



MARINE MAMMAL COMMISSION

12 September 2011

Ms. Mary Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

Re: Comments on ALWTRP Scoping

Dear Ms. Colligan:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's *Federal Register* notice (76 Fed. Reg. 34654) announcing its intent to prepare an environmental impact statement for the Atlantic Large Whale Take Reduction Plan. The purpose of the plan is to reduce entanglement of large whales in vertical lines associated with fishing along the Atlantic coast. In response, the Commission offers the following recommendations and comments.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service—

- consult with whale biologists on the Atlantic Large Whale Take Reduction Team to estimate occurrence rates greater than zero for right, humpback, and fin whales within 20 miles of the Maine coast and use those rates in the co-occurrence model to estimate the extent to which vertical lines in those waters contribute to overall entanglement risks for each species;
- give greater weight to the protection of right whales than humpback whales when developing proposed mitigation measures because the right whale population has far less ability to sustain fishery-related deaths and serious injuries;
- analyze in the draft environmental impact statement alternatives for establishing large management areas off the New England coast including (1) the majority of the southern Gulf of Maine from January through July, (2) the majority of the offshore central Gulf of Maine from October through February, and (3) the small area off northeastern Maine near the edge of U.S. jurisdiction and the Bay of Fundy right whale feeding area from August through September;
- analyze in the draft environmental impact statement a suite of restrictions that could be imposed in seasonal management areas including closures to any fishing gear with vertical buoy lines, caps on the numbers of endlines, a limit of one endline per trap, a minimum number of traps per endline, and a requirement to tend all deployed gillnets with no nets left in the water when vessels return to port;
- analyze in the draft environmental impact statement amendments to the Atlantic Large Whale Take Reduction Plan that would allow for the immediate implementation of additional take reduction measures if documented serious injury and mortality levels for right

- whales or humpback whales exceed their potential biological removal levels for two consecutive years;
- analyze in the draft environmental impact statement requirements that (1) all trap and gillnet fishermen in state and federal waters record and report in a consistent manner data on the location and number of endlines deployed and the number of traps or nets fished per set and per month, and (2) those data are compiled and analyzed in timely fashion; and
 - include in the draft environmental impact statement options for new gear marking requirements to better identify the fisheries, fishing areas, and gear components involved in large whale entanglements.

RATIONALE

The co-occurrence model

The Atlantic Large Whale Take Reduction Team has recommended that the Service use a co-occurrence model to determine when and where to implement measures to reduce whale entanglements in vertical lines. The model estimates risk based on densities of both whales and vertical lines on a monthly basis for U.S. waters from the Canadian border to Florida. Whale density data are from the North Atlantic Right Whale Consortium's sightings database, which includes effort-corrected sighting data from aerial and shipboard surveys between the 1970s and 2009 for right whales, humpback whales, and fin whales. Vertical line densities are derived from various federal and state sources with monthly data on the location, number, and configuration of traps and gillnets in 2008 (i.e., the year with the most complete data).

The model calculates entanglement risks for individual ocean blocks (usually 10-minute by 10-minute cells) as a function of whale sightings per unit of effort and vertical line densities. The risks can be calculated for each species separately, for right whales and humpback whales combined, and for all three species together. The model provides a mechanism for estimating the overall reduction in risk based on the presumed effectiveness of a proposed measure and the area over which it would be implemented. The Marine Mammal Commission supports this conceptual approach, which was the basis for past Commission recommendations to close all right whale critical habitat to potentially hazardous fishing gear during seasons in which the whales are most abundant.

Preliminary results of the co-occurrence model have been provided to the take reduction team and some of those results were included as background materials for this scoping process. Although the Commission fully supports the use of the co-occurrence model, it believes that total entanglement risks for right whales and other large whales may be significantly underestimated for certain areas where few or no surveys have been conducted. This is of most concern for state and adjoining federal waters off Maine where vertical line densities are orders of magnitude greater than almost any other area in U.S. waters owing to the deployment of several million lobster traps. The Service and its state counterparts have conducted few or no surveys in much of that area and the surveys that have been conducted generally have not detected whales. As a result, the entanglement risks for most blocks near the Maine shore are estimated to be zero.

However, the Commission (1) questions whether the few surveys that have been conducted are sufficient to assess the real occurrence of whales in those areas, and (2) is therefore concerned that the Service's model is producing a negatively biased estimate of entanglement risk. In fact, data from opportunistic sightings, gear removed from entangled whales, and other data sources clearly indicate that right whales, humpback whales, and fin whales occur and become entangled in fishing gear at least occasionally in nearshore Maine state waters. For example, the take reduction team was advised that between 1997 and 2009 fishing gear with fishing license information was removed from nine right whales that made it possible to trace the gear back to the location where it had been set and where the whales presumably encountered it. Of those, a third (i.e., 3 of 9) involved lobster fishermen working in nearshore Maine waters. Thus, at least occasionally, right whales occur and become entangled in Maine state waters. That being the case, the risk of entanglement in those waters is clearly not zero.

