29 April 2024

Dr. Zachary Schakner
Protected Species Science Branch
Office of Science and Technology
National Marine Fisheries Service
1315 East-West Highway
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ATTN: Stock Assessments, NOAA–NMFS–2023–0019

Dear Dr. Schakner:

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) draft 2023 stock assessment reports (SARs) for marine mammals occurring in U.S. waters (89 Fed. Reg. 5495). 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 is providing general comments on meeting the Marine Mammal Protection Act (MMPA) requirements pertaining to preparing SARs as well as comments specific to different regions and stocks.

GENERAL COMMENTS

Requirements of MMPA section 117

Section 117 of the MMPA requires that marine mammal SARs include a minimum population estimate (N_{min}) for the stock, and an estimate of the annual human-caused mortality and serious injury (M/SI) for the stock by source. Estimates of N_{min} and M/SI are essential to establish the status of the stock (strategic or non-strategic) and to determine necessary management actions, particularly those governing the taking of marine mammals incidental to commercial fishing operations. The Commission recognizes the large effort required to collect and synthesize data and conduct analyses to provide these estimates, and commends NMFS scientists for providing revised SARs for 66 marine mammal stocks, including updated N_{min} information for 47 stocks, and revised M/SI estimates for 35 stocks. However, the Commission continues to be concerned about the number of marine mammal stocks for which N_{min} remains "unknown", and the number of stocks for which M/SI is "unknown" or is provided only as a minimum estimate (in some cases, zero) due to lack of fisheries observer data, extremely low numbers of recovered strandings, or both.

Minimum population estimate – N_{min} is a key factor for calculating a stock's potential biological removal (PBR) level, yet information concerning N_{min} in the draft SARs is lacking and listed as "unknown" for 76 of the 252 (30%) marine mammal stocks under NMFS jurisdiction. While this is an improvement over previous years (37% in 2018, 35% in 2019, 34% in 2020, 33% in 2021, 32% in

2022), it is still unacceptable that this important metric is "unknown" for nearly one-third of marine mammal stocks that occur in U.S. waters. The Commission has repeatedly expressed concerns about the large proportion of stocks for which N_{min} is "unknown," and in its comments on the 2022 draft SARs, pointed out that omitting any estimate of the minimum population size does not comport with the statutory requirements. Including some estimate of N_{min}, even if negatively biased and based on limited information, would be more in keeping with section 117 and more useful for management purposes. As reflected in the statutory definition of "minimum population estimate," when available scientific information on abundance is scant, the value selected should be an estimate that "provides reasonable assurance that the stock size is equal to or greater than the estimate."

The Commission understands that the primary reason for the lack of reliable information on abundance for certain stocks is insufficient resources, including personnel, funding to support field work, and access to the platforms needed to conduct the necessary surveys. The Commission notes that collection of the data underlying many of the updated abundance estimates in the current SARs was made possible through collaborative studies with other agencies, such as the Bureau of Ocean Energy Management (BOEM) and the U.S. Navy, which have a shared interest and regulatory need for information on marine mammal abundance and distribution. In fact, the abundance estimates included in 23 of the 31 draft revised SARs for stocks in the Atlantic region were derived from data collected as part of the Atlantic Marine Assessment Program for Protected Species (AMAPPS; NMFS 2022). The Commission continues to strongly support these collaborative studies and has recommended to BOEM on numerous occasions that it continue to fund various marine assessment studies[1,2,3], including AMAPPS, the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS), the Pacific Marine Assessment Program for Protected Species (PacMAPPS), and the Aerial Surveys of Arctic Marine Mammals (ASAMM). However, it is essential that base funding for marine mammal abundance surveys sufficient to yield the information mandated by section 117 of the MMPA be part of NMFS's annual budget requests. The Commission therefore recommends that NOAA leadership include requests and allocate appropriate resources to meet the requirements of the MMPA. Updated information regarding the status of marine mammals in U.S. waters should be a high priority for the agency.

In its most recent Guidelines for Assessing Marine Mammal Stocks (GAMMS)[4], rather than setting N_{min} values to "unknown" when 8 years have elapsed since the most recent survey, NMFS's policy is to adjust estimates of N_{min}, where appropriate, "to account for potential abundance changes that may have occurred since the last survey". The Commission supports this approach and recommends that NMFS continue its efforts to refine and identify scientifically robust analytical approaches to be used across regions, as SARs are updated, to include an estimate of N_{min} that provides reasonable assurance that current abundance is at least that large, uses the best available scientific information, and appropriately accounts for, or at least describes, sources of uncertainty and known or suspected biases.

