

**PURPOSE AND NEED FOR ACTION****CHAPTER 2**

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The purpose of the revisions to the Atlantic Large Whale Take Reduction Plan (ALWTRP) that are under consideration is to conserve and provide additional protection to Atlantic large whales, including North Atlantic right whales (*Eubalaena glacialis*), North Atlantic humpback whales (*Megaptera novaeangliae*), and fin whales (*Balaenoptera physalus*). Such revisions would fulfill NMFS' obligations under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). The need for the revisions under consideration is demonstrated by the continuing risk to Atlantic large whales of serious injury or mortality due to entanglement in commercial fishing gear. This chapter describes in detail the purpose and need for revisions to the existing ALWTRP. It is organized as follows:

- Section 2.1 provides an overview of the statutory and regulatory context in which the ALWTRP was created. This section includes descriptions of the MMPA and the ESA, and discusses how the ALWTRP allows the National Marine Fisheries Service (NMFS) to fulfill its obligations under both Acts.
- Section 2.2 summarizes the existing ALWTRP.
- Section 2.3 presents historical data on large whale entanglements, and demonstrates the need for additional action under the ALWTRP.

**2.1 STATUTORY AND REGULATORY CONTEXT**

Right, humpback, and fin whales are protected by the MMPA and the ESA. The ALWTRP was created in response to provisions of the MMPA, and under its authority. Sections 2.1.1 and 2.1.2 describe the protections that the MMPA and ESA provide for Atlantic large whales, and the requirements of the MMPA that led to the creation of the ALWTRP.

### 2.1.1 The Marine Mammal Protection Act (MMPA) and Atlantic Large Whales

The MMPA of 1972 provides protection for species or stocks that are, or may be, in danger of extinction or depletion as a result of human activities. The MMPA states that measures should be taken immediately to replenish the population of any marine mammal species or stock that has diminished below its optimum sustainable level. With respect to any stock or species, the “optimum sustainable population” is the number of animals that will result in the maximum productivity of the stock or species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.

Under the MMPA, the Secretary of Commerce is responsible for the conservation and management of pinnipeds (other than walruses) and cetaceans (whales, dolphins, and porpoises), among other species that spend the majority of their life in marine areas.<sup>1</sup> The Secretary of Commerce has delegated MMPA authority to NMFS. Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals to maintain optimum levels. If a population falls below its optimum level, it is considered “depleted,” and a conservation plan may be developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, establishing new provisions to govern the taking of marine mammals incidental to commercial fishing operations.<sup>2</sup> These new provisions include the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction. They also include the development and implementation of take reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population due to interactions with commercial fisheries.

Take reduction plans are required for all “strategic stocks.” Under the MMPA, a “strategic stock” is a stock: (1) for which the level of direct human-caused mortality exceeds the Potential Biological Removal (PBR) level; (2) that is declining and is likely to be listed under the ESA in the foreseeable future; or (3) that is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA.<sup>3</sup> The immediate goal of a take reduction plan is to reduce, within six months of its implementation, the mortality and serious injury of strategic stocks incidentally taken in the course of U.S. commercial fishing operations to below the PBR levels established for such stocks. The long-term goal of a take reduction plan is to reduce, within five years of its implementation, the incidental mortality and serious injury of strategic marine mammals taken in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate, taking into account the economics of the

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<sup>1</sup> The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees and dugongs.

<sup>2</sup> As defined in the MMPA, the term “take” means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.

<sup>3</sup> The Potential Biological Removal (PBR) level is defined in the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock annually while allowing that stock to reach or maintain its optimum sustainable population. The parameters for calculating the PBR level are described in the MMPA.

fishery, the availability of existing technology, and existing state or regional fishery management plans.<sup>4</sup>

Right whales, humpback whales, and fin whales are listed as endangered species under the ESA and are thus considered strategic stocks under the MMPA. In response to its obligations under the MMPA, NMFS established the Atlantic Large Whale Take Reduction Team (ALWTRT) in 1996 to develop a plan for reducing the incidental take of large whales in commercial fisheries along the Atlantic Coast to below PBR. The ALWTRT consists of representatives from the fishing industry, state and Federal resource management agencies, the scientific community, and conservation organizations. The purpose of the ALWTRT is to provide guidance to NMFS in developing and amending the ALWTRP to meet the goals of the MMPA with respect to Atlantic large whales. The last meeting of the full ALWTRT was held in January of 2012.

### 2.1.2 The Endangered Species Act (ESA) and Atlantic Large Whales

The ESA provides for the conservation of endangered and threatened species that are at risk of extinction throughout all or a significant portion of their range and the conservation of the ecosystems on which they depend.<sup>5</sup> The right whale, humpback whale, and fin whale species are all federally listed as endangered and are therefore subject to protection under the ESA. Section 7 of the ESA directs all Federal agencies to use their existing authorities to conserve threatened and endangered species and to ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. When a proposed Federal action may affect an ESA-listed marine species, Section 7 directs that the "Action agency" consult with the Secretary of Commerce; this is referred to as a Section 7 consultation.<sup>6,7</sup> The Secretary of Commerce has delegated this consultation authority to the National Oceanic and Atmospheric Administration (NOAA). During a Section 7 consultation initiated to assess impacts of a NMFS action on an endangered whale species, NOAA acts as the Action agency *and* represents the Secretary of Commerce, as the consulting agency. The following are examples of actions by NMFS that may result in Section 7 consultations:

- Issuance of measures implementing a fishery management plan;

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<sup>4</sup> Unlike PBR, the MMPA does not define the calculation of "insignificant" mortality and serious injury rates approaching zero. For the purposes of the ALWTRP, NMFS has established a long-term goal of reducing incidental mortality rates to no more than ten percent of the PBR level for each stock. NMFS developed and published a formal regulatory definition of "zero mortality rate goal." See NMFS' July 20, 2004, final rule (69 FR 43338).

<sup>5</sup> "Species," as defined by the Act, includes any subspecies of fish, wildlife, or plant and any distinct population segment of any vertebrate species which interbreeds when mature.

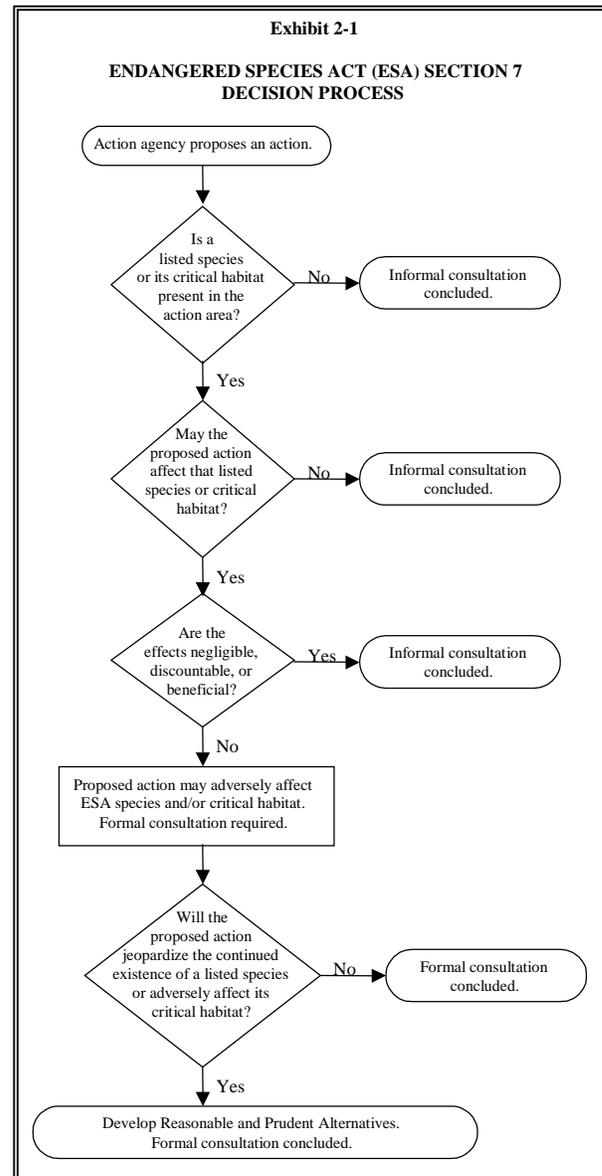
<sup>6</sup> The "Action agency" is the Federal agency charged with permitting, conducting or funding the proposed activity serving as the basis for the consultation.

<sup>7</sup> Federal agencies must consult with the Secretary of the Interior when a proposed action may affect an ESA-listed species under the Department of Interior's purview.

- Issuance of exempted fishing permits;
- Measures to implement a take reduction plan; and
- NMFS' provision of funds to support research activities.

Section 7 consultations may be formal or informal. Informal consultation provides an opportunity for communication between the consulting agency (e.g., NMFS) and the Action agency in order to identify whether formal consultation is needed and, if so, to identify how the proposed action could be modified to avoid adverse effects. Communication between these parties may occur via letters, phone calls, in-person meetings, or any combination of these. The duration and complexity of these interactions depends on a number of variables, including the species in question, the effects of the proposed activity, and the available data, among others. These discussions are designed to identify and resolve potential concerns at an early stage in the process, thereby avoiding formal consultation. If the conclusion of the informal consultation is that the proposed action is not likely to adversely affect a listed species, the Section 7 process is concluded. If the consulting agency concludes that the proposed action may affect a listed species or designated critical habitat and the Action agency cannot modify the proposed action to avoid the likelihood of adverse effects, then a formal consultation must occur.

A formal consultation requires the consulting agency to prepare a Biological Opinion as to whether or not the proposed action is likely to jeopardize the continued existence of a listed species or adversely modify critical habitat. Under the ESA, if a Biological Opinion finds that a proposed action is likely to jeopardize a listed species or adversely modify critical habitat, the consulting agency must identify "Reasonable and Prudent Alternatives," which the Action agency should assist in developing. Reasonable and Prudent Alternatives (RPAs) are alternative actions identified during formal consultation that (1) can be implemented in a manner consistent with the intended purpose of the action; (2) can be implemented consistent with the scope of the Action agency's legal authority and jurisdiction; (3) are economically and technically feasible; and (4) avoid the likelihood of jeopardizing the continued existence of listed species or resulting



in the destruction or adverse modification of critical habitat. If adopted by the action agency, the reasonable and prudent alternatives do not undergo subsequent consultation to meet the requirements of section 7(a)(2). The action agency's acceptance in writing of the Services' reasonable and prudent alternative concludes the consultation process. Exhibit 2-1 illustrates the ESA Section 7 decision process.

To assess effects on large whale, sea turtle, and listed fish species protected under the ESA, NMFS has prepared Biological Opinions for the continued authorization of Federal fisheries under the Fishery Management Plans for the multispecies, spiny dogfish, and monkfish fisheries, and under Federal regulations for the lobster fishery, amongst others. Section 7 consultations were first initiated for each of these fisheries either at the time that the Fishery Management Plan was created to manage the fishery or, in the case of lobster, at the time of a significant amendment (Amendment 5) to the Federal Lobster Management Plan. The Northeast multispecies fishery has a long consultation history, including formal and informal Section 7 consultations, beginning with a formal consultation initiated on June 12, 1986. Formal consultation was first initiated for spiny dogfish on August 13, 1999; for monkfish on December 21, 1998; and for lobster on March 23, 1994.<sup>8</sup> Subsequent ESA Section 7 consultations on those fisheries incorporated the ALWTRP as a Reasonable and Prudent Alternative to avoid jeopardy to right whales. NMFS reinitiated consultation on May 4, 2000, for the multispecies, spiny dogfish, and monkfish gillnet fisheries, and on June 22, 2000, for the lobster fishery, following (1) new whale entanglements resulting in serious injuries to right whales; (2) at least one right whale mortality in gillnet gear; (3) new information indicating a declining status for western North Atlantic right whales; and (4) revisions to the ALWTRP.

The Biological Opinions from the May/June 2000 reinitiated Section 7 consultations, finalized June 14, 2001, found that NMFS' administration of the four Federal fisheries, as modified by the ALWTRP requirements in effect at that time, was likely to jeopardize the continued existence of the western North Atlantic right whale.<sup>9</sup> The Biological Opinions identified a Reasonable and Prudent Alternative with multiple components designed to avoid the likelihood of jeopardy to right whales. The RPA measures included:

- Seasonal Area Management (SAM);
- Dynamic Area Management (DAM);
- An expansion of gillnet gear modification requirements and restrictions to Mid-Atlantic waters and modification of fishing practices in Southeastern waters;

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<sup>8</sup> The spiny dogfish and monkfish species were subject to Section 7 consultation as part of the multispecies fishery until managed under their own management plans in 1999. The lobster fishery was first considered in a formal consultation on the effects of all fisheries (including the lobster fishery in Federal waters) on threatened and endangered species conducted for the implementation of the Marine Mammal Exemption Program in 1988.

<sup>9</sup> The June 14 Biological Opinions also concluded that these fisheries were not likely to destroy or adversely modify habitat critical to right whales or to jeopardize the continued existence of other endangered species.

- Continued gear research and modifications; and
- Additional measures that implement and monitor effectiveness of the Reasonable and Prudent Alternative.

These measures were intended, in combination, to reduce the risk of serious injury and mortality to large whales from entanglements in commercial fishing gear.

The SAM and DAM programs and revised gear modification requirements and restrictions, as specified in the June 14, 2001, Biological Opinions for the multispecies, spiny dogfish, and monkfish Fishery Management Plans, and Federal regulations for the American lobster fishery, were incorporated into the ALWTRP via a series of final rules, corrections, and technical amendments issued from January 2002 to August 2003. In this way, NMFS implemented the Reasonable and Prudent Alternative specified in the June 14, 2001, Biological Opinions to meet its obligations under Section 7 of the ESA.

An informal consultation under the ESA was concluded for the rule to modify the ALWTRP on December 21, 2004. As a result of the informal consultation, the Regional Administrator determined that the measures to modify the ALWTRP were not likely to adversely affect ESA-listed cetaceans, sea turtles, fish, or critical habitat that occur within the area affected by the rulemaking. Modifications were made to the ALWTRP to more broadly address the incidental entanglement of large whales in fishing gear that result in serious injury and mortality. Some of these modifications (e.g., regulating additional trap/pot and gillnet fisheries under the ALWTRP, requiring the broad-based use of sinking and/or neutrally buoyant groundline) are expected to have an effect on ESA-listed species. However, depending on the species, all of the effects are expected to be either beneficial or negligible.

In 2002, eight right whales were observed entangled after implementation of the RPA measures. One of the eight, a female right whale born in 2000 (RW 3107), had line with an attached buoy wrapped around and cutting into her tail stock. Several disentanglement attempts were made and she was subsequently freed of the gear. The recovered gear was examined to obtain further information on the entanglement event. NMFS could not positively identify the fishery or owner of the gear. However, based on the examination, NMFS concluded that the gear was consistent with that used in the inshore lobster trap fishery (Whittingham et al., 2003). This conclusion was based on the configuration of the recovered gear, including the presence of a weak link with a breaking strength of no more than 600 lb (272.4 kg). Six weeks after the disentanglement, her carcass washed ashore on Nantucket, MA.

Although the exact cause of death could not be determined, the necropsy of RW 3107 did reveal substantial tissue damage to the tail stock in the area where the entangling gear had been present. A draft necropsy report describes the most likely cause of death (based on the available evidence) as an infection or other debilitating condition caused by the injuries to the tail stock. NMFS reviewed the necropsy report and considered whether it provided sufficient information to show, based on RPA monitoring criteria, that the RPA was not effective at avoiding the likelihood of jeopardy to right whales. On June 13, 2003, NMFS received confirmation from the Northeast Fisheries Science Center (NEFSC) that the Atlantic Scientific Review Group (ASRG) concurred with the NEFSC finding that the death of RW 3107 was an entanglement related mortality.

