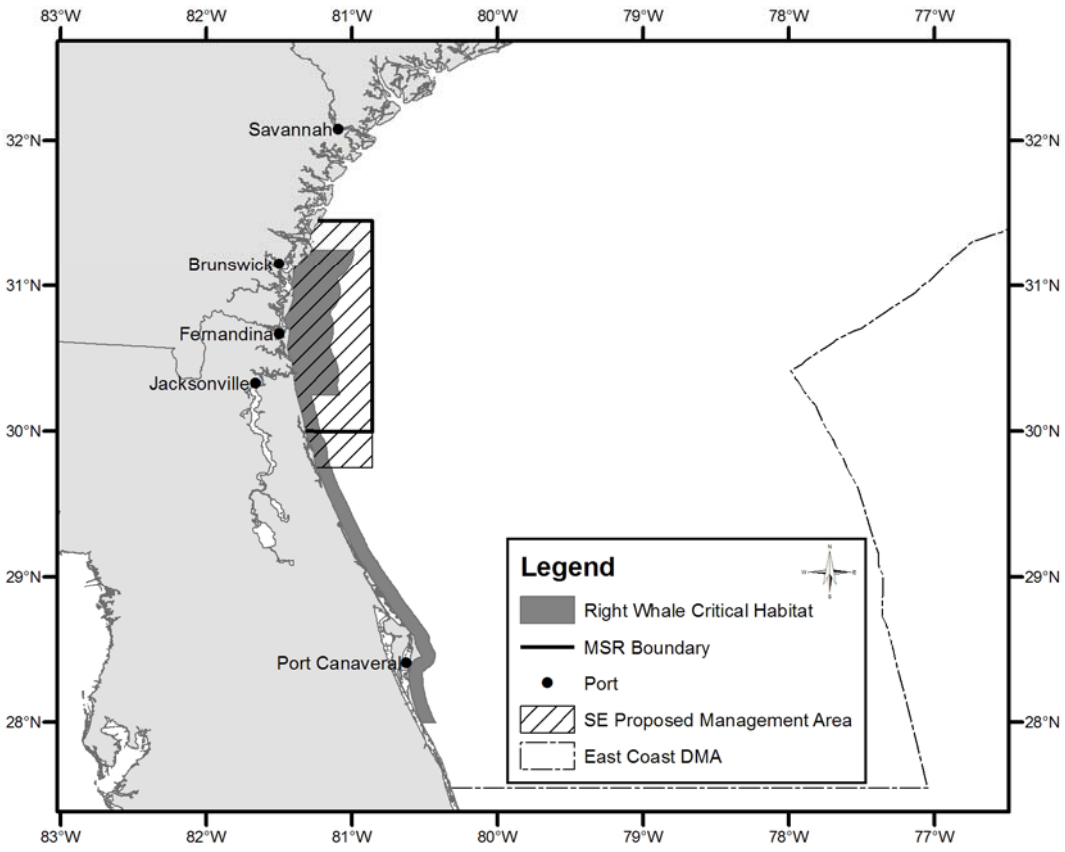


Figure 1-1

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Mid-Atlantic U.S. (MAUS) Proposed Regulatory Areas

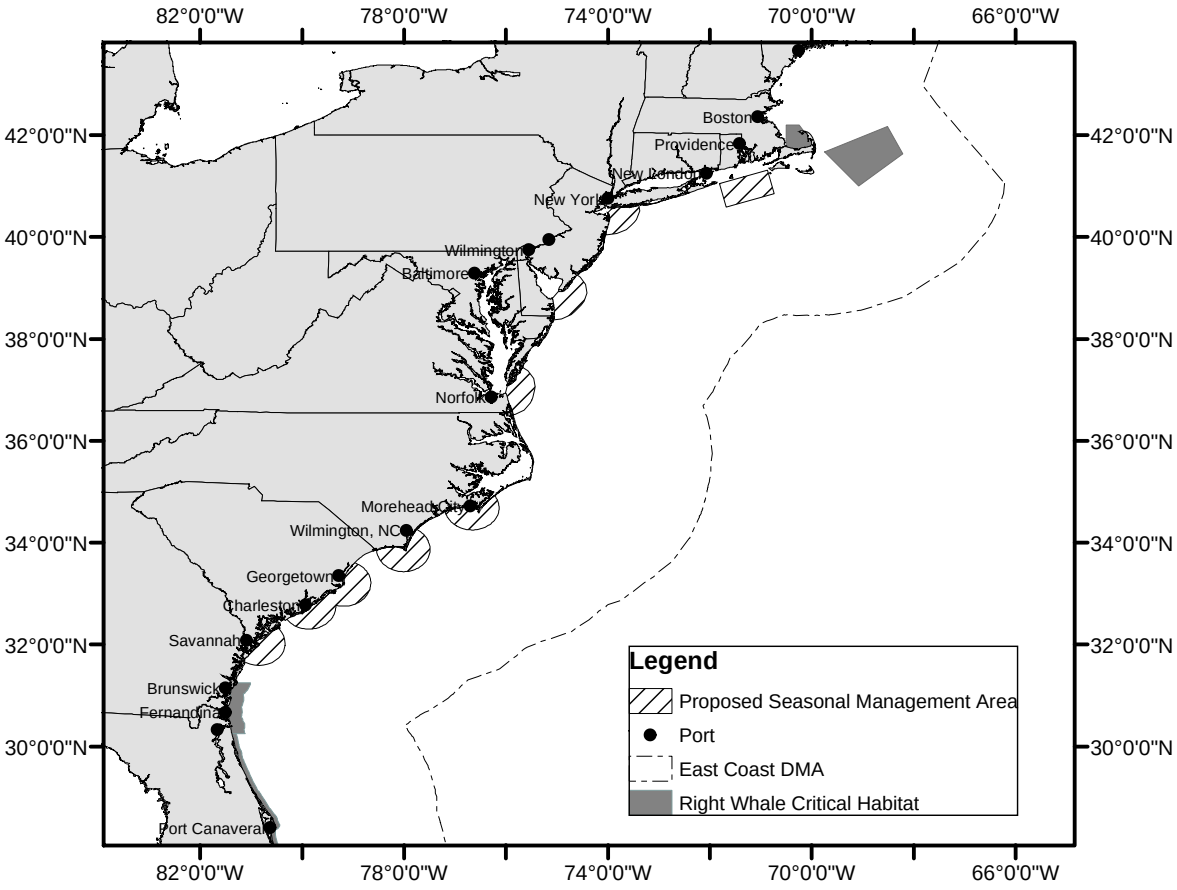

Figure 1-2

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Northeastern U.S. (NEUS) Proposed Regulatory Measures

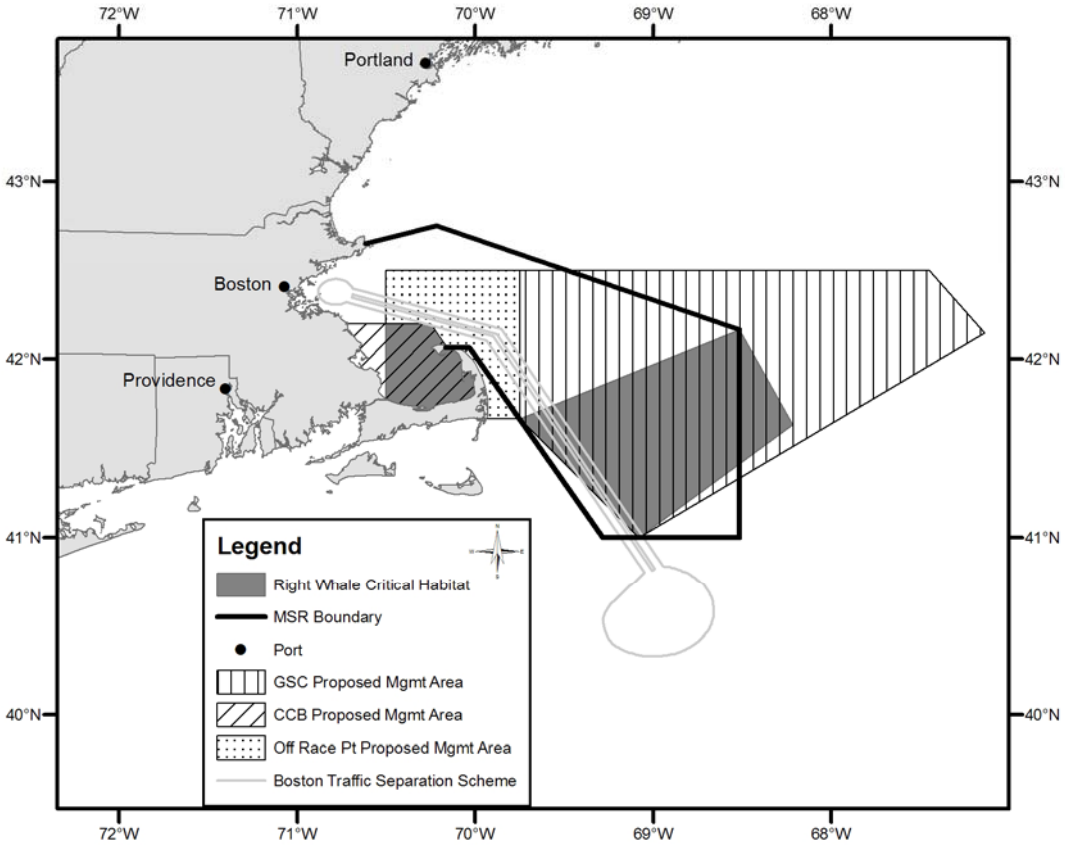

Figure 1-3

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1.4 Proposed Operational Measures

The intention of the Strategy's proposed operational measures is to devise navigational regulations applicable to all vessels 65 ft (19.8 m) and greater in overall length and subject to the jurisdiction of the US, except for vessels owned or operated by, or under contract to the Federal government.[6] The measures also apply to all other vessels 65 ft (19.8 m) and greater in overall length entering or departing a port or place under the jurisdiction of the US.

Research on vessel collisions indicates that most severe and lethal injuries to whales resulting from ship strikes involved large ships. A recent synthesis showed that out of a total of 58[7] recorded ship collisions with a whale (all large whale species), 23 resulted in the death of the animal. Of these 23, at least 20 (87 percent) involved vessels longer than 262 ft (80 m). Also, out of 15 collisions where the whale was seriously injured, three were with vessels less than 65 ft (19.8 m), three with vessels between 65 and 262 ft (19.8 and 80 m), and the rest with longer vessels (Laist *et al*., 2001). However, the smallest vessel involved in a fatal collision with a right whale was an 82 ft (25 m) vessel (NMFS, 2004i). On this basis, NMFS determined that a length of 80 ft (24 m) would serve as the upper limit on the minimum vessel size to be included in the operational measures (NMFS, 2004i). After reviewing various regulatory requirements for vessels, NMFS found that the class of vessels that posed the highest risk of seriously injuring or killing a right whale was ships 65 ft (19.8 m) and longer (NMFS, 2004i). The 65 ft (19.8 m) threshold also corresponds to a well established criterion used in many USCG regulations, and one understood by mariners.

The proposed operational measures vary (mostly by specific times and affected areas) based on ship traffic patterns and locations of right whale habitat and migratory corridors in the three regions of implementation along the US East Coast. The proposed measures would include the following:

- **Seasonal Management Areas (SMAs).** SMAs are predetermined and established areas in each of the three regions, all with seasonal speed restrictions. In the SEUS, an SMA would be established off the coast of Georgia and Florida from November 15 to April 15. In the MAUS, SMAs would be established with a 30 nm (56 km) radius around nine ports in the region from November 1 to April 30. In the NEUS, SMAs would be established in Cape Cod Bay (January 1 – May 15), Off Race Point (March 1 – April 30), and Great South Channel (April 1 – July 31). At these locations (which are described in greater detail in Chapter 2) and during designated time frames only, vessels would be required to proceed through SMAs at a reduced speed (10, 12, or 14 knots). The seasonal nature of these restrictions would minimize unnecessary impact to industry (NMFS, 2004e).
- **Dynamic Management Areas (DMAs).** When a certain number of whales are sighted in an area outside of the boundaries of, or times when SMAs are implemented, NMFS is considering a scenario in which the agency would draw a circle with a radius of 2.8 nm (5.2 km) around the sighting. This radius expands incrementally with the number of whales sighted (e.g., 2.8 nm [5.2 km] for a single

[6] Vessels owned, operated by, or under contract to the United States Federal government are also referred to as sovereign vessels throughout the DEIS.
[7] Only 58 of the 292 records of ship strikes included the vessel speed at the time of the strike.

right whale, 3.9 nm [7.2 km] for two whales, 4.8 nm [8.9 km] for three whales, etc.). In addition, a larger circular zone will be designated that will extend an additional 15 nm (28 km), beyond the core area to allow for whale movement. Vessels would be required to transit through the area with extreme caution and at a reduced speed or route around the area. DMAs would apply in all US waters.

- **Routing Measures.** Such measures would apply to the NEUS and SEUS regions. In the NEUS region, routing measures are proposed in Cape Cod Bay to deflect major vessel traffic away from right whale aggregations. In the SEUS region, NMFS proposed routing measures into and out of the ports of Jacksonville and Fernandina Beach, Florida; and Brunswick, Georgia. Speed restrictions would be required in the portions of these recommended shipping routes located within a SMA. These recommended routes in the NEUS and SEUS were analyzed by the USCG with regard to navigational and environmental safety through a Port Access Routes Study (PARS). NMFS also intends to submit a proposal to the IMO for an Area To Be Avoided (ATBA) adjacent to, and east of, the Boston Traffic Separation Scheme (TSS). The US already submitted a proposal to the IMO for a narrowing of, and a 12-degree northern shift in the Boston TSS. All routing measures are nonregulatory operational measures.

All proposed measures include speed restrictions, as previously specified.

1.5 Purpose and Need for the Proposed Action

The proposed action analyzed in this EIS is implementation of the Strategy's operational measures. The purpose of the proposed action is to reduce the number and severity of vessel collisions with North Atlantic right whales, thereby contributing to the recovery and sustainability of the species while minimizing the effects on the shipping industry and maritime commerce.

NMFS has jurisdiction under both the ESA and the MMPA, to protect the endangered North Atlantic right whale. Although various measures to reduce ship strikes (described in Section 1.2.1) have been in place for several years, these measures have not significantly reduced the number of vessel collisions with right whales. A continued lack of recovery, and possible extinction, will occur if deaths from ship strike are not reduced. Therefore, additional measures are needed for NMFS to fulfill its responsibility. As mentioned earlier, ship strikes represent the majority of anthropogenic serious injuries and deaths to right whales. Therefore, NMFS is proposing to reduce this threat by taking the regulatory approach that is expected to be the most effective at helping the population to recover. The operational measures of the proposed Strategy would impose regulatory speed restrictions and nonregulatory routing measures on specific vessel classes to reduce the ship strike threat to right whales without imposing undue economic burdens on the shipping industry. The combination of speed restrictions and reducing the co-occurrence of right whales and vessel traffic is expected to be an effective means to reduce the number and severity of ship strikes and promote population growth and recovery.

1.6 Relevant Legislation

Federal rulemaking and implementation of Federal regulations must be consistent with a variety of relevant laws and regulations. The following sections provide a brief description of the principal environmental requirements relevant to the proposed operational measures to reduce right whale ship strikes. Both the MMPA and the ESA require NMFS to implement plans to conserve the North Atlantic right whale, as it is both a depleted marine mammal species and an endangered species. The MMPA and the ESA both prohibit the taking of North Atlantic right whales.

1.6.1 Endangered Species Act

The ESA provides broad protection for species and critical habitats of fish, wildlife, and plants that are listed as threatened or endangered. Under the ESA, it is generally unlawful for any person subject to the jurisdiction of the United States to "take" any such species within the United States or the high seas, unless authorized under specific provisions of the ESA. The ESA defines "take" as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct to species listed as threatened or endangered." [16 U.S.C. § 1532(19)]

Because the North Atlantic right whale is part of species listed as endangered by the ESA, NMFS is responsible for developing and implementing a recovery plan for the conservation and survival of the species. The recovery plan requires actions to assess and establish voluntary or mandatory measures to reduce the likelihood of ship/whale interactions. The operational measures proposed in the Strategy address these requirements. In 1991, NMFS completed a Final Recovery Plan for the Northern Right Whale (which included both the North Atlantic and Pacific right whales). This plan was most recently revised in 2005, and is now entitled, Recovery Plan for the North Atlantic Right Whale. Reduction of ship strikes is one of the top priorities identified in the Plan.

1.6.2 Marine Mammal Protection Act

The MMPA protects all marine mammals. Right whales are considered "depleted" under the MMPA because the population is below OSP (Section 1.1.1) and they are listed as endangered under the ESA. The MMPA, subject to limited exceptions, prohibits any person or vessel subject to the jurisdiction of the United States from "taking" marine mammals in the US or on the high seas without authorization. The term "taking" defined in the MMPA [16 U.S.C. § 1362(13)] as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." The relevant definition of the term "harassment" in the context of this action means any act that:

- Has the potential to injure a marine mammal or marine mammal stock in the wild; or (Level A Harassment).
- Has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B Harassment).

Because the North Atlantic right whale is considered a depleted marine mammal species, the MMPA requires NMFS to provide a conservation plan designed to conserve and restore the species. NMFS will develop a conservation plan based on the most recent revision of the recovery plan discussed in the previous section.

1.6.3 Ports and Waterways Safety Act

The Ports and Waterways Safety Act of 1972 (PWSA) gives the USCG authority over vessel and port operations in order to promote vessel safety and protection of the marine environment. The act recognizes the need for advanced planning to ensure protective measures for the nation's ports and waterways and to continue consultations with other Federal agencies (33 U.S.C. § 1221). Section 1224 of the act gives the USCG authority over vessel traffic services (VTS) and related activities. It also gives the USCG authority to require specified navigation equipment and other electronic devices, to specify times of entry and departure, and to establish routing measures.

1.6.4 Regulatory Flexibility Act

According to the Regulatory Flexibility Act of 1980 (RFA), Federal agencies must consider the economic impacts their rules may have on small entities, including small businesses, organizations, and governmental jurisdictions. The agency must prepare an initial and final regulatory flexibility analysis (IRFA/FRFA), unless the agency can certify that the rule would not have "a significant economic impact on a substantial number of small entities." In an IRFA/FRFA, among other things, regulatory alternatives must be evaluated that achieve the objective of applicable statutes and might minimize negative economic impacts on small entities. However, the RFA does not require that the alternative with the least cost or the least impact on small entities be selected as the preferred alternative.

1.6.5 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) is designed to encourage and assist states in developing coastal management programs, to coordinate state activities, and to safeguard regional and national interests in the coastal zone. Section 307(c) of the CZMA and the implementing regulations (15 CFR 930) require that any Federal activity affecting the land or water uses, or natural resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of a coastal state's federally approved coastal zone management program.

1.7 Applicable Executive Orders

Several executive orders (EOs) are applicable to the proposed Strategy.

1.7.1 Executive Order 12898

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs all Federal agencies to incorporate environmental justice in achieving its mission. Each Federal agency is to accomplish this by conducting programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude communities from participation in, deny communities the benefits of, or subject communities to discrimination under such actions, because of their race, color, or national origin.

1.7.2 Executive Order 12866

EO 12866, *Regulatory Planning and Review*, requires Federal agencies to follow "a program to reform and make more efficient the regulatory process." During regulatory decision-making, Federal agencies are required to maximize net benefits after conducting quantitative and qualitative cost-benefit analyses, including the option of not regulating.

