MARINE MAMMAL COMMISSION

10 July 2015

Ms. Eileen Sobeck
Assistant Administrator
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Sobeck:

The Marine Mammal Commission (the Commission) appreciates the opportunity to provide preliminary input to the National Marine Fisheries Service (NMFS) as it revises its National Bycatch Strategy[1]. The Commission has consulted with its Committee of Scientific Advisors on Marine Mammals and offers the following comments.

The Commission assumes that, as with the 2003 National Bycatch Strategy, this renewed effort will include marine mammals, given that bycatch (including entanglement in discarded or lost fishing gear) is the greatest direct threat to marine mammals worldwide. Global estimates of annual mortality from bycatch are in excess of 650,000 marine mammals (Read et al. 2006). While there has been considerable progress in reducing bycatch of marine mammals in some U.S. fisheries, there is still room for improvement.

NMFS can play an influential role in addressing the bycatch of marine mammals in the fisheries of many other countries where it remains a severe threat, particularly to small cetaceans subject to incidental capture in gillnets. It can do so through bilateral negotiations, by implementing certification measures for bycatch under the Magnuson-Stevens Fishery Conservation and Management Act, by negotiating for bycatch reduction measures at meetings of regional fishery management organizations (RFMOs), and by providing technical and financial support for bycatch assessments and capacity building. A potentially effective tool available under U.S. legislation, the fishery import provisions of section 101(a)(2) of the Marine Mammal Protection Act (MMPA), has been overlooked until recently, and, regrettably, those provisions have yet to be implemented. The Commission encourages NMFS to accelerate the regulatory process such that access to the U.S. seafood market is conditional on the implementation of marine mammal bycatch measures that are comparable to those in force for U.S. fisheries. Minimizing bycatch in the foreign fisheries that supply over 90% of the seafood to the U.S. market, is an important responsibility of the U.S. government.

The remainder of this letter provides the Commission's response to specific questions raised in NMFS's request for input.

[1] http://www.nmfs.noaa.gov/by_catch/comments.html

What does NMFS do well?

The 1994 amendments to the MMPA, which provided for the establishment of Take Reduction Teams (TRTs) and the development of Take Reduction Plans (TRPs), have resulted in measurable declines in serious injury and mortality of marine mammals in several U.S. fisheries. Also, for some marine mammal stocks, there has been progress in quantifying bycatch and assessing progress on meeting bycatch reduction goals, although insufficient funding is hampering NMFS's ability to fully implement its MMPA mandates to maintain up-to-date stock assessments and document fisheries-related mortality. The Commission believes that more can be done to enforce TRP provisions and to expand take reduction planning to additional fisheries in which marine mammal bycatch levels may be unsustainable.

What can NMFS do better and how can NMFS improve its effectiveness?

NMFS must ensure it is obtaining accurate and complete information on the numbers of marine mammals injured or killed by fisheries and on when, where, and how takes occur. The best data on fisheries bycatch come from observer programs. Marine mammals and the fishing industry both stand to benefit from the decreased regulatory uncertainty that comes from well-designed and statistically valid observer programs. While these programs are expensive, they can be very effective in generating scientifically useful estimates of bycatch.. NMFS has implemented observer programs in several federally-managed fisheries to document marine mammal bycatch, bycatch of other species, and under-sized target species. However, many federally-managed fisheries and most state-managed fisheries[2] do not have adequate observer coverage. Part of the challenge is lack of funding. With a few exceptions, NMFS cannot charge fishing companies or vessel owners for observer programs. The Commission encourages NMFS to continue to seek creative ways to increase funding for observer coverage, whether through the Congressional budget process, state funding, public-private partnerships, donations, or other means. NMFS should also explore how various tax revenues could be used to help ensure adequate observer coverage.