Consistency in reporting human-caused mortality and serious injury – In the draft SARs summary tables, M/SI is "unknown" for 24 (10%) and zero for 61 (24%) of the 252 stocks. It is difficult to envision a scenario in which NMFS can state definitively that there is no human-caused mortality or serious

[1] https://www.mmc.gov/wp-content/uploads/2024-04-26-Brown-and-Cluck-BOEM-AMAPPS-support.pdf
[2] https://www.mmc.gov/wp-content/uploads/23-07-21-BOEM-FY2024-2025-Environmental-Studies-Program.pdf
[3] https://www.mmc.gov/wp-content/uploads/20-12-09-Cluck-BOEM-FY22-23-Environmental-Studies-Program.pdf
[4] NMFS. 2023. Guidelines for Preparing Stock Assessment Reports Pursuant to the Marine Mammal Protection Act. https://www.fisheries.noaa.gov/s3/2023-05/02-204-01-Final-GAMMS-IV-Revisions-clean-1-kdr.pdf

injury. In fact, many of the SARs for stocks with M/SI given as zero discuss credible risks of fisheries-related mortality. For example, fisheries-associated and total human-caused M/SI for the North Pacific right whale (NPRW) is listed as zero in the Alaska region summary table of the draft SARs, but the NPRW SAR text states that interactions with fisheries "almost certainly exist" and that similar to right whales in the North Atlantic, which are highly vulnerable to ship strike, "it is likely that right whales in the North Pacific are also vulnerable". This is further underscored by recent modeling efforts that indicate even for the rigorously monitored North Atlantic right whale stock, only 36% of mortalities are documented by observation of a carcass (Pace et al. 2021). The fact that there are no reports of human-caused M/SI for NPRW reflects the very low probability that such interactions would be observed or otherwise documented (e.g., through recovery and necropsy of a carcass). It would be more appropriate to list the M/SI as "≥0", as is done for some stocks in the SARs for the Pacific region, or as "unknown", as is done for some stocks in both the Pacific and Atlantic regions. Alternatively, NMFS could explicitly report both "documented" and "estimated" M/SI. For many stocks, documented M/SI might be zero because no mortalities or serious injuries are observed, but estimated M/SI might be greater than zero based on other information (e.g., what is known about the species or similar species, spatial overlap with fisheries, likelihood of observing or documenting M/SI). Regardless, NMFS should be explicit and consistent across SARs in the reporting of M/SI. The Commission recommends that NMFS establish a consistent approach for describing M/SI within the text of the SARs, adhering to the current GAMMS, and for reporting total human-caused and fisheries-related M/SI in the summary tables by region.

Documentation of human-caused mortality and serious injury – In total, M/SI is "unknown" or zero for 85 (34%) of the 252 marine mammal stocks listed in the draft SAR summary tables. Many additional stocks have very low M/SI estimates based on a minimum count that is known or believed to be a substantial underestimate of actual mortality and serious injury. The Commission is extremely concerned about this inadequate documentation of M/SI for such a large proportion of stocks.

Information to estimate M/SI can be collected in multiple ways, including fishery observer programs, level-A and human interaction stranding reports, and opportunistic reports from maritime or airborne platforms. The Commission has previously expressed concern that fishery observer coverage is inadequate, and in some cases, fisheries with the potential to take marine mammals go unobserved entirely.[5] Stranding networks also play a crucial role in collecting M/SI information, yet coverage is limited in many areas and network members often do not have sufficient resources to respond to reports of stranded marine mammals, or lack appropriate training to conduct necropsies of recovered carcasses, limiting their ability to assess whether or not fishery, vessel, or other types of human interactions contributed to a marine mammal's injury or death. Active surveillance (systematic aerial or vessel-based surveys designed specifically to search for carcasses) can be costly, and therefore has to-date been limited.

Notwithstanding these limitations, the Commission appreciates NMFS's initiative to test new technologies, such as electronic monitoring on fishing vessels to lower costs and increase monitoring and reporting of incidental takes of marine mammals in commercial fisheries. For example, the NMFS Alaska Marine Mammal Observer Program, in partnership with Archipelago Marine Resources, is currently testing the feasibility of electronic monitoring in the Southeast Alaska gillnet fishery to detect and quantify harbor porpoise bycatch.