There is no way to determine exactly when and where RW 3107 became entangled. She was last seen prior to the entanglement in December 2001 off of South Carolina. She was next seen (entangled) in July 2002 in Canadian waters off of Nova Scotia. Although RW 3107 could have become entangled in Canadian waters, NMFS considers this unlikely since Canadian trap fishers (whether for lobster, crab, or fish) are not required to use a 600-lb (272.4-kg) weak link. The more likely scenario is that RW 3107 became entangled in U.S. waters. While it is possible that she became entangled prior to when the RPA measures went into effect, this is somewhat irrelevant since the weak link on the entangling gear was the same breaking strength as that required by the RPA for certain lobster fishing areas.

In summary, while the gear recovered from RW 3107 cannot be identified as originating from the U.S. lobster fishery, NMFS has determined that the gear is consistent with gear approved for use in the lobster fishery that is conducted in portions of the U.S. Exclusive Economic Zone (EEZ). In addition, NMFS has been advised that RW 3107 died as a result of injuries caused by the entanglement. Therefore, based on the RPA monitoring criteria from the June 14, 2001, Biological Opinion, NMFS concluded that the entanglement event for RW 3107 provides evidence that the RPA described in the June 14, 2001, Opinion is not effective at avoiding the likelihood of jeopardizing the continued existence of right whales by the lobster trap fishery.

#### **2.1.2.1 ALWTRP and Biological Opinions**

At the 2003 ALWTRT meeting, the ALWTRT agreed to manage entanglement risk by first reducing the risk associated with groundlines and then reducing the risk associated with vertical lines in commercial trap/pot and gillnet gear. In June 2005, NMFS issued a proposed rule and in October 2007, NMFS issued a final rule which implemented broad-based gear modifications to replace the SAM and DAM programs. This broad-based gear modification strategy includes expanded weak link and sinking groundline requirements; additional gear marking requirements; changes in boundaries; seasonal restrictions for gear modifications; expanded exempted areas; and regulatory language changes for the purposes of clarification and consistency (72 FR 57104, October 5, 2007). The broad-based sinking groundline requirement for trap/pot fishermen became fully effective on April 5, 2009. This final rule also incorporates a recent amendment to the ALWTRP (72 FR 34632, June 25, 2007) that implemented, with revisions, previous ALWTRP regulations by expanding the Southeast U.S. Restricted Area to include waters within 35 nm (64.82 km) of the South Carolina coast, dividing the Southeast U.S. Restricted Area into Southeast U.S. Restricted Areas North and South, and modified regulations pertaining to gillnetting within the Southeast U.S. Restricted Area.

As stated previously, a number of Biological Opinions on fisheries issued in 2001 concluded that continued operation of these fisheries was likely to jeopardize the continued existence of ESA-listed right whales as a result of entanglement in pot/trap gear used in the fishery. The RPA in these Biological Opinions included, in part, implementation of the SAM program and the DAM program to reduce the likelihood that right whale interactions with pot/trap gear used in the American lobster fishery would result in serious injury or mortality. The RPA measures were implemented as part of the ALWTRP. Following implementation of these measures which replaced the DAM and SAM programs with broad-based gear modifications, consultation on these fisheries was reinitiated. These consultations, which concluded in October

2010, evaluated the effect of the proposed action, which included the measures under each of the fishery management plans as well as those under the ALWTRP. Specifically, these Biological Opinions stated that it was anticipated that the final regulations implementing the vertical line strategy would prioritize risk reduction in areas where there is the greatest co-occurrence of vertical lines and large whales. The Biological Opinions stated that a model was being developed and constructed to allow gear configurations to be manipulated and determine what relative co-occurrence reductions (as a proxy for risk) can be achieved by gear configuration changes and/or effort reductions by area. This co-occurrence analysis is an integral component of the vertical line strategy that will further minimize the risk of large whale entanglement and associated serious injury and death. The Opinions identified the steps being taken by the agency to develop, analyze and implement a vertical line reduction rule including stating that the proposed rule would be published in 2013 and the final rule in 2014. After reviewing the current status of right, humpback, fin, and sei whales as well as loggerhead and leatherback sea turtles, the environmental baseline and cumulative effects in the action area, the effects of the continued operation of the American Lobster, bluefish, dogfish, monkfish, multispecies, skate, squid, mackerel and butterfish and summer flounder, scup and Northern black sea bass FMPs, in compliance with the requirements of the ALWTRP, in October 2010 NMFS issued its Biological Opinions that these proposed activities are likely to adversely affect, but not jeopardize the continued existence of these species.

Following implementation of the ground line rule, the NMFS and the ALWTRT turned focus to vertical line risk reduction, consistent with the decision of the ALWTRT in 2003. At the 2009 ALWTRT meeting, the Team agreed on a schedule to develop a management approach to reduce the risk of serious injury and mortality due to vertical line. As a result of this schedule, NMFS committed to publishing a final rule to address vertical line entanglement by 2014 as previously presented in the Biological Opinions. The approach for the vertical line rule focuses on reducing the risk of vertical line entanglements in high impact areas versus a wide-broad scale management scheme. Using fishing gear survey data and whale sightings per unit effort (SPUE), a model was developed to determine the co-occurrence of fishing gear density and whale density. The ALWTRT Northeast Subgroup met in November 2010 and the Mid-Atlantic/Southeast Subgroup met in April 2011 to review the co-occurrence model and consider its implications for an overall management strategy to address vertical line entanglements. The Team agreed NMFS should use the model to consider and develop possible options to address fishery interactions with large whales by reducing the potential for entanglements, minimizing adverse effects if entanglements occur, and mitigating the effects of any unavoidable entanglements. In July and August 2011, 15 scoping meetings were held along the coast to solicit feedback on the vertical line risk reduction strategy. The information provided at the scoping meetings was reviewed at a full ALWTRT meeting in January 2012.

## **2.2 OVERVIEW OF THE ATLANTIC LARGE WHALE TAKE REDUCTION PLAN (ALWTRP)**

The ALWTRP seeks to reduce serious injury to and/or mortality of large whales due to incidental entanglement in U.S. commercial fishing gear. Although the plan is focused on right, humpback, and fin whales, its implementation also benefits minke whales. The ALWTRP consists of restrictions on where and how gear can be set; research into whale populations, whale

behavior, and fishing gear; outreach to inform fishermen of the entanglement problem and to seek their help in understanding and solving the problem; and a program to disentangle whales that do get caught in gear.<sup>10</sup> Section 2.2.1 summarizes the gear types, fishing areas, and specific fisheries currently regulated under the plan, and Section 2.2.2 discusses the gear modification requirements and restrictions currently in place.

### **2.2.1 Affected Fisheries and Fishing Areas**

As required by the MMPA, NMFS maintains a List of Fisheries (LOF) that places each commercial fishery into one of three categories. Fisheries are categorized according to the level of serious injury and mortality of marine mammals that unintentionally results from the fishery. The categorization in the LOF determines whether participants in that fishery are subject to certain provisions of the MMPA such as registration, observer coverage, and take reduction plan requirements. Individuals fishing in Category I or II fisheries must comply with requirements of any applicable take reduction plan.<sup>11</sup>

Categorization of fisheries is based on a two-tiered, stock-specific approach. Tier 1 considers the impacts of all fisheries on a stock. If the total annual mortality and serious injury rates within a stock resulting from all fisheries are less than or equal to ten percent of the stock's potential biological removal rate (PBR), all fisheries associated with this stock fall into Category III. If mortality and serious injury rates are greater than ten percent of PBR, a Tier 2 analysis occurs. This analysis compares fishery-specific annual mortality and serious injury rates to a stock's PBR. If the mortality and serious injury rates associated with a fishery are greater than or equal to 50 percent of PBR, it is classified as Category I. If these rates are greater than one percent but less than 50 percent of PBR, the fishery is classified as Category II. If, under the Tier 2 analysis, the annual mortality and serious injury rates associated with a fishery are less than or equal to one percent of a stock's PBR, the fishery is classified as Category III (68 FR 41726).

The LOF indicates which fisheries NMFS may regulate under the ALWTRP.<sup>12</sup> Specific fisheries were initially identified for inclusion under the ALWTRP based on documented whale interactions. In 1996, NMFS announced its intention to regulate the following Category I or II fisheries under the ALWTRP, based on the following documented whale interactions (61 FR 40819):

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<sup>10</sup> For more information on NMFS activities undertaken as part of the ALWTRP, see the plan web site at <http://www.nero.noaa.gov/whaletrp/>.

<sup>11</sup> Once a fishery is elevated to Category I or II status, it may be subject to the ALWTRP; however, NMFS retains discretion regarding which fisheries it covers in the Plan to provide adequate protection to right, humpback, and fin whales.

<sup>12</sup> Marine mammal take reduction plans relevant to Category I and II fisheries in the Atlantic Ocean include the Harbor Porpoise Take Reduction Plan (50 CFR 229.34), the ALWTRP (50 CFR 229.32), and the Bottlenose Dolphin Take Reduction Plan (50 CFR 229.35).

- **Gulf of Maine, Mid-Atlantic lobster trap/pot fishery:**<sup>13</sup> One record of a serious injury and/or mortality of a northern right whale, and 11 records of serious injury and/or mortality of humpback whales were reported for this fishery from 1990 to 1994. In addition, NMFS received several reports of right whale entanglements prior to 1990 and after 1994 which are or may be attributable to the lobster fishery.
- **Mid-Atlantic coastal gillnet fishery:**<sup>14</sup> Between 1989 and 1992, 31 humpback whales stranded from New Jersey through Virginia. Twenty-five percent of the stranded whales had scars consistent with net entanglement. Between 1990 and 1996, ten humpbacks stranded in Virginia; three animals had rope abrasion injuries consistent with entanglement in gillnets.
- **New England multispecies sink-gillnet fishery:**<sup>15</sup> As of 1996, strategic marine mammal species/stocks seriously injured or killed in this fishery included several humpback whales and a northern right whale.
- **Southeastern U.S. Atlantic shark gillnet fishery:** A right whale calf was observed in February 1994, approximately ten miles off Jacksonville, Florida, with severe cuts and other injuries. Researchers believe, based on the observed injuries, that the calf was entangled in gillnet gear, then hauled back into the fishing vessel's propeller as the gear was being retrieved. This method of gear retrieval is consistent with the shark gillnet fishery.

Based on NMFS review of entanglement data by fishery and by the types of gear involved in whale entanglements, the ALWTRP was created to mitigate the use of certain gear types likely to entangle whales in areas where whales are likely to occur. Therefore, the ALWTRP regulates fishing activity by gear and fishing location. Specific restrictions on fishing practices (including gear and seasonal requirements) are defined according to gear types and areas, as specified in Exhibit 2-2 (for a list of currently exempted waters within these areas, see Appendix 2-A). Exhibits 2-3 and 2-4 illustrate the location of the specified areas.<sup>16</sup>

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<sup>13</sup> Currently the Northeast/Mid-Atlantic American lobster trap/pot fishery in the LOF.

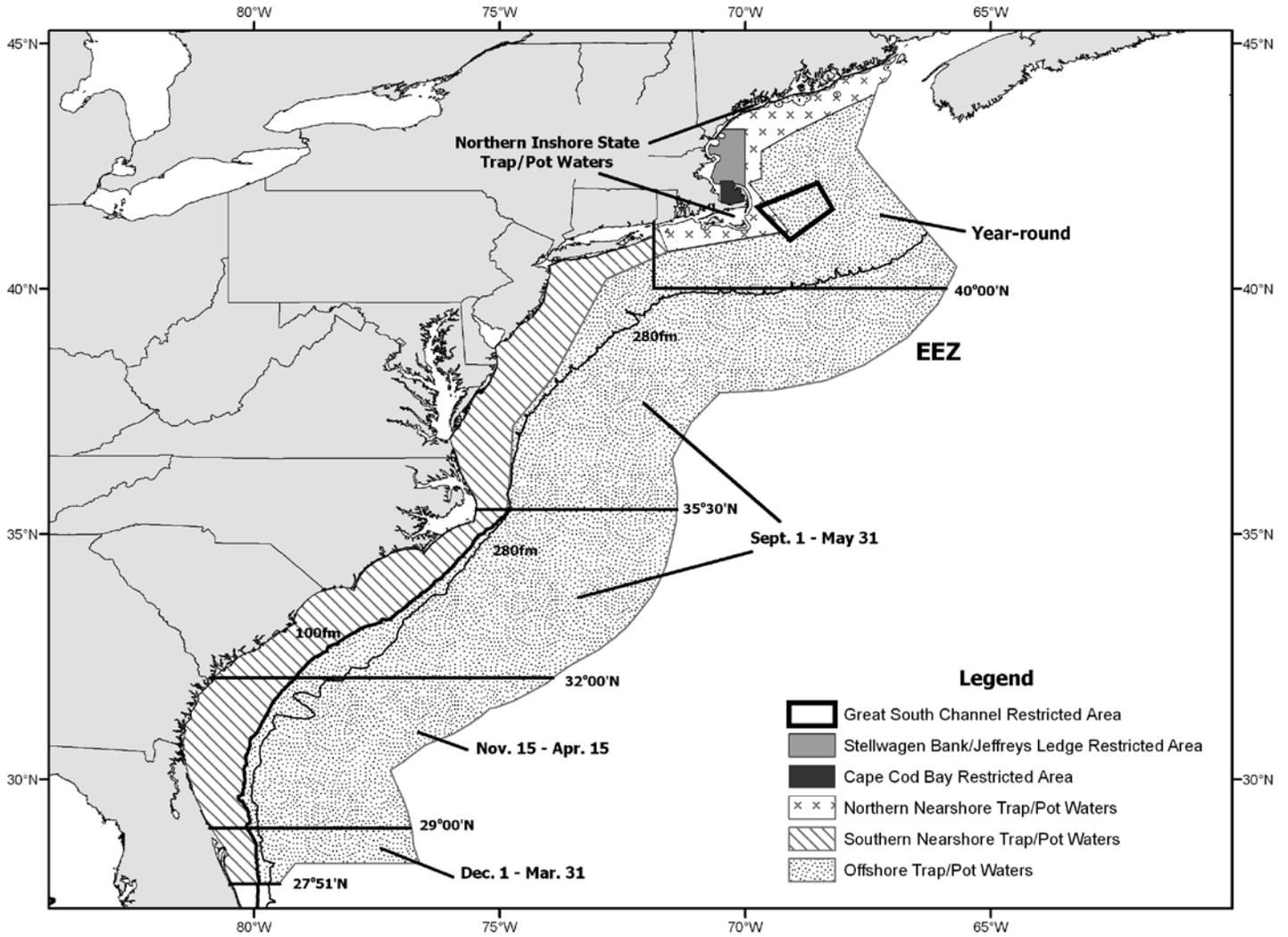
<sup>14</sup> Currently the Mid-Atlantic gillnet fishery in the LOF.

<sup>15</sup> Currently the Northeast sink gillnet fishery in the LOF.

