

**DEVELOPING CONSERVATION MEASURES INTENDED TO REDUCE THE RISK
OF SERIOUS INJURY AND MORTALITY OF LARGE WHALES DUE TO
ENTANGLEMENT IN VERTICAL LINES**

ATLANTIC LARGE WHALE TAKE REDUCTION PLAN

SCOPING DOCUMENT

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Regional Office
55 Great Republic Drive
Gloucester, MA 01930
(Contact: Kate Swails, Kate.Swails@noaa.gov, 978-282-8481)

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
NOAA Fisheries Service
2382 Sadler Road
Fernandina Beach, Florida 32034
(Contact: Barb Zoodsma, Barb.Zoodsma@noaa.gov, 904-321-2806)

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PURPOSE

NOAA's National Marine Fisheries Service (NMFS) intends to expand large whale conservation efforts by amending regulations that implement the Atlantic Large Whale Take Reduction Plan (ALWTRP). As part of that process, NMFS is developing an Environmental Impact Statement (EIS).

The purpose of holding scoping meetings is to involve the public in developing ideas to reduce the risk of serious injury or mortality of large whales that interact with vertical lines (buoy lines) from commercial trap/pot and gillnet fishing gear. The feedback from the scoping meetings informs development of the EIS.

BACKGROUND

Since its implementation in 1997, the ALWTRP has been modified on several occasions to reduce the risk of serious injury and mortality of large whales that interact with commercial trap/pot and gillnet fishing gear. The ALWTRP consists of both regulatory and non-regulatory programs including: broad-based gear modifications, time-area closures, disentanglement, research and outreach. However, despite these efforts there have been continued serious injuries and mortalities of large whales from entanglements in vertical lines from commercial trap/pot and gillnet fishing gear. Therefore, additional modifications to the ALWTRP are needed.

At the 2003 Atlantic Large Whale Take Reduction Team (ALWTRT) meeting, by consensus, the ALWTRT agreed to two overarching principles associated with reducing large whale entanglement risks: reducing entanglement risks associated with groundlines (lines between trap/pots) in commercial trap/pot gear; and reducing entanglement risks associated with vertical lines (endlines or buoy lines) in commercial trap/pot and gillnet gear. NMFS addressed the first principle; reducing entanglement risk from groundlines in October 2007 with the implementation of a sinking groundline requirement for all trap/pot fisheries throughout the entire East coast (72 FR 57104, October 5, 2007). NMFS is addressing the second principle, reducing entanglement risks associated with vertical lines in commercial trap/pot and gillnet gear, in this current process.

In 2009, the ALWTRT agreed on a schedule to develop conservation measures for reducing the risk of serious injury and mortality of large whales that become entangled in vertical lines. As provided in the schedule, NMFS committed to publishing a final rule to address vertical line entanglement by 2014. Unlike the broad-scale management approach taken to address entanglement risks associated with groundlines, the approach for the vertical line rulemaking will focus on reducing the risk of vertical line entanglements in finer-scale high impact areas.

Using fishing gear characterization data and whale sightings per unit effort (SPUE) data, NMFS developed a model to determine the co-occurrence of fishing gear density and whale density to serve as a guide in the identification of these high risk areas.

NMFS convened a meeting of the ALWTRT's Northeast Subgroup and the Mid-Atlantic/Southeast Subgroup in November 2010 and April 2011, respectively. The subgroups

reviewed the co-occurrence model and discussed its implications toward the overall vertical line management strategy. The ALWTRT agreed that NMFS should use the model to develop suites of conservation measures that would ultimately serve as options for the ALWTRT to consider when identifying management alternatives for the EIS. The conservation measures would address vertical line fishery interactions with large whales by reducing the potential for entanglements and minimizing adverse effects if entanglements occur.

STATUTORY AND REGULATORY REQUIREMENTS FOR PROTECTION OF LARGE WHALES

The overarching statutory and regulatory requirements that serve as the framework for affording protection to large whale species managed by the ALWTRP is the Endangered Species Act, Marine Mammal Protection Act, and the National Environmental Policy Act. North Atlantic right whales, humpback whales, and fin whales are managed under the ALWTRP.

