



MARINE MAMMAL COMMISSION

19 March 2018

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

Re: NOAA–NMFS–2017–0065

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 National Marine Fisheries Service (NMFS) 2017 draft 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 update and 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 issue of improving the consistency of reports among regions; as well as, comments specific to different regions and stocks.

GENERAL COMMENTS

Improving consistency among regions - summary tables

Each SAR contains extensive information pertaining to individual stocks and serves as a valuable reference to scientists and managers. The parameters provided in the summary tables for each region are a vital resource when considering issues involving multiple stocks, or when attempting to manage at regional or national levels. As the summary tables focus on key parameters such as the best available population abundance estimate, the minimum population abundance estimate, and the potential biological removal (PBR) level, there is already some consistency among regions¹. However, the Commission believes the value of the tables would be improved if there were more consistency in the types of information presented and how it is presented. For example, in the summary table for the Atlantic region, values of N_{best} are included, while summary tables for the Pacific and Alaska regions present values of N_{est} . The Commission realizes that both values convey information on abundance but, the inconsistency in use of terminology among regions introduces unnecessary confusion. Other inconsistencies between regions include how mortality and serious injuries are reported, information on the year(s) most recently surveyed, and when revisions were last made to each SAR including which parameters and information were revised. The Commission

¹ Species and stock, coefficient of variation for the abundance estimate (CV), minimum population estimate (N_{min}), maximum productivity rate (R_{max}), recovery factor (F_r), potential biological removal (PBR), total annual serious injury and mortality, annual fishery serious injury and mortality, and strategic status.

recommends that NMFS convene a panel, including SAR authors from all three regions, to identify the key information to be included, decide how to present that information in a consistent manner in the summary tables for all regions, and facilitate the implementation of these changes for the final 2018 SARs. The Commission would be interested in participating in the panel discussions.

SPECIFIC COMMENTS

ATLANTIC

Gulf of Mexico Bryde's Whale

In the Gulf of Mexico Bryde's Whale SAR, the Stock Definition section was revised to include information on acoustic detections in addition to visual sightings, but it did not include citations for the acoustic detections. Sirovic et al. (2013), Rice et al. (2014), and possibly Soldevilla et al. (2017) are three recent studies that reported on acoustic detections of Bryde's whales. Therefore, the Commission recommends that NMFS include the source documents for acoustic detections of Bryde's whales in the Gulf of Mexico and update the map and caption for Figure 1 in the SAR accordingly.

In addition, the Habitat Issues section states that the estimated mortality of Bryde's whales from the Deepwater Horizon oil spill was 3.8 whales between 2011 and 2015, based on population modeling. That mortality estimate (3.8 whales) should be stated in the Human-Caused Mortality and Serious Injury section. Otherwise, it is not clear how NMFS derived an annual mean mortality of 0.7 whales per year for the period 2011-2015, based solely on the reported 22 percent decline in abundance as a result of the oil spill. The Commission recommends that NMFS report the estimate of oil spill-caused mortality of 3.8 whales in the Human-Caused Mortality and Serious Injury section of the Bryde's whale SAR. Further, the Commission recommends that a statement be added to the Current Population Trend section to reflect the projected 22 percent decline in population size resulting from the spill, as was done for the Barataria Bay bottlenose dolphin stock, for example.

PACIFIC

West Coast Humpback and Blue Whale Stock Status

NMFS has reported a substantial recent increase in the number of entanglements of humpback and blue whales on the West Coast. Prior to 2015, no entanglements of blue whales had been reported, but 12 blue whale entanglements were confirmed between 2015 and 2017. From 1982 to 2013, the number of confirmed West Coast entanglements of humpback whales averaged 2.1 animals per year.² In 2014, this rate jumped by a factor of 10, when 20 whales were confirmed entangled. The rate increased further over the next two years, with 35 in 2015, and 54 in 2016. The latest data, although preliminary, show that 16 confirmed entanglements occurred in 2017, a

² Penny Ruvelas, 2016, Large Whale Entanglements on the West Coast: Past, Present, and Future. Presentation to the Pacific States Marine Fisheries Commission Annual Meeting, September 26-27, 2016. NOAA Fisheries, West Coast Region.

