

ALASKA REGIONAL SCIENTIFIC REVIEW GROUP

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Mr. Chris Oliver
Assistant Administrator for Fisheries
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910
transmitted by electronic mail

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Dear Mr. Oliver:

The Alaska Regional Scientific Review Group (AKSRG) held its annual meeting on 26-27 February 2019 at the National Marine Fisheries Service (NMFS), Alaska Fisheries Science Center in Seattle, Washington. Our agenda included review of 2019 marine mammal stock assessment reports (SARs), detailed orientation of new members to the role of the AKSRG, and research and policy updates from NMFS staff on issues associated with the status and assessment of Alaska’s marine mammal stocks.

Subsistence harvest data

Currently, reported ice seal harvest is presented as a minimum total within the SARs for both ringed and bearded seals, resulting in a gross underestimate of the total harvest. For example, the minimum number of bearded seals harvested in Utqiagvik (Barrow) was 1,070 in 2014. In other years, no information is available from Utqiagvik and the harvest is assumed to be zero. Although this results in a valid minimum estimate, we think it much more likely that bearded seal harvest continues in years when no data are collected. As currently written, the SARs state that minimum harvest is 555 bearded seals and 860 ringed seals. Recent work (Nelson et al. *In Press*) suggests that the true harvest is much greater than reported in the SARs. Using a sampling framework, the study concluded that approximately 6,707 bearded seals and 6,454 ringed seals are harvested annually in Alaska. **We recommend that NMFS adopt a sampling approach designed to statistically estimate the harvest of ice seals. Specifically, we recommend that NMFS adopt an approach similar to Nelson et al. (*In Press*) to estimate ice seal harvest. While the general modeling approach and assumptions may need to be modified and/or improved, ice seal harvest data are available through the Ice Seal Committee, and this information could be used to reduce uncertainty in ice seal harvest estimates in SARs.**

Standardizing Nmin and Rmax

A review of the Alaska SARs (and a comparison with SARs from other SRG) shows a lack of consistency in the calculation of Nmin and Rmax across stocks when the default approaches or values are not being used. For instance, Rmax is sometimes calculated from life-history parameters, and at other times it is the maximum observed growth rate in published literature. The decision to use a published value rather than the default is not always explained consistently, even though the GAMMS caution: “Substitution of

other values for these defaults should be made with caution, and only when reliable stock-specific information is available on R_{max} ." **In light of the SRG's recognition of the need for consistency in the estimation and application of N_{min} and R_{max} across the different SARs, the SRG requests a review from NMFS on how both these parameters have been estimated for each Alaska stock, with a focus on explaining cases in which default values are not being used, and suggests efforts towards a standardized set of guidelines beyond the recommendations already present in the GAMMS.**

Alaska harbor porpoise and small-boat fisheries-marine mammal interaction data

The estimated fishery-related mortality for the Southeast Alaska harbor porpoise stock has been close to its Potential Biological Removal (PBR) level for a number of years, in large part due to interactions with regional gillnet fisheries. Considering mounting concerns over the status of harbor porpoise in Alaska, **the AKSRG recommends harbor porpoise research continue to be a priority, including delineating stock structure, estimating the abundance of stocks, and documenting M&SI for each stock. The AKSRG notes that more information will need to be gathered on small boat/gillnet fisheries potentially interacting with harbor porpoise in Southeast Alaska Inside Waters to assist with improving estimates of human-caused M&SI for that stock.**