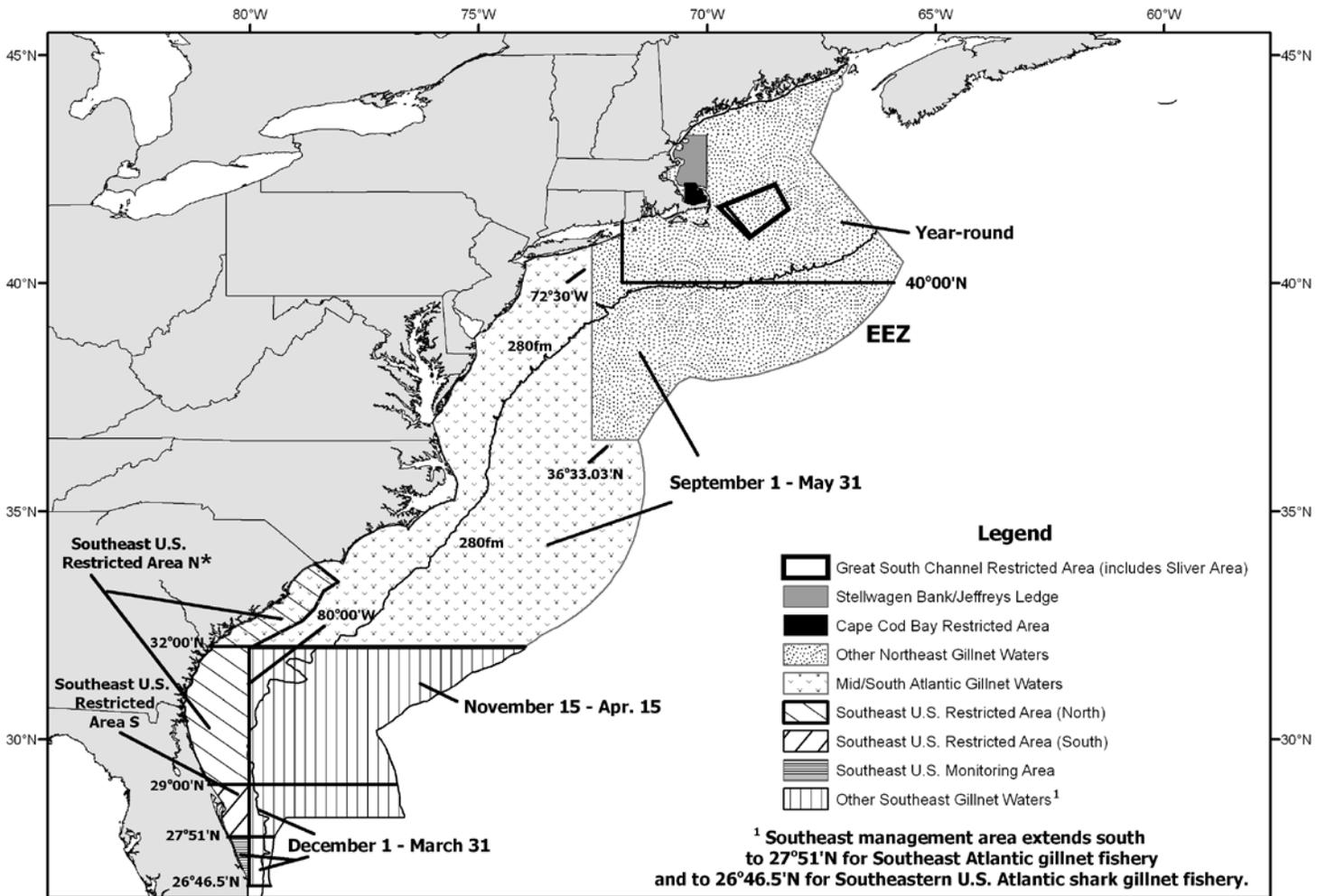
<sup>16</sup> For the specific coordinates of each area, see 50 CFR part 229.32, the ALWTRP regulations, available on the ALWTRP web site at <http://www.nero.noaa.gov/whaletrp/>.

<b>Exhibit 2-2</b>	
<b>FISHING GEAR AND AREAS REGULATED UNDER THE ALWTRP</b>	
<b>Specified Gear</b>	<b>Specified Areas</b>
Traps/Pots	<ul style="list-style-type: none"> <li>• Northern Inshore State Trap/Pot Waters Area</li> <li>• Cape Cod Bay Restricted Area</li> <li>• Great South Channel Restricted Area</li> <li>• Stellwagen Bank/Jeffreys Ledge Restricted Area</li> <li>• Northern Nearshore Trap/Pot Waters Area</li> <li>• Southern Nearshore Trap/Pot Waters Area</li> <li>• Offshore Trap/Pot Waters Area</li> </ul>
Anchored Gillnets	<ul style="list-style-type: none"> <li>• Cape Cod Bay Restricted Area</li> <li>• Great South Channel Restricted Gillnet Area</li> <li>• Great South Channel Sliver Restricted Area</li> <li>• Stellwagen Bank/Jeffreys Ledge Restricted Area</li> <li>• Other Northeast Gillnet Waters Area</li> <li>• Mid-Atlantic Coastal Gillnet Waters Area</li> </ul>
Other Gillnets	<ul style="list-style-type: none"> <li>• Mid-Atlantic Coastal Waters Area (drift gillnets)</li> <li>• Southeast U.S. Restricted Area North and South</li> <li>• Southeast U.S. Monitoring Area</li> <li>• Other Southeast Gillnet Waters</li> </ul>
Source: 50 CFR part 229.32, available online at <a href="http://www.nero.noaa.gov/whaletrp/">http://www.nero.noaa.gov/whaletrp/</a> .	

**Exhibit 2-3  
Areas Affected by ALWTRP: Trap/Pots**



**Exhibit 2-4  
Areas Affected by the ALWTRP: Gillnets**



\* The area north of 32°00' N lat. is included in the Southeast U.S. Restricted Area from Nov. 15 - April 15, and Mid/South Atlantic Gillnet Waters from Sept. 1 - Nov. 14 and April 16 - May 31.

The LOF is revised annually based on new information regarding marine mammal interactions (some fisheries take marine mammals in ways other than entanglement, such as hooking). Exhibit 2-5 lists Category I and II fisheries in the Atlantic Ocean for 2013 (78 FR 53336, August 29, 2013).

<b>Exhibit 2-5</b>	
<b>LIST OF FISHERIES, CATEGORY I AND II DESIGNATIONS (Atlantic Ocean Fisheries Only)</b>	
<b><i>Category I Fisheries</i></b>	
Gillnet Fisheries	Mid-Atlantic gillnet Northeast sink gillnet
Longline Fisheries	Atlantic Ocean large pelagics longline
Trap/Pot Fisheries	Northeast/Mid-Atlantic American lobster trap/pot
<b><i>Category II Fisheries</i></b>	
Gillnet Fisheries	Chesapeake Bay inshore gillnet North Carolina inshore gillnet Northeast anchored float gillnet Northeast drift gillnet Southeast Atlantic gillnet Southeastern U.S. Atlantic shark gillnet
Trawl Fisheries	Mid-Atlantic mid-water trawl (including pair trawl) Mid-Atlantic bottom trawl Northeast mid-water trawl (including pair trawl) Northeast bottom trawl
Trap/Pot Fisheries	Atlantic blue crab trap/pot Atlantic mixed species trap/pot
Haul/Beach Seine Fisheries	Mid-Atlantic haul/beach seine <sup>1</sup> North Carolina long haul seine
Stop Net Fisheries	North Carolina roe mullet stop net
Pound Net Fisheries	Virginia pound net
Notes: <sup>1</sup> The Mid-Atlantic haul/beach seine fishery is not regulated under the ALWTRP because a beach seine is not considered a gillnet for the purposes of this regulation (see the gillnet definition in Chapter 15).	

The fisheries currently regulated under the ALWTRP are those Category I or II fisheries from the LOF that fish with specified gear in specified areas (see Exhibits 2-3, 2-4, and 2-5). Based on the most recent LOF, the following five fisheries are currently regulated under the ALWTRP:

- Northeast/Mid-Atlantic American lobster trap/pot,
- Northeast sink gillnet,
- Southeast Atlantic gillnet,
- Southeastern U.S. Atlantic shark gillnet,<sup>17</sup> and
- Mid-Atlantic gillnet.<sup>18</sup>

<sup>17</sup> The Southeastern U.S. Atlantic shark gillnet fishery as described in this document includes shark gillnetting with five-inch or greater stretched mesh south of the South Carolina/Georgia border.

<sup>18</sup> In North Carolina, fishermen using beach-anchored gillnets or nearshore gillnets may report landings as part of the Mid-Atlantic haul/beach seine fishery, which is not regulated under the ALWTRP. To the extent that fishermen report gillnet landings as part of the haul/beach seine fishery, and do not report gillnet landings as part of the Mid-Atlantic coastal gillnet fishery, costs incurred by those fishermen are not reflected in this analysis.

The ALWTRP includes a variety of gear modification requirements and restrictions. Each regulatory component of the Plan is summarized in section 2.2.2.

### 2.2.2 Gear Modification Requirements and Restrictions

The ALWTRP specifies both universal gear modification requirements and restrictions, which apply to all lobster traps/pots and anchored gillnets, and area- and season-specific gear modification requirements and restrictions.<sup>19</sup> The universal gear requirements are as follows:

- *No floating buoy line at the surface* – No person may fish with lobster trap or anchored gillnet gear that has any portion of the buoy line that is directly connected to the gear on the ocean bottom floating at the surface at any time. If more than one buoy is attached to a single buoy line or if a high flyer and a buoy are used together on a single buoy line, floating line may be used between these objects.
- *No wet storage of gear* – Lobster traps and/or anchored gillnet gear must be hauled out of the water at least once every 30 days.
- *Knots* – Fishermen are encouraged, but not required, to maintain knot-free buoy lines. Splices are not considered to be an entanglement threat and are thus preferable to knots.
- *Groundlines* - All groundlines must be made of sinking line.

Additional gear modification requirements and restrictions vary by location and date, as well as by gear type. The Plan currently recognizes seven trap/pot areas: Cape Cod Bay Restricted Area, Great South Channel Restricted Area, Stellwagen Bank/Jeffreys Ledge Restricted Area, Northern Inshore State Trap/Pot Waters, Northern Nearshore Trap/Pot Waters, Southern Nearshore Trap/Pot Waters, and Offshore Trap/Pot Waters. The Plan currently recognizes nine gillnet areas: Cape Cod Bay Restricted Area, Great South Channel Restricted Gillnet Area, Great South Channel Sliver Restricted Gillnet Area, Stellwagen Bank/Jeffreys Ledge Restricted Area, Other Northeast Gillnet Waters, Mid/South Atlantic Gillnet Waters, Southeast U.S. Restricted Area (North and South), Southeast U.S. Monitoring Area, and Other Southeast Gillnet Waters. These regulations are summarized in Exhibits 2-6 to 2-8 below.

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However, all fishermen using ALWTRP gear in ALWTRP waters are subject to regulation under the ALWTRP. This includes vessels fishing nearshore gillnets, and does not include vessels fishing beach-anchored gillnets or haul/beach seines (see the gillnet definition in Chapter 15).

<sup>19</sup> The requirements specified in the ALWTRP are in addition to existing requirements under the Fishery Management Plans of affected fisheries and any other applicable regulations.

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
Cape Cod Bay Restricted Area (Federal and State waters) (January 1 to May 15)	<p><b>January 1 to May 15:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Compliance with <b>Gear Marking Requirements:</b> <ul style="list-style-type: none"> <li>» Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state.               <ul style="list-style-type: none"> <li>- When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>» Buoy lines to be marked with one 4-inch (10.2 cm), <b>RED</b>, mark midway along the buoy line.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 500 lb*;</li> <li>• All buoy lines must be made of sinking line, except for the bottom 1/3 which may be floating;</li> <li>• Only multiple traps will be permitted (no single traps or 3-trap trawls) where trawls are to be set in a 2-trap string or a trawl of 4 or more traps (2-trap strings can have only one buoy line);</li> <li>• All groundlines must be made of sinking line.</li> </ul>
Cape Cod Bay Restricted Area (State waters) (May 16 – December 31)	<p><b>May 16-December 31 (State waters only):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal and Gear Marking Requirements</b> (see above).</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul>
Cape Cod Bay Restricted Area (Federal waters) (May 16-December 31)	<p><b>May 16-December 31 (Federal waters only):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal and Gear Marking Requirements</b> (see above).</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• Only multiple traps will be permitted (no single traps) where all traps are to be set in trawls of 2 or more traps (trawls up to and including 5 or fewer traps can have only one buoy line);</li> <li>• All groundlines must be made of sinking line.</li> </ul>

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
Great South Channel Restricted Area	<p><b>April 1- June 30:</b> The Great South Channel Restricted Area is <b>closed</b> to <b>all</b> trap/pot fishing.</p> <p><b>July 1- March 31:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>RED</b>, mark midway along the buoy line (overlapping with Lobster Management Area (LMA) 2 and/or the Outer Cape LMA), or <b>BLACK</b> (overlapping with the LMA 2/3 Overlap and/or LMA 3).</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of: <ul style="list-style-type: none"> <li>» no greater than 600 lb* in areas that overlap with LMA 2 and/or the Outer Cape LMA;</li> <li>» no greater than 1,500 lb* in areas that overlap with the LMA 2/3 Overlap and/or LMA 3.</li> </ul> </li> <li>• Only multiple traps will be permitted (no single traps) where all traps are to be set in trawls of 2 or more traps (trawls up to and including 5 or fewer traps can have only 1 buoy line) in areas overlapping with LMA 2 and/or the Outer Cape LMA.</li> <li>• All groundlines must be made of sinking line.</li> </ul>
Northern Inshore State Trap/Pot Waters Area	<ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>RED</b>, mark midway along the buoy line.</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul>

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

<b>Area</b>	<b>Requirements</b>
Northern Nearshore Trap/Pot Waters Area	<ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state.           <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>RED</b>, mark midway along the buoy line.</li> <li>• All buoys, flotation devices, and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• Only multiple traps will be permitted (no single traps) where all traps are to be set in trawls of 2 or more traps (trawls up to and including 5 or fewer traps can have only one buoy line);</li> <li>• All groundlines must be made of sinking line.</li> </ul>

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
Offshore Trap/Pot Waters	<p><b>Year-round:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>BLACK</b>, mark midway along the buoy line.</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 1,500 lb*; <ul style="list-style-type: none"> <li>» For the red crab trap/pot fishery, weak links with a maximum breaking strength of 2,000 lb* are required;</li> </ul> </li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b>November 15-April 15 (between 29° N. lat and 32° N. lat):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days)</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Compliance with <b>Gear Marking Requirements:</b> <ul style="list-style-type: none"> <li>» Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>- When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>» Buoy lines to be marked with one 4-inch (10.2 cm), <b>BLACK</b>, mark midway along the buoy line.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 1,500 lb*; <ul style="list-style-type: none"> <li>» For the red crab trap/pot fishery, weak links with a maximum breaking strength of 2,000 lb* are required;</li> </ul> </li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b>December 1-March 31 (between 29°N. lat and 27° 51' N. lat):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal and Gear Marking Requirements</b> (see above).</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 1,500 lb*; <ul style="list-style-type: none"> <li>» For the red crab trap/pot fishery, weak links with a maximum breaking strength of 2,000 lb* are required;</li> </ul> </li> <li>• All groundlines must be made of sinking line.</li> </ul>
Southern Nearshore Trap/Pot Waters	<p><b>Year-round:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> </ul> </li> </ul>

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
	<ul style="list-style-type: none"> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>ORANGE</b>, mark midway along the buoy line;</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b>September 1-May 31:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>ORANGE</b>, mark midway along the buoy line.</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b>November 15-April 15 (between 29° N. lat and 32° N. lat):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Compliance with <b>Gear Marking Requirements:</b> <ul style="list-style-type: none"> <li>» Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state. <ul style="list-style-type: none"> <li>- When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>» Buoy lines to be marked with one 4-inch (10.2 cm), <b>ORANGE</b>, mark midway along the buoy line.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul>

## Exhibit 2-6

**TRAP/POT GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
	<p><b>December 1-March 31 (between 29°N. lat and 27° 51' N. lat):</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal and Gear Marking Requirements</b> (see above).</li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• All groundlines must be made of sinking line.</li> </ul>
Stellwagen Bank/Jeffreys Ledge Restricted Area	<ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Trap/pot surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state.           <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>RED</b>, mark midway along the buoy line.</li> <li>• All buoys, flotation devices, and/or weights must be attached to the buoy line with a weak link having a breaking strength of no greater than 600 lb*;</li> <li>• Only multiple traps will be permitted (no single traps) where all traps are to be set in trawls of 2 or more traps (trawls up to and including 5 or fewer traps can have only one buoy line);</li> <li>• All groundlines must be made of sinking line.</li> </ul>
<p>Notes:</p> <p>* Weak links must be chosen from the list of NMFS approved gear, which includes: off the shelf weak links, rope of appropriate strength, hog rings, and other materials or devices approved in writing. Weak links must be designed in such a way that the bitter end of the buoy line is clean and free of any knots when the weak link breaks.</p> <p>Source: 50 CFR part 229.32, available online at <a href="http://www.nero.noaa.gov/whaletrp/">http://www.nero.noaa.gov/whaletrp/</a>.</p>	

