ALASKA REGIONAL SCIENTIFIC REVIEW GROUP

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Eric Schwaab
Assistant Administrator for Fisheries
National Marine Fisheries Service, NOAA
1315 East-West Highway, Room 14564
Silver Spring, MD 20910

Dear Mr. Schwaab:

The Alaska Scientific Review Group (AKSRG), one of three advisory groups created by the 1994 amendments to the Marine Mammal Protection Act, is charged with advising the National Marine Fisheries Service (NMFS) on the assessment and status of marine mammal stocks. Before proceeding to the business at hand, we would like to welcome you into your new position with the National Marine Fisheries Service.

At our recent meeting in Anchorage on February 3-4, 2010 we discussed several general issues relating to assessing marine mammal stocks and quantifying marine mammal fishery interactions, and also provided detailed reviews of stock assessment reports (SARs) for 24 stocks. From that meeting we have eight recommendations for NMFS that are listed and explained below. We will also be commenting on issues relating to Alaska's harbor seal and harbor porpoise stocks in two additional letters. Our intent is to support the agency's mission - "stewardship of living marine resources through science-based conservation and management and the promotion of healthy ecosystems" - by bringing to your attention issues that we believe have not been addressed or that have received inadequate attention.

1) Missing and ageing abundance data

We continue to be discouraged by the very high number of Alaska's marine mammal stocks that lack basic data on current

abundance and trend. Of the 36 stocks in the Alaska Region, only a third have an abundance or trend estimate less than 8 years old. The Revisions to the Guidelines for Assessing Marine Mammal Stocks (NMFS 2005)states that:

> "[w]hen abundance estimates become many years old, at some point estimates will no longer meet the requirement that they provide reasonable assurance that the stock size is presently greater than or equal to that estimate. Therefore, unless compelling evidence indicates that a stock has not declined since the last census, the minimum population estimate of the stock should be considered unknown if 8 years have transpired since the last abundance survey of a stock."

In contrast to 33% in Alaska, 95% of the 62 marine mammal stocks in the Pacific region and 87% of the 78 stocks in the Atlantic region (33 recently recognized bottlenose dolphin stocks considered as 1 stock) have abundance estimates less than 8 years old. Of the ~24 of Alaska's marine mammal stocks without a current abundance estimate nine have never had an abundance estimate. While we recognize that there are challenges of scale and environment unique to Alaska, we do not believe that these pose such insurmountable barriers that they warrant such large discrepancies between regions. Without regular abundance estimates, NMFS cannot provide trend estimates -- one of the most valuable integrating metrics we have for determining if a population is healthy versus at risk. We do note that there are some Alaska stocks for which abundance and trend data are more regularly available (Steller sea lions, northern fur seals, harbor seals, Cook Inlet and Bristol Bay belugas, gray whales, bowhead whales) and we commend NMFS and their colleagues for obtaining those informative data series.

The AKSRG recommends that the NMFS Alaska region explore the use of multi-species surveys as one potentially cost effective solution to this chronic problem of missing or ageing abundance data, and that they prioritize and rotate stocks for abundance monitoring and trend analyses. With advance planning, appropriate modification of survey design and analysis, and coordination among staff, it should be possible to monitor several species simultaneously. In the Pacific, multi-species cetacean surveys occur on a regular basis, roughly every 3-5 years (Pacific SARs 2008, Appendix 2). Because research and monitoring funds are limited, prioritizing stocks for abundance and trend research based on likely interactions with fisheries or other known threats should guide the use of available resources. The survey intervals for populations known to be

increasing and not likely to experience new threats could be lengthened, and the resources saved could be used for surveying declining stocks or stocks with unknown status and likely fisheries interactions.

2) Timely inclusion of existing abundance data in SARs

In addition to the concerns about abundance estimates described above, marine mammal survey results need to be made available in a timely manner. Even though surveys by the NMFS National Marine Mammal Laboratory for harbor porpoise were conducted in southeastern Alaska during summers of 2000, 2006, and 2007, the abundance estimate in the current SAR for this strategic stock uses survey data from 1997. Clearly this old estimate provides no certainty that the stock is at or above the estimated Nmin and it is no longer reliable for calculating potential biological removal (PBR).

We also understand that there may be existing NMFS survey data that could be analyzed for species in addition to the target marine mammal species. For example, in the most recent SAR we were pleased to note the addition of a partial abundance estimate from 2001-2003 for minke whales - the first abundance estimate ever for this species in Alaska - from a survey that included multiple baleen whale species (Zerbini *et al.* 2006).

3) Inappropriate use of zeros when there are no or inadequate fisheries mortality data

The Alaska SRG again notes that it is inappropriate to list zero as the estimate of fisheries mortality and serious injury when there has been no or minimal bycatch monitoring, or when not all Category II fisheries associated with a stock have been observed. In Appendix 2 of the 2008 Alaska SARs, 16 of the 36 marine mammal stocks are listed as having zero fisheries mortality. A careful review of these listings to determine which might more appropriately be listed as 'N/A' (not available) is warranted. For example, listing the fisheries mortality as zero for the southeastern Alaska harbor porpoise and southeastern Alaska harbor seal (both in the 2008 and 2009 SARs), where no observer programs have been implemented on salmon net fisheries, is inappropriate and misleading. (Bycatch data from the AMMOP observer program conducted in 2007 and 2008 for the Yakutat set gillnet fishery in SE Alaska do not appear to be incorporated into the SAR summary tables for 2008 or 2009.)

4) Inadequate fishery interaction and marine mammal bycatch monitoring

We also note, once again, that there is a need for better fishery observer coverage and information on marine mammal bycatch from Alaska's State-managed fisheries. Given the large scale of Alaska's fisheries and limited resources for monitoring marine mammal bycatch in the State fisheries, we recommend that alternative monitoring approaches be explored and evaluated against traditional observer programs that are notoriously costly and often produce estimates with very high coefficients of variation (CVs). Digital camera systems to monitor bycatch of protected species in fisheries have been tested by NMFS for monitoring seabird bycatch and the effectiveness of deterrents in Alaska (Ames *et al.* 2005), and a workshop on this approach for monitoring marine mammal and fisheries bycatch was co-sponsored by the NMFS Alaska Science Center in July 2008 (McElderry 2008). Also called electronic monitoring systems (EMS), the approach seems promising as an additional tool worth exploring for monitoring marine mammal bycatch. EMS use a central hard drive to integrate and store data from multiple cameras, a GPS, and winch and hydraulic sensors which activate multiple video cameras when gear is engaged (McElderry 2008), and the systems have been tested for detecting marine mammal bycatch in inshore set net and trawl fisheries in New Zealand (McElderry *et al.* 2007).

Electronic bycatch monitoring programs can cost less than observer programs (estimates are ~1/3). EMS produces an archival record that can be resampled if initial video sub-sampling rates (e.g., 5%) produce bycatch estimates with unacceptably high CