MARINE MAMMAL COMMISSION

13 September 2013

Ms. Mary Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 09130
Attn: Large Whale Proposed rule

Dear Ms. Colligan:

The Marine Mammal Commission (the MMC), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the proposed rule published by the National Marine Fisheries Service (NMFS) to amend the Atlantic Large Whale Take Reduction Plan (78 Fed. Reg. 42654) and the associated draft environmental impact statement (the DEIS). The purpose of the proposed rule is to reduce the entanglement of North Atlantic right whales and other large whales in commercial trap/pot and gillnet fishing gear.

The Commission's support for the proposed regulatory measures is tempered by major concerns over the basis of NMFS's evaluation of alternative actions in the DEIS, particularly the use of the co-occurrence model recommended by the Atlantic Large Whale Take Reduction Team (the ALWTRT). The model's purpose is to assess the probability of whales encountering vertical fishing lines; however, given structural limitations of the model, deficiencies in the data used, and the omission of data for some areas where entanglement could occur, the model does not provide reliable estimates of entanglement risk and therefore overestimates the effectiveness of proposed measures in achieving potential biological removal (PBR) levels. The Commission also has concerns over the portrayal of the ALWTRT process and decisions in the DEIS.

RECOMMENDATIONS

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

- adopt the proposed per trawl trap minimums in the 25 management areas identified in the proposed rule;
- expand the discussion of weak links in the final environmental impact statement (FEIS) to include the evidence that exists, if any, to indicate that weak links (1) have prevented entanglements; (2) have shortened the amount of time a whale is entangled or otherwise reduced the likelihood that an entangled whale will be seriously injured or die; (3) have failed to prevented entanglements; and (4) may be counterproductive in helping whales shed gear;
- identify in the FEIS the steps that will be taken to ensure adequate inspection and enforcement of the new minimum trap number provision;
- include in the final rule a requirement that all trap/pot fishermen permitted to fish in federal waters record and submit data on the location, number, and length of time that endlines are

deployed as part of required vessel trip reports and describe in the FEIS precisely what data on endlines (e.g., number, location, and length) NMFS expects state fishery agencies to provide to it on fishing activities that occur under state permits to evaluate compliance and rule effectiveness;

- include in the final rule a prohibition on gillnet use during all times and in all areas proposed for trap and pot closures (i.e., the Jordan Basin, Jeffreys Ledge, Great South Channel (GSC), and Massachusetts Restricted Areas) as well as the "sliver" management area within the GSC Restricted Gillnet Area right whale critical habitat that is currently excluded in the proposed rule;
- revise the analyses in the DEIS to identify the criteria being used to determine when economic costs of the seasonal fishing closures outweigh conservation benefits to large whales;
- expand the DEIS to provide data on recent levels of fishing effort and economic impacts for proposed and alternative closures—those data should include the number of affected trap/pot and gillnet fishermen, the amount of gear set, and the volume and gross or net revenues of ex-vessel landings;
- adopt the proposed gear marking measures after amending them to (1) increase the number of marks required on buoy lines for traps and pots set deeper than a certain depth (e.g., 600 ft); (2) clarify that all trap, pot, and gillnet fisheries subject to the rule are required to mark their vertical buoy lines regardless of where they fish along the east coast; (3) expand the marking scheme to include additional fishing areas where a unique mark is required (i.e., gillnets set in New England waters south and east of Cape Cod and for all traps and pots set in Lobster Management Area 1 off New Hampshire and Massachusetts); and (4) require all groundlines to be marked by a distinct color or other distinctive mark in areas where sinking groundlines are now required.
- take immediate steps after the final rule has been adopted either to revise the current co-occurrence model or develop a new, more suitable model capable of estimating the extent to which the co-occurrence between whales and fishing gear would be reduced, together with the uncertainty of the estimate;
- include in the FEIS a discussion of the full range of ALWTRT and peer reviewer comments regarding the limitations of the model;
- before preparing the FEIS, conduct a study to validate the co-occurrence model relied on in the DEIS against the results of the alternative co-occurrence model at least for Lobster Management Area 1 and, based on those results, modify the model and recalculate co-occurrence estimates; and
- include in the preamble to the final rule and in the FEIS a discussion that more accurately reflects decisions reached by the ALWTRT, particularly with respect to the original deferral of rulemaking to prevent vertical line entanglement risks, and that makes clear that such a deferral was not recommended by the Take Reduction Team.

RATIONALE

In the proposed rule, NMFS seeks to reduce entanglement risks to large whales from vertical lines by (1) reducing the number of vertical lines deployed in the water column by grouping more traps and pots on fewer lines and (2) prohibiting traps and gillnets in seasons and areas where whales, primarily right whales, aggregate in the greatest numbers. The MMC agrees that such

measures are appropriate and important to reducing large whale entanglements, and generally supports the proposed measures to limit the number of lines in the water column. The proposed rule also continues the requirement for weak links between the buoy line and the buoy and specifies required breaking strengths for the links. Unfortunately, despite considerable research on how to make fishing gear less likely to entangle large whales, no effective measures have been developed and there is no evidence that regulatory requirements for such gear modifications, including the use of weak links, have reduced serious injuries or deaths of whales from entanglements in fishing gear.

The best means presently available to reduce fishery-related deaths of large whales is to prevent entanglements from occurring in the first place. The most efficient means to accomplish this, which affects the fewest fishermen and has the least impact on overall fishing effort, is through seasonal closures that prohibit the use of traps, pots, and gillnets with lines that might entangle whales in designated critical habitats and in other areas and times when whale numbers are predictably high. These seasonal area closures are discussed below. The MMC recognizes, however, that such closures alone will not be adequate to reduce entanglement-related serious injuries and deaths to required levels and additional measures such as reducing the overall number of endlines in all areas of co-occurrence will be needed.

Area-specific gear requirements

The proposed rule includes a series of area-specific gear modifications for both trap/pot and gillnet fisheries. The traps and pots portion of the rule (section (c)(2)) identifies 25 different management areas and specifies the minimum number of traps required per trawl (from 1 to 20) in each. The 25 management areas include all open-ocean waters within the U.S. exclusive economic zone other than waters in exempted areas off Maine and New Hampshire. The purpose of minimum trap numbers is to require fishermen to group traps together into fewer strings, thus reducing the overall number of vertical endlines in the water in areas not closed to the use of trap, pot and gillnet gear and the probability of large whale entanglements. The MMC considers this approach to entanglement reduction to be sound and therefore, the MMC recommends that NMFS adopt the proposed per trawl trap minimums in the 25 management areas identified in the proposed rule.

Technological modifications–Weak links

All alternatives in the DEIS propose the use of weak links with breaking strengths ranging from 200 to 2,000 pounds. Weak links have been the primary measure used to prevent or mitigate whale entanglements in buoy lines since 1999, yet the DEIS (page 5-12) provides no data regarding their effectiveness in the years since they have been required. On the contrary, numerous instances have been documented of both broken and unbroken weak links being removed from entangled whales that have been seriously injured or killed by the entanglement, calling into question the benefit of weak links, and these data should be presented. It is possible that weak links are counterproductive for helping whales rid themselves of lines. Disentanglement teams routinely tie buoys and telemetry tags to lines trailing from entangled whales and often have observed that the increased drag has served to pull those lines free from the whales. Thus, one of the intended secondary purposes of weak links, to reduce the weight of gear on entangled whales, might also make it less likely that gear will be shed, at least in some cases. In light of the need to evaluate the effectiveness of weak links, the MMC recommends that NMFS expand the discussion of weak links in the FEIS to include the evidence that exists, if any, to indicate that weak links (1) have prevented

entanglements; (2) have shortened the amount of time a whale is entangled or otherwise reduced the likelihood that an entangled whale will be seriously injured or die; (3) have failed to prevent entanglements; and (4) may be counterproductive in helping whales shed gear.

Enforcement and monitoring

While the MMC supports the proposed per trawl trap minimums, it is concerned that, with some 250,000 endlines in the water in the regulated areas and no way to determine from the surface how many traps are on a trawl, it is likely to be very difficult to enforce this provision. Neither the proposed rule nor the DEIS provides information on monitoring or enforcement difficulties or on how these will be overcome. Therefore, the MMC recommends that NMFS identify in the FEIS the steps that will be taken to ensure adequate inspection and enforcement of the new minimum trap number provision.

The lack of historical and current data on the number of endlines deployed by trap/pot fisheries has hindered robust modeling of the co-occurrence of fishing gear and large whales and the estimation of the effectiveness of any proposed management actions. Except in the case of the Massachusetts lobster fishery, fishermen have not been required to record or report the number of endlines they actually use. To assess the effectiveness of the rule in reducing vertical line numbers, assist with compliance, and inform future co-occurrence modeling, it is essential that accurate data be collected on the number of endlines in the water. The DEIS offers no indication as to whether such data will be gathered. At a minimum, NMFS should ensure that such data are collected by all fishermen who are required to obtain permits to fish in federal waters where NMFS has jurisdiction. To assure necessary data are collected, the MMC recommends that NMFS (1) include in the final rule a requirement that all trap/pot fishermen permitted to fish in federal waters record and submit data on the location, number, and length of time that endlines are deployed as part of required vessel trip reports, and (2) describe in the FEIS precisely what data on endlines (e.g., number, location, and length) NMFS expects state fishery agencies to provide to them on fishing activities that occur under state permits to evaluate compliance and rule effectiveness.

Seasonal area closures

As part of proposed area-specific gear requirements, the proposed rule includes provisions for six seasonal closures to protect whales in high-use right whale habitat. Those include: (1) a new area in the Jordan Basin in the central Gulf of Maine from November through January to exclude traps and pots but not gillnets, (2) a new area around Jeffreys Ledge off New Hampshire and southern Maine from October through January to exclude traps and pots but not gillnets, (3) expansion of an existing January-April closure in the Cape Cod Bay critical habitat for right whales to include adjacent waters and to exclude traps and pots but not gillnets (i.e., the Massachusetts Restricted Trap/Pot Area), (4) an existing closure in the Cape Cod Bay critical habitat from January through April to exclude gillnets only, (5) an existing April-June closure in the Great South Channel (GSC) critical habitat for right whales to exclude traps and pots (i.e., the GSC Restricted Trap/Pot Area), and (6) an existing closure in those parts of the GSC critical habitat that do not include the "sliver" area along the southwestern edge of the GSC critical habitat from April through June to exclude gillnets (i.e., the GSC Restricted Gillnet Area). As discussed below, the MMC questions the analysis in the DEIS for rejecting the option of excluding gillnets from the "sliver" area in spring and believes that area should be closed over the same period as the rest of the GSC critical habitat.

The Commission supports the proposed rule's provisions for new and existing seasonal closures but is concerned that they contain no restrictions on gillnet gear beyond those already in place. Therefore, the proposed rule's provisions are insufficient to achieve the take reduction goals of the Marine Mammal Protection Act (MMPA). Although vertical buoy lines on gillnets pose entanglement risks similar to those on trap/pot gear, the gillnets themselves pose an even greater entanglement risk for large whales. As discussed below, the use of weak links is the primary measure for preventing and mitigating gillnet entanglements, but they have not proven to be adequate; further measures are needed. As with trap/pot fisheries, the most effective way to prevent gillnet entanglements is to prohibit the use of gillnets in right whale critical habitat and in other areas frequently inhabited or visited by right whales during periods of their peak occurrence. Therefore, the MMC recommends that NMFS include in the final rule a prohibition on gillnet use during all times and in all areas proposed for trap and pot closures (i.e., the Jordan Basin, Jeffreys Ledge, GSC, and Massachusetts Restricted Areas), as well as the "sliver" management area within the GSC right whale critical habitat that is currently excluded in the proposed rule.

In general, the boundaries and timeframes for proposed and alternative closures discussed in the DEIS are supported by available information on right whale distribution and seasonal occurrence. On the other hand, the DEIS provides no data on either fishing effort (e.g., numbers of affected trap/pot and gillnet fishermen or numbers of traps/pots and gillnets) or the economic value (e.g., ex-vessel landings, gross or net revenues) of fishing in any of the alternative closure zones during the seasons of peak whale occurrence. Thus the NMFS analysis of economic impacts against conservation benefits of proposed closures is not transparent. In some instances, the proposed prohibitions are inconsistent with the information provided. In others, NMFS seems to have come to opposite conclusions under what appear to be very similar circumstances, but supporting data, whether biological or socio-economic, is not presented.

For example, the DEIS provides no data to justify NMFS's decision to reject the option of prohibiting gillnets from the "sliver" area in the GSC right whale critical habitat. The Service rejects this option on the grounds that there is little fishing effort there and the economic burdens would outweigh the whale protection benefits. However, if there is little fishing effort in that area during spring, it does not follow that there would be substantial economic cost to the industry from a closure. In contrast, NMFS proposes to establish a trap and pot closure in right whale critical habitat in Cape Cod Bay and surrounding waters where low levels of lobster fishing occur. Although not stated explicitly, NMFS appears to have concluded that economic burdens on lobster fishing in that area do not outweigh protection benefits to whales, but again data are not provided on affected fishing effort or economic value. These two areas have similar levels of co-occurrence of whales and gear. Therefore, by proposing to close one area where fishing effort is low while leaving another area with similarly low fishing effort open, and in the absence of supporting data, NMFS's decisions on these closures appear arbitrary and contradictory.

With regard to the rejected alternative of closing the "sliver" area to gillnets, the co-occurrence model used by NMFS indicates that co-occurrence and entanglement risks are high and comparable to those in other areas proposed for seasonal closures. In the timeframe over which vertical line data used in the co-occurrence model were collected (i.e., since 2008), lobster gear has been prohibited in the "sliver" area during the spring right whale season. As a result, the model should assess only gillnet gear for that area and time. Results of the model as presented in Appendix

5-B indicate that the "sliver" area has a relatively high co-occurrence score, which must be due to gillnets. Nevertheless, NMFS rejected a spring ban ostensibly because, even though there is little gillnet fishing effort in that area at that time, the economic burden somehow outweighs protection needs. These apparent inconsistencies need to be reconciled or explained.

The analyses in the DEIS and the decision to exclude certain areas or gear types from proposed closures give the impression that NMFS is placing the economic interests of a relatively small number of fishermen above right whale protection needs even though there are apparently minimal economic impacts. The MMC recommends that NMFS revise the analyses in the DEIS to identify the criteria being used to determine when economic costs of the seasonal fishing closures outweigh conservation benefits to large whales. The MMC also recommends that NMFS expand the DEIS to provide data on recent levels of fishing effort and economic impacts for proposed and alternative closures—those data should include the number of affected trap/pot and gillnet fishermen, the amount of gear set, and the volume and gross or net revenues of ex-vessel landings.

Gear marking

NMFS proposes to include requirements for marking buoy lines to help identify the source of lines found on entangled whales and to monitor the take reduction plan's effectiveness. To help gather such information, the rule would require placing three 12-inch marks at the top, middle, and bottom of each buoy line with different colors or color combinations to distinguish buoy lines from trap/pot and gillnet fisheries and to identify broad geographic areas where the gear was set. Such a system is important and the proposed marking system, particularly the increased size of marks (which will make them easier to detect on entangled whales that cannot be disentangled) and the expanded coverage of areas and fisheries, is a significant improvement over the previous gear marking system. However, as discussed further in the Addendum to this letter, the proposed gear marking system should be clarified and strengthened in four ways and, therefore the MMC recommends that NMFS adopt the proposed gear marking measures after amending them to (1) increase the number of marks required on buoy lines for traps and pots set deeper than a certain depth (e.g., 600 ft); (2) clarify that all trap, pot, and gillnet fisheries subject to the rule are required to mark their vertical buoy lines regardless of where they fish along the east coast; (3) expand the marking scheme to include additional fishing areas where a unique mark is required (i.e., gillnets set in New England waters south and east of Cape Cod and for all traps and pots set in Lobster Management Area 1 off New Hampshire and Massachusetts); and (4) require all groundlines to be marked by a distinct color or other distinctive mark in areas where sinking groundlines are now required.

Co-occurrence model

NMFS's evaluation of alternative approaches to reducing vertical lines in large whale habitat is based on a co-occurrence model recommended by the ALWTRT and developed by a NMFS contractor. The model's purpose is to assess the probability of whales encountering fishing lines. It is based on monthly estimates of the numbers of lines in the water and data on the density of whales in all areas of the U.S. exclusive economic zone from Maine to Florida. The MMC supported the development of such a model and continues to believe such modeling is needed to help monitor implementation of line reduction measures and evaluate their effectiveness. Despite the model's importance, however, the process of developing it, the nature of the resultant model, and

uncertainties surrounding the data used as input have raised serious doubts about the model's usefulness.

As reflected in the ALWTRT summary reports, the following concerns described below have been discussed extensively by the ALWTRT, and they also are described in peer reviews and a report prepared by scientists on the ALWTRT.[1] Among the important concerns raised by ALWTRT members and peer reviewers were the following:

- Managers need the means to evaluate whether management approaches are effective in achieving reductions in vertical line numbers and whale co-occurrence with gear, but the co-occurrence model that was developed is not sufficient to estimate absolute entanglement risk. Instead, it is useful only for determining the relative effectiveness of one mitigation measure against another (although it does not provide any way to assess the significance of such differences). Since the model does not consider exempted waters, it does not determine the overall co-occurrence risk. Finally, there is no standard or goal identified for determining the extent to which vertical lines must be reduced to achieve the goals of the MMPA—i.e., reducing entanglement-related serious injury and death of large whales to below PBR levels within six months of plan implementation and to insignificant levels approaching a zero mortality rate within five years.

- The model fails to account for uncertainty in the underlying data. The data on numbers of whale sightings are treated as known values, rather than as observations resulting from stochastic processes. The data on vertical line numbers are treated as known values, when in fact they are estimates with some amount of uncertainty. With the exception of nearshore waters off Massachusetts where fishermen were asked to record data on the number of trawls and traps per trawl set, the estimates of vertical line numbers for all other areas are based on either surveys in which fishermen provided their recollection of how many traps and trawls they set in different areas during the previous month or year or on the "expert opinion" of state fishery managers as to the number of traps per trawl set by fishermen in different areas. Given those methods, there is great uncertainty regarding the actual number of vertical lines deployed in different areas. The lack of effort to validate the accuracy of the estimates of vertical line numbers undermines the reliability of the baseline data and greatly reduces confidence in the model-generated projections of the effectiveness of proposed measures to reduce vertical line numbers and co-occurrence risks.

- Further, the model underestimates entanglement risk by failing to account for several important factors related to the distribution of whales and vertical lines. It assumes that whales do not occur in areas where surveys have not been conducted, even though telemetry, opportunistic sightings, and some entanglement data document at least occasional occurrence of right whales and other large whales during seasons and in areas that have not been surveyed. In addition, it provides no estimate of co-occurrence in areas exempted from vertical line restrictions, such as the coast of Maine. The risk of entanglement could be very high for any whales entering exempted areas in Maine and New Hampshire, given the high gear density therein, but NMFS

[1] Estimating Minimum SPUE Values for Right and Humpback Whales in Northeast Areas with Low Survey Effort: An Analysis Completed for the Atlantic Large Whale Take Reduction Team. 31 January 2012. Robert D. Kenney, Ph.D.

has done little to assess whale occurrence in those exempted areas or to factor this into overall assessment of co-occurrence and entanglement risk.

These limitations and deficiencies have been noted by peer reviewers, ALWTRT members, and the modeling contractors themselves. Failure to address them significantly reduces confidence in the use of the model as a tool for evaluating management options. The description of the model in the DEIS acknowledges that fundamental limitations remain, yet both the proposed rule and the DEIS incorrectly imply that the ALWTRT and peer reviewers largely endorsed the model. For example, NMFS states in the DEIS that although peer reviewers "noted the need to clarify some aspects of the model's documentation, the findings of the review overall were favorable." In fact, reviewers noted that the data on vertical lines are inadequate, the results have no confidence limits associated with those estimates, and no steps have been taken to validate the performance of the model through comparison with other modeling efforts. Indeed, one reviewer stated that "other model approaches might have been preferable and [that] this version of [the] model is not ready to be used in a management application until its performance has been validated or compared with other model approaches." The MMC agrees with that conclusion.