To correct for this apparent bias in modeling results, some take reduction team members have recommended that a minimal number (greater than zero) be used for blocks in nearshore Maine waters where the current estimate of whale density is zero. The modeling results in the scoping documents do not include such a correction and, therefore, give a misleading impression of the real entanglement risk in nearshore Maine waters. To correct for that bias, the Marine Mammal Commission recommends that the National Marine Fisheries Service consult with whale biologists on the Atlantic Large Whale Take Reduction Team to estimate occurrence rates greater than zero for right, humpback, and fin whales within 20 miles of the Maine coast and use those rates in the co-occurrence model to estimate the extent to which vertical lines in those waters may contribute to overall entanglement risks for each of those species. The results should be included when the model is used to estimate the effectiveness of various mitigation measures.

Right whales versus humpback and fin whales

The Atlantic Large Whale Take Reduction Team has recommended that risk reduction measures focus on right whales and humpback whales because incidental take levels for those two species are currently above their calculated potential biological removal level, whereas they are not for fin whales. Right whales and humpback whales overlap in their seasonal distribution and therefore are exposed to similarly high entanglement risks in some areas. The Commission recognizes the need to protect both species but also believes that the right whale should be given the highest priority of the three whale species because of its small population size. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service give highest priority to the development of mitigation measures for right whales because the right whale population has far less ability to sustain fishery-related deaths and serious injuries.

Large-scale seasonal management areas in the Gulf of Maine

To date take reduction measures to prevent entanglement in vertical lines have relied largely on gear modifications (e.g., weak links and knotless buoy lines) and seasonal closures in portions of Cape Cod Bay and the Great South Channel for certain fishing gear. The Commission knows of no compelling evidence indicating that these measures have reduced the number of right or humpback

whales caught or seriously injured in vertical lines. Because gear modifications have had no demonstrable effect in reducing entanglement rates and goals for reducing serious injury and mortality levels have not been met, the take reduction team has recommended adoption of a strategy to reduce the number of vertical lines in areas where entanglement risks are judged to be greatest based on the co-occurrence of whales and fishing gear.

Modeling results to date indicate that 90 percent or more of the entanglement risk is from fishing gear set in waters off the northeast U.S. coast, principally in the Gulf of Maine. This is also indicated by data on the location of entanglements based on observations of whales rendered virtually immobile by heavy fishing gear and from fishing license numbers found on gear removed from whales during disentanglement efforts. For example, lines and buoys from all nine entangled right whales and from the majority of entangled humpback whales were part of fishing gear set north of Cape Cod in the Gulf of Maine. Accordingly, the focus of most mitigation measures should be in the Gulf of Maine.

The results of the co-occurrence model indicate that entanglement risk varies spatially and that areas of greatest risk are distributed across broad areas principally in the Gulf of Maine. Given that distribution and relatively low precision regarding fine scale geographic differences in whale and vertical line densities, we believe there is a need for large-scale management areas off New England. The attached figure illustrating the spatial distribution and density of right whales used in the model indicates that the Service should consider management areas in the southern Gulf of Maine (i.e., generally south of a line running due east from Boston), the central Gulf of Maine (i.e., north of Boston to central Maine), and in the northern Gulf of Maine near the Bay of Fundy right whale feeding grounds. With regard to the southern Gulf of Maine, those areas closely match the three management areas that the Service had in place under the take reduction plan for a brief period in 2007¹. Although right whales occur in the southern Gulf of Maine from January through July, available sighting data suggests that after May most whales move east between the Great South Channel and the seaward edge of the U.S. Exclusive Economic Zone. Thus, a western management zone likely would be most effective from January through May and an eastern zone would be most effective from April through July. In the central Gulf of Maine, monthly whale sighting and co-occurrence maps suggest a large central Gulf of Maine management area would be most effective for right whales from September through February. For the northern Gulf of Maine, a relatively small seasonal management area along the outer edge of the U.S. Exclusive Economic Zone near the Bay of Fundy feeding area would be most effective from August through November. These areas generally overlap high risk areas for humpback whales and, to the extent that additional protection is deemed necessary for humpback whales, the boundaries or seasons could be expanded to cover areas of particular importance to them.