## Exhibit 2-7

**ANCHORED GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
Cape Cod Bay Restricted Area	<p><b>January 1- May 15:</b> The Cape Cod Bay Restricted Area is <b>closed</b> to <b>all</b> gillnet fishing.</p> <p><b>May 16 - December 31:</b> <i>For All Gillnet Gear:</i></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state.</li> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>GREEN</b>, mark midway along the buoy line.</li> </ul> <p><i>For Anchored Gillnets:</i></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link with a breaking strength of no greater than 1,100 lb*;</li> <li>• Each net panel must be configured with five or more weak links, depending on panel length, with a breaking strength no greater than 1,100 lb. The weak link placement must meet one of the two configuration options. The same configuration will be required for all gillnet panels in a string;</li> <li>• All gillnets, regardless of number of net panels, will be required to be anchored with the holding power of at least a 22-lb Danforth-style anchor at each end of the net string (must be a burying anchor; no dead weights);</li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><i>For Drift Gillnets:</i></p> <ul style="list-style-type: none"> <li>• Fishing with driftnet gear at <b>night</b> (i.e., anytime between one-half hour before sunset and one-half hour after sunrise) is <b>prohibited</b> unless that gear is tended (i.e., attached to the vessel);</li> <li>• All driftnet gear must be removed from the water and stowed on board before a vessel returns to port.</li> </ul>
Great South Channel Restricted Gillnet Area (including the Sliver Area)	<p><b>April 1- June 30:</b> The Great South Channel Restricted Gillnet Area is <b>closed</b> to <b>all</b> gillnet fishing (not including the <b>Sliver Area</b>).</p> <p><b>July 1- March 31 (GSC Restricted Gillnet Area) and year-round (GSC Sliver Restricted Gillnet Area)</b></p> <p><i>For Anchored Gillnets:</i></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• Compliance with <b>Gear Marking Requirements:</b> <ul style="list-style-type: none"> <li>» Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the</li> </ul> </li> </ul>

## Exhibit 2-7

**ANCHORED GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
	<p>Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state.</p> <ul style="list-style-type: none"> <li>- When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy. <ul style="list-style-type: none"> <li>» Buoy lines to be marked with one 4-inch (10.2 cm), <b>GREEN</b>, mark midway along the buoy line.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link with a breaking strength of no greater than 1,100 lb*;</li> <li>• Each net panel must be configured with five or more weak links, depending on panel length, with a breaking strength no greater than 1,100 lb*. The weak link placement must meet one of the two configuration options. The same configuration will be required for all gillnet panels in a string;</li> <li>• All gillnets, regardless of number of net panels, will be required to be anchored with the holding power of at least a 22-lb Danforth-style anchor at each end of the net string (must be a burying anchor; no dead weights);</li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b>For Drift Gillnets:</b></p> <ul style="list-style-type: none"> <li>• Compliance with <b>Gear Marking Requirements</b> (see above).</li> <li>• Fishing with driftnet gear at <i>night</i> (i.e., anytime between one-half hour before sunset and one-half hour after sunrise) is <b>prohibited</b> unless that gear is tended (i.e., attached to the vessel);</li> <li>• All driftnet gear must be removed from the water and stowed on board before a vessel returns to port.</li> </ul>
Stellwagen Bank/Jeffreys Ledge Restricted Area; and Other Northeast Gillnet Waters Area	<p><b>For All Gillnet Gear:</b></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>GREEN</b>, mark midway along the buoy line.</li> </ul> <p><b>For Anchored Gillnets:</b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link with a breaking strength of no greater than 1,100 lb*;</li> <li>• Each net panel must be configured with five or more weak links, depending on panel length, with a breaking strength no greater than 1,100 lb. The weak link placement must meet one of the two configuration options. The same configuration will be required for all gillnet panels in a string;</li> <li>• All gillnets, regardless of number of net panels, will be required to be anchored with the holding power of at least a 22-lb Danforth-style anchor at each end of the net string (must be a burying anchor; no dead weights);</li> <li>• All groundlines must be made of sinking line.</li> </ul>

## Exhibit 2-7

**ANCHORED GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
	<p><b><i>For Drift Gillnets:</i></b></p> <ul style="list-style-type: none"> <li>• Fishing with driftnet gear at <b><i>night</i></b> (i.e., anytime between one-half hour before sunset and one-half hour after sunrise) is <b>prohibited</b> unless that gear is tended (i.e., attached to the vessel);</li> <li>• All driftnet gear must be removed from the water and stowed on board before a vessel returns to port.</li> </ul>
Mid/ South Atlantic Gillnet Waters	<p><b>September 1- May 31:</b></p> <p><b><i>For All Gillnet Gear:</i></b></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines to be marked with one 4-inch (10.2 cm), <b>BLUE</b>, mark midway along the buoy line.</li> </ul> <p><b><i>For Anchored Gillnets:</i></b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements:</b> <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength no greater than 1,100 lbs;</li> <li>• All gillnet panels are required to have weak links with the breaking strength of no greater than 1,100 lbs in the center of the floatline of each net panel up to and including 50 fathoms (100 yds; 300 ft), or at least every 25 fathoms (50 yds; 150 ft) for longer panels.</li> <li>• Gillnets that do not return to port with the vessel must be configured with five or more weak links per net panel, depending on panel length, with a breaking strength no greater than 1,100 lb, and be anchored with the holding power of at least a 22-lb Danforth-style anchor at each end of the net string (must be a burying anchor; no dead weights). The weak link placement must meet one of two configuration options. The same configuration will be required for all gillnet net panels in a string;</li> <li>• All groundlines must be made of sinking line.</li> </ul> <p><b><i>For Drift Gillnets:</i></b></p> <ul style="list-style-type: none"> <li>• Fishing with driftnet gear at <b><i>night</i></b> (i.e., anytime between one-half hour before sunset and one-half hour after sunrise) is <b>prohibited</b> unless that gear is tended (i.e., attached to the vessel);</li> <li>• All driftnet gear must be removed from the water and stowed on board before a vessel returns to port.</li> </ul>

## Notes:

\* Weak links must be chosen from the list of NMFS approved gear, which includes: off the shelf weak links, rope of appropriate strength, hog rings, and other materials or devices approved in writing. Weak links must be designed in such a way that the bitter end of the buoy line is clean and free of any knots when the weak link breaks.

Source: 50 CFR part 229.32, available online at <http://www.nero.noaa.gov/whaletrp/>.

<b>Exhibit 2-8</b>	
<b>OTHER GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS UNDER THE ALWTRP, BY AREA</b>	
<b>Area</b>	<b>Requirements</b>
Southeast U.S. Restricted Area North	<p><b>November 15 - April 15:</b> <b><i>For All Gillnet Gear:</i></b></p> <ul style="list-style-type: none"> <li>• Fishing with or possessing gillnets during the restricted period is <b>prohibited</b>.</li> <li>• Exemption for vessels in transit with gillnets aboard if: <ul style="list-style-type: none"> <li>» All nets are covered with canvas or other similar material and lashed or otherwise securely fastened to the deck, rail, or drum; and</li> <li>» All buoys, high flyers, and anchors are disconnected from all gillnets.</li> </ul> </li> <li>• No fish may be possessed aboard such a vessel in transit.</li> </ul>
Southeast U.S. Restricted Area South	<p><b>December 1- March 31:</b> <b><i>For All Gillnet Gear:</i></b></p> <ul style="list-style-type: none"> <li>• Fishing with or possessing gillnets during the restricted period is <b>prohibited</b>.</li> <li>» <b><i>Exemption for Southeast Atlantic gillnet fishery</i></b> Fishing with gillnet for Spanish mackerel is exempt from the restrictions from December 1 - December 31, and from March 1 - March 31 if: <ul style="list-style-type: none"> <li>- Gillnet mesh is between 3.5” and 4 7/8” stretched mesh;</li> <li>- A valid commercial vessel permit for Spanish mackerel has been issued to the vessel in accordance with 50 CFR 622.4(a)(2)(iv) and is on board;</li> <li>- No person may fish with, set, place in the water, or have on board a gillnet with a float line longer than 800 yards;</li> <li>- No person may fish with, set, or place in the water more than one gillnet at any time;</li> <li>- No more than two gillnets, including any net in use, may be possessed at any one time; provided, however, that if two gillnets, including any net in use, are possessed at any one time, they must have stretched mesh sizes that differ by at least 1/4”;</li> <li>- No person may soak a gillnet for more than 1 hour. The soak period begins when the first mesh is placed in the water and ends either when the first mesh is retrieved back on board the vessel or the gathering of the gillnet is begun to facilitate retrieval on board the vessel, whichever occurs first; providing that, once the first mesh is retrieved or the gathering is begun, the retrieval is continuous until the gillnet is completely removed from the water;</li> <li>- No net is set at <b>night</b> or when visibility is less than 500 yards;</li> <li>- The gillnet is removed from the water before night or immediately if visibility decreases below 500 yards;</li> <li>- No gillnet is set within 3 nautical miles of a right, humpback, or fin whale; and</li> <li>- The gillnet is removed immediately from the water if a right, humpback, or fin whale moves within 3 nm of the set gear.</li> <li>- The gillnet (regardless of how fished) complies with the “anchored gillnet” requirements, including the universal requirements, as specified for the Mid/South Atlantic Gillnet Waters.</li> </ul> </li> <li>» <b><i>Exemption for Southeastern U.S. Atlantic shark gillnet fishery</i></b> Fishing with gillnet for sharks is exempt from the restrictions from December 1- March 31 if: <ul style="list-style-type: none"> <li>- Gillnet mesh is 5” or greater stretched mesh;</li> <li>- The gillnet is deployed so that it encloses an area of water;</li> <li>- A valid commercial directed shark limited access permit has been issued to the vessel, in accordance with 50 CFR 635.4(e), and is on board;</li> <li>- No net is set at <b>night</b> or when visibility is less than 500 yards;</li> <li>- The gillnet is removed from the water before night or immediately if visibility decreases below 500 yards;</li> <li>- Each set is made under the observation of a spotter plane;</li> <li>- No gillnet is set within 3 nautical miles of a right, humpback, or fin whale; and</li> <li>- The gillnet is removed immediately from the water if a right, humpback, or fin whale moves within 3 nm of the set gear.</li> </ul> </li> <li>- No person may fish with shark gillnet gear unless the operator of the vessel calls the Southeast</li> </ul>

## Exhibit 2-8

**OTHER GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS  
UNDER THE ALWTRP, BY AREA**

Area	Requirements
	<p>Fisheries Science Center Panama City Laboratory in Panama City, FL (phone: 850/234-6451, fax: 850/235-3559), not less than 48 hours prior to departing on any fishing trip to arrange for observer coverage.</p> <p>If the Panama City Laboratory requests that an observer be taken on board a vessel, no person may fish with such gillnet aboard the vessel unless an observer is on board that vessel during the trip.</p> <p><b>Night</b> is defined as anytime between one-half hour before sunset and one-half hour after sunrise.</p> <p><b>Gear Marking Requirements for All Gillnet Gear</b></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines for <b>non-shark gillnet gear</b> to be marked with one 4-inch (10.2 cm), <b>YELLOW</b>, mark midway along the buoy line.</li> <li>• <b>Shark gillnet gear</b> with webbing of 5" or greater stretched mesh must be marked with two, 4-inch color codes, one designating gear type (<b>GREEN</b>) and the other where the gear is set (<b>BLUE</b>). <ul style="list-style-type: none"> <li>» Each color of the two-color codes must be permanently marked on or along the line and must be clearly visible when the gear is hauled or removed from the water.</li> <li>» The two color marks must be placed within 6" of each other.</li> <li>» If the color of the rope is the same as, or similar to, a color code, a white mark may be substituted for that color code.</li> <li>» All buoy lines greater than 4 feet long must be marked within 2 feet of the top of the buoy line (closest to the surface) and midway along the length of the buoy line.</li> <li>» Each gillnet net panel must be marked along both the floatline and the leadline at least once every 100 yards, unless otherwise required.</li> </ul> </li> </ul>
Southeast U.S. Monitoring Area	<p><b>December 1 - March 31</b></p> <p>Compliance with <b>Gear Marking Requirements:</b></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner's motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel's home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Shark gillnet gear with webbing of 5" or greater stretched mesh in the Southeast U.S. Monitoring Area must be marked with two, 4-inch color codes, one designating gear type (<b>GREEN</b>) and the other where the gear is set (<b>BLUE</b>). <ul style="list-style-type: none"> <li>» Each color of the two-color codes must be permanently marked on or along the line and must be clearly visible when the gear is hauled or removed from the water.</li> <li>» The two color marks must be placed within 6" of each other.</li> <li>» If the color of the rope is the same as, or similar to, a color code, a white mark may be substituted for that color code.</li> <li>» All buoy lines greater than 4 feet long must be marked within 2 feet of the top of the buoy line (closest to the surface) and midway along the length of the buoy line.</li> <li>» Each gillnet net panel must be marked along both the floatline and the leadline at least once every 100 yards, unless otherwise required.</li> </ul> </li> </ul> <p>Compliance with the <b>Vessel Monitoring System (VMS) Requirement:</b></p>

<b>Exhibit 2-8</b>	
<b>OTHER GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS UNDER THE ALWTRP, BY AREA</b>	
<b>Area</b>	<b>Requirements</b>
	<p>» No person may fish with or possess gillnet gear for shark with webbing of 5” or greater stretched mesh in the Southeast U.S. Monitoring Area unless the operator of the vessel is in compliance with the vessel monitoring system requirements found in 50 CFR 635.69.</p> <p>» NMFS may select any shark gillnet vessel regulated under the ALWTRP to carry an observer. When selected, the vessels are required to take observers on a mandatory basis in compliance with the requirements for at-sea observer coverage found in 50 CFR 229.7. Any vessel that fails to carry an observer once selected is prohibited from fishing pursuant to 50 CFR part 635.</p>
Other Southeast Gillnet Waters	<p><b>November 15 - April 15 (North of 29°00’ N. lat.) and December 1 - March 31 (South of 29°00’ N. lat.)</b></p> <p><b><i>For All Gillnet Fisheries (non-shark and shark gillnet fisheries):</i></b></p> <ul style="list-style-type: none"> <li>• Gillnet surface buoys to be marked to identify the vessel or fishery with one of the following: the owner’s motorboat registration number and/or U.S. vessel documentation number; the Federal commercial fishing permit number; or whatever positive identification marking is required by the vessel’s home-port state. <ul style="list-style-type: none"> <li>» When marking is not already required by state or Federal regulations, the letters and numbers to mark gear must be at least 1 inch (2.5cm) in height, block letters or Arabic numbers, in a color that contrasts with the color of the buoy.</li> </ul> </li> <li>• Buoy lines for <b>non-shark gillnet gear</b> to be marked with one 4-inch (10.2 cm), <b>YELLOW</b>, mark midway along the buoy line.</li> <li>• <b>Shark gillnet gear</b> with webbing of 5” or greater stretched mesh must be marked with two, 4-inch color codes, one designating gear type (<b>GREEN</b>) and the other where the gear is set (<b>BLUE</b>). <ul style="list-style-type: none"> <li>» Each color of the two-color codes must be permanently marked on or along the line and must be clearly visible when the gear is hauled or removed from the water.</li> <li>» The two color marks must be placed within 6” of each other.</li> <li>» If the color of the rope is the same as, or similar to, a color code, a white mark may be substituted for that color code.</li> <li>» All buoy lines greater than 4 feet long must be marked within 2 feet of the top of the buoy line (closest to the surface) and midway along the length of the buoy line.</li> <li>» Each gillnet net panel must be marked along both the floatline and the leadline at least once every 100 yards, unless otherwise required.</li> </ul> </li> </ul> <p><b><i>For the Southeast Atlantic gillnet fishery (non-shark gillnetting):</i></b></p> <ul style="list-style-type: none"> <li>• Compliance with the <b>Universal Requirements</b>: <ul style="list-style-type: none"> <li>» No buoy line floating at the surface.</li> <li>» No wet storage of gear (all gear must be hauled out of the water at least once every 30 days).</li> <li>» Fishermen are encouraged, but not required, to maintain knot-free buoy lines.</li> </ul> </li> <li>• All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link having a breaking strength no greater than 1,100 lb;</li> <li>• All gillnet panels to have weak links with the breaking strength of no greater than 1,100 lb in the center of the floatline of each net panel up to and including 50 fathoms (100yds; 300ft), or at least every 25 fathoms (50yds; 150ft) for longer panels;</li> <li>• Gillnets that do not return to port with the vessel must be configured with 5 or more weak links per net panel, depending on panel length, with a breaking strength no greater than 1,100 lb, and be anchored with the holding power of at least a 22-lb Danforth-style anchor at each end of the net string (must be a burying anchor; no dead weights). The weak link placement must meet one of two configuration options. The same configuration will be required for all gillnet net panels in a string;</li> <li>• All groundlines must be made of sinking line.</li> </ul>

<b>Exhibit 2-8</b>	
<b>OTHER GILLNET GEAR MODIFICATION REQUIREMENTS AND RESTRICTIONS UNDER THE ALWTRP, BY AREA</b>	
<b>Area</b>	<b>Requirements</b>
	<p><i>For the Southeastern U.S. Atlantic shark gillnet fishery</i></p> <ul style="list-style-type: none"> <li>• No net can be set within 3 nm of a right, humpback or fin whale; and</li> <li>• If a right, humpback, or fin whale moves within 3 nm of the set gear, the gear is removed immediately from the water.</li> </ul>
Source: 50 CFR part 229.32, available online at <a href="http://www.nero.noaa.gov/whaletrp/">http://www.nero.noaa.gov/whaletrp/</a> .	