Given the fundamental limitations of the model as it now exists, which are discussed further in the Addendum to this letter, as well as the ongoing need for a model to help monitor and evaluate the effectiveness of the final rule, the MMC concludes that the model must be substantially revised or replaced with a model more capable of assessing uncertainty in the underlying data and evaluating overall co-occurrence risks (including risks in exempted areas). Therefore, the MMC recommends that NMFS take immediate steps after the final rule has been adopted either to revise the current co-occurrence model or develop a new, more suitable model capable of estimating the extent to which the co-occurrence between whales and fishing gear would be reduced, together with the uncertainty of the estimate. In addition, the MMC recommends that NMFS include in the FEIS a discussion of the full range of ALWTRT and peer-reviewer comments regarding limitations of the model.

Among other things, the Committee of Independent Experts peer reviews recommended validation of the co-occurrence model, and the MMC supports that recommendation. There are at least three approaches that could be used to validate the model: (1) examination of the assumptions and predictions of the model in smaller areas where data are best; (2) comparison of the model with another model based on different assumptions and structure; and (3) evaluation of the accuracy of predictions of the model using simulated data with known values. With regard to the specific concern that the model excludes co-occurrence risks for exempted inshore waters, the DEIS (page 5-7) noted that another model had been prepared by a group of scientists from Keene State College, Woods Hole Oceanographic Institution, the New England Aquarium, and the Maine Lobstermen's Association. That model has been developed at a finer scale to estimate the co-occurrence of gear and whales on the east coast, including the exempted areas in Lobster Management Area 1 off the Maine coast that may include half or more of all vertical lines in east coast waters and a significant proportion of the co-occurrence risks to right whales. While the model has not yet been completed for the entire east coast, the MMC understands that the Maine portion is operational. Therefore, much can be learned about the extent of uncertainty in the NMFS co-occurrence model by comparing results of the two models within the areas of overlap. Given the significant limitations

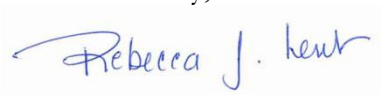
identified with the NMFS co-occurrence model and the importance of ensuring that its results are reliable for evaluating the effectiveness of the final rule, the MMC recommends that NMFS, before preparing the FEIS, conduct a study to validate the co-occurrence model relied on in the DEIS against the results of the alternative co-occurrence model at least for Lobster Management Area 1 and, based on those results, modify the model and recalculate co-occurrence estimates. The MMC believes a delay of six months or more would be warranted to conduct the validation exercise, adjust the model, and reevaluate the effectiveness of alternative measures.

Clarification of the ALWTRT's decisions

Finally, we note that the description of ALWTRT activities and the proposed approach in the DEIS do not accurately reflect discussions and decisions of the Team. The Addendum to this letter provides additional details. The MMC recommends that NMFS include in the preamble to the final rule and in the FEIS a discussion that more accurately reflects decisions reached by the ARWTRT, particularly with respect to the original deferral of rulemaking to prevent vertical line entanglement risks, and that makes clear that such a deferral was not recommended by the Take Reduction Team. Those documents also should reflect that, although subgroups of the Team offered various management proposals considered in the current rulemaking, the Team did not reach consensus on any of them.

Thank you for considering the MMC's comments and recommendations. If you have any questions regarding these comments, please don't hesitate to contact me.

Sincerely,



Rebecca Lent, Ph.D.
Executive Director

One Attachment

Addendum: Marine Mammal Commission additional comments on the proposed rule published by the National Marine Fisheries Service (NMFS) to amend the Atlantic Large Whale Take Reduction Plan (78 Fed. Reg. 42654) and the associated draft environmental impact statement (DEIS).