[5] https://www.mmc.gov/wp-content/uploads/18-12-17-Bettridge-Draft-2018-SARs-letter.pdf

The Commission offers two specific recommendations to increase the effectiveness of efforts to detect, document, and report M/SI. First, the Commission recommends that NMFS direct resources sufficient to provide adequate observer coverage in fisheries with the potential to take marine mammals, and to support the development of new technologies to improve the effectiveness of marine mammal monitoring programs. Along with electronic monitoring on fishing vessels, uncrewed systems and automated processing of satellite and other imagery provide potential to expand capacity for active surveillance, particularly for offshore waters and remote areas. Such active surveillance would not only increase the probability of detecting carcasses, but could also help to reduce the bias introduced by non-systematic sampling, which often occurs with passive stranding surveillance. Second, the Commission recommends that NMFS direct funding to Prescott and other grant programs that support projects to improve our ability to understand and quantify human-caused M/SI, and that data on M/SI derived from the stranding network be used in a consistent manner in the SARs.

Other factors that may be causing a decline or impeding recovery of marine mammal stocks – In addition to estimates of N_{min} and M/SI, section 117(a)(3) of the MMPA requires that, for strategic stocks, SARs include information on "other factors that may be causing a decline or impeding recovering of the stock, including effects on marine mammal habitat and prey." The information on "other factors" is an important component of these SARs, particularly information on how climate change and climate variability are affecting and expected to affect marine mammal stocks for decades to come (Gulland et al. 2022; Lettrich et al. 2023). The recently revised GAMMS provide guidance for addressing these "other factors", which may include, but are not limited to: predation, infectious disease, contaminants, toxins from harmful algal blooms, sublethal and non-serious injuries from entanglements, marine debris, vessel strikes, or other human activities, and climate-related environmental variability and change that affect marine mammal health, survival, or reproduction. The Commission recognizes that many of the draft SARs include well-researched and comprehensive discussions of such factors that are or may be affecting the stock. However, whether and how these factors are discussed is inconsistent across stocks and regions. These issues are described in more detail in the comments for the each of the three regions. The Commission recommends that NMFS coordinate across regions to ensure that "other factors" are adequately and consistently described in future SARs for strategic stocks as required under section 117(a)(3). Consistent with language in the updated GAMMS, the Commission encourages NMFS also to discuss these factors for non-strategic stocks when appropriate.

Scientific Review Group input – The Joint Scientific Review Group (SRG) meeting scheduled for 2025 should provide an opportunity for additional review of the Commission's recommendations and coordination across regions on the priority topics raised above, including:

- methods to derive and improve estimates of N_{min}, including methods to integrate data from multiple sources with particular consideration given for transboundary stocks;
- ways to better account for unobserved mortality and serious injury; and
- coordination across NMFS regions to ensure that "other factors" are adequately and consistently described.

The Commission looks forward to working with NMFS as it develops the agenda and plans for this meeting.

Timing of the SARs release

Once again, the draft 2023 SARs were not made available for public comment (89 Fed. Reg. 5495) until after the end of the year (29 January 2024), the same time that the initial drafts of 2024 SARs were circulated to the SRG members and the Commission. As the Commission noted in its letter commenting on the draft 2022 SARs[6], having two sets of SARs under review at the same time creates confusion, and raises the question of whether the SARs out for public review truly contain the "best scientific information available" because the newer initial draft SARs may contain more recent information. The Commission reiterates its previous recommendation that NMFS make the draft SARs available for public comment no later than the end of September each year. The Commission further recommends that NMFS proactively incorporate all recommendations provided in this letter if the recommendation is also applicable for the 2024 SARs.

ADDITIONAL SPECIFIC COMMENTS

Atlantic

NMFS revised 31 of the 116 Atlantic regional SARs, with 21 of the revised SARs providing new information on abundance and 14 providing updated M/SI information.

The Commission appreciates that NMFS includes a section on other factors that may be causing a decline or impeding recovery of the stock for all updated Atlantic region SARs, both for strategic and non-strategic stocks. Many of these sections include very useful descriptions of habitat, population health, or sublethal human interaction issues that are specific to the stock. However, several general paragraphs on the effects of persistent contaminants, prey distribution shifts, and anthropogenic noise were included in several of the draft SARs, including all of those for strategic stocks. The Commission recommends that NMFS tailor each section appropriately to the individual stock.