1.8 Plans, Policies, and Interagency Coordination

This section describes other relevant conservation activities, recovery plans, and other policies related to the Strategy and subsequent right whale recovery.

1.8.1 Right Whale Recovery Plan

The Final Recovery Plan for the Northern Right Whale (*Eubalaena glacialis*) was originally published by NMFS in December 1991. The revised Recovery Plan for the North Atlantic Right Whale was released in May 2005.

The ultimate goal of this recovery plan is to promote the recovery of North Atlantic right whales to a level sufficient to warrant their removal from the List of Endangered and Threatened Wildlife and Plants under the ESA. The intermediate goal is to reclassify the species from endangered to threatened. The most significant need for North Atlantic right whale recovery is to reduce or eliminate deaths and injuries from anthropogenic activities, namely shipping and commercial fishing operations. In addition, the development of demographically-based recovery criteria must be completed quickly. Secondary priorities for the species' recovery are characterization, monitoring, and protection of important habitat; and identification and monitoring of the status, trends, distribution and health of the species. Third priorities include conducting studies on the effects of other potential threats and ensuring that they are addressed, and conducting genetic studies to assess population structure and diversity. An overarching need is to work closely with state, other Federal, international and private entities to ensure that research and recovery efforts are coordinated (NMFS, 2005b).

1.8.2 Atlantic Large Whale Take Reduction Plan

The Northeast Regional Office of NMFS is proposing broad-based gear modifications to the ALWTRP (Section 1.2.2), which was developed pursuant to Section 118 of the MMPA to reduce serious injury and mortality of right, humpback, fin, and minke whales due to incidental

interactions with commercial fisheries. The proposed rulemaking for these modifications was published in the *Federal Register* on June 21, 2005. An EIS is also being prepared on the modifications to the ALWTRP and was released to the public as a DEIS in February 2005. This section focuses on the differences between the ALWTRP EIS and this EIS.

This EIS and the underlying Strategy focus solely on right whales whereas the ALWTRP addresses humpback and fin whales as well. Fin whale mortalities from vessel collisions are greater than mortalities from gear entanglement and there are reports of vessel collisions with humpback whales. Although both these species are endangered, the *Ship Strike Reduction Strategy* specifically focuses on right whales because of their critically endangered status and because they have the highest occurrence of vessel strikes in recent years. Right whales also had the highest proportion of entanglements and ship strikes relative to the number of reports for a species (i.e., even though right whales had less reports than other species, there was still a high occurrence of incidents) (Cole *et al.*, 2005). In addition, while the Strategy focuses on the habitat and migratory corridor of right whales, there is an overlap with the habitats of other whales; thus these other species would indirectly benefit from the proposed Strategy.

1.8.3 ESA Section 7 Consultations

Under Section 7 of the ESA and implementing regulations, Federal agencies must consult with NMFS and/or FWS to ensure their actions will not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat. Generally a Biological Opinion (BO) is issued when the action is likely to adversely affect a listed species. BOs include conservation recommendations, reasonable and prudent measures to mitigate the adverse effects, and terms and conditions with which the agency is required to comply.

NMFS Office of Protected Resources initiated Section 7 consultation on the operational measures of the Strategy, and a BO will be completed before the final rule is published in the *Federal Register*. As the Strategy is aimed towards reducing threats to the recovery of the right whale population, it is assumed that the BO will determine the actions would not jeopardize the continued existence of the right whale.

A summary of previous NMFS consultations conducted under Section 7 of the ESA involving right whales is provided in Appendix A. However, the EIS does not address the future review of Section 7 consultations with other Federal agencies that operate vessels in waters inhabited with right whales, as proposed in the Strategy as the EIS only evaluates the operational measures component of the Strategy. NMFS Office of Protected Resources has previously entered into Section 7 consultations with the Navy, USCG, and the USACE regarding right whale protection measures. BOs were issued following consultations with the USCG in 1995, 1996, and 1998, with the Navy in 1997, and with the USACE since the 1970s.

The 1995 USCG BO addressed the potential impacts of USCG vessel and aircraft operations off the North Atlantic shoreline. The BO concluded that the proposed activities may adversely affect, but were not likely to jeopardize, the continued existence of endangered and threatened species under NMFS jurisdiction. In 1996, the USCG reopened consultation on the same activities. NMFS concluded that these actions may affect, but were not likely to jeopardize, the continued existence of the humpback and fin whales, and all species of sea turtles except the Olive ridley, but *were* likely to jeopardize the continued existence of the North Atlantic right

whale. NMFS issued a reasonable and prudent alternative based on these findings. In 1997, the USCG reopened the consultation a second time. This BO was issued in 1998. NMFS found that USCG actions were not likely to jeopardize the continued existence of specific endangered species and not likely to destroy or adversely modify the critical habitat that has been designated for the North Atlantic right whale. The mitigation measures included in these BOs are included in Appendix A.

