MARINE MAMMAL COMMISSION

9 January 2017

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

ATTN: Stock Assessments

Dear Chief, Marine Mammal and Sea Turtle Conservation Division:

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) 2016 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 trans-boundary stocks and serious injury guidelines and policies, as well as comments specific to different regions and stocks.

GENERAL COMMENTS

Trans-boundary Stocks

Many stocks that occur in U.S. waters also range into foreign or international waters. Assessing trans-boundary stocks is particularly challenging because they can be distributed widely and be taken by fisheries and/or subject to other threats throughout their range. Assessment of total abundance for such stocks can require substantial survey capacity, and assessment of fishery interactions with such stocks requires the exchange of information with foreign or international organizations and/or governmental agencies. Complete assessment of trans-boundary stocks is essential if our national conservation strategy for marine mammals is to be effective and responsive to the directives of the Marine Mammal Protection Act. Therefore, the Commission recommends that NMFS develop a strategy and plan to collaborate with other nations to improve and/or expand existing surveys and assessments for trans-boundary stocks. Priority should be given to those stocks that are endangered or threatened, hunted, or known to interact significantly with fisheries or other marine activities in international or foreign waters. The goal should be to manage human impacts on trans-boundary stocks using a potential biological removal level calculated for the entire stock, as has been suggested in the proposed revisions to the stock assessment guidelines.

SPECIFIC COMMENTS

ATLANTIC

North Atlantic Right Whale

The second paragraph of the 'Current and Maximum Productivity Rates' section states that right whale per-capita birth rates have been highly variable, but lack a definitive trend. That is true, but the data presented in Figure 2 suggest that the pattern of variability shifted around 2000. Between 1990 and 2000, the per-capita birth rate was substantially higher than the long-term mean in three (27 percent) of those years, close to the mean in two (18 percent) of the years, and substantially lower in six (55 percent) of the years. In contrast, between 2001 and 2012, the rate was substantially higher in four (33 percent) of those years, close to the mean in 6 (50 percent) of the years, and substantially lower in just one (17 percent) of the years. In other words, the mean rate increased substantially from the first to the second period. In addition, one study has pointed to a substantial decline in the birth rate from 2010 on, which coincides with an apparent decline in the population growth rate (Kraus et al. 2016). Those declines have been coincident with sharp declines in right whale numbers at several major feeding habitats, an increase in the occurrence in severe entanglement injuries (Knowlton et al. 2012, Robbins et al. 2015), and declines in animal health based assessments of blubber thickness, skin lesions, and other health assessment parameters (Rolland et al. 2016). The Commission therefore recommends that NMFS undertake a thorough statistical/modeling analysis of these data to determine whether any of these apparent/possible trends are significant, and what effect they are having on the recovery of the stock.

The 'Annual Human Caused Serious Injury and Mortality' section describes right whale mortalities and serious injuries (M&SI) between 2010 and 2014 due to fishery and vessel-related interactions. Table 1 in this section lists 30 M&SI cases, including 24 that were entanglement-related and 6 that were vessel-related. As described below, the Commission is concerned there are other cases that could have been included in the table. The Commission recommends that NMFS, in consultation with independent experts familiar with assessing right whale health, re-examine information on the deaths and injuries of the following right whale cases to determine whether they should be added to the list of M&SI cases on Table 1.

> **Juvenile Female #3705** was sighted by a New England Aquarium research vessel on April 8, 2013 in Cape Cod Bay with part of its right fluke loped off by a vessel propeller. Subsequent sightings in March and April 2014, and March 2016, in Cape Cod Bay indicated the whale's condition had declined since the injury.
>
> **Adult Female #3360** was sighted on 19 March 2014 in Cape Cod Bay gear free but with severe, raw, entanglement wounds on its peduncle and the leading edges of flukes, and at the fluke insertion points. Although subsequent resightings off Florida in January and February 2015, and in Cape Cod Bay in March 2016, revealed that the wounds had not fully healed after two years, and that the animal still has rake marks around the blowholes, a thin layer of body fat, and lesions and blisters on its back.