Bottlenose Dolphin Barataria Bay Estuarine System Stock – The Commission appreciates the update to the SAR for the Barataria Bay Estuarine System Stock of common bottlenose dolphins, which includes new information on population health issues, the status of the mid-Barataria sediment diversion (MBSD) project, and the catastrophic declines that are predicted for the population as a result of the MBSD project's operation. The Commission notes, however, that the abundance estimates for the stock have not been updated, and that five years have elapsed since the last photo-identification survey was conducted in Barataria Bay, despite evidence of long-term effects on dolphin survival and reproduction resulting from the *Deepwater Horizon* oil spill (Schwacke et al. 2022). Given the substantial impacts from the *Deepwater Horizon* oil spill, and the fact that construction of the MBSD project has already begun, regular monitoring of the stock is critical both to assess its recovery following the oil spill and to establish the current population trend prior to the beginning of MBSD operations. The Commission recommends that NMFS immediately conduct a comprehensive photo-identification survey to support capture-mark-recapture analyses to document current abundance and distribution, and that NMFS establish a schedule to conduct these surveys at regular and appropriate intervals thereafter.

[6] https://www.mmc.gov/wp-content/uploads/23-04-24-Schakner-Draft-2022-Stock-Accessment-Reports-Letter.pdf

Gray Seal Western North Atlantic Stock – The Commission has expressed concern about the inadequacy of the estimates of incidental take of gray seals in commercial fisheries in several previous letters.[7] Numerous known serious injuries resulting from entanglement are not accounted for and the estimates of human-caused mortality and serious injury therefore are not based on the best available scientific information. The Commission was pleased to see the addition of the section on "serious injuries from U.S. commercial fisheries using stranding data" in the current draft SAR and this is an important step forward. However, this does not fully address the problem we raised because live entangled seals are not routinely captured in stranding data (NMFS 2021). The Commission recommends that NMFS continue efforts to assess and account for gray seal serious injuries and looks forward to seeing the results reflected in future SARs. This work, along with efforts to individually identify gray seals and improve reporting of entangled seals, is important for assessing and reducing the high level of fisheries-related mortality and serious injury. This is particularly important because reported fisheries-related mortality by itself is approaching PBR and it is plausible that the true M/SI already exceeds PBR.

Alaska

NMFS revised four SARs for the Alaska region, and drafted a SAR describing a new stock (Sato's beaked whale). New abundance estimates were provided in three of the revised SARs, and M/SI information was revised for all but the newly defined stock. Other factors that may be causing a decline or impeding recovery of the stock were described for all three of the strategic stocks with revised SARs.

The section on annual human-caused mortality and serious injury in each of the updated or new Alaska region SARs states that "Information for each human-caused mortality, serious injury, and non-serious injury reported for NMFS-managed Alaska marine mammals between 2017 and 2021 is listed, by marine mammal stock, in Freed et al. (in prep)". The Commission recognizes that Freed et al. (in prep) is a technical memorandum that is periodically updated to report human-caused mortality and injury for the most recent five-year period. While the Commission encourages the use of the best available science for preparing the draft SARs, this information needs to be available at the time that NMFS solicits public comments for the draft SARs to enable informed review. The Commission recommends that NMFS ensure that this report is available to the public, or make the information otherwise available, for example in a preliminary or abbreviated format, prior to releasing the final 2023 SARs.

Pacific

NMFS revised 30 SARs for the Pacific region, with 23 providing new information on abundance and 17 providing updated M/SI information.

Pantropical spotted dolphin, Hawai'i Island Stock – The SAR states that mean annual takes are undetermined for this stock, as well as for the O'ahu and Maui Nui Stocks. While the summary table lists M/SI as "unk" for the O'ahu and Maui Nui Stocks, it lists both fisheries and total human-

[7] https://www.mmc.gov/wp-content/uploads/18-12-17-Bettridge-Draft-2018-SARs-letter.pdf; https://www.mmc.gov/wp-content/uploads/21-03-09-Schakner-Draft-2020-SARs-Letter.pdf; https://www.mmc.gov/wp-content/uploads/22-01-24-Schakner-Draft-2021-SARs-Letter.pdf; https://www.mmc.gov/wp-content/uploads/22.08.31Taylor-NMFS-SI-Procedural-Directive-Proposed-Revision.pdf

caused M/SI as "≥0.2" for the Hawai'i Island Stock. The Commission recommends that NMFS either provide explanatory text within the SAR to justify the estimate of "≥0.2" for M/SI, or change the estimate to be "unk".