Further comments on gear marking

The Commission has four specific recommendations to strengthen the gear marking provisions of the proposed rule.

1) The proposed rule would require only three marks on buoy lines (i.e., the top, middle, and bottom) regardless of their length. An analysis of the average length of lines removed from whales is not provided, but information on entanglements provided to the ALWTRT suggests that lines removed from many whales are often 200 ft in length or less. Because trap fisheries subject to the rule may set gear in waters more than 1,000 ft in depth that require lines much longer than 200 ft, marks may not be present on the fragments of line recovered. The distance between marks on a given line may exceed 500 ft. To better assure that marks on buoy lines from gear set in deep water will be visible on entangled whales or present on gear removed from whales, buoy lines greater than a certain length (e.g., 600 ft) should be required to have marks at regular intervals (e.g., every 200 ft), rather than just at the top, middle, and bottom.

2) Although apparently intended, it is not clear whether the proposed rule would require buoy line marking on all traps, pots, and gillnets in all areas subject to regulation in the proposed rule. For example, section 229.32 (a)(3) of the rule, which identifies where marking is required for traps and pots, mentions a "North Offshore" area, but not offshore areas off the mid- and south Atlantic coasts. Similarly, Exhibit 2-3 in the DEIS (page 2-12) does not identify a "North Offshore" area, but rather shows only one continuous offshore area extending from Maine to Florida. The map also does not identify the "Massachusetts Restricted Area" mentioned in the rule for trap/pot gear, leaving the boundaries of this area unclear. In addition, the list of gear marking areas for traps and pots does not include the "Southeast U.S. Restricted Area North", although it is shown in Exhibit 2-3, suggesting that no gear marking would be required in that area.

3) As proposed, the marking scheme would enable the identification of only six broad trap/pot fishing areas and five gillnet areas. To better define the major fishing areas of gear entanglement, the scheme should establish some additional areas where a unique mark is required and notes that this can be accomplished using the same colors already selected for the proposed scheme. Specifically, the MMC suggests that the scheme include two additional color combinations to distinguish 1) gillnets set in waters off southern New England (i.e., east of Long Island and south of Cape Cod including waters along the Outer Cape) and 2) trap/pot gear set south of the Maine-New Hampshire border in Lobster Management Area 1 (which could include most or all the Stellwagen Bank/Jeffreys Ledge and Cape Cod Bay Restricted areas and the waters inshore of those areas that are not otherwise exempted).

4) The gear marking requirements apply only to buoy lines and not groundlines. ALWTRT members have asked NMFS repeatedly for information on the effectiveness of the sinking groundline requirements already in place, but, because there has been no way to distinguish sinking

groundlines from sinking buoy lines on gear removed from entangled whales, NMFS has been unable to make that assessment. The requirement for more marks on buoy lines will assist in making that distinction for whales entangled in gear used by U.S. fishermen. However, the situation is complicated because Canada has no gear marking requirements. It will be impossible to distinguish unmarked sinking groundlines on the gear of U.S. fishermen from any similarly unmarked sinking lines originating in Canada. Therefore, to monitor the effectiveness of the existing groundline requirements, a distinctive mark should be required at specified intervals along all groundlines wherever sinking lines are required. The major need is to verify the overall effectiveness of the sinking groundline requirements, and that can be accomplished by requiring a single distinctive mark for all groundlines in all areas and all fisheries. We suggest that mark either be a distinctive color for all groundlines placed midway between each trap or pot in a trawl or a colored thread woven throughout the line.