Juvenile Female #3946 was affected by two separate entanglement events. It was first seen gear free in Cape Cod Bay in December 2012, but with severe entanglement wounds on the peduncle and flukes, and possible scars on the head. It was resighted in September 2013 carrying lines from a new entanglement, looking thinner, with lesions on its body, and signs that its condition had declined. It was resighted gear free again in January 2014, but still looking thin and with an accumulation of cyamids on its head. Subsequent sightings in 2015 and 1016 suggested the wounds were healing but that the animal was in a compromised health condition with lesions and an abnormal skin condition near the blowhole.

Adult Male #2160 was seen gear free in April 2013 in Cape Cod Bay with severe scars and a large open wound its tailstock, possibly caused by an entanglement. It also had rake marks, skin lesions, and abnormal skin color behind the blowhole, suggesting that it was in poor condition.

Whale #1311 was an unrecovered carcass filmed floating off Cape Hatteras, North Carolina by fisherman in August 2013. Line was caught in the baleen, and it had rostrum and head wounds apparently due to line wraps.

Adult Female #3692 was seen with a calf in March 2013 off South Carolina with a fresh, moderate-sized propeller cut on its right fluke. The calf appeared to be gray with a cyamid load on the tail, and it looked to be in a compromised condition. When resighted in April 2014 in Cape Cod Bay, the adult's condition had declined – the injured right tail fluke had fallen off, blisters and lesions had formed at several points on its body and head, and it looked thin.

Adult Male #2810 was photographed in March 2014 by an aerial survey team in the Great South Channel. It had severe entanglement injuries, especially on the tailstock, the right flipper appeared pale in color, and significant rake marks were visible on right side. It was resighted again in April in Cape Cod Bay, possibly in thinner condition.

An unidentified right whale sighted in September 2014 by an aerial survey team in Cape Cod Bay had severe entanglement wounds on its tail stock and looked thin.

Juvenile (4-yr old) Male #4057 was reported by an aerial survey team in February 2014, off Jacksonville, Florida, with a line carrying buoys extending from both sides of its mouth. Responders were able to remove some of the line. The whale had extensive wounds, including a large wound on the head, cyamids along an embedded line and near the blowhole, and it appeared thin. The whale was resighted gear free in April 2015 in Cape Cod Bay with some signs of healing, but it was still badly injured with lesions around callosities on both sides of the head, a cut in the blowhole extending onto the head, rake marks, and a large aggregation of cyamids. A resighting in March 2016 revealed raw skin on peduncle and that the lesions were still present on the head; the other wounds were not visible for assessment.

PACIFIC

Level of Detail

The Commission appreciates NMFS's efforts to consolidate, update and standardize the presentation of data and information in its stock assessment reports. However, the Commission is concerned that important information is no longer being presented, and therefore is not readily available to the public. Previously, the tables presenting data on fisheries-caused M&SI provided data for each of the last five years of available data. However, in the draft 2016 Pacific SARs only summary statistics for the five years are provided. Understanding the impact and potential mitigation of fisheries interactions on marine mammal populations, as well as trends, requires data not only on the mean bycatch rate, but also on its year-to-year changes (e.g., Carretta and Moore, 2015). The Commission recommends that, at a minimum, NMFS continue to report the annual "Percent Observer Coverage" and "Observer Mortality and Serious Injury" data in the 'Human-Caused Mortality and Serious Injury' sections of its stock assessment reports.

The dynamics of some stocks display considerable heterogeneity in time and/or space. In those situations, a complete review of the SAR requires access to the data describing the variability over time or across the stock's distribution. For example, the Hawaiian monk seal SAR states that "trends in abundance vary considerably among subpopulations," and it goes to length to describe some of that variability. However, it does not present the survey and reproductive data for each sub-population and for each year, which makes it difficult for the public to assess the statements made and conclusions drawn in the SAR. The Commission recommends that NMFS provide data, in tables and graphs, specific to different years, areas, and sub-populations, as appropriate, when a stock exhibits important variation along those dimensions. When there is uncertainty, NMFS should err on the side of providing more information.