Given the information available, the Commission believes that management areas of a geographic and temporal scope indicated on the attached figure should be included in the environmental impact statement. Therefore, the Marine Mammal Commission recommends that the

¹ Merrick, R.L. 2005. Seasonal management areas to reduce ship strikes of northern right whales in the Gulf of Maine. Northeast Fisheries Science Center Reference Document 05-19. National Marine Fisheries Service, Woods Hole, Massachusetts, 18 pages (see Figure 2 in the referenced document).

National Marine Fisheries Service analyze in the draft environmental impact statement alternatives for establishing large management areas off the New England coast including (1) the majority of the southern Gulf of Maine from January through July, (2) the majority of the offshore central Gulf of Maine from October through February, and (3) the small area off northeastern Maine near the edge of U.S. jurisdiction and the Bay of Fundy right whale feeding area from August through September.

Reducing vertical lines in management areas

As noted above, the take reduction team has recommended that, within management areas, management actions focus on reducing the amount of vertical line in the water column. Such options include caps on the numbers of end lines allowed within areas, minimum numbers of traps per end line, a limit of one end line per string of traps, and seasonal closures for all fishing gear with vertical buoy lines. For gillnet fishermen, an additional option might require tending all nets during deployment (e.g., vessels remaining within sight of any deployed nets) with all nets being retrieved and kept aboard when vessels return to port. All of those options should be considered and the Marine Mammal Commission recommends that the National Marine Fisheries Service analyze in the draft environmental impact statement a suite of restrictions that could be imposed in seasonal management areas including closures to any fishing gear with vertical buoy lines, caps on the numbers of endlines, a limit of one endline per trap, minimum numbers of traps per endline, and a requirement to tend all deployed gillnets with no nets left in the water when vessels return to port.

Automatically escalating protection measures

The Service is now engaged in its third major revision of the Atlantic Large Whale Take Reduction Plan since 2001. These revisions have been necessary because measures taken to date have not met the statutory goal for reducing serious injury and mortality levels for right whales and humpback whales below their potential biological removal levels. Each revision has taken five or more years, which means that management is slow to respond to conservation needs and, therefore, inconsistent with the more expeditious management approach envisioned in the Marine Mammal Protection Act, which directs that these plans achieve take reduction goals within six months of implementation.

Because of the slow process for developing new measures and the persistent failure to meet established take reduction goals, several members of the take reduction team have recommended that the revised take reduction plan include one or more triggers that, if met, would impose more stringent measures without requiring another five-year regulatory process. The Commission agrees with that approach and the rationale for it. It is simply not feasible to manage the fisheries involved in a responsive manner when the development and imposition of new management measures takes so long. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service analyze in the draft environmental impact statement amendments to the Atlantic Large Whale Take Reduction Plan that would allow for the immediate implementation of additional take reduction measures if documented serious injury and mortality levels for right whales or humpback whales exceed their potential biological removal levels for two consecutive years.

Endline deployments and configurations

The number and distribution of vertical lines are necessary data for the co-occurrence model, for identifying and developing management actions, and for monitoring compliance. Currently those data are based on various federal and state sources that are collected using different methods in different areas with highly variable degrees of accuracy. For example, in different state and federal waters the data are collected from fishing logbook entries, required reporting forms, voluntary surveys mailed out to fishermen, and, in some cases, little more than the opinion of state fishery managers. The type of information collected also varies. Often, the Service does not require fishermen to report the number of traps per set or the number of endlines used. Thus, the number of endlines must be estimated from poorly documented assumptions or generalities, information on the number of trap licenses issued, and other indirect sources of data. Because of the importance of data on endlines per area, the Service should be collecting that information in a more consistent and reliable manner. Accordingly, the Marine Mammal Commission recommends that the National Marine Fisheries Service analyze in the draft environmental impact statement requirements that (1) all trap and gillnet fishermen in state and federal waters record and report in a consistent manner data on the location and number of endlines deployed and the number of traps or nets fished per set and per month, and (2) those data are compiled and analyzed in timely fashion.

Gear marking

Currently, the Atlantic Large Whale Take Reduction Plan requires that vertical lines be marked with a four-inch-wide red band midway between the buoy and bottom. Its purpose is to help determine the prevalence of buoy lines versus other lines found on entangled whales. Buoys also must be marked with information to identify vessel names or the fishery involved. Although buoy marking requirements have allowed managers to trace a few entanglements back to their origin, the line marking scheme has produced relatively little useful information because few marks have been found on lines removed from entangled whales. This may be because too few marks are put on any given line. In addition, the take reduction team has noted that the marks do not contain sufficient information to distinguish the fisheries involved, the fishing areas, and the nature of the gear involved. The Commission is concerned about all of those points and believes the problem could be addressed with simple marking systems that identify the fishery, area, and gear. For example, a simple system of colored bands placed at frequent intervals along vertical lines could provide such information.