NMFS also needs to improve marine mammal stock assessment in order to determine what levels of bycatch are sustainable. NMFS's guidelines for assessing marine mammal stocks suggest that surveys conducted more than eight years prior should not be used to derive the minimum abundance estimates and associated potential biological removal (PBR), which inform decisions on sustainable bycatch levels (NMFS 2005). NMFS is not meeting this challenge—in the most recent stock assessment reports[3], only 62 percent of marine mammal stocks have minimum abundance estimates and associated PBRs based on survey data that are less than eight years old. Improved precision in marine mammal stock assessments is another means to accomplish more finely tuned bycatch allowances, and potentially additional fishing opportunities. For example, Bisack and Magnusson (2014) determined that greater precision in the Gulf of Maine/Bay of Fundy harbor porpoise stock assessment and the higher resultant PBR would provide benefits to the fishing industry exceeding the additional costs of data collection. This strengthens the case for increased investment in marine mammal stock assessments. Finally, multi-agency programs, such as the Atlantic Marine Assessment Program for Protected Species (AMAPPS), provide excellent examples

[2] Under the MMPA, NMFS has jurisdiction over marine mammals in both state and federal waters.
[3] http://www.nmfs.noaa.gov/pr/sars/region.htm

of what can be achieved when agencies work together to build complementary data collection and research programs.

As noted above, the TRT process has led to measurable reductions in marine mammal bycatch in several U.S. fisheries, but not all of the nine TRTs have been equally effective. For example, the Atlantic Large Whale TRT has not been successful in reducing entanglements of North Atlantic right whales and humpback whales despite multiple revisions to the plan. The Commission's 2015 Annual Meeting addressed some of the factors that have contributed to success, or lack of success, in the TRT process[4]. For example, the ability of a TRT to reach consensus is a key indicator of its success. The Commission therefore urges NMFS to identify ways to provide incentives to TRTs to reach consensus on recommended bycatch reduction strategies. This could be achieved by modifying the TRT guidelines or more actively suggesting alternatives when the TRT process fails to reach agreement on an effective solution. Further, NMFS must be willing to provide timely notification to a TRT during its negotiations when the agency believes that the strategies being discussed will not be effective in achieving the mandated reductions in marine mammal mortality and serious injury, or will not be implementable.

NMFS also needs to account for cryptic mortality from bycatch. There is considerable evidence that a significant percentage of seriously injured and dead marine mammals go undetected (Moore and Read 2008, Williams et al. 2011, Punt and Wade 2012, Barbieri et al. 2013). The carcasses of marine mammals killed as a result of contact with fishing gear in unobserved fisheries may never be detected because fishermen do not report them; they drift out to sea, sink, are scavenged, or strand in remote areas; or they are discovered but the cause of death cannot be determined. Even in observed fisheries, marine mammal deaths can go undetected because observers are not on duty all the time, dead animals drop out of nets or off hooks before the gear is landed, or the live animals break free and carry the gear off to die later somewhere else. Similarly, serious injuries may go undetected because they are not observed and/or reported by observers or fishermen, or because the injuries are not assessed and attributed to fisheries interactions. The Commission has recommended that NMFS ensure adequate observer coverage of all fisheries known or suspected to interact with marine mammals, and to develop alternative strategies for collecting information on mortality and serious injury levels in fisheries for which entanglements or hookings are difficult to detect or quantify using traditional observer and stranding programs (*e.g.*, trap and pot fisheries).

Are there specific science and management approaches NMFS should emphasize?

The Commission encourages NMFS to improve the methodology used to estimate total bycatch of protected species, and ensure that the coefficients of variation of take estimates are no higher than 30 percent.

The Commission has recommended in previous letters to NMFS that testing and evaluation of electronic (video) monitoring of bycatch be expanded to ensure adequate assessment of protected species bycatch, including animals that are brought on board and those that are not. This should include an evaluation of its effectiveness in identifying animals to species, estimating the numbers of animals taken, and characterizing the severity of injuries.

[4] See session summaries and presentations at http://www.mmc.gov/2015_meeting_summary.shtml.

For the Atlantic Large Whale TRT, NMFS needs to continue to identify and address key data needs. For example, the Atlantic large whale and commercial fisheries co-occurrence model used to assess whale bycatch and an alternative were discussed at the Commission's 2015 Annual Meeting[5]. NMFS needs to ensure that the agency's scientists revise the co-occurrence model so that it will provide statistically valid confidence limits around its bycatch estimates.