Further comments on the co-occurrence model

Although the DEIS includes a section discussing model limitations, those limitations are not adequately reflected in the modeling results. The model results are useful only for comparing the possible effectiveness (i.e., estimated reductions of the co-occurrence of whales and fishing gear) of one alternative relative to another. Despite that caution, the DEIS presents model results as if they were based on reliable quantitative data that yielded a statistically meaningful measure of overall reduction in co-occurrence risks. For example, the title of Exhibit 5-5 in the DEIS (page 5-10) implies that the table is based on empirically derived numbers rather than estimates of vertical line numbers generated by fishermen and state managers. Similarly, the title of Exhibit 5-6 implies, based on model results, that it is reasonable to conclude that the alternatives will reduce co-occurrence risks by 35.8 to 41.2 percent compared to the No Action alternative. This is not a conclusion that is supported by the model. Because of the model's limitations, the results are useful only to show that there might be a 5 or 6 percent difference between all alternatives assuming risks in exempt areas are negligible. A more accurate title of Exhibit 5-6 would be "Relative Reductions in Co-Occurrence Scores of Alternatives in Non-Exempt Areas." Therefore, the MMC encourages NMFS to revise the text of the DEIS to make it more explicit in the FEIS that the model results, particularly those related to percentages of reduction in co-occurrence between whales and gear (e.g., Exhibits 5-5 and 5-6), are not predictions of overall risk reduction, but are merely comparisons of the alternatives.

The estimated co-occurrence percentages do not reflect entanglement risks in the exempted areas off Maine and New Hampshire. Although that area is relatively small, the model indicates it has the greatest concentration of vertical lines anywhere along the east coast. Indeed, it may account for half of all vertical lines in the region. Although the frequency of occurrence of North Atlantic right and other whales in those waters is believed to be very low, almost no effort has been made to confirm the density, seasonality, or turnover of whales in exempted areas. Therefore, the MMC believes the risk of entanglement is underestimated. For example, Exhibit 5-4 in the DEIS (page 5-9) shows that some 225,000 vertical lines may be deployed in any given month in regulated areas, but no information is provided on the number of vertical lines in the exempted area. Given the uncertainty about the frequency of large whale occurrence in the exempted area and especially since gear removed from entangled right whales has been traced to that area, the DEIS should provide information on the numbers of vertical lines in the exempted area, which will allow better understanding of the factors NMFS considered when it chose to exempt those areas. Therefore, the

MMC suggests that NMFS includes information in the DEIS on the estimated numbers of vertical lines from trap/pot fisheries and gillnets deployed in waters exempted from the proposed rule.

Further comments on the characterization of the ALWTRT process and decisions

In some portions of the *Federal Register* notice and DEIS, the descriptions of ALWTRT activities and decisions are not accurate. On page 42655 of the notice and 2-7 of the DEIS, it states that "at the 2003 meeting (of the Atlantic Large Whale Take Reduction Team), the Team 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 sink gillnet gear." That statement is not true. An accurate characterization of the 2003 meeting, as reflected in the meeting summary, would note that the Team agreed by consensus that the revisions of the Large Whale Take Reduction Plan needed to address two overriding principles: (1) reducing risk associated with vertical lines *and* (2) reducing profiles of all groundlines. There was neither discussion, nor agreement by the Team prior to the 2005 rulemaking on whether those two principles should be addressed in separate consecutive rulemaking actions. The decision to do so was made solely by NMFS. The ALWTRT did not agree on or express support for that approach. Those and other comments were set out in the Commission's 12 May 2005 comments on the 2005 DEIS for the sinking groundline rule.

The notice and DEIS go on to state that "at the 2009 ALWTRT meeting the Team agreed on a schedule to develop a management approach to reduce the risk…due to vertical lines" (notice page 42655, DEIS p 2-8 and 3-2), which is misleading. NMFS staff developed the schedule and presented it to the Team as a point of information to guide the Team's work. Although the Team acknowledged the rationale presented by the Service for its schedule, the Team neither developed the schedule provisions nor agreed to the agency's schedule. Indeed, as noted in the summary of the 2009 meeting, several Team members expressed concern that the five-year rulemaking schedule was too slow. Given the importance of ALWTRT agreements, which are based on consensus, it is unfortunate that NMFS has mischaracterized Team decisions and positions. Thus, the MMC recommends that NMFS include in the preamble to the final rule and FEIS a discussion that more accurately reflects the deliberations and decisions of the ALWTRT, particularly with respect to the original deferral of rulemaking to prevent vertical line entanglement risks, and making it clear that such a deferral was not recommended by the Take Reduction Team. Those documents also should reflect that although subgroups of the Team offered various management proposals considered in the current rulemaking, the Team did not reach consensus on any of them.