If a serious injury or mortality of a right whale occurs in the Cape Cod Bay Restricted Area from January 1 through May 15; in the Great South Channel Restricted Area from April 1 through June 30; or in the Southeast U.S. Restricted Area from November 15 through March 31 as a result of an entanglement by trap/pot or gillnet gear allowed in those areas and times, the Assistant Administrator shall close that area to that gear type for the rest of that time period unless the Assistant Administrator revises the restricted period or unless other measures are implemented. The area will remain closed for that same time period in each subsequent year, unless the Assistant Administrator revises the restricted period through a publication in the Federal Register in accordance with the following measures, or unless other measures are implemented through a publication in the Federal Register based on the following measures:

- NMFS verifies that certain gear characteristics are both operationally effective and reduce serious injuries and mortalities of endangered whales;
- New gear technology is developed and determined to be appropriate;
- Revised breaking strengths are determined to be appropriate;
- New marking systems are developed and determined to be appropriate;
- NMFS determines that right whales are remaining longer than expected in a closed area, or have left earlier than expected;
- NMFS determines that the boundaries of a closed area are not appropriate;
- Gear testing operations are considered appropriate; or
- Similar situations occur.

NMFS can modify the ALWTRP based on the occurrence of an entanglement in critical habitat and other measures listed above through publication in the *Federal Register*. NMFS may also modify the ALWTRP using any other emergency authority under the MMPA, the ESA, the Magnuson-Stevens Fishery Conservation and Management Act, or other appropriate authority.

## 2.3 RATIONALE FOR RULEMAKING

The following discussion presents the rationale for revising the ALWTRP. It begins by describing the means by which whales become entangled in commercial fishing gear. It then provides a historical overview of right, humpback, and fin whale entanglements. Information on minke whale entanglements is also provided, since the ALWTRP should benefit this species. Finally, the discussion demonstrates the need for action by reviewing recent entanglements within the context of the mandates of the MMPA and the ESA.

### 2.3.1 Nature of Large Whale Entanglements

Atlantic large whales are at risk of becoming entangled in fishing gear because the whales feed, travel and breed in many of the same ocean areas utilized for commercial fishing. Fishermen typically leave fishing gear such as gillnets and traps/pots in the water for a discrete period, after which time the nets/traps/pots are hauled and their catch retrieved. While the gear is in the water, whales may become incidentally entangled in the lines and nets that comprise trap/pot and gillnet fishing gear.

The effects of entanglement can range from no injury to death. "When... [whales] become fouled in gear, normal breathing and movement may be impaired or stopped completely. If the animal does manage to struggle free, portions of gear may remain attached to the body. This trailing gear, often made of durable synthetic material, may create excess drag, snag onto objects in the environment and impede normal behavior like breathing, feeding, movement, or breeding. Other effects include infections and deformations" (Center for Coastal Studies, May 14, 2003).

A scarification analysis conducted by the New England Aquarium (Knowlton et al., 2002) found that juvenile right whales are entangled with greater frequency than adults. Juvenile animals may not have sufficient strength to break free from entangling lines, which can lead to serious injury and infection resulting from the animal "growing into" the lines.

A study of right whale and humpback whale entanglements (Johnson et al., 2005) finds that in cases where the point of gear attachment is known, right whale entanglements frequently (77.4 percent; 24 of 31 entanglement events) involve the mouth, which may indicate that many entanglements occur while whales are feeding.<sup>20</sup> The study also finds that humpback whales are more commonly reported with entanglements in the tail region (53.0 percent; 16 of 30 entanglement events) in cases where the point of attachment is known.<sup>21</sup>

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<sup>20</sup> In some cases, other parts of the body in addition to the mouth may have been entangled.

<sup>21</sup> In some cases, other parts of the body in addition to the tail may have been entangled.

From 1997 to 2002, the NMFS Gear Research Team identified various types of trap/pot and gillnet gear involved in entanglements of right, humpback, fin, or minke whales (Kenney and Hartley, 2001; Hartley et al., 2003; Whittingham et al., 2005a):

- Right whales became entangled in inshore and offshore lobster, crab, and other trap/pot-related gear, gillnet and Danish seine gear, as well as aquaculture equipment;
- Humpback whales became entangled in inshore lobster, crab, gillnet, slime eel/hagfish, conch/whelk, and other trap/pot-related gear, as well as tuna hand line gear and line associated with vessel anchoring systems;
- Fin whales became entangled in crab, slime eel/hagfish, and gillnet gear; and
- Minke whales became entangled in inshore lobster, gillnet, and otter trawl gear.

The number of entanglements for which gear type can be identified is too small to detect any trends in the type of gear involved in lethal entanglements. Trap/pot and gillnet gear, however, seem to be the most common, as in 89 percent of the cases the gear was identified as or found to be consistent with trap/pot and gillnet gear (Johnson et al., 2005).<sup>22</sup> The study confirms that vertical lines and floating groundlines pose risks for large whales; however, the authors conclude that any type and part of fixed gear is capable of entangling a whale, and several body parts of the whale can be involved.

### 2.3.2 History of Large Whale Entanglements

Entanglements are a known source of serious injury and mortality to Atlantic large whales. Although currently available data cannot yet quantify the relative impact of the ALWTRP on the annual number of entanglements, the data do indicate that entanglements resulting in serious injury or mortality continue to be a threat to large whales. Sections 2.3.2.1 to 2.3.2.6 provide an overview of the history of large whale entanglements by species and in summary. These data indicate a need for additional protective measures for large whales.

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<sup>22</sup> According to Johnson et al. (2005), this analysis focused primarily upon cases in which the gear involved in an entanglement was recovered and examined by NMFS gear specialists, as well as other sources considered reliable, but also included entanglements for which the gear type and/or part was identified (e.g., by a fisherman or biologist) but not recovered. In some cases, recovered gear can definitively be traced back to a particular fishery; in other cases, parts of the recovered gear may be found to be consistent with gear that is used in a particular fishery. For example, the gear recovered from right whale #3107 consisted of line with a 600-pound weak link, which is consistent with gear used in the lobster trap/pot fishery. Thus, Johnson et al. (2005) classified this case as an entanglement in lobster trap/pot gear that was set in an unknown location.

### 2.3.2.1 Entanglement Data

The entanglement data presented here come primarily from the 2012 *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments* report, which covers the years from 2006 through 2010 (Waring et al., 2013). These data pertain only to entanglements that NMFS considers to be the primary cause of serious injury or death to a whale.

Care should be used when interpreting entanglement data. The details of a particular mortality or serious injury record often require a degree of interpretation. The assigned cause is based on NMFS' best judgment of the available data; additional information may result in revisions.<sup>23</sup> When reading the following sections on species-specific entanglement data, several factors should be considered: (1) the mortality or injury may involve multiple factors (for example, cases in which whales have been both ship struck and entangled have been discovered); (2) the actual gear type/source is often uncertain; and (3) several types of gear may be involved in a given reported entanglement.

NMFS limits the serious injury designation to only those reports that offer substantiated evidence that the injury is likely to lead to the whale's death.<sup>24</sup> Injuries that impede the whale's locomotion or feeding are not considered serious injuries unless they are likely to be fatal in the foreseeable future. NMFS does not forecast how the entanglement or injury may increase the whale's susceptibility to further injury. Due to this approach, the data presented in this report likely underestimate rates of serious injury due to entanglement (Waring et al., 2003).

On January 24, 2012, NMFS solicited public comments on draft revisions to the guidelines for preparing stock assessment reports (SARs). One of the proposed revisions is to specify that SARs include a summary of all human-caused mortality and serious injury including information on all sources of mortality and serious injury. Additionally, the revised guidelines state that a summary of mortality and serious injury incidental to U.S. commercial fisheries should be presented in a table, while mortality and serious injury from other sources should be clearly distinguished from U.S. commercial fishery-related mortality (77 FR 3450).

Another source of uncertainty in entanglement data is the size and variability of the detection effort (i.e., the number of people qualified and willing to report a whale entanglement). The number of people on the water and actively reporting whale entanglements also varies from year to year. Compared to the vastness of the Atlantic Ocean, the number of people on the water at any point in time who are qualified and willing to report a whale entanglement is small. As a result, some percentage of whale entanglements likely go unnoted. The limitations of the detection effort also hinder the development of conclusions regarding changes in the number of entanglements over time.

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<sup>23</sup> The serious injury determinations are most susceptible to revision. There are instances in which an entangled or partially disentangled whale was re-sighted later free of gear. The reverse may also be true: a whale initially seeming in good condition after being entangled is later re-sighted and found to have been seriously injured by the event.

<sup>24</sup> Entanglements of juvenile whales are typically considered serious injuries because the constriction on the animal is likely to become increasingly harmful as the whale grows.

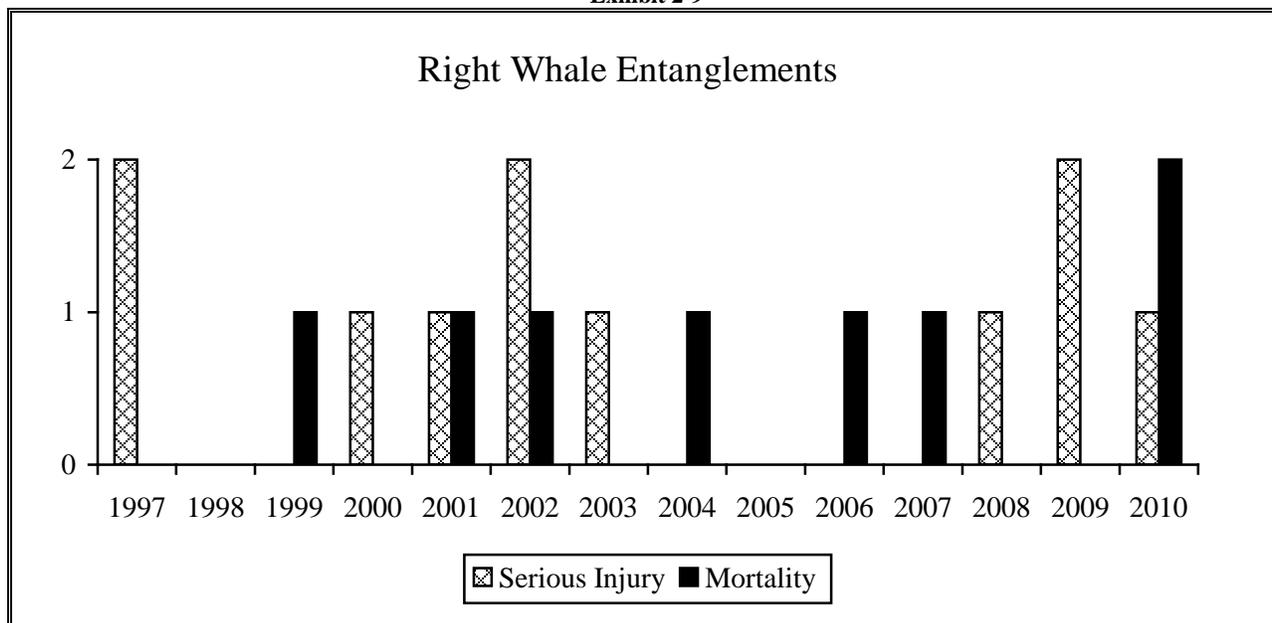
### 2.3.2.2 Right Whale Entanglements

From 2006 through 2010, an estimated average of 1.8 right whales per year (1.6 in U.S waters; 0.2 in Canadian waters) were seriously injured or killed as a result of entanglement or fishery interactions (Waring et al., 2013). In an analysis of the scarification of right whales, a total of 61.6 percent of the whales bore evidence of entanglements with fishing gear (Hamilton et al., 1998). Further research using the *North Atlantic Right Whale Catalogue* has indicated that between 10 and 28 percent of right whales are involved in entanglements each year (Knowlton et al., 2002). However, most right whales are eventually able to free themselves, leaving them with scars (Knowlton et al., 2002). Entanglement records maintained by NMFS Northeast Regional Office included at least 85 confirmed right whale entanglements from 1990 through 2009, including right whales in weirs, entangled in gillnets, and trailing line and buoys (Waring et al., 2012). Because whales often free themselves of gear following an entanglement event, scarring may be a better indicator of fisheries interactions than entanglement records. In an analysis of the scarification of right whales, 519 of 626 (82.9%) whales examined during 1980-2009 were scarred at least once by fishing gear (Knowlton et al. 2012). Further research using the *North Atlantic Right Whale Catalogue* has indicated that between 8.6% to 33.6% of right whales acquire new scars annually (Knowlton et al. 2012). In six records of right whales that were entangled in groundfish gillnet gear in the Bay of Fundy and Gulf of Maine between 1975 and 1990, the whales were either released or escaped on their own, although several whales were observed carrying net or line fragments. A right whale mother and calf were released alive from a herring weir in the Bay of Fundy in 1976.

Between 1970 and 1999, a total of 45 right whale mortalities were recorded (International Whaling Commission 1999; Knowlton and Kraus 2001; Glass et al. 2009). Of these, 13 (28.9%) were neonates that were believed to have died from perinatal complications or other natural causes. Of the remainder, 16 (35.6%) resulted from ship strikes, 3 (6.7%) were related to entanglement in fishing gear (in two cases lobster gear, and one gillnet gear), and 13 (28.9%) were of unknown cause. Between 2005 and 2009, there were a total of 29 confirmed North Atlantic right whale entanglements along the US east coast and adjacent Canadian maritimes. Of these, there were 20 confirmed mortalities, two of which were attributed to entanglements (Henry et al., 2011). There were an additional three confirmed entanglement serious injuries.

Exhibit 2-9 presents a summary of estimated right whale entanglements from 1997 through 2010. The data only include cases in which entanglement was determined to be the primary source of the injury (Waring et al., 2013). The data demonstrate that right whales are becoming entangled in fishing gear and may be seriously injured or killed as a result of that entanglement. Due to the small sample size and the variability in entanglement reports resulting from annual differences in detection effort, the data do not support conclusions indicating historical trends in right whale entanglements.

Exhibit 2-9



An analysis of the gear involved in right and humpback whale entanglements (Johnson et al., 2005) investigated 31 right whale entanglement events in the U.S. and Canada (involving 29 individuals) during the period from 1993 through 2002. This analysis focused only on entanglement events for which gear was recovered and/or identified by gear specialists or other reliable sources, and events in which the point of gear attachment could be determined. Johnson et al. (2005) documented nine right whale entanglement events in which an animal died or was deemed potentially dead. Gear recovered from these entanglements was identified as or consistent with lobster trap/pot in two cases, sink gillnet in one case, Danish seine in one case, and unidentified or unknown in two cases (in these two cases, only rope was recovered).<sup>25</sup> The outcomes of the 29 right whales involved in the 31 entanglement events are summarized in Exhibit 2-10. Three of the four known right whale deaths listed in Exhibit 2-10 are included in Exhibit 2-9.