Harbor seal, Washington Inland Waters Stocks – The SAR cites Pearson et al. (in review) in multiple places within the SAR, including its updated abundance estimates, current population trend, and maximum net productivity estimates. While the Commission encourages the use of the best available science for preparing the draft SARs, this information needs to be available at the time that NMFS solicits public comments for the draft SARs to enable informed review. The Commission recommends that NMFS ensure that this manuscript, or the information contained therein, is available to the public prior to releasing the final 2023 SARs.

Sperm whale – California/Oregon/Washington Stock, blue whale – Eastern North Pacific Stock; fin whale – California/Oregon/Washington Stock; sei whale – Eastern North Pacific Stock – Descriptions of "other factors" that may be causing decline or impeding recovery were not included in the revised SARs for these four strategic stocks. The Commission recommends that NMFS revise these SARs to describe any other factors and, if there are no data to indicate that other factors may be affecting the stock, then this should be clearly stated.

The Commission appreciates the opportunity to provide comments and recommendations on the 2023 draft SARs. Please contact me if you have any questions regarding the Commission's rationale or recommendations.

Sincerely,

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

cc: James Powell, Chair, Atlantic Scientific Review Group
Richard Merrick, Co-Chair, Atlantic Scientific Review Group
Megan Peterson Williams, Acting Co-Chair, Alaska Scientific Review Group
Greg O'Corry-Crowe, Acting Co-Chair, Alaska Scientific Review Group
Doug DeMaster, Chair, Pacific Scientific Review Group

References

Gulland, F.M.D., J. D. Baker, M. Howe, E. LaBrecque, L. Leach, S.E. Moore, R.R. Reeves, and P.O. Thomas. 2022. A review of climate change effects on marine mammals in United States waters: Past predictions, observed impacts, current research and conservation imperatives. Climate Change Ecology. Volume 3. https://doi.org/10.1016/j.ecochg.2022.100054

Lettrich, M.D., M.J. Asaro, D.L. Borggaard, D.M. Dick, R.B. Griffis, J.A. Litz, C.D. Orphanides, D.L. Palka, M.S. Soldevilla, B. Balmer, S. Chavez, D. Cholewiak, D. Claridge, R.Y. Ewing, K.L. Fazioli, D. Fertl, E.M. Fougeres, D. Gannon, L. Garrison, J. Gilbert, A. Gorgone, A. Hohn, S. Horstman, B. Josephson, R.D. Kenney, J.J. Kiszka, K. Maze-Foley, W. McFee, K.D. Mullin, K. Murray, D.E. Pendleton, J. Robbins, J.J. Roberts, G. Rodriguez-Ferrer, E.I.

Ronje, P.E. Rosel, T. Speakman, J.E. Stanistreet, T. Stevens, M. Stolen, R. Tyson Moore, N.L. Vollmer, R. Wells, H.R. Whitehead, and A. Whitt. 2023. Vulnerability to climate change of United States marine mammal stocks in the western North Atlantic, Gulf of Mexico, and Caribbean. PLoS One. https://doi.org/10.1371/journal.pone.0290643

Pace III, R.M., R. Williams, S.D. Kraus, A.R. Knowlton, and H.M. Pettis. 2021. Cryptic mortality of North Atlantic right whales. Conservation Science and Practice, 3(2), p.e346.

NMFS. 2021. 2021 Revision Examiners Guide. Silver Spring, Maryland, USA. 61 pages. https://media.fisheries.noaa.gov/2021-07/EXAMINERS%20GUIDE_2024%20FINAL.pdf

NMFS (Northeast Fisheries Science Center and Southeast Fisheries Science Center). 2022. 2021 Annual report of a comprehensive assessment of marine mammal, marine turtle, and seabird abundance and spatial distribution in US waters of the Western North Atlantic Ocean – AMAPPS III. 125 pages. https://repository.library.noaa.gov/view/noaa/41734

Schwacke, L.H., T.A. Marques, L. Thomas, C.G. Booth, B.C. Balmer, A. Barratclough, K. Colegrove, S. De Guise, L.P. Garrison, F.M. Gomez, J.S. Morey, K.D. Mullin, B.M. Quigley, P.E. Rosel, T.K. Rowles, R. Takeshita, F.I. Townsend, T.R. Speakman, R.S. Wells, E.S. Zolman, and C.R. Smith. 2022. Modeling population effects of the Deepwater Horizon oil spill on a long-lived species. Conservation Biology 26(4): e13878. https://doi.org/10.1111/cobi.13878