MARINE MAMMAL COMMISSION

19 August 2011

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National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Attn: Policy for Distinguishing Serious from Non-Serious Injuries of Marine Mammals

Dear Dr. Braham:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the 18 July 2011 *Federal Register* notice (76 FR 42116) and the associated draft guidelines revising national policy and procedures for distinguishing serious from non-serious injuries of marine mammals. The Commission offers the following recommendation and rationale.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service adopt the draft policy and procedure directives for determining when injuries to marine mammals should be considered serious, after making changes that require the Service to—

- count entangled large whales that are considered seriously injured for the purposes of triggering and guiding take reduction efforts, even if they are successfully disentangled;
- review its available data on entanglements to (1) determine if mothers or dependent calves have become entangled and the entanglements were judged to be non-serious injuries, (2) characterize the outcome of any such cases in terms of risk to the associated calves, and (3) revise this criterion accordingly if the evidence suggests serious risk to the calves;
- review its available data to determine how often injuries initially judged to be non-serious have evolved to a state that was considered serious; if such cases have been documented, then the Service should adjust its proposed new guidelines to account for the probability of escalating risks;
- count entangled small cetaceans and pinnipeds that would be judged as seriously injured when categorizing each fishery and determining if additional take reduction efforts are needed, even when the affected individuals have been disentangled;
- expand its policy directives by including a list of research needed to improve injury prevention, response, and assessment efforts in the future.

RATIONALE

The proposed policy and procedure directives are intended to provide a transparent, nationally consistent framework for determining when marine mammals should be considered seriously injured as a result of human activities including, but not limited to, commercial fisheries. Among other things, such determinations are required to evaluate the status of stocks and assess the

need for and utility of various management measures, including those intended to reduce incidental takes in fisheries in accordance with the Marine Mammal Protection Act. Under current guidance the Service considers a serious injury to be one that is likely to result in the death of an animal. However, regional offices have interpreted this guidance differently, some requiring virtual certainty that the animal will die and others requiring a high probability, but not necessarily certainty, of death. As a result, determinations of serious versus non-serious injuries have been inconsistent across regions.

The Commission commends the Service for recognizing this situation and developing more appropriate policies, procedures, and criteria for making serious injury determinations. Application of the revised guidance is tailored to large cetaceans (defined as mysticetes and sperm whales), small cetaceans, and pinnipeds. The guidance generally seems well considered and science-based. The Marine Mammal Commission recommends that the National Marine Fisheries Service make the changes discussed below and then adopt the draft policy and procedure directives for determining when injuries to marine mammals should be considered serious.

Definition of serious injury

The Service's proposed policy and procedure directives would change the standard for concluding that an injury is serious, from likely to result in the death of an animal to "*more likely than not* to result in mortality" (emphasis in quote). This standard would be applied in all but the most data-poor cases, when it may be necessary to classify an injury as "cannot be determined." The Marine Mammal Commission concurs with this change in the definition of a serious injury.

Large whale entanglements

Ship strikes and entanglement in fishing gear are the most frequent human causes of injury to large whales. The Service authorizes, participates in, and partially funds programs to remove entangling gear from large whales to prevent their deaths. In the past, animals that likely would have died from entanglement (i.e., met the criterion for seriously injured) were not counted as seriously injured if the entangling debris was removed. The proposed policy and procedure directives indicate that in the future these whales will be counted for the purpose of categorizing fisheries on the Service's annual List of Fisheries, but will not be counted for assessing the status of the affected stock. With regard to categorizing fisheries, the Service notes that the—

"…previous approach does not accurately reflect the overall impact of commercial fisheries on marine mammal populations because, by not including disentangled animals in the number of seriously injured animals resulting from interactions with commercial fishing gear, it does not account for all serious injuries inflicted on marine mammals by commercial fishing. Further, (the) previous approach can lead to an underestimation of total serious injury and mortality of marine mammals because it relies on the opportunistic detection and post-intervention…to mitigate injury effects."

With regard to stock assessment reports, the draft guidelines state that successfully disentangled animals "…are not included in the comparison of serious injuries and mortalities to the PBR when

assessing the status of the affected stock." The rationale for this approach is that successfully disentangled animals are more likely than not to survive and continue to be a viable part of the population; for that reason, they should not be counted as removed from the population. The Commission agrees that successfully disentangled animals should not be counted against the potential biological removal level when used to assess the status of the affected stock. It also supports the Service's intention to include standard language in stock assessment reports indicating which injuries were successfully mitigated.

That being said, one of the other reasons for determining the number of marine mammals seriously injured or killed by fisheries is to determine when better take reduction efforts are needed, whether those efforts involve spatial or temporal measures or changes in fishing gear or methods. For this purpose, the Commission does not believe that entangled animals should be discounted if they have been disentangled. The Commission takes this view for three reasons.

First, the Marine Mammal Protection Act directs the Service to establish a program for monitoring the incidental mortality and serious injury of marine mammals in commercial fisheries and to "...identify changes in fishing methods and technology that may increase or decrease incidental mortality and serious injury." Identifying changes in fishing methods and technology would be of no value or utility if Congress did not intend the Service to implement those changes for the purpose of reducing incidental mortality and serious injury. Therefore, the Commission believes this language was intended to prevent serious injuries and deaths from occurring in the first place, not simply counting and characterizing them.

Second, if the Service relies instead on efforts to disentangle animals, then it exposes the animals to additional risk and also poses unnecessary risk to disentanglement teams. The Service should not be supporting a fisheries management approach that needlessly exposes both marine mammals and disentanglement teams to such risk but rather should be preventing entanglements from occurring in the first place.

Third, to rely on disentanglement teams and efforts rather than changes in fishing methods and gear effectively shifts the burden of dealing with entanglement problems from the Office of Sustainable Fisheries and the fishery involved to the Office of Protected Resources and disentanglement teams supported by other government agencies and non-governmental organizations. Entanglements are, first and foremost, the responsibility of participants in involved fisheries and fishery managers and, in the Commission's view, shifting this burden to the Office of Protected Resources and other government and non-governmental entities is inappropriate.

For those reasons, the Commission believes that any entangled large whales initially classified as seriously injured *should* be counted against the potential biological removal level for the purpose of fishery management actions, such as take reduction planning, and that the draft policy and procedure directives should be clarified in this regard. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service revise the draft directives to require that the Service count entangled large whales that are considered seriously injured for the purposes of triggering and guiding take reduction efforts, even if they are successfully disentangled.

Injury categories and criteria for large cetaceans

Section VII E of the draft guidelines provides criteria for distinguishing serious vs. non-serious injuries for large whales. One criterion is entitled "dependent" and states that "unless additional information proves that a dependent calf survives the loss or serious injury of its mother, a confirmed case involving a dependent calf of a dead or seriously injured mother is counted as a serious injury to the calf." The Commission concurs with that criterion, but does not believe that it covers all situations involving dependent calves. In particular, the criterion does not address the plausible scenario in which the calf or the mother is entangled, not considered seriously injured, but the entanglement interferes with successful nursing or maintaining the mother-calf bond. To provide a basis for judging the risks posed to calves by such entanglements, the Marine Mammal Commission recommends that the National Marine Fisheries Service review available data on entanglements of either member of a mother-calf pair and subsequent calf survival to (1) determine if mothers or dependent calves have become entangled and the entanglements were judged to be non-serious injuries, (2) characterize the outcome of any such cases in terms of survival probabilities for the associated calves, and (3) revise this criterion accordingly if the evidence suggests serious risk to the calves.