<sup>25</sup> The other three entanglement cases involved right whale #2212, which is considered potentially dead. (Johnson et al., 2005) Because this whale was involved in three separate documented entanglements, its outcome could not be attributed to any one particular event.

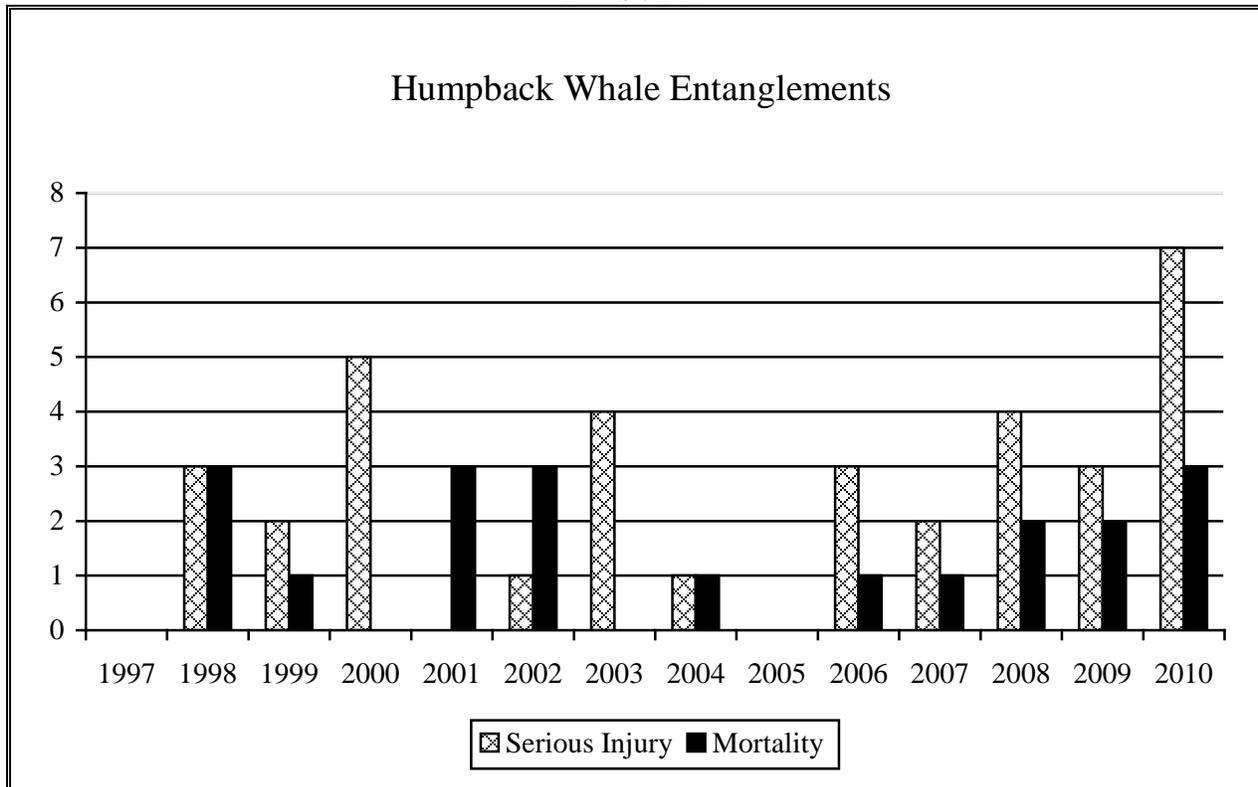
<b>Exhibit 2-10</b>	
<b>OUTCOME OF RIGHT WHALE ENTANGLEMENTS INCLUDED IN GEAR ANALYSIS (1993 THROUGH 2002)</b>	
Dead	4
Potentially dead <sup>1</sup>	5
Alive and gear-free	12
Alive and entangled	6
Unknown	2
<b>TOTAL</b>	<b>29</b>
Note:	
1 "Potentially dead" applies to identified right whales, and is based largely on a New England Aquarium visual assessment of the health of right whales (Pettis et al., 2004).	
Source: Johnson et al. (2005).	

### 2.3.2.3 Humpback Whale Entanglements

For the period 2006 through 2010, an estimated average of 5.8 Gulf of Maine stock humpback whales per year (5.2 in U.S waters; 0.6 in Canadian waters) were seriously injured or killed as a result of incidental fishery interactions (i.e., entanglements) (Waring et al., 2013). In contrast to stock assessment reports before 2007, these averages include humpback mortalities and serious injuries that occurred in the southeastern and Mid-Atlantic states that could not be confirmed as involving members of the Gulf of Maine stock. In past reports, only events involving whales confirmed to be members of the Gulf of Maine stock were counted against PBR. Starting in the 2007 report, it was assumed that whales were from the Gulf of Maine unless they were identified as members of another stock (Waring et al., 2012). A study of entanglement-related scarring on the caudal peduncle of 134 individual humpback whales from the Gulf of Maine stock suggests that between 48 percent and 65 percent of whales had experienced entanglements (Robbins and Mattila, 2001).

Exhibit 2-11 summarizes western North Atlantic humpback whale entanglements from 1997 to 2010. Due to the small sample size and the variability in entanglement reports (because of variation in detection effort), the data do not support conclusions indicating historical trends in humpback whale entanglements.

Exhibit 2-11



An analysis of the gear involved in right and humpback whale entanglements in the U.S. and Canada (Johnson et al., 2005) investigated 30 humpback whale entanglements during the period from 1997 through 2002. This analysis focused only on entanglement events for which gear was recovered and/or identified by gear specialists or other reliable sources, and events in which the point of gear attachment could be determined. Of the three entangled humpback whales known to have died, two of the necropsies revealed entanglements in anchored gillnet gear. The third animal washed up dead two days after it was disentangled from inshore lobster gear. Exhibit 2-12 summarizes the outcomes of the 30 entanglements.

Exhibit 2-12

**OUTCOME OF HUMPBACK WHALE ENTANGLEMENTS  
INCLUDED IN GEAR ANALYSIS  
(1997 THROUGH 2002)**

Dead	3
Alive and gear-free	20
Alive and entangled	5
Unknown	2
<b>TOTAL</b>	<b>30</b>

Note: An outcome of “potentially dead” was not used for humpback whales because a health assessment technique similar to the one for right whales (Pettis et al., 2004) does not exist.

Source: Johnson et al. (2005).

### 2.3.2.4 Fin Whale Entanglements

A review of NMFS records from 2006 through 2010 yielded an average of 2 reported fin whale serious injuries or mortalities per year (1.8 in U.S. waters; 0.2 in Canadian waters) resulting from fishery interactions or entanglements (Waring et al., 2013).

Exhibit 2-13 summarizes fin whale entanglements from 1997 through 2010. No confirmed fishery-related mortalities or serious injuries of fin whales have been reported in the NMFS Sea Sampling database. A review of records of stranded, floating or injured fin whales for the period 2006 through 2010 on file at NMFS found two records with substantial evidence of fishery interactions causing mortality and two records resulting in serious injury, which results in an annual rate of serious injury and mortality of 2 fin whales from fishery interactions (Waring et al., 2013).

**Exhibit 2-13**

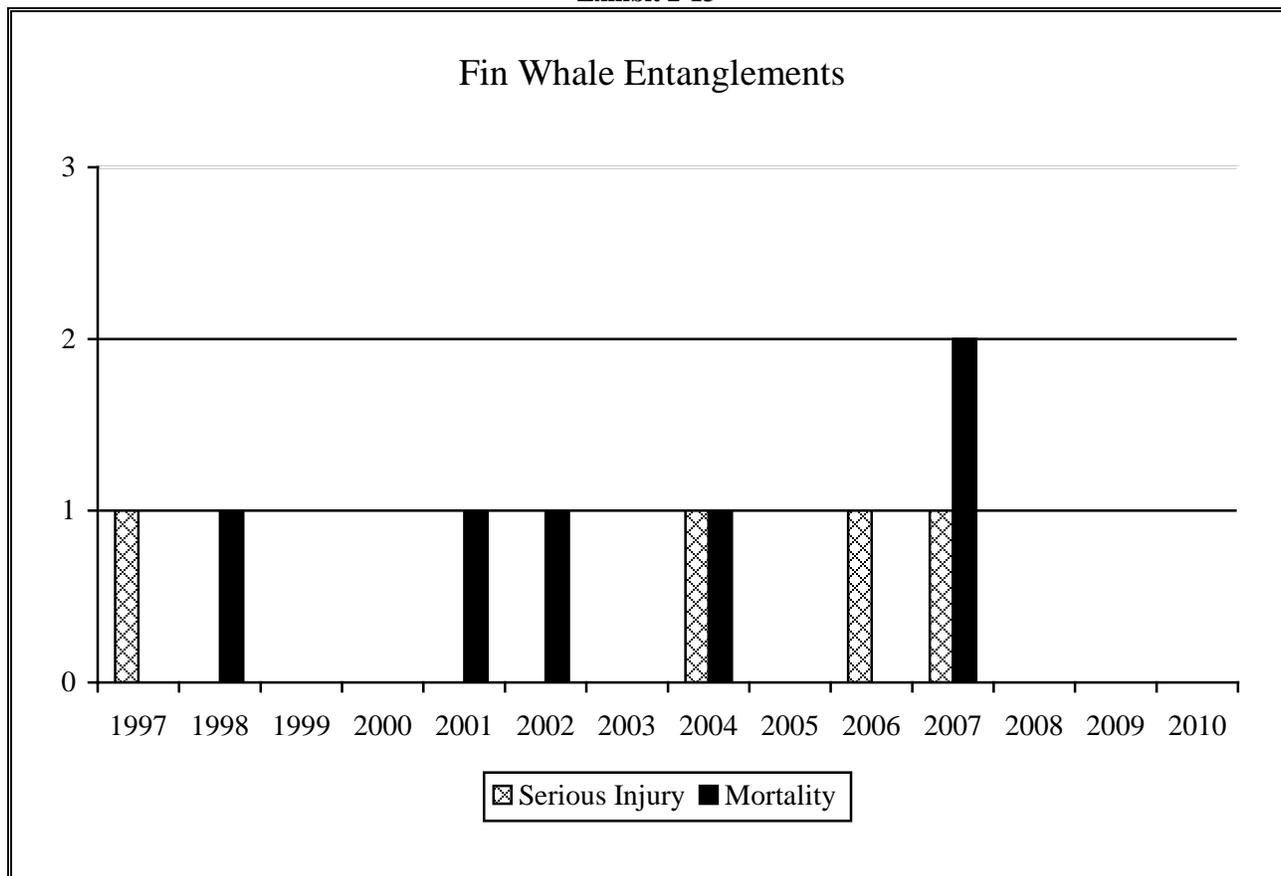


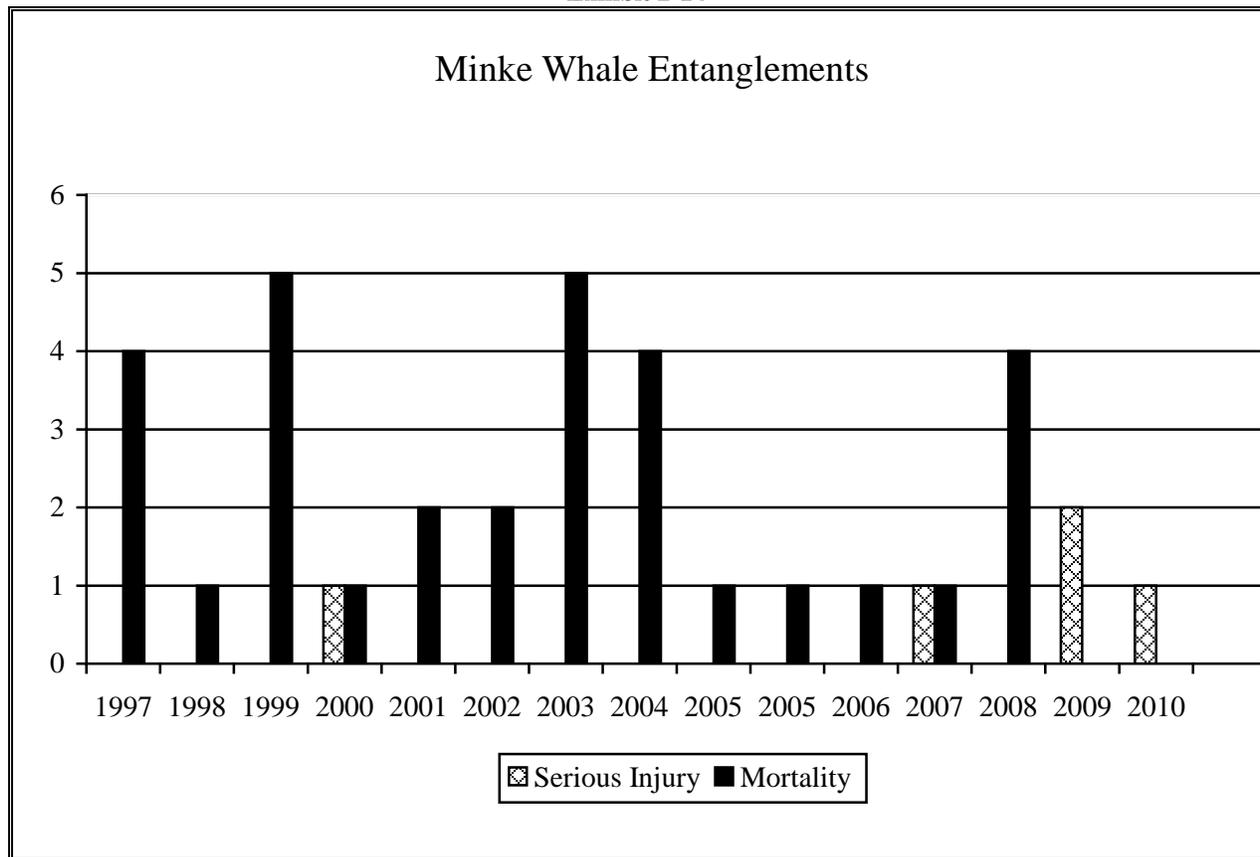
Exhibit 2-13 demonstrates that fin whales are becoming entangled in fishing gear, and may be seriously injured or killed as a result of that entanglement. Due to the small sample size and the variability in entanglement reports (because of differences in detection effort), the data do not support conclusions indicating historical trends in fin whale entanglements.

### 2.3.2.5 Minke Whale Entanglements

It is difficult to associate minke whale entanglements with specific fisheries. Over the period 2006 through 2010, there was an average of 2.6 mortalities and serious injuries from observed in fisheries, 1 per year from U.S. fisheries using stranding and entanglement data and 2 from Canadian fisheries using stranding and entanglement data (Waring et al., 2013). The strandings and entanglement database, maintained by the Northeast Regional Office/NMFS, include 36 records of minke whales within U.S. waters from 1975-1992. The gear includes unspecified fishing nets, unspecified cables or lines, fish traps, weirs, seines, gillnets and lobster gear. The strandings and entanglement database reported 7 minke whale mortalities and serious injuries that were attributed to the Northeast/Mid-Atlantic Lobster Trap Pot fishery during 1990 to 1994.

Exhibit 2-14 summarizes minke whale entanglements from 1997 to 2010. The graph demonstrates that minke whales are becoming entangled in fishing gear, and may be seriously injured or killed as a result of that entanglement. Due to the small sample size and the variability in entanglement reports (because of variation in detection effort), the data do not support conclusions indicating historical trends in minke whale entanglements.

Exhibit 2-14



### 2.3.2.6 Summary of Recent Entanglements: Right, Humpback, Fin, and Minke Whales

Exhibit 2-15 summarizes all known serious injury entanglements of right, humpback, fin, and minke whales from 1997 through 2010, the most recent year that data is available for all species. Humpback whales account for the greatest number of serious injury entanglements (35), followed by right whales (11); minke whales account for five, and fin whales account for four.