ALASKA

Subsistence/Alaska Native Harvest

Over the past several years, the Commission has repeatedly recommended that NMFS improve its monitoring and reporting of subsistence hunting and harvest working in collaboration with co-management partners. The Commission recognizes and appreciates the related updates made by NMFS to the SARs, and encourages NMFS to continue to provide updated information wherever it becomes available, even if it pertains only to a limited number of villages or subset of years. Although NMFS has stated its desire to establish a comprehensive, statewide subsistence hunting/harvest monitoring program, it has yet to achieve that goal. The Commission acknowledges the efforts of NMFS's Alaska Fisheries Science Center and Regional Office to develop a list of research/monitoring priorities, solicit additional resources, and coordinate their efforts toward establishing the hunting/harvest monitoring program. Information on subsistence hunting and harvest is becoming increasingly important in the light of the pace of change in the Arctic. Therefore, the Commission recommends that NMFS continue to pursue the funding necessary for comprehensive surveys of subsistence use and native harvest of marine mammals. The Commission remains open to providing what support it can to NMFS's survey efforts and to helping address the lack of funding for such a program.

Ice Seal Abundance Estimates

In the spring of 2012 and 2013, U.S. and Russian researchers conducted aerial abundance and distribution surveys for ice seals over the entire Bering Sea and Sea of Okhotsk. The Commission was encouraged to see preliminary analyses of a subset of these surveys included in the 2015 SARs. Nonetheless, the lack of the complete analysis of these surveys and revisions of the abundance estimates for bearded and ringed seals, in this year's draft SARs is disappointing. The Commission recommends that NMFS make it a priority to complete these analyses and ensure that revised abundance estimates for bearded, ringed, and ribbon seals, based on all available data, are included in the draft 2017 SARs.

Harbor Porpoise: Southeast Alaska Stock

The draft 2016 SAR for the Southeast Alaska stock of harbor porpoise includes new abundance estimates for two sub-regions based on stratified, line-transect surveys conducted from 2010 to 2012. The line-transect abundance estimates were computed with the assumption that g(0), the probability of detection on the trackline, was 1.0, although this is almost certainly not true. As reported in the SAR, estimates of g(0) from other harbor porpoise populations vary from 0.5-0.8. Thus, the true abundance of the population is likely to be 20-50% greater than the estimates reported in the SAR. Nonetheless, the estimates provide a frame of reference for comparisons to harbor porpoise bycatch in the portion of the Southeast Alaska salmon drift gillnet fishery that was monitored in 2012-2013, for which the mean annual M&SI was at least double the corresponding potential biological removal (PBR) level. Further, the total M&SI, which was assumed to be a minimum as only a portion of all M&SI are typically observed, was nearly four times greater than PBR. Although a comprehensive trend analysis was not possible, the SAR reports that: "…an analysis of the line-transect vessel survey data collected throughout the inland waters of Southeast Alaska between 1991 and 2010 suggested high probabilities of a population decline ranging from 2 to 4% per year for the whole study area… [but] when data from 2011 and 2012 were added to this analysis, the population decline was no longer significant." Given this uncertainty and the apparent high levels of M&SI relative to PBR, the Commission recommends that NMFS conduct the necessary analyses to determine an appropriate g(0) to be used in the analysis of line-transect data for this stock, and revise the abundance estimates and PBR calculations accordingly for the draft 2017 SARs. If the reanalysis finds that M&SI still exceeds PBR, then the Commission recommends that NMFS consider forming a take reduction team to address mitigation of bycatch of this stock in the Alaska salmon drift gillnet and related fisheries.

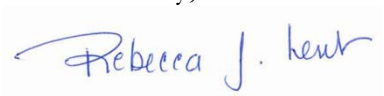
The SARs for this, and other, harbor porpoise stocks notes:

> "In areas outside of Alaska, studies of harbor porpoise distribution have indicated that stock structure is likely more finely-scaled than is reflected in the Alaska Stock Assessment Reports. At this time, no data are available to define stock structure for harbor porpoise on a finer scale in Alaska. However, based on comparisons with other regions, it is likely that several regional and sub-regional populations exist. Should new information on harbor porpoise stocks become available, the harbor porpoise Stock Assessment Reports will be updated."

Consequently, the Commission recommends that NMFS give the determination of harbor porpoise stock structure throughout the region a high priority, particularly for this stock given the potentially high level of fisheries interactions.

The Commission appreciates the opportunity to provide comments and recommendations on the draft 2016 marine mammal SARs. Please contact me if you have any questions regarding the Commission's rationale and/or recommendations.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

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