In addition, the criteria themselves do not address the problem of increasing severity of an injury over time. For example, with time a superficial laceration with line cutting no deeper than the blubber layer (considered a non-serious injury), may become a deep laceration (considered a serious injury). This might be less of an issue if whales with injuries initially judged to be non-serious could be monitored to assess progression of any injury. However, that monitoring is generally not feasible because for the most part, sighting of such whales is opportunistic. Therefore, the Marine Mammal Commission recommends that, if it has not already been done, the National Marine Fisheries Service review its available data to determine how often injuries initially judged to be non-serious have evolved to be considered serious. If such cases have been documented, then the Service should adjust its proposed new guidelines to account for the probability of escalating risks. It is worth noting here that the estimated seriousness of an injury may increase based on a new assessment of the same information, on new information, or an actual change in the injury.

Serious injury of small cetaceans and pinnipeds

The draft guidelines do not, but should, explicitly define the term "small cetaceans" to include all cetaceans other than mysticetes and sperm whales. As with large cetaceans, the Marine Mammal Commission recommends that the National Marine Fisheries Service count entangled small cetaceans and pinnipeds that would be judged as seriously injured when categorizing each fishery and determining if additional take reduction efforts are needed, even when the affected individuals have been disentangled. Here, again, the emphasis should be on prevention of entanglement rather than simply responding to it. Although fishermen deserve credit whenever they successfully disentangle small cetaceans and pinnipeds and release them unharmed, the Commission knows of no system or means for determining with confidence that released animals are not seriously injured. Until the Service has devised such a method of determination, small cetaceans and pinnipeds cannot be excluded from tallies of seriously injured animals. The Service may be able to develop ways to document that such animals are not seriously injured using photographs or observer records. For example, the Service might devise a system that uses photographs or observer records

to characterize the seriousness of injuries (for example, injuries that clearly are not serious could be ranked 0 and those judged serious ranked 1, with intermediate ranks for intermediate level injuries). But until such systems are in place and have been demonstrated as reliable, the Commission does not see a legitimate basis for simply dismissing entanglements of small cetaceans and pinnipeds if they have been released.

Research to improve injury assessments

The Marine Mammal Commission also recommends that the National Marine Fisheries Service expand its policy directives by including a list of research needed to improve injury prevention, response, and assessment efforts in the future. The draft directives note that serious injury totals are likely to be underestimated. The Commission agrees with that assessment because (1) the frequency and seriousness of injuries to large whales is judged more often than not on the basis of opportunistic sightings and resightings that have not been extrapolated to the full population and (2) entangled pinnipeds and small cetaceans are rarely resighted and the full extent and eventual outcome of their entanglement injuries cannot be determined. Despite the Service's efforts to determine the actual seriousness of various injuries, such assessments are confounded by considerable uncertainty because of the difficulty of assessing the full extent of those injuries.

One way to improve such assessments for large whales is to review what is known about the eventual fates of identified individuals that have been disentangled to determine if the estimated severity of their injuries at the time of disentanglement was a reliable predictor of future status. Such information could be used not only to improve predictions of injury severity and fishery management options, but also to improve management decisions regarding the need for intervention by disentanglement teams. Although it may be difficult to extrapolate overall entanglement rates for most large whale species, it might be feasible do so for North Atlantic right whales by calculating the proportion of animals observed entangled during effort-corrected aerial surveys and comparing those proportions to the estimated size of the right whale population. We suggest that the Service explore the feasibility of such an assessment.

Similar assessments also may be possible for small cetaceans and pinnipeds, although such individuals often are more difficult to identify and resight. If disentangled small cetaceans or pinnipeds could be identified in some manner (e.g., tagging or injection with passive integrated transponder tags [i.e., PIT tags]), it might facilitate the collection of information about the accuracy of injury assessment for these types of marine mammals.

The report of the Service's 2007 workshop on serious injury suggests the need for various types of research to improve assessment of serious injuries. It is not clear how much of that research has been attempted or completed. It would be helpful to include and prioritize a list of needed research in these new policy and procedure directives to guide future efforts to more effectively predict, prevent, respond to, and assess such injuries.

I hope the Commission's recommendations and rationale prove helpful. Please contact me if you have any questions.

Sincerely,

Timothy J. Ragen, Ph. D.
Executive Director