



MARINE MAMMAL COMMISSION

29 December 2015

Ms. Nicole R. LeBoeuf, Chief
Marine Mammal and Sea Turtle Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Ms. LeBoeuf:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the draft National Marine Fisheries Service (NMFS) 2015 stock assessment reports (SARs) for marine mammals occurring in U.S. waters. These reports provide valuable information needed to understand and address important marine mammal conservation issues. The Commission appreciates NMFS's efforts to improve these reports, as well as the opportunity to review them, provide comments, and recommend further improvements. The Commission provides herein some general comments on the issues of mortality and serious injury guidelines and cryptic mortality, as well as comments specific to different regions and stocks.

GENERAL COMMENTS

Estimation of Cryptic Mortality

In its comments on the 2014 SARs the Commission raised the issue of bias in mortality estimates because many marine mammals that die are never found – the “cryptic mortality” problem. The Commission cited a number of studies, including some by NMFS scientists, that indicate that at least for the species analyzed in those studies the bias is large and leads to substantial underestimation of mortality and serious injury. NMFS is well aware of this problem, as evidenced by discussion of, or reference to, cryptic mortality and biased mortality estimates in several stock assessment reports. Although NMFS does extrapolate takes recorded by fisheries observers to estimate the take of an entire fishery, to date NMFS has not included estimates of total mortality (known, extrapolated and cryptic mortality combined) in any SAR. In its 2014 comments the Commission recommended that “NMFS expand its efforts to understand and estimate the recovery rates of carcasses for marine mammal stocks, where the requisite data are available, and to report those estimated rates and their associated uncertainties in future stock assessment reports.” The Commission believes the requisite data are available for many stocks, and that the estimation of total mortality for those stocks could and should be explored.

In NMFS's reply to the Commission's comments NMFS agreed "there is a need to better understand and estimate undetected marine mammal mortalities and serious injuries" (80 Fed. Reg. 50600). In addition, NMFS indicated in its reply that it is working on estimating carcass recovery rates "for some species," and stated that "[w]hen such rates are estimated and it is appropriate to do so, NMFS will report those estimated rates and their associated uncertainties in the SARs on a stock by stock basis." The Commission appreciates NMFS's intention to address the cryptic mortality problem, but asks what the circumstances are that would make it appropriate or not to report on estimated total mortality rates? If the data are not currently sufficient, then what additional data need to be gathered? The Commission recommends that NMFS specify the criteria that it intends to use to assess the appropriateness of its estimates of carcass recovery and cryptic mortality rates, and that it include in its stock assessment survey and research plans the collection of those data that are needed to estimate total mortality for all stocks. The Commission stands ready to assist NMFS in that process, and suggests that it would be beneficial to discuss collaborative opportunities in conjunction with the joint Scientific Review Groups meeting in February.

SPECIFIC COMMENTS

ATLANTIC AND GULF OF MEXICO

Confirmed Human-Caused Mortality and Serious Injury (MSI)

Table 2 (pp 14-17) of the draft 2015 Atlantic and Gulf of Mexico Stock Assessment Reports lists 23 records of North Atlantic right whales that NMFS determined to be mortalities or serious injuries caused by human actions (i.e., ship strikes or entanglements in fishing gear) between 2009 and 2013. The Commission is concerned that this list is incomplete. The Commission recommends that NMFS further analyze available sighting and health records of the six right whale injury cases listed below, which are not currently listed in Table 2, and, as warranted, add these cases to Table 2.

- Adult Female #1151. This whale was seen free of gear and with a calf in the Bay of Fundy on 28 August 2009. A week later, on 4 September, she was resighted alone on Jeffrey's Ledge east of Portsmouth New Hampshire carrying heavy gear with two wraps of line around her rostrum and body. Although the date of the sighting suggests that the calf's nursing period may have been terminated prematurely, the calf survived and was resighted in 2014. All entangling gear was removed from the mother on September 4th 2009. Following disentanglement, she appeared to be swimming normally and, although she showed signs of compromise typical of females completing their calving and nursing cycle, NMFS determined the entanglement had not caused serious injury. However, when she was next seen, in 2011, she was still in a compromised condition, and she had declined further when she was seen for the last time in June 2012. Given this record, we are concerned that the effects of her entanglement may have contributed to her failure to recover from the 2009 calving event and to a long-term decline in her condition/health. The Commission believes this case warrants a conservative redetermination that the 2009 entanglement did result in a serious injury.