NMFS should also explore the possibility of consolidating all self-reported bycatch data. Currently, vessel operators are required to report marine mammal bycatch on the Marine Mammal Authorization Program form. Some fisheries also have fish bycatch reporting requirements through their fishery logbooks, which are required as a condition of renewing fishing permits. A consolidated reporting requirement could have all bycatch reported on the same form, rather than requiring fishermen to fill out different forms for different bycaught species. This could increase compliance and timeliness of marine mammal bycatch reporting under section 118 of the MMPA and provide much-needed information on sea turtle and seabird bycatch. In general, self-reported data have been demonstrated to be far less accurate than observer data in reporting of bycatch; consolidating these data into one regular logbook program (along with real-time electronic reporting) is one step to improve the accuracy and timeliness of these data.

In addition to stock assessments, NMFS should continue ongoing research to increase our knowledge of distribution and migratory patterns of marine mammals through telemetry and other means. This information is needed to support the design of mitigation measures such as time/area closures for minimizing marine mammal bycatch.

As noted above, marine mammal stock assessments may be underestimating rates of serious injury and mortality because many injuries and mortalities go unobserved or unreported. Therefore, NMFS should be developing methods and guidelines for estimating cryptic serious injuries and mortalities and for including those estimates in stock assessment reports. The Commission looks forward to working with NMFS on plans for a workshop on cryptic mortality.

NMFS's marine economists encourage the use of a holistic, ecosystem conservation approach that mirrors "offsetting" provisions in terrestrial contexts. For example, high seas longline operators provide technical and financial support for the protection of nesting beaches used by the same sea turtle stocks that are affected by hooking or entanglement in the longline gear. NMFS Office of Science and Technology economists have calculated that there is a substantial return on investment from taking this approach, which considers the full geographical ranges and life cycles of the protected species[6]. In addition, when bycatch reduction involves meeting a specific numerical target, economists can contribute to the process of determining least-cost alternatives, which in turn can free up funds for other bycatch reduction efforts or for meeting other conservation needs. Finally, the Commission encourages NMFS to include non-market valuation of protected species when comparing regulatory alternatives to address bycatch.

[5] http://www.mmc.gov/2015_meeting_summary.shtml
[6] https://www.st.nmfs.noaa.gov/economics/protected-species/cost-benefits

How should NMFS prioritize its activities?

The Commission applauds the NMFS Protected Resources Science Investment and Planning Process for establishing a method for prioritizing protected species stock assessment and other research. Such a national-level, longer-term planning approach can help ensure that priorities are clearly stated, and that if and when partnerships are possible, the most critical needs are met in order of priority. Section 118 of the MMPA establishes some of the priorities for considering marine mammal bycatch in fisheries (e.g., higher priority for Category I and II fisheries and for those with takes greater than the potential biological removal). In addition, the Commission urges NMFS to consider the guidance provided in the Commission's Priorities Report[7]. For example, priority should be given to stocks judged to be in the greatest need of conservation attention (i.e., those that are listed under the Endangered Species Act, depleted under the MMPA, or declining) and particular consideration should be given to programs with the greatest likelihood of success. Further, the Commission suggests that NMFS consider directing research toward elimination of the largest biases and reduction of the uncertainty associated with marine mammal bycatch rate estimation.

Internationally, NMFS should continue to push for marine mammal bycatch measures in RFMOs and at the global level (e.g., the Committee on Fisheries of the Food and Agriculture Organization (FAO)). There has been considerable international progress for sea turtles (including FAO guidelines for reducing sea turtle bycatch), but not as much for marine mammals (e.g., in the area of required reporting of interactions and prohibitions of direct sets). FAO-level efforts provide some of the few tools to address small-scale, artisanal fisheries (i.e., fisheries directed at non-straddling or migratory stocks, with the fishery product consumed domestically), and can boost the likelihood of having such measures adopted in RFMOs.

What kind of incentives would help fishermen to minimize bycatch?

Squires et al. (2014) focused on expanding traditional "command and control" bycatch reduction policies to include measures that create direct economic incentives for vessel operators, including transferable bycatch use rights, taxes, and insurance schemes. Examples include bycatch allocations and "reward" mechanisms used for reducing salmon bycatch in the Alaska pollock fishery[8] and bluefin tuna bycatch in the Atlantic pelagic longline fishery. There are also bycatch "risk pool" measures used for certain west coast groundfish species whose fleet-wide quotas are extremely low.