Endangered Species Act (ESA). North Atlantic right whales, humpback whales, and fin whales are listed as “endangered” under the ESA.

The ESA prohibits anyone from harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting or attempting to engage in any such conduct to any listed species within the territorial sea of the U.S.

Section 7 of the ESA ensures that any Federal action does not jeopardize the continued existence of any endangered species. NMFS conducts consultations on Federal actions that may affect endangered or threatened species. The consultation process is made up of two components:

- Informal consultation with NMFS assists the Federal agency in determining whether their action may adversely affect a species listed under the ESA.
- If NMFS finds the Federal agency’s action may adversely affect a listed species or critical habitat, Formal Consultation is required. This process results in the preparation of a “biological opinion” (BO). If the BO shows that the species will be jeopardized by the proposed action then a “reasonable and prudent alternative” (RPA) is identified in order to avoid jeopardy.

Since NMFS authorizes fishing under a number of federal fishery management plans (FMPs), the agency is required to consult under section 7 of the ESA to ensure that these actions do not jeopardize the continued existence of a listed species or destroy or adversely modify a listed species’ critical habitat

The most recent BO for the American lobster, monkfish, Atlantic bluefish, Atlantic mackerel/squid/butterfish, spiny dogfish, Northeast multispecies, Northeast skate complex, and

the summer flounder/scup/black sea bass fisheries concluded that the fisheries are not likely to jeopardize the continued existence of the western north Atlantic right whale, humpback whale or fin whale if, in part, the proposed action assures a vertical line proposed rule in 2013 and a vertical line final rule in 2014.

Marine Mammal Protection Act (MMPA). North Atlantic right whales, humpback whales, and fin whales are also protected under the MMPA.

The MMPA requires NMFS to develop and implement Take Reduction Plans, which are designed to assist in the recovery of certain marine mammal stocks that are incidentally taken in commercial fisheries. Specifically, the MMPA requires that these Plans reduce serious injury and incidental mortality (SI&M) of each marine mammal stock to below a stock's Potential Biological Removal (PBR) level. The PBR level is the maximum number of animals that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (does not include natural mortalities). These Plans must meet the following goals:

- The Immediate Goal is to reduce (within 6 months of implementation) the SI&M of marine mammals to levels less than the PBR level for each marine mammal stock that interacts with a given fishery.
- The Long Term Goal is to reduce (within 5 years of implementation) the incidental mortality and serious injury of marine mammals to insignificant levels approaching a zero mortality and serious injury rate (commonly referred to as "ZMRG"). NMFS has defined "insignificant levels" as 10% of a marine mammal stock's PBR level.

National Environmental Policy Act (NEPA). NEPA requires Federal agencies to consider the environmental impacts (positive and negative) of their major proposed actions and through the development of reasonable alternatives to those actions. To comply with NEPA, Federal agencies must prepare a detailed statement on the environmental impacts of any major Federal action significantly affecting the quality of the human environment. This detailed statement is known as an EIS. However, an EIS is not always necessary. Under certain circumstances, the Federal agency may prepare a less comprehensive analysis, such as an Environmental Assessment. A more detailed description of NEPA and the NEPA process is attached.

NMFS will prepare an EIS to evaluate the environmental effects of implementing further conservation measures to reduce the risk of serious injury and mortality of large whales that become entangled in the vertical lines of trap/pot and gillnet fishing gear.

WHY SHOULD NMFS TAKE ACTION?

NMFS is not achieving its conservation objectives under the ESA and the MMPA. Specifically, entanglements are still occurring and mortality and serious injury exceeds PBR for both right and humpback whales. For right whales SI&M is currently 0.8 and the PBR is 0.7; for humpback whales the SI&M is currently 3.0 and the PBR is 1.1 (Waring et al. 2010).

- Preliminary Entanglements documented in 2010 and 2011

2010

- 25 new confirmed entanglements
 - 5 right whales
 - 15 humpback whales
 - 4 minke whales
 - 1 unknown
- 8 whales have been disentangled completely or partially (with what is believed to be non-life threatening gear remaining)
 - 2 right whales (1 later died)
 - 3 humpback whales
 - 3 minke whales

2011

- 15 new confirmed entanglements (as of June 9, 2011)
 - 8 right whales (4 non-life threatening; 1 dead)
 - 6 humpback whales
 - 1 minke whale (dead)

At its 2009 meeting, the ALWTRT agreed on a schedule to develop conservation measures intended to reduce the risk of serious injury and mortality of large whales that become entangled in vertical lines. ALWTRT has committed to addressing entanglement risks associated with endlines by finalizing regulations in 2014.

VERTICAL LINE RULE TIMELINE

2010

- Develop co-occurrence model to be used in considering strategies for reducing risk of vertical line entanglement to large whales

2011

- Scoping meetings during summer months
 - July and August
 - NMFS seeks stakeholder input
- Stakeholders work on Proposals (due September 30, 2011)

- Management approaches and options to be considered in proposals that would reduce the risk of endlines.

2012

- Full ALWTRT Meeting (January)
 - Review stakeholder proposals
 - Review draft ALWTRP Monitoring Plan
- Analyze alternatives proposed by ALWTRT through development of an EIS.
- Draft proposed rule will be developed based on alternatives presented by the ALWTRT. At this point, no additional data will be entered in the co-occurrence model for consideration.

2013

- Issue Draft EIS
- Publish Proposed Rule to address vertical line entanglements.
- After the Proposed Rule has been published and the Draft EIS released, NMFS will hold a series of public hearings and receive feedback or take questions about the content of the rule and EIS.

2014

- Issue Final EIS
- Publish Final Rule to address vertical line entanglements

MODEL OVERVIEW

To address entanglement risk associated with vertical lines, NMFS developed a co-occurrence model. The model combines effort corrected whale sightings data (SPUE) and fishing gear characterization data to identify areas where the two overlap. This approach will help NMFS develop a management scheme focused on smaller high-priority areas rather than a generic coast wide-scale broad approach.

The SPUE data include data from NMFS surveys as well as data from the North Atlantic Right Whale Consortium database. The gear characterization data include data from state logbooks, state gear characterization surveys, vessel trip report forms, and observer data sheets.

The type of information gathered from industry includes:

- Total number of traps fished
- Total number of end lines
- Configuration of gear
- Areas fished (Exempt, Non-Exempt, and Federal)
- Time of year (Months)
- Zones

The data from the model were presented at the 2010 and 2011 ALWTRT subgroup meetings. Using the model's output you can choose to manage by where the vertical lines are, where the whales are, or a combination of both (co-occurrence). The ALWTRT generally agreed, with some minor variations by region, to use the co-occurrence layer to develop the vertical line strategy, more specifically the right whale/humpback whale co-occurrence layer (See attachments).

During the subgroup meetings the ALWTRT requested that NMFS allow stakeholders to submit proposals outlining vertical line risk reduction strategies tailored to specific areas and fisheries. This approach would avoid broad-based management and move towards finer scale management. The proposals would be submitted for review by NMFS and the ALWTRT at the next meeting in January 2012. Acceptable proposals must include the following criteria (See attachment):

- Description of the area and fisheries affected
- Description of management approach
- Description of monitoring plan
- Description of enforcement plan

The proposed management action can be incorporated into the model to see the corresponding reduction of vertical lines as a result of the action.

HOW CAN I HELP?

NMFS wants public input on viable modifications to fishing practices that will reduce the risk of entanglements in vertical line. Options may consist of reduction in the number of endlines, gear modifications, changes in fishing seasons and trawling up gear (e.g., increasing the number of traps per trawl to reduce the number of endlines). At this point there is no specific number of lines or percentage of lines targeted for reductions. NMFS will present the information gained through the scoping process at the January 2012 ALWTRT meeting. Interested stakeholder groups are encouraged to submit their own vertical line risk reduction proposals for consideration by the ALWTRT and NMFS (see attachment).

NMFS is looking for answers to the following questions:

- 1) Where to manage?
- 2) When to manage?
- 3) How to manage?
- 4) How can the current gear marking strategy improve?
- 5) How can gear characterization reporting improve?

Where to manage?

Using the right whale and humpback co-occurrence layer of the model (see attached) you can identify areas of highest co-occurrence between whales and fishing gear. Should the management areas only include the highest scores of co-occurrence from the model, or should they include medium to low scored areas as well? The management areas could be small areas on a fine scale or larger areas on a more broad scale or a combination of both.

When to manage?

Should the management measures be seasonal or year-round?

How to manage?

What type of management measure should NMFS implement in the chosen areas? (e.g., a cap on endlines, a closure, trawling up)? What is feasible from an implementation, monitoring, and enforcement standpoint?

The risk of entanglement can be reduced by reducing the number of vertical lines in the water, reducing the risk of the line, or a combination of both. Is there a gear modification that is available for widespread use that would reduce the risk of the line?

How can the current gear marking strategy improve?

NMFS feels that the current gear marking strategy (implemented in 1997) is inadequate and should be improved. From 1997-2008 there were 364 large whale entanglement events. Gear was retrieved in 129 of these cases; of the cases where gear retrieved gear marking lead to 36 cases where fishery, location, and date were known. A stronger gear marking strategy would help answer questions such as when and where entanglements occur. Current regulations require one 4" colored mark midway along the buoy line and surface buoys need to identify the vessel or fishery. Colors correspond to specific ALWTRP management areas. Suggestions have been made to have more frequent marks along the line and move to a state by state scheme rather than by area. Radio Frequency ID tags are being tested as a method of identifying the origin of fishing lines found on whales. While the technology is available, the cost is potentially high and the functionality is not certain. NMFS hopes to continue testing other ideas to increase the ability to assess entanglements and reduce the scope of "penalty" to the areas involved. How many marks should be placed on the buoy line? How far apart should the marks be? Should the marks be specified by fishery, region, state, or a combination? Are there other techniques for identifying the origin of line other than 4" marks?

How can gear characterization reporting improve?

NMFS will continue to work with its state partners to strengthen the quality and consistency of the effort and vertical line data incorporated into the co-occurrence model. Survey data will also be used to evaluate the effectiveness of the ALWTRP. Is there a feasible way to reduce the burden of surveys and still collect the information necessary to evaluate and monitor the ALWTRP?

CONCLUSION

NMFS is committed to obtaining the best scientific information available, including working directly with stakeholders to develop viable options that will work for fishermen and meet the requirements put forth under the Endangered Species and Marine Mammal Protection acts.

How do I comment?

1. Provide verbal comments at one of the scoping meetings in your area.
2. Provide written comments via-
 - a. fax: (978) 281-9394; or
 - b. mail to:
Mary Colligan, Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
Attn: ALWTRP Scoping
 - c. email: ALWTRPScoping.Comments@noaa.gov
3. Comments are due by **September 12, 2011**.

How do I submit a vertical line risk reduction proposal?

1. Follow the attached proposal guidelines.
2. Submit your proposal via-
 - a. fax: (978) 281-9394; or
 - b. mail:
Kate Swails
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
 - c. email: Kate.Swails@noaa.gov
3. Proposals are due by **September 30, 2011**

LIST OF REFERENCES

Waring GT, Josephson E, Maze-Foley K, Rosel, PE, editors. 2010. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2011. NOAA Tech Memo NMFS NE 219; 598 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at <http://www.nefsc.noaa.gov/nefsc/publications/>

ATTACHMENTS

1. National Environmental Policy Act (NEPA) Informational Sheet
2. Co-occurrence model charts
 - a. Northeast Region
 - b. Mid-Atlantic Region
 - c. Southeast Region
3. Vertical Line Risk Reduction Proposal Criteria