Exhibit 2-15

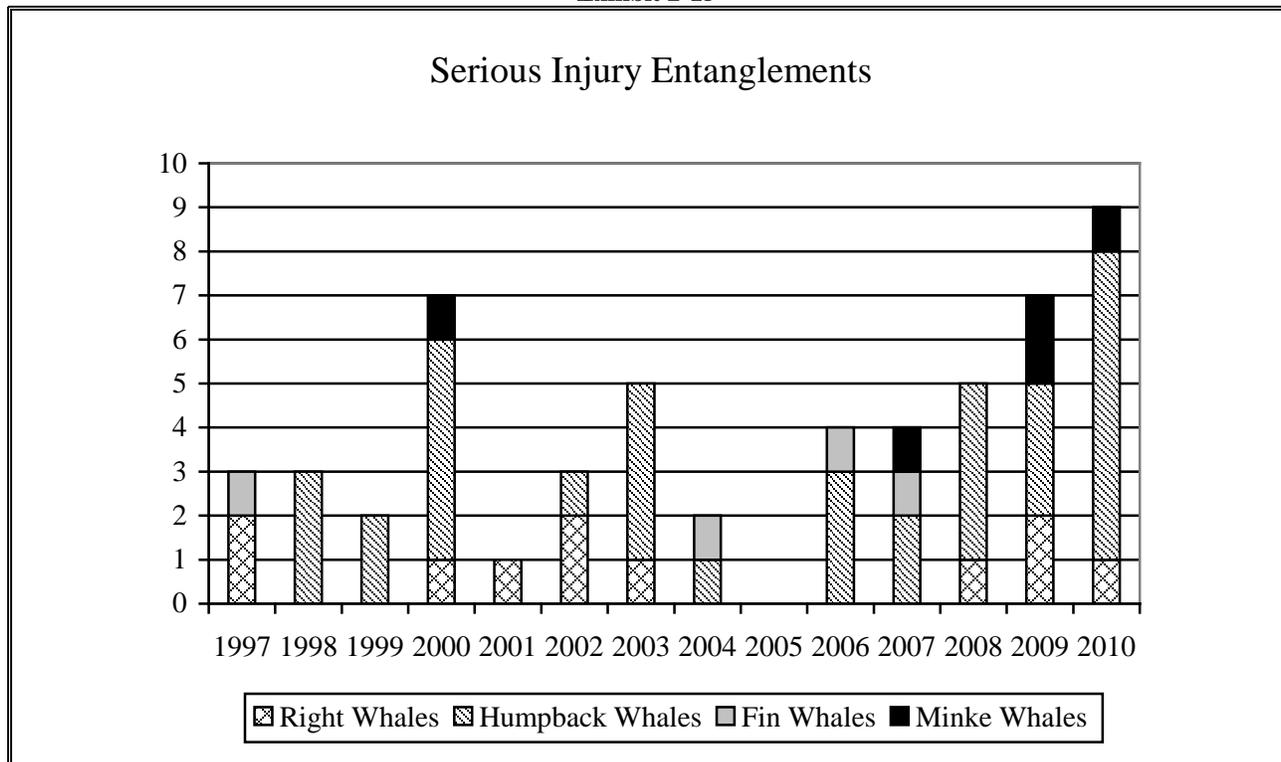


Exhibit 2-16 presents available data on fatal entanglements of Atlantic large whales from 1997 through 2010, the most recent year that data is available for all species. Minke whales account for the most known entanglement mortalities (31), followed by humpback whales (20), then right whales (8) and fin whales account for six.

Exhibit 2-16

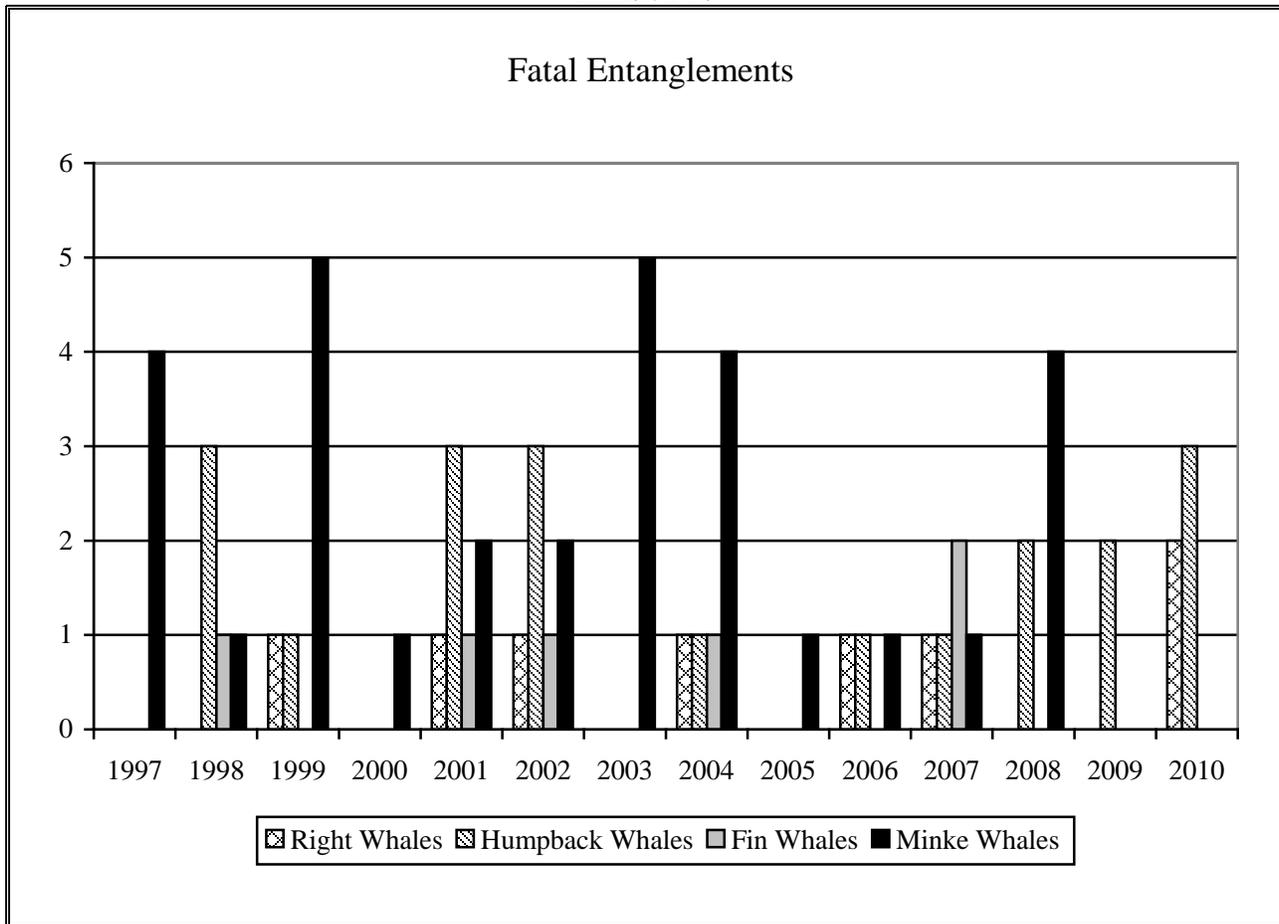


Exhibit 2-17 presents average annual rates of human-caused serious injury and mortality to Atlantic large whales for the period 2006 through 2010 (Waring et al., 2013). For Atlantic large whales, approximately 62 percent (right whales) to 100 percent (humpback whales) of human-caused serious injury and mortality was first reported in U.S. waters. Interactions with fishing gear accounted for about 25 percent (right whales) to 92 percent (minke whales) of the human-caused serious injury and mortality reported in U.S. waters.

<b>Exhibit 2-17</b>				
<b>AVERAGE ANNUAL HUMAN-CAUSED SERIOUS INJURY AND MORTALITY 2006 THROUGH 2010</b>				
	<b>Right Whale</b>	<b>Humpback Whale</b>	<b>Fin Whale</b>	<b>Minke Whale</b>
U.S. and Canadian waters	2.6 whales	5.0 whales	2.6 whales	5.9 whales
U.S. waters only	1.6 whales	5.0 whales	2.0 whales	4.7 whales
U.S. waters only, as a percent of U.S. and Canadian waters	61.5 percent	100 percent	76.9 percent	79.7 percent
Resulting from interactions with fishing gear, U.S. waters only	0.4 whales	3.6 whales	0.6 whales	4.3 whales
Resulting from interactions with fishing gear, as a percent of all human-caused serious injury and mortality, U.S. waters only	25 percent	72 percent	30 percent	91.5 percent
<sup>1</sup> n.a. = Not available. Source: Henry et al. (2011).				

Exhibit 2-17 also shows that for the years 2006 through 2010, the annual average level of human-caused serious injury and mortality from U.S. fisheries interactions for right and humpback whales exceeded the PBR levels shown in Exhibit 2-18.

<b>Exhibit 2-18</b>			
<b>POTENTIAL BIOLOGICAL REMOVAL (PBR) LEVELS</b>			
<b>Right Whale</b>	<b>Humpback Whale</b>	<b>Fin Whale</b>	<b>Minke Whale</b>
0.9 whales	2.7 whales	5.6 whales	162 whales
Source: Waring et al. (2013).			

### 2.3.3 Purpose and Need for Action

The most recent regulations under the current ALWTRP, including the broad based prohibition on floating groundline, became fully effective April 2009. Entanglements first observed after January 1, 2010, may have occurred after most of the recent revisions to the ALWTRP went into effect.<sup>26</sup> Exhibit 2-19 summarizes the data on large whale entanglements observed between January 1, 2010, through December 31, 2011 (the extent of finalized reports as of December 31, 2013). Serious injury and mortality determinations have not been made for these entanglements as of this time.

<sup>26</sup> The whales for which sighting history data are available were not observed free of gear between January 1 and the date that they were reported to be entangled; therefore, these data cannot confirm that the entanglements occurred after the implementation of current ALWTRP requirements. Entanglements first observed after January 1, 2010, may have occurred prior to that date, and thus prior to implementation of the new provisions.

<b>Exhibit 2-19</b>		
<b>Preliminary Entanglement Summary United States and Canadian Waters 2010 and 2011</b>		
	<b>Reports of Individual Animals with Previously Unreported Entanglements</b>	
	<b>2010</b>	<b>2011</b>
<b>Right whale</b>	5	11
<b>Humpback whale</b>	16	21
<b>Fin whale</b>	0	1
<b>Minke whale</b>	3	6
<b>Unknown whale</b>	<b>1</b>	<b>0</b>
<b>TOTAL</b>	<b>25</b>	<b>39</b>
Note: The whales for which sighting history data are available were not observed free of gear between January 1 and the date that they were reported to be entangled; therefore, these data cannot confirm that the entanglements occurred after the implementation of current ALWTRP requirements. Entanglements first observed after January 1, 2010, may have occurred prior to that date, and thus prior to implementation of the new provisions.		

Due to the continuing risk of serious injury and mortality of large whales since the most recent revisions of the ALWTRP have gone into effect, NMFS believes additional modifications to the ALWTRP are needed to meet the goals of the MMPA and the ESA. In addition, as stated previously, the ALWTRP acknowledged in 2003 that there remained risk from both the vertical and groundline components of gear.

The purpose of this action is to further reduce the risk of large whale entanglement in fishing gear and to develop better management programs to aid in this reduction. The most recent rulemaking focused on the groundline, leaving the need, which is to be addressed by this action, to take additional action to further reduce risk from vertical line and to support a better understanding about the nature of entanglements. In accordance with the MMPA, NMFS' goal for each of the three strategic large whale species (right, humpback, and fin) is to reduce incidental mortalities and serious injuries attributable to interactions with commercial fisheries to levels that do not exceed the Potential Biological Removal (PBR) and Zero Mortality Rate Goal (ZMRG) level for each stock. On the basis of the data presented above, NMFS is proposing further modification of the ALWTRP.

In developing proposed changes to the ALWTRP, NMFS has evaluated a number of alternatives. These alternatives seek to reduce the risk of large whale entanglement by measures such as prohibiting the use of vertical lines in certain areas at certain times of the year, reducing or capping the number of vertical lines in certain areas at certain times of the year, mandating certain gear configurations, and requiring gear marking. These changes are designed to address ongoing entanglement issues, especially those involving vertical line. NMFS believes that addressing the risk associated with vertical line by reducing the number of vertical lines,

particularly in areas of higher whale density, will reduce serious injury and mortality of large whales due to incidental entanglement in commercial fishing gear.

An analysis of fishing gear involved in right and humpback whale entanglements confirms that any line rising into the water column presents an entanglement risk to large whales (Johnson et al., 2005). The study includes 45 right and humpback whale entanglement events, reported in both U.S. and Canadian waters, from which gear was recovered and/or identified.

The Johnson et al. (2005) analysis identified four parts of fixed fishing gear that were involved in entanglements: buoy line, groundline, floatline, and surface system lines.<sup>27</sup> Where the part of the gear could be identified for both species combined, 56 percent (14 out of 25) of the animals were entangled in buoy line (seven of each species), 28 percent (seven out of 25) were entangled in groundline (four right and three humpback whales), 16 percent (four out of 25) were entangled in gillnet floatline (all humpback whales), and four percent (one out of 25) were entangled in surface system line (a right whale) (source Johnson et al., 2005).<sup>28</sup> Note that the sum of these percentages exceeds 100 percent because two animals (one of each species) were entangled in both buoy line and groundline, making it difficult to determine which part of the gear the whales encountered first.<sup>29</sup> It is important to note that when considering the above analysis, although portions of the gear (e.g., buoy line and groundline) were identified, without documentation of the events leading up to the entanglement, it is difficult to compare the relative risks associated with different parts of the gear. The reasons for this are elaborated below.

A large whale entanglement that is reported by an observer may not fully reflect the history of the entanglement (i.e., the exact point of contact and where the gear was located on the animal immediately after it became entangled, what part of the gear was involved, and whether any gear was shed by the whale prior to reporting). Scarring data for both right and humpback whales indicate that in many cases, these animals become briefly entangled in line or another part of the gear, which leaves minor scars. When a large whale encounters gear, it is often

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<sup>27</sup> Buoy line connects the gear at the bottom to the surface system. Groundline in trap/pot gear connects traps/pots to each other to form trawls; in gillnet gear, groundline connects a gillnet or gillnet bridle to an anchor or buoy line. Floatline is the portion of gillnet gear from which the mesh portion of the net is hung. The surface system includes buoys and high-flyers, as well as the lines that connect these components to the buoy line.

<sup>28</sup> NMFS gear experts rely on a variety of factors to help them identify the components of gear involved in an entanglement, including the presence of traps/pots, nets, buoys, and gangions (i.e., rope that attaches traps/pots to the groundline), as well as occasional interviews with gear owners. Interviews provide important information about where, when, and how the gear was set and possibly when the gear was lost. NMFS gear experts may also rely on high-quality photographic documentation of the entanglement.

<sup>29</sup> The trap/pot gear that entangled the humpback whale consisted of floating groundline as well as buoy line made of both floating and sinking line spliced together. The NMFS gear research team reports that the majority of lobster trap/pot and gillnet fishermen use buoy line that consists of two-thirds sinking line and one-third floating line; the floating line is located at the lower end of the buoy line to prevent chafing on the seafloor. This humpback whale's entanglement involved gear originating from the mouth, and the whale may have encountered either the buoy line or the groundline first. Without documentation of the events that led to the entanglement, it is impossible to determine where the whale encountered the gear and whether other body parts may have been involved before the entanglement was reported. The composition of the buoy line and groundline involved in the entanglement of the right whale was not determined; however, the gear involved was identified as crab trap/pot gear. This whale's entanglement involved the tail. As two gear components were involved, it is difficult to determine which part of the gear the whale encountered first or whether other body parts were involved before the entanglement was reported.

powerful enough to carry large amounts of the gear away with it (Clapham et al., 2001) and any gear that trails from a whale has the potential to become caught on other gear. If this occurs before the whale is reported entangled, it is extremely difficult to determine which part of the gear the whale encountered first. Entangling gear can also shift positions on a whale, further complicating an effective analysis of the nature of the entanglement. In some cases, not all entangling gear can be removed from an animal during disentanglement. In others, large whales may shed some of the gear involved before the entanglement is reported.