At the international level, the agreement on mitigating measures for the dolphin-set tuna fishery in the Eastern Tropical Pacific provides an excellent example of how individual allocations of bycatch allowances (i.e., dolphin mortality limits) greatly increased the incentives for operators to reduce the dolphin mortality in their own vessel's sets. Ideally, such schemes should base individual allocations at the start of the fishing season on a vessel's performance in avoiding bycatch in the previous fishing season, and allocations should be transferable. Both of these approaches are used in the provisions for reducing bluefin tuna bycatch in the Atlantic pelagic longline fishery. Economic

[7] http://www.mmc.gov/pdf/final_priorities_rpt_071514.pdf
[8] See description of the program at http://www.atsea.org/doc/Salmon%20Bycatch%20Poster%20FINAL.pdf.

incentives also give fishermen more flexibility in responding to changing environmental and market conditions, and can result in better compliance with fishery regulations.

In the past, NMFS was the main funder of the World Wildlife Fund's (WWF) Smart Gear competition. This program provides excellent incentives for fishermen, gear researchers, and other entrepreneurs to come up with new designs to mitigate bycatch. In 2014 the Commission was able to secure funding from a combination of NMFS headquarters offices, non-governmental organizations, and fishing organizations to sponsor a special marine mammal bycatch prize under Smart Gear. This competition is still underway (re-soliciting submissions) and we understand that WWF is working on redesigning and re-launching the program. The Commission encourages NMFS to consider being a principal sponsor again, particularly to encourage alternative gear development in coastal fisheries whose landings are not destined for the U.S. market. Those fisheries are out of reach of programs focusing on U.S. imports of seafood as well as of RFMO measures, and thus local capacity building and targeted incentive programs are key elements of bycatch reduction strategies.

How can NMFS use partnerships to be more effective?

There is a critical need to create and strengthen partnerships with coastal states to expand observer coverage of vessels operating in state waters, especially for high-risk fisheries (e.g., gillnet fisheries). NMFS can work with state fisheries officials to secure funding and technical support to ensure that observer coverage is in place and fisheries are being monitored in accordance with MMPA requirements.

NMFS should also explore opportunities to expand observer coverage through cooperative research. The Commission submitted comments on 29 June 2015 to NMFS's Office of Policy regarding cooperative research that referred to observer cost needs.

The Commission hopes that NMFS finds these comments to be useful as it prepares its revised National Bycatch Strategy. We look forward to supporting NMFS in these efforts.

Sincerely,

Rebecca J. Lent

Rebecca J. Lent, Ph.D.
Executive Director

References

Barbieri, M.M., S. Raverty, M.B. Hanson, S. Venn-Watson, J.K.B. Ford and J.K. Gaydos. 2013. Spatial and temporal analysis of killer whale (*Orcinus orca*) strandings in the North Pacific Ocean and the benefits of a coordinated stranding response protocol. Marine Mammal Science 29:E448–E462.

Bisack, K.D., and G. Magnusson. 2014. Measuring the economic value of increased precision in scientific estimates of marine mammal abundance and bycatch: Harbor porpoise *Phocoena phocoena* in the northeast U.S. gill-net fishery. North American Journal of Fisheries Management 34(2):311–321.

Moore, J.E., and A.J. Read. 2008. A bayesian uncertainty analysis of cetacean demography and bycatch mortality using age-at-death data. Ecological Applications 18:1914–1931.

NMFS. 2005. Revisions to Guidelines for Assessing Marine Mammal Stocks, 24 pages.

Punt, A.E., and P.R. Wade. 2012. Population status of the eastern North Pacific stock of gray whales in 2009. Journal of Cetacean Research and Management 12(1):15-28.

Read, A.J., P. Drinker, and S. Northridge. 2006. Bycatch of marine mammals in U.S. and global fisheries. Conservation Biology 20(1):163–169.

Squires, D., S.M. Garcia, and E.J. Milner-Gulland. 2014. Conservation and management of fisheries bycatch and megafauna in marine ecosystems: Policy, economic instruments, and technical change. IUCN-CEM-FEG Scientific Workshop, Gland, Switzerland, 7–10 October 2013. 81 pages.

Williams, R., S. Gero, L. Bejder, J. Calambokidis, S.D. Kraus, D. Lusseau, A.J. Read, and J. Robbins. 2011. Underestimating the damage: interpreting cetacean carcass recoveries in the context of the Deepwater Horizon/BP incident. Conservation Letters 4(3): 228-233.