decrease from 2016 and 2015, but still well above the levels seen prior to 2014. NMFS has speculated that the spike in reported and confirmed entanglements could: 1) represent an increase in the actual number of entanglements, perhaps due to changes in distribution of whales and/or fishing gear that resulted in greater co-occurrence and therefore more interactions, 2) reflect an increase in the proportion of the actual number of entanglements that were detected or reported, or 3) be some combination of the two. In any case, the substantial number of entanglements of humpback whales that have occurred recently on the West Coast is a matter of concern and, in the worst case, may reflect a problem that has gone undetected for much longer. While some entanglements of both species caused only non-serious injuries, the majority resulted in serious injury or death. The draft 2017 SAR for CA/OR/WA humpback whales reports that from 2011 to 2015, roughly 38 humpback whales (7.6 per year) were killed or seriously injured as a result of entanglements in commercial pot or trap gear used to catch Dungeness crabs, spot prawns, spiny lobster or sable fish. The number of humpback whale mortalities and serious injuries (M/SI) is likely much larger because many entangled whales could not be identified to species, and because many whales killed by entanglement are never found.

With the addition of M/SI from other causes (e.g., entanglements in other gear types and ship strikes), the average confirmed M/SI over 2011-2015 was 9.2 whales per year, which is very close to the PBR of 11 whales for this stock. Considering undetected entanglements, the average M/SI of humpback whales almost certainly was greater than PBR for this period. The uncertainty associated with undetected M/SI is compounded by undetected ship strikes. A recent modeling paper estimated that the number of humpback whale deaths on the West Coast due to ship strikes was on the order of twice PBR (Rockwood et al. 2017). The same paper estimated that the number of blue whale deaths due to ship strikes exceeded the stock's PBR by a factor of 7.8. This is one of two papers assessing large-whale ship-strike risk on the West Coast published in 2017 (see also Nichol et al. 2017). Neither paper was cited in the draft 2017 Pacific SARs. The Commission is aware that at least the Rockwood paper came to NMFS's attention after the 2017 meeting of the Pacific Scientific Review Group (PSRG) but was not included in the SARs because it had not been considered by the PSRG.

As noted above, between 2015 and 2016, the number of confirmed humpback whale entanglements on the West Coast jumped from 35 to 54. Thus, it was virtually certain that M/SI would exceed PBR when the 2016 data were included in the analyses for the 2018 SARs. This increase would have prompted NMFS to take additional management action (e.g., consider the development of a take reduction plan). The Marine Mammal Protection Act (MMPA) requires SARs for strategic stocks be reviewed at least annually and updated when necessary, as in the case of a significant increase in M/SI. However, the PSRG will not be presented with a revised 2018 SAR for the CA/OR/WA humpback whale stock, or the Central North Pacific blue whale stock, to review at their meeting March 21-23, 2018. This means that consideration of actions the agency might take to mitigate large whale entanglements on the West Coast likely will be delayed a year.

Given recent increases in entanglements and in M/SI, the Commission finds the delay in reviewing these two stocks unacceptable and recommends that NMFS either incorporate the best available science into the 2017 SARs or prepare draft 2018 SARs for the West Coast humpback and blue whale stocks, to be reviewed intersessionally by the PSRG, so that they can be included in the final 2018 SARs.

ALASKA

Subsistence/Alaska Native Harvest

Information on subsistence hunting and harvest is becoming increasingly important in light of the pace of changes occurring in the Arctic and sub-Arctic. Over the past several years, the Commission has repeatedly recommended that NMFS improve its monitoring and reporting of subsistence hunting and harvest in collaboration with its co-management partners. The Commission appreciates the updates made by NMFS to the SARs in response to these recommendations and encourages NMFS to continue to provide updated information whenever it becomes available, even if it pertains only to a limited number of villages or a subset of years.

Tracking the numbers of marine mammals successfully hunted as well as the numbers struck and lost, is critical to the management of harvested stocks. The Commission was therefore disappointed by the absence of struck and lost data in the U.S. subsistence harvest information for four stocks³ of beluga whales in the draft 2017 SARs (struck and lost numbers were included for Canadian harvest of the Beaufort Sea stock). U.S. harvest struck and lost numbers had been presented in the previous SARs for these stocks. NMFS noted that the numbers were removed this year due to “inconsistencies in reporting.” However, the Commission encourages the inclusion of all available data, with any uncertainties or needed explanations about the values noted in the SAR. Therefore, the Commission recommends that NMFS include all available data in the SARs and clearly delineate landings, struck and lost, and total numbers harvested for each beluga whale stock. The Commission also recommends that NMFS work with the Alaska Beluga Whale Committee to improve the completeness of and consistency in reporting harvest data, with a focus on struck and lost information for these stocks.