Estimating marine mammal bycatch

The level of observer coverage varies widely across Alaska commercial state and federal fisheries. A substantial portion of fleet landings are not monitored in the state. Ratio estimators are typically used to estimate marine mammal bycatch or interactions. However, ratio estimators are based on the assumption that bycatch is proportional to a proxy of fishing effort (e.g. tons landed), however, spatial trends and/or zero values can confound these results (that may in fact not be linear). Because most marine mammal species are rarely or sporadically caught and because observer coverage is quite low in some fisheries (e.g. Southeast Alaska gillnet), the relationship between marine mammal bycatch/interactions and fishing effort can be highly uncertain. A Bayesian modelling approach, as described by Jannot et al. 2018 and Martin et al. 2015, used by the U.S. West Coast Groundfish fisheries, may better account for spatial and temporal trends and uncertainty in marine mammal bycatch in some Alaska fisheries. These methods have been used with other rare bycatch species, including cetaceans, sea turtles and sharks. **The AKSRG recommends that NMFS explore new approaches for estimating bycatch and/or M&SI in partially observed fisheries in Alaska, with attention to the approach taken in the U.S. West Coast fisheries.**

State-managed fishery marine mammal interaction data

It is unclear how bycatch and M&SI data from state-managed fisheries are incorporated in SARs. However, state-managed fisheries occur in some regions with a significant degree of overlap with strategic marine mammal stocks, such as harbor porpoise or AT1 killer whales. **We request NMFS inform the AKSRG and describe in SARs how they incorporate M&SI in addition to entanglement data and standardize this approach to the extent possible going forward, with special attention to fisheries that overlap with strategic and/or declining marine mammal stocks.**

Summarizing Mortality and Serious Injury (M&SI) by fishery in SARs and Appendices

Data on marine mammal-fisheries interactions, observer coverage rates, and marine mammal stock range overlap with fisheries are limited in most SARs and difficult to review efficiently across marine mammal stocks and target fisheries. **The AKSRG requests that NMFS add a table to each SAR that includes each fishery that potentially interacts with the marine mammal stock in question. We request that the table includes (1) the proportion of the marine mammal stock's range that overlaps**

each fishery, (2) if each fishery is monitored for bycatch of marine mammals, (3) what proportion of the fishery is monitored, and (4) the M&SI for each fishery. In the text, SARs should clearly provide information on the survey design used when fisheries are monitored for M&SI.

Review of scientific work pertaining to the Cook Inlet stock of beluga whales

Although new research has been conducted on this stock in recent years, including a re-analysis of abundance surveys, this information was not presented at the 2019 AK SRG meeting, nor included in the SAR for Cook Inlet belugas. **The AKSRG requests a detailed presentation of scientific work pertaining to beluga whales in the Threatened Cook Inlet stock and that the SAR is updated accordingly.**

Humpback whale stock structure

North Pacific whale populations have been divided into new Distinct Population Segments (DPS) under the Endangered Species Act (ESA). However, humpback stocks in the Pacific Ocean under the Marine Mammal Protection Act (MMPA) remain unchanged (under review); existing MMPA stocks are not coincident with the new ESA defined DPS. **The AKSRG requests that NMFS: 1) give a presentation on the current humpback stock redefinition process, and 2) provide guidance on how the AKSRG can provide scientific advice on how to update the current SARs in the absence of new stock delineations.**

North Pacific right whales

The North Pacific right whale is in danger of extinction and data limited. Research on this endangered population should be a NMFS priority. **The AKSRG requests that NMFS identify specific actions, such as processing of existing acoustic data or maintenance of critical monitoring stations, that could provide scientific data on the endangered North Pacific right whale in a cost-effective manner.**

General policy information requests

The AKSRG requests that NMFS PR headquarters present a seminar to the AKSRG at the 2020 meeting detailing their three new draft policies/guidelines on: **(1) criteria for negligible impacts from fisheries, (2) internal policies for designating new stocks, and (3) guidelines for non-lethal deterrents (draft rule planned for fall 2019).**

As a group, the AKSRG appreciates the opportunity to review marine mammal stock assessments and assist NMFS in addressing the conservation concerns of Alaska marine mammal stocks. We appreciate your consideration of the above recommendations and will gladly discuss these them in greater detail as needed.

Respectfully,

Megan Peterson & Gregory O'Corry Crowe, Co-Chairs
Alaska Scientific Review Group