The 1997 BO issued to the Navy for activities off the coast of the southeastern US concluded that these actions were not likely to jeopardize the continued existence of any endangered or threatened species under NMFS jurisdiction. The mitigation measures included in this BO are included in Appendix A.

The USACE BOs were issued on the potential impacts of harbor dredging and related activities. Consultations in the southeastern US began in 1978 and were reinitiated in 1980, 1986, 1991, 1995, and 1997. The pursuant BOs found that these actions were not likely to adversely affect right whales, although reasonable and prudent measures were developed in the 1991 BO (Appendix A). Similar consultations on dredging in the Northeast, in 2002 and 2003, and a beach nourishment project in 2000, also found the potential for a whale-vessel interaction was unlikely, although conservations measures were adopted for these actions as well.

In 2005, Section 7 consultations were initiated on proposed sites for Liquefied Natural Gas (LNG) terminals in the northeastern and mid-Atlantic US (see Section 4.7.3.1). NMFS has initiated several informal and formal consultations on the proposed LNG sites in the waters off the East Coast, although no BOs have been completed in this area to date. These proposed projects would cumulatively contribute additional vessels and vessel traffic along the coast, which could increase the risk of ship strikes. During the consultation process NMFS will propose mitigation measures (consistent with those contained in the Strategy) to reduce the risk of ship strikes.

1.8.4 Stellwagen Bank National Marine Sanctuary

The NOS' Office of National Marine Sanctuaries administers Stellwagen Bank National Marine Sanctuary (SBNMS). SBNMS is located around Massachusetts Bay and is a habitat for many species, including right whales. SBNMS is currently revising its 1993 management plan, which is scheduled to be finalized in fall 2006. The management plan provides a review of information relevant to large whale conservation, including shipping traffic, gear entanglements, and whale watching.

NMFS is coordinating with SBNMS on various operational and technical measures to reduce right whale ship strikes. One of these measures involves analyzing vessel traffic patterns through SBNMS in an effort to re-route shipping lanes through areas with low densities of whales. SBNMS is proposing a 12 degree northern rotation of the existing Boston TSS, into an area with lower densities of right whales. This shift could result in a decrease in the potential for whale encounters with shipping vessels. It would add approximately 3.75 nm (6.9 km) to the TSS, which would increase travel time for a vessel by approximately 10 to 22 minutes, depending on speed (Wiley, *unpublished data*). After working with other Federal agencies (including the USCG), through the interagency review process, NOAA submitted the TSS proposal to the IMO

in April 2006. SBNMS is also working collaboratively with NMFS to install passive listening devices to cover nearly the entire sanctuary.

1.9 Related NOAA NEPA Documents

The following sections provide a brief summary of NEPA documents NOAA is preparing that are related to this EIS because right whales are one of the species considered in the analysis.

1.9.1 Draft Environmental Assessment to Implement the Operational Measures of the North Atlantic Right Whale Ship Strike Reduction Strategy

A draft environmental assessment (EA) was completed in June 2005. It provided an analysis of potential environmental impacts of the proposed operational measures of the Strategy. The draft EA indicated that some of the impacts had the potential to be highly controversial and/or significant. Consequently, and in compliance with NEPA, NMFS initiated preparation of this EIS (NMFS, 2005e).

1.9.2 EIS for Amending the Atlantic Large Whale Take Reduction Plan

NMFS published a notice of availability of the draft EIS for proposed amendments to the ALWTRP regulations (50 CFR 229.32) in the *Federal Register* on February 25, 2005. The ALWTRP was developed pursuant to Section 118 of the MMPA to reduce serious injury and mortality of right, humpback, and fin whales due to incidental interactions with commercial fisheries. The proposed rule was published in the *Federal Register* on June 21, 2005 (70 FR 35894). NMFS proposes additional regulations for the fisheries currently covered by the ALWTRP, which include the Northeast sink gillnet, Northeast/mid-Atlantic American lobster trap/pot, mid-Atlantic coastal gillnet, Southeast Atlantic gillnet, and southeastern Atlantic shark gillnet fisheries. NMFS also proposes to regulate the following fisheries from the MMPA's List of Fisheries for the first time under the ALWTRP: Northeast anchored float gillnet, Northeast drift gillnet, Atlantic blue crab, and Atlantic mixed species trap/pot fisheries targeting crab (red, Jonah, and rock), hagfish, finfish (black sea bass, scup, tautog, cod, haddock, pollock, redfish [ocean perch], and white hake), conch/whelk, and shrimp.

1.9.3 Right Whale Scientific Research Permit EIS

The NMFS Office of Protected Resources is in the preliminary stages of environmental analysis on the proposed actions contained in scientific research permits on both North Atlantic and North Pacific right whales. Permits are required for scientific research because right whales are protected under both the MMPA and ESA. Permits and authorizations are required under the ESA and the MMPA to conduct activities that may result in the "taking" of a protected species. "Taking" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." MMPA defines "taking" as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal."