- Adult Female #2460. This whale was seen on 4 May 2012 in the Great South Channel in compromised health and with severe entanglement-related scars and wounds on her peduncle, additional entanglement scars on her head, and lesions on her back, but without attached gear. Prior to this she had been seen without those injuries in 2010, when she was accompanied by a calf. She has not been resighted since 4 May 2012. The Commission is concerned that the observed entanglement injuries significantly compromised her health and potential survival, and believes that a conservative injury assessment would warrant listing the scars and wounds observed in 2012 as indicative of a serious injury.
- Adult Male #3398: This whale was seen on 20 July 2012 with extensive entanglement wounds on his peduncle and fluke insertion and additional scars on his mouth and left flipper, and possibly around his blowhole. He was resighted in Cape Cod Bay in April 2013, when he was notably thinner, in worse condition, and had lesions on his back. He was resighted again in April 2014, this time with extensive cyanid coverage of the wounds. When next sighted, in June and August 2014, there were some signs of wound healing, but when resighted in January and April 2015 there were lesions still present on his head and body, although photographs taken at the time were not adequate to assess his body condition. These wounds appear to have compromised his health for more than two years, raising the possibility that he was suffering from chronic effects from the 2012 entanglement. Therefore, the Commission believes that the record justifies a conservative determination of serious injury for this individual.
- Juvenile Female #3946: This animal was affected by two separate entanglement events. She was first seen in Cape Cod Bay on 12 December 2012 gear-free, but with severe entanglement wounds on her peduncle and flukes, and possible additional scars on her head. She was resighted in May and September carrying lines from a new entanglement and showing signs that her condition had declined – she appeared thinner and had developed lesions on her body. She was resighted again in January 2014 still looking thin and with an accumulation of cyanids on her head. When last seen in May 2014 she was confirmed to be free of gear. Given that these wounds appear to have compromised her health for more than two years, we believe that a serious injury determination would be an appropriate and conservative assessment for this individual.
- Adult Female #3692: This animal, accompanied by a calf, was observed on 7 March 2013 off South Carolina with a fresh propeller injury on her right fluke. When she was last sighted in April 2014 in Cape Cod Bay her condition was poor. Her fluke had fallen off, blisters and lesions had formed at several points on her body and head, and she appeared to be thin. Given the decline in her condition following the propeller wound, the Commission believes this case should be considered a serious injury.
- Adult Male #2160: This animal was seen gear-free on 27 April 2013 in Cape Cod Bay with severe scars and a large open wound on his tail stock apparently from an entanglement. He also had rake marks, skin lesions, and poor skin color behind the blowhole, suggesting poor condition. He has not been resighted. Given the severe nature of his wounds and compromised condition, we believe this case should be considered a serious injury.

We understand that NMFS is aware of other similar cases with sighting histories indicating declining health conditions since entanglement or ship strike events between 2009 and 2013 that are not listed above or in Table 2. We urge a reexamination of those other cases as well. We also note that the wealth of resighting data on individuals over periods of up to 40 years offers a rare opportunity for NMFS to correlate the severity of human-caused injuries and the configuration of the entangling gear with subsequent long-term observations of health, condition, and reproductive performance. Similar opportunities exist for analyzing data from North Atlantic humpback whales and from some populations of common bottlenose dolphins. The Commission believes that records from such populations can provide an invaluable basis for refining the current serious injury criteria.

Long-Finned Pilot Whale – Western North Atlantic Stock

The Population Size section of the Atlantic and Gulf of Mexico SARs notes that a Canadian survey in 2007 produced an estimate of 16,058 long-finned pilot whales in waters between Labrador and the Scotian Shelf, but also notes that this estimate is more than eight years old and therefore no longer reliable for current management decisions. A much lower population size estimate of 5,636 whales based on a 2011 survey is now considered to be the best estimate, although it is clear from the report that it is considered to be an underestimate of the total size of the stock. The Commission is concerned that the current assessment report does not do enough to explain the extent to which the total stock size may be underestimated. In this regard, the section on geographic range notes that this stock may be subdivided into two relatively discrete groups, a cold-water population off Labrador and a warmer-water population associated with the Gulf Stream and the Scotian Shelf. The latter group presumably includes long-finned pilot whales that occur in U.S. waters north of Cape Hatteras. The assessment does not break out earlier Canadian surveys to estimate the proportion of overall pilot whale abundance found along the Scotian Shelf, where the warmer-water group occurs. This information would be helpful for estimating the total size of the “warmer water” group that occurs seasonally in U.S. waters. The assessment also notes that the 2011 survey did not include the Scotian Shelf “where the highest densities of pilot whales were observed in the summer of 2006,” and therefore would have led to underestimation of the size of the total population. A description of the summer 2006 survey, which produced a population estimate of 26,535 pilot whales, was deleted from the report because it was no longer current. Nonetheless, some description seems necessary to explain the large difference between results of the 2006 survey and the 2011 survey.

Further analysis of survey results might provide a basis for estimating the proportions of the putative warm-water population of long-finned pilot whales that occupy Canadian waters, the Scotian Shelf, and U.S. waters in summer. This could provide an indication of the magnitude of underestimation of abundance resulting from the 2011 survey of U.S. waters and the Bay of Fundy and, in turn, allow re-estimation of PBR (the potential biological removal). Considering that the previous PBR of 199, based on a minimum abundance estimate of 26,535 from the 2006 survey, is so much higher than the proposed PBR of 35, this analysis could be useful. The Commission therefore recommends that NMFS consider whether further analysis of past surveys could clarify: 1) the proportions of the long-finned pilot whale stock using waters near the Gulf Stream off the U.S. northeast coast and Canada, and (2) the extent to which the new population estimate is negatively biased and the new PBR is set too low.