Based on the above information, NMFS believes that all parts of fixed gear create entanglement risk because all have been identified as entangling large whales. However, at this time, determining which part of fixed gear creates the most entanglement risk for large whales is difficult due to the uncertainties associated with entanglements, as well as unknown biases associated with reporting effort and the lack of information about the types and amounts of gear being used (Johnson et al., 2005). For example, buoy line may be reported more frequently at sea than groundline, since it is easier to recognize when a buoy or high-flyer is present. Groundline, on the other hand, does not have a distinguishing characteristic that would allow it to be identified without removing it from an entangled animal and analyzing it (Johnson et al., 2005). Therefore, vertical line (buoy and surface system line) may only seem to create more of an entanglement risk than ground line, when in fact it is difficult to quantify and compare the risks associated with each part of the gear. In some cases, it is still impossible to determine the gear part even when the gear is recovered and/or identified.<sup>30</sup> Despite gear recovery and/or identification, 44 percent (20 out of the total 45) of the right and humpback whale entanglement events analyzed involved an unknown part of the gear (source Johnson et al., 2005). Currently, the only definitive way to assess the nature of entanglements is through gear removal, as it is difficult to identify a line's origin through photographs alone (Johnson et al., 2005). However, all of the caveats noted above must be considered when gear has been recovered and an assessment is in progress.

A better scientific understanding about the nature of entanglements, specifically the gear components involved (e.g., buoy line), would help NMFS to develop better management programs and reduce the risk of serious injury and mortality of large whales due to incidental interactions with commercial fisheries. Therefore, NMFS is also proposing to expand gear marking requirements for fisheries that are subject to ALWTRP regulations. This information may provide valuable insight concerning where, when, and how the entangling gear was set.

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<sup>30</sup> The NMFS gear research team usually identifies groundline based on the presence of a trap/pot and/or other factors, such as the presence of gangions that are spaced at intervals that would suggest that the line is groundline.

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**Appendix 2-A**

**WATERS CURRENTLY EXEMPTED FROM ALWTRP**

**ALWTRP regulations apply to all U.S. waters in the Atlantic except for the areas described below (and on the pages to follow).**

**Exempted Waters:**

- Regulations do not apply to waters landward of the 72 COLREGS lines in ALWTRP-managed waters from **Maine through Florida**, with the exception of the COLREGS lines for Casco Bay (**Maine**), Portsmouth Harbor (**New Hampshire**), Gardiners Bay and Long Island Sound (**New York**), and the state of **Massachusetts**;
- Regulations do not apply to waters landward of the first bridge over any embayment, harbor, or inlet in **Massachusetts**.

**Other Exempted Waters:**

- Regulations do not apply to waters of **New Hampshire** landward of the following line:
  - » A line from 42°53.691' N. lat., 70°48.516' W. long. to 42°53.516' N. lat., 70°48.748' W. long. (Hampton Harbor).
  - » A line from 42°59.986' N. lat., 70°44.654' W. long. to 42°59.956' N., 70°44.737' W. long. (Rye Harbor).
- Regulations do not apply to waters of **Rhode Island** landward of the following line:
  - » A line from 41°22.441' N. lat., 71°30.781' W. long. to 41°22.447' N lat., 71°30.893' W. long. (Pt. Judith Pond Inlet).
  - » A line from 41°21.310' N. lat., 71°38.300' W. long. to 41°21.300' N. lat., 71°38.330' W. long. (Ninigret Pond Inlet).
  - » A line from 41°19.875' N. lat., 71°43.061' W. long. to 41°19.879' N. lat., 71°43.115' W. long. (Quonochontaug Pond Inlet).
  - » A line from 41°19.660' N. lat., 71°45.750' W. long. to 41°19.660' N. lat., 71°45.780' W. long. (Weekapaug Pond Inlet).
- Regulations do not apply to waters of New York landward of the following line:
  - » A line that follows the territorial sea baseline through Block Island Sound (Watch Hill Point, RI, to Montauk Point, NY).
- Regulations do not apply to waters of South Carolina landward of the following line:
  - » A line from 32°34.717' N. lat., 80°08.565' W. long. to 32°34.686' N. lat., 80°08.642' W. long. (Captain Sams Inlet).

**Gear Modification Exemptions >280fa:**

- Fisheries are exempt from the requirement to have groundlines composed of sinking line if their groundline is at a depth equal to or greater than 280 fathoms (1,680 ft; 512.1m).
- Anchored gillnet fisheries are exempt from the requirement to install weak links in netpanel(s) and to anchor each end of the net string if the float line is at a depth equal to or greater than 280 fathoms (1,680 ft; 512.1m).

**Exhibit 2-A1: EXEMPTION LINES FOR COASTAL WATERS OF RI, CT, AND NY**

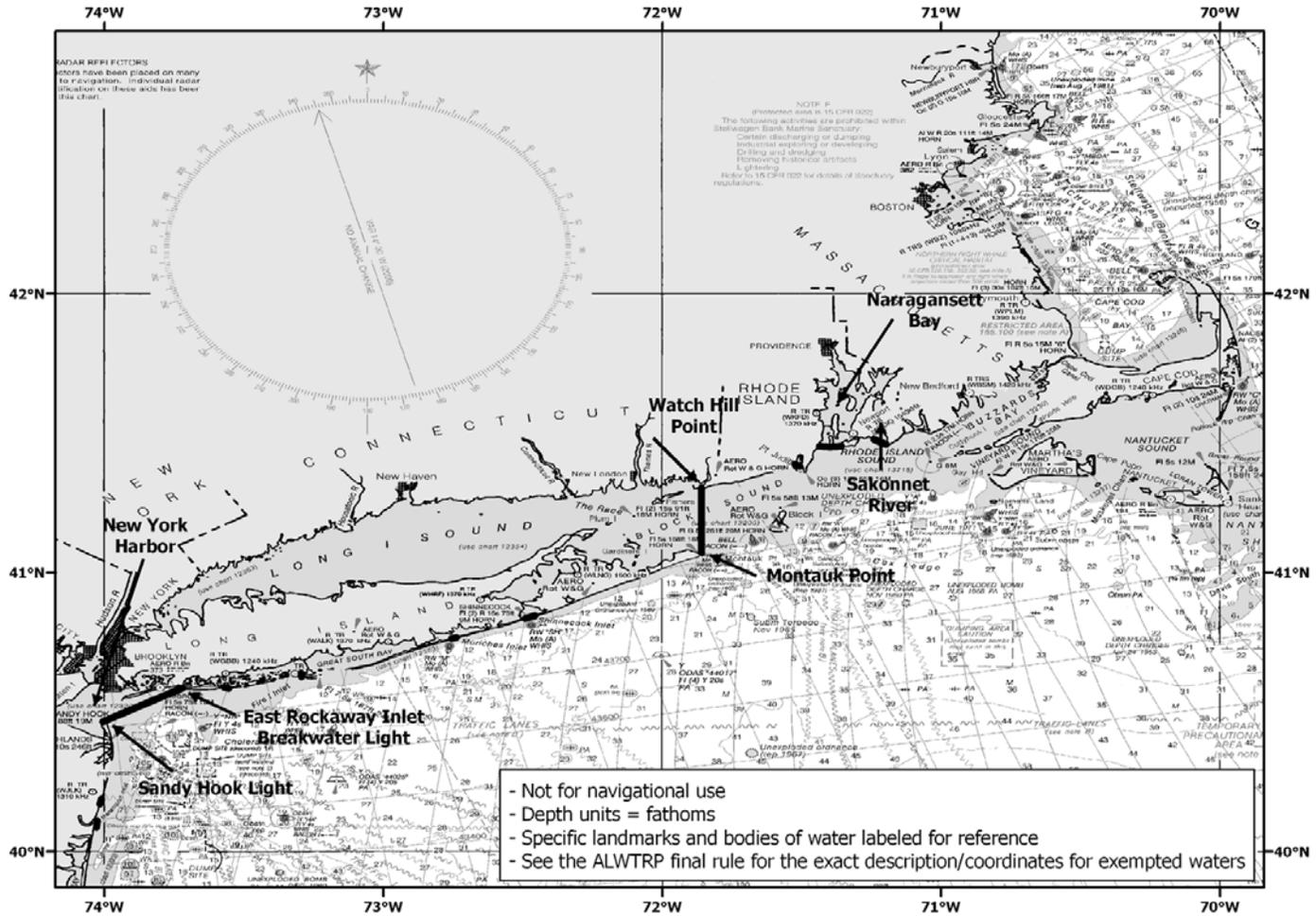


Exhibit 2A-2: EXEMPTION LINES FOR ME

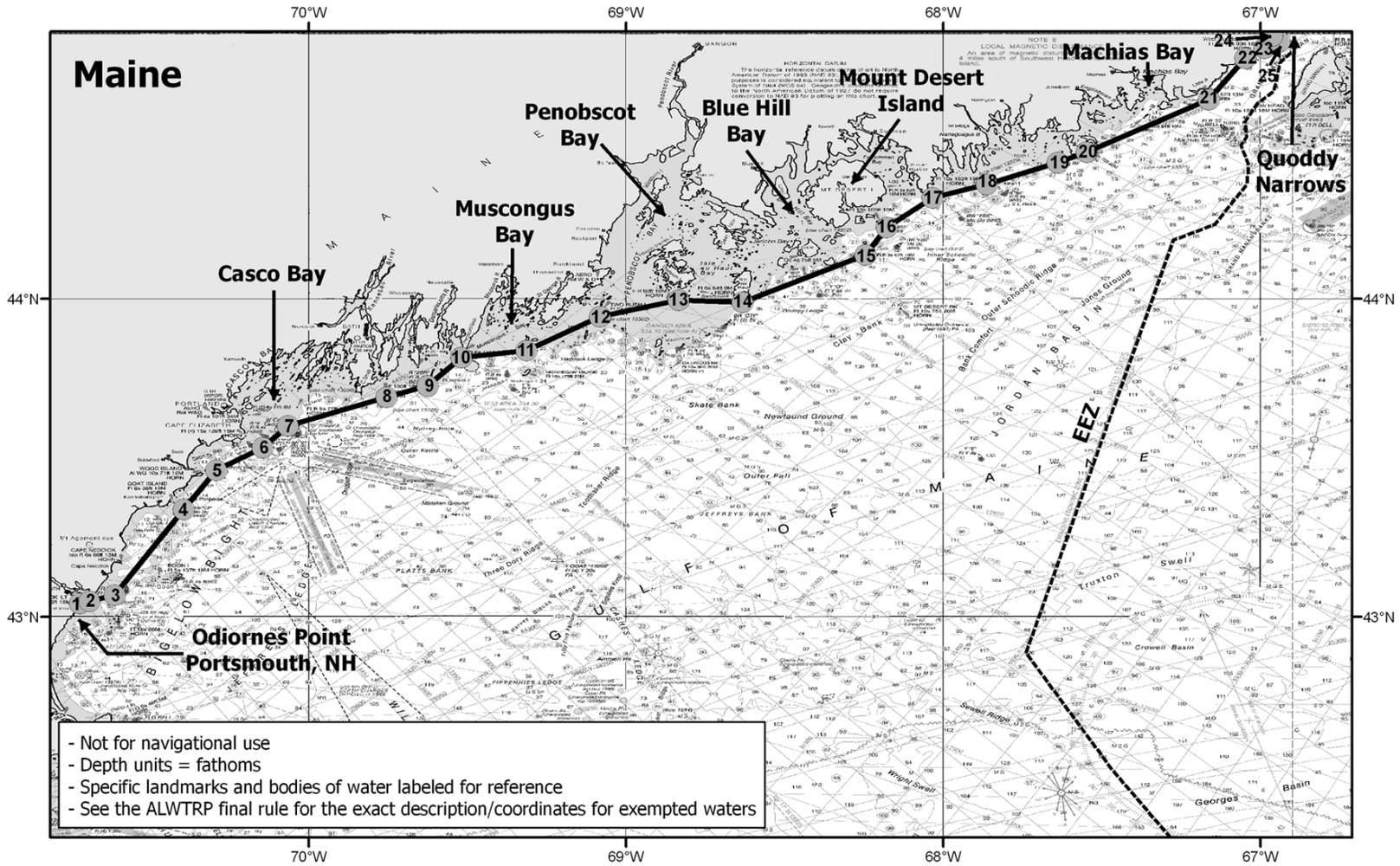


Exhibit 2A-3: EXEMPTION LINE FOR CHESAPEAKE BAY

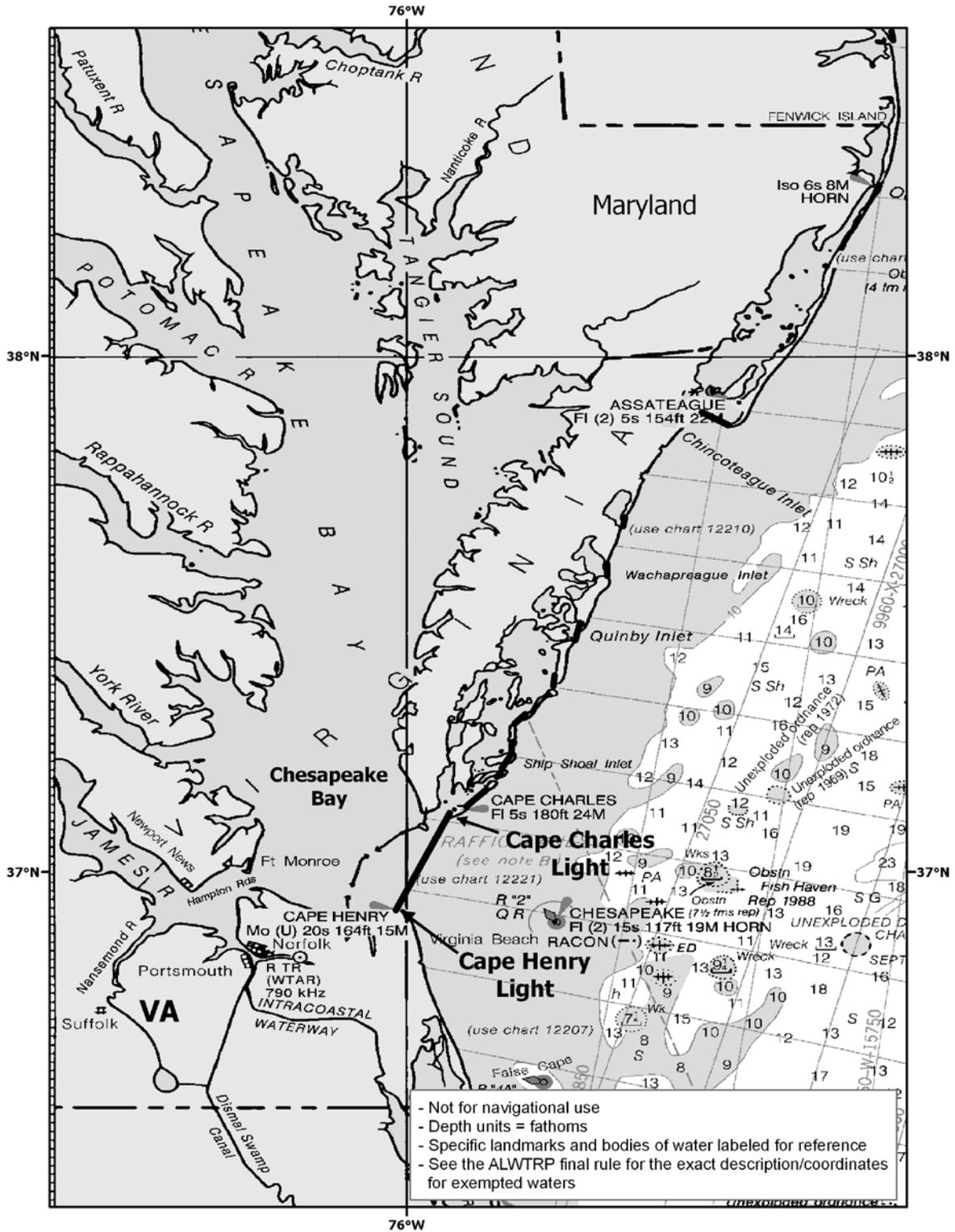


Exhibit 2A-4: EXEMPTION LINE FOR DELAWARE BAY