1.9.4 Marine Mammals Ocean Acoustics EIS

NMFS published a notice of intent (NOI) on January 11, 2005 in the *Federal Register* (70 FR 1871) to prepare an EIS to analyze the potential impacts of applying new criteria in guidelines to determine what constitutes a "take" of a marine mammal under the MMPA and ESA as a result of exposure to anthropogenic noise in the marine environment. In particular, the EIS will identify potential impacts to human activities that occur in oceanic waters such as dredging, fisheries, shipping, geological exploration, military operations, construction, and acoustic and oceanographic research. The areas of interest for evaluation of environmental and socioeconomic effects will be US and international waters.

1.10 Public Involvement

Public involvement is an integral part of the NEPA process. This section describes the public involvement activities conducted prior to the preparation of the Draft EIS and outlines the public participation activities that will follow publication of the Draft. To avoid redundancies, NMFS has integrated, as much as possible, the public involvement effort for the Strategy and the ANPR, and the public involvement effort for this EIS (proposed action and alternatives described in the NOI). NMFS's intent is to encourage the public to participate in the rule making and NEPA processes, including interested citizens and environmental organizations, the shipping industry, and local, state, and Federal agencies as well as any other agencies with relevant jurisdiction or special expertise.

1.10.1 Public Involvement in Formulating the Strategy

NMFS has fostered public participation in the formulation of the Strategy through several methods, including solicitation of public comments on the ANPR, public meetings, industry stakeholder meetings, and other focus group meetings. NMFS worked with state and other Federal agencies, concerned citizens and citizens groups, environmental organizations, and the shipping industry to address the ongoing threat of ship strikes to right whales. Meetings, presentations and workshops were convened by the ship strike committee as early as 1999 in support of developing recommended measures to reduce ship strikes to right whales. Twenty-six meetings were held along the East Coast from 1999 to 2001. Bruce Russell compiled information from these meetings and right whale data to develop recommended measures that were submitted to NOAA in August 2001 (Russell, 2001). The majority of these measures were proposed several years later in the ANPR.

NMFS published an ANPR for Right Whale Ship Strike Reduction in the *Federal Register* on June 1, 2004 (69 FR 30857) and provided a comment period (ultimately extended until November 15, 2004 [September 13, 2004; 69 FR 55135]) to determine the issues of concern with respect to the practical considerations involved in implementing the Strategy and to determine whether NMFS was considering the appropriate range of alternatives. Five-thousand, two-hundred fifty comments were received from governmental entities, individuals, and organizations, and can be accessed at the NMFS website.[8] These comments were in the form of

[8] www.nmfs.noaa.gov/pr/shipstrike

e-mail, letters, website submissions, correspondence from action campaigns (e-mail and US mail), faxes, and a phone call. The majority (more than 4,500) of the submissions were e-mails from action campaigns, 700 of the submissions were form letters, and less than 100 were unique letters.

NMFS held five public meetings on the ANPR at:

- Boston, MA, at the Tip O'Neill Federal Building (July 20, 2004)
- New York/New Jersey at the Newport Courtyard Marriot (July 21, 2004)
- Wilmington, NC, at the Hilton Riverside Wilmington (July 26, 2004)
- Jacksonville, FL, at the Radisson Riverwalk Hotel (July 27, 2004)
- Silver Spring, MD, at NOAA Headquarters Science Center (August 3, 2004)

Public comments were requested and recorded. In addition, nine industry stakeholder meetings were held to explain the ANPR at:

- Boston, MA (September 30, 2004)
- Portland, ME (October 1, 2004)
- Norfolk, VA (October 4, 2004)
- Morehead City, NC (October 6, 2004)
- Jacksonville, FL (October 13, 2004)
- Savannah, GA (October 14, 2004)
- New London, CT (October 20, 2004)
- Newark, NJ (October 25, 2004)
- Baltimore, MD/Washington, DC (October 27, 2004)

A summary report of these meetings and a list of the attendees are posted on the Internet at *http://www.nero.noaa.gov/shipstrike*.

NMFS also held two focus group discussions with participants from nongovernmental organizations, academia, and Federal and state agencies. The first meeting was held in Silver Spring, MD, on September 26, 2004, and the second in New Bedford, MA, on November 5, 2004.

Comments on the ANPR addressed several broad topics including: speed restrictions; vessel size and operations; speed and routing issues specific to regions; routing restrictions (PARS and ATBA); safety of navigation; suggestions for alternative or expanded dates for operational measures; military and sovereign vessel exemptions; enforcement; and compliance. The written comments received are available on the NMFS website.[9]

[9] www.nmfs.noaa.gov/pr/shipstrike

1.10.2 Public Involvement for the DEIS

1.10.2.1 Notice of Intent

NMFS published an NOI for this EIS in the *Federal Register* on June 22, 2005 (70 FR 36121; a copy is included in Appendix B). In addition to describing the proposed action and its purpose and need, and providing relevant background information, the NOI presented, and solicited comments on, six initial alternatives, as follows (these alternatives are described in detail in Chapter 2 of the EIS):

- Alternative 1: No Action (continuation of existing conditions)
- Alternative 2: Use of DMAs only
- Alternative 3: Speed Restrictions in Designated Areas
- Alternative 4: Use of Designated or Mandatory Routes
- Alternative 5: Combination of Alternatives 1 through 4
- Alternative 6: NOAA Ship Strike Reduction Strategy, similar to Alternative 5 but with less extensive speed restrictions

Because several public and stakeholder meetings, workshops, and other consultation were held as part of the ANPR public involvement effort, NMFS did not consider it necessary to hold additional meetings following adequate public input on the NOI. However, interviews were conducted at several key port areas in reference to the economic impact analysis.