Short-Finned Pilot Whale – Western North Atlantic Stock

The Status of Stock section of the Short-Finned Pilot Whale – Western North Atlantic Stock assessment report did not state that the average annual human-caused MSI is below the PBR; this conclusion had been included in previous reports for this stock. There is no new statement in the 2015 SAR to describe current MSI totals relative to PBR. Elsewhere the assessment report notes that the PBR for this stock is 159, that the estimated MSI in the pelagic longline fishery was 148, and that at least one short-finned pilot whale was killed in 2013 in a charter boat hook-and-line fishery. Considering the range of error surrounding the bycatch estimate in the pelagic longline fishery, it seems possible that the average annual fishery-related MSI for short-finned pilot whales between 2009 and 2013 could have exceeded the stock's PBR. While it may not be possible to make a definitive statement about whether MSI was above or below the PBR, it seems likely that it was close to or above PBR. The Commission therefore recommends that the deleted sentence be replaced by one stating that while the point estimate for average annual human-caused MSI did not exceed the stock's PBR, it was roughly equal to the PBR and clearly greater than 10 percent of the PBR. Given the possibility that fishery-related MSI was above PBR, the Commission recommends further that the western North Atlantic short-finned pilot whale stock be categorized 'strategic.'

Cetacean Stocks Likely Impacted by the Deepwater Horizon Oil Spill

Most stocks of cetaceans in the Gulf of Mexico are either known or likely to have been adversely affected by the 2010 Deepwater Horizon oil spill (e.g., the Northern Gulf of Mexico stocks of Bryde's whales, sperm whales, and beaked whales, and the oceanic, coastal, bay, sound, and estuary stocks of common bottlenose dolphins). Following the spill, data were collected on many of these stocks as part of the NRDA (Natural Resource Damage Assessment) process. However those data are not yet available to be used in stock assessments. The Commission recommends that NMFS make every effort to publish and release all survey and related data it has on Gulf of Mexico cetacean stocks as soon as the NRDA process is complete, and, where appropriate, conduct new surveys to enable assessments of the extent to which abundances of the Gulf of Mexico cetacean stocks have changed in recent years.

ALASKA

Alaska Native Harvest

Among its comments on the draft 2014 SARs, the Commission recommended that NMFS: 1) "provide an update on the status of the development of a statewide program for monitoring subsistence hunting and harvests," and 2) "[adjust] the language in the SARs ... to reflect these efforts and address the concerns about [the] shortcoming[s]" with regard to reporting subsistence harvests. The Commission recognizes and appreciates the corresponding updates made by NMFS to the 2015 draft SARs for ringed, ribbon, and bearded seals, and encourages NMFS to continue to provide updated information wherever it is available, even if only for a limited number of villages or a subset of years. In addition, the Commission recommends that NMFS pursue the funding necessary for more comprehensive surveys of native harvests of marine mammals. The Commission is open to providing what support it can to NMFS's survey efforts and to helping address the lack of funding for such a program.

North Pacific Right Whale

In the draft 2014 SAR for the North Pacific stock of right whales, NMFS has removed the following statement at the end of the PBR section:

“Regardless of the PBR level, because this species is listed under the Endangered Species Act and no negligible impact determination has been made, no human-caused takes of this population are authorized; PBR for this stock is 0.”

Elsewhere the report states that the eastern stock of North Pacific right whales “is currently the most endangered stock of large whales in the world for which an abundance estimate is available.” In addition, NMFS acknowledges that, by analogy with North Atlantic right whales, North Pacific right whales are at risk of entanglement in fishing gear and ship strike, and that because of limited information on the population, and limited stranding program coverage, these risks cannot be easily quantified. The calculated PBR of 0.05 for this stock suggests that the population could sustain one take in twenty years. However, only one-third of the population of approximately 30 individuals is female, and, therefore, the loss of just one female would have serious consequences for population recovery. Given the status of the population, the risks it faces, and the extreme uncertainty about the magnitude of those risks, the Commission recommends that NMFS replace the statement above with a statement that recognizes that the stock cannot sustain any losses and therefore PBR should be set at zero.

The Commission appreciates the opportunity to provide comments on the draft 2014 marine mammal stock assessment reports. Please contact me if you have any questions regarding the Commission’s rationale and/or recommendations.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

REFERENCES

Robbins, J and D Mattila. 2001. Monitoring entanglements of humpback whales (*Megaptera novaeangliae*) the Gulf of Maine on the basis of caudle peduncle scarring. Unpublished paper number SC/53/NAH/25, submitted to the Scientific Committee of the International Whaling Commission. 9pp.

Volgenau, L., SD Kraus and J Lien. 1995. The impact of entanglement on two substocks of the western North Atlantic humpback whale, *Megaptera novaeangliae*. Canadian Journal of Zoology 73(9): 1689-1698