Harbor Porpoise: Southeast Alaska Stock

In its comments on the draft 2016 SAR for the Southeast Alaska (SEAK) stock of harbor porpoises, the Commission noted the inclusion of new abundance estimates for two sub-regions based on shipboard, 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 accurate. As reported in that SAR, estimates of $g(0)$ from vessel surveys of other harbor porpoise populations vary from 0.5-0.8. In its response to this comment, NMFS reported that preliminary data had been collected and ongoing analyses would allow a preliminary estimate of $g(0)$ to be provided. However, a new estimate has not been provided either in the draft 2017 SAR, or in the draft 2018 SAR, which was recently reviewed by the Alaska Scientific Review Group (AKSRG). The Commission recommends that NMFS complete its analyses as quickly as possible and include at least preliminary results in the 2017 SAR before it is finalized or, if that is not possible, in the draft 2018 SAR before it is released for public comment. In either case, the Commission believes that the AKSRG should be given an ‘out-of-session’ opportunity to review the new estimate.

In addition, in its response to Commission comments, NMFS stated that the “use of existing values for $g(0)$ is probably inappropriate given potential differences in populations, species, or study areas.” Nonetheless, in the absence of a revised estimate for this population, the Commission

³ Bristol Bay, Eastern Bering Sea, Eastern Chukchi Sea, and Beaufort Sea stocks.

believes the most parsimonious and appropriately precautionary approach would be to use the smallest correction factor obtained from shipboard surveys of other populations of harbor porpoises. Alternatively, NMFS could choose the value, or mean of the values from the study, or studies, that most closely matches the SEAK population and survey in terms of factors that most significantly influence $g(0)$. The Commission suggests that, in the absence of a $g(0)$ estimate specific to the SEAK population, it would be appropriate to use the best available and most appropriate value from other populations of harbor porpoises.

For several years, NMFS has been reporting an M/SI estimate for the SEAK population of harbor porpoises based on data obtained by fisheries observers from the Yakutat salmon set gillnet fishery in 2007 and 2008, and from the SE Alaska salmon drift gillnet fishery in 2012 and 2013 (Districts 6, 7 and 8, only). That M/SI estimate, of 34 porpoises per year, is considered to be a minimum because observations did not cover all the gillnet fisheries with the potential to take SEAK harbor porpoises. In addition, the estimate is imprecise (aggregate CV = 0.77) because of the very low observer coverage rates on which it is based (5.3 to 7.6 percent per year).

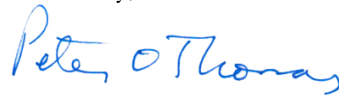
Prior to 2017, because of the substantial uncertainty in M/SI estimates, NMFS classified the SEAK harbor porpoise stock as 'strategic' under the MMPA. In the draft 2017 SAR, NMFS proposed classifying the stock as 'strategic' in light of the large difference between the estimated M/SI and the calculated PBR. Because of the bias in PBR associated with the $g(0)$ estimate described above, the problem could be less severe than it appears or, because of the incomplete observer coverage, it could be worse. Additionally, knowledge of other harbor porpoise populations and preliminary research results presented at the 2018 Alaska SRG meeting suggest that it is quite possible that what currently is delineated as the SEAK harbor porpoise stock in fact consists of two or more stocks. Until the stock structure, and the PBR and M/SI for each stock, are known with more certainty, the magnitude of the threat posed by gillnet fishing will not be fully apparent. In any case, applying the best available science and taking into account the uncertainty in the assessment, it is most likely that the level of take of SEAK harbor porpoises by gillnet fisheries is unsustainable.

The uncertainty over how serious the bycatch problem is centers on three factors: 1) statistical uncertainty in the bycatch rate, 2) bias in the value of PBR, and 3) uncertainty regarding stock structure. To address these issues, the Commission recommends that NMFS undertake the following:

1. Provide funding and work with the State of Alaska to increase observer coverage throughout all gillnet fisheries in SEAK to a level that will produce a bycatch estimate with a CV less than 0.3;
2. Improve the accuracy of the abundance estimate by using the best available estimate of $g(0)$ for this population or an appropriately selected estimate from a similar population, and;
3. Continue to give high priority to funding and conducting innovative eDNA investigations of SEAK harbor porpoise stock structure by the Alaska Fisheries Science Center.

The Commission appreciates the opportunity to provide comments and recommendations on the draft 2017 marine mammal SARs. Please contact me if you have any questions regarding the Commission's rationale and/or recommendations.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

cc: Erin Summers, Chair Atlantic Scientific Review Group
Grey Pendleton, Acting Chair Alaska Scientific Review Group
Tim Ragen, Acting Chair Pacific Scientific Review Group

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