1.10.2.2 Summary of Major Comments on the Notice of Intent

During the 30-day comment period, from June 22, 2005 to July 22, 2005, NMFS received 41 letters and approximately 300 form e-mails in response to the NOI. A complete table of these comments with NMFS' responses is provided in Appendix B. A summary follows:

- **Comments from Federal Agencies.** Several Federal agencies encouraged interagency communications to further develop the Strategy and ensure consistency with international law.
- **Comments from Stakeholders.** Passenger vessel stakeholders voiced concerns that the initial analysis presented in the Ship Strike EA underestimated the number of passenger vessel arrivals. Recreational vessel stakeholders indicated their group was not given proper consideration in the EA and did not understand why recreational vessels were included at all. Stakeholders representing environmental groups urged NMFS to take immediate action with emergency regulations and/or implementation prior to completion of the EIS. Several groups suggested that NMFS develop viable and effective enforcement measures. Shipping stakeholders raised the point that costs have risen considerably since the 2002 and 2003 estimates used in the EA. They also voiced concern about delays resulting from speed restrictions, and the possibility of a port being affected as a result of shipping entities choosing an alternate port. Industry representatives also recommended that NMFS evaluate impacts on port operations, local economies that serve ports and port communities, and any other indirect economic and environmental impacts. Several stakeholders suggested the EIS contain

a review of Navy and USCG vessel activity on the East Coast. Several commenters proposed that NMFS seek technological solutions to use instead of, or in conjunction with, measures of the Strategy. Specific port authorities raised port-specific issues and the possibility of cumulative impacts to the port area. Commenters from various groups recommended that NMFS should require Federal vessels to adhere to the operational measures in the Strategy. Several industry groups raised the issues with the proposed and current LNG terminals.

- **Comments on the Alternatives.** There was broad support for Alternative 6, although several comments recommended changes to the areas covered and the proposed time frames. There was also broad agreement among environmental nongovernmental organizations that Alternatives 2, 3, and 4 would not be sufficient to reduce ship strikes; however, a number of industry commenters preferred these stand-alone measures. A few comments supported Alternative 1 (No Action). Several commenters recommended Alternative 5 as the most effective means for reducing ship strikes, although they also indicated Alternative 6 was reasonable as the minimum for protective measures.
- **Comments on Speed Restriction Issues.** Some commenters were supportive of the proposed speed restrictions in the range of 10 to 14 knots based on the best available data, whereas other commenters questioned the effectiveness of speed as a mitigation measure and would not support this measure until further speed and hydrodynamic studies were completed.
- **Comments on DMAs.** Commenters suggested that certain revisions to triggering and implementing a DMA were necessary before they could be considered a viable measure.

1.10.2.3 Review of the DEIS

Following publication of the DEIS, NMFS intends to hold three public hearings along the US East Coast to solicit and receive comments. These public hearings will provide the public with a forum to comment on the DEIS. A notice with information on the location and time of the meetings will be published in the *Federal Register* and a major local newspaper where the meetings will be held. Written comments should be sent to NOAA at the mailing and e-mail addresses printed on the cover page of the DEIS and the Notice of Availability for the DEIS.

1.11 Structure of the EIS

Chapter 1 presents the purpose and need for the proposed action and background information.

Chapter 2 describes the alternatives evaluated in the EIS.

Chapter 3 describes the affected environment.

Chapter 4 analyzes the potential impacts of the alternatives on the environment.

Chapter 5 addresses requirements under EO 12866 (Regulatory Impact Review)

Chapter 6 lists references.

Chapter 7 lists the persons, organizations, and agencies that were sent a copy of the Draft EIS for review.

Chapter 8 lists the persons that prepared the EIS.

Several **appendices** contain supporting information too detailed or technical to be incorporated in the body of the EIS.

1.12 Issues Not Addressed in the EIS

1.12.1 Enforcement

Enforcement will not be addressed in the EIS because it is outside the scope. NMFS will address any comments regarding enforceability in the final rule.

1.12.2 National Security

The proposed action and alternatives are not believed to affect national security. Vessels owned or operated by, or under contract to Federal agencies would not be subject to the proposed operational measures; therefore none of their operations would be affected. Further, Navy and USCG comments did not bring up any issues of national security, therefore NMFS defers to these agencies. If anything, requiring vessels to limit their speed can serve to promote national security. The USCG occasionally slows vessels to decrease the potential for a security threat (Section 3.4.1.3).

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