Accordingly, the Marine Mammal Commission recommends that the National Marine Fisheries Service analyze in the draft environmental impact statement options for new gear marking requirements to better identify the fisheries, fishing areas, and gear components involved in large whale entanglements. The options should require marks at smaller intervals (i.e., smaller than the average length of lines removed from whales) to increase the likelihood that they will be detected on gear observed on or removed from whales. Corresponding marks on buoys also would be helpful because buoys often are observed on entangled whales.

Ms. Mary Colligan
12 September 2011
Page 7

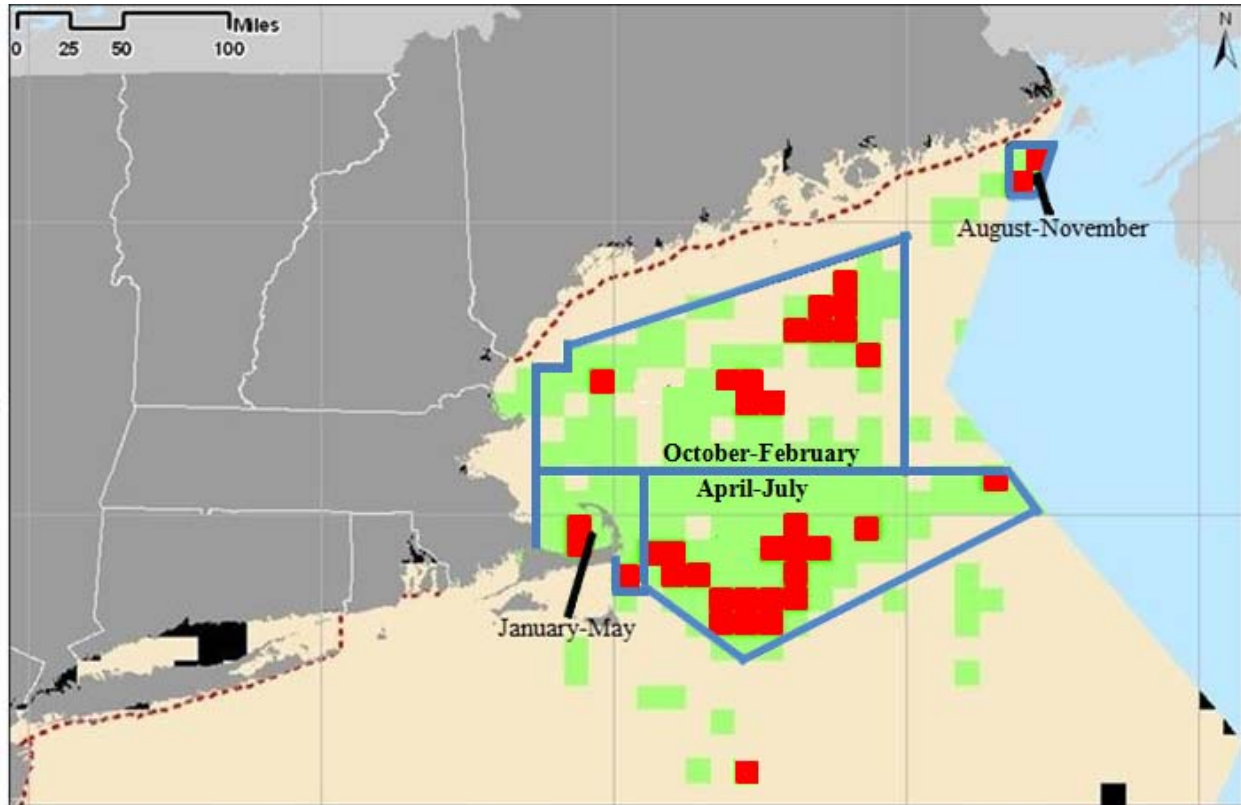
I hope these comments are helpful. Please contact me if you have questions.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director.

Attachment



Suggested vertical line management areas for Atlantic Large Whale Take Reduction Plan overlain on a map showing right whale sightings per unit of effort for all months of the year from effort-corrected whale surveys from 1978-2010. From a map provided by Industrial Economics, Inc. to the Atlantic Large Whale Take Reduction Team (tan = zero whales per unit area, green = 1-10 sightings per unit area, red = 10 to 100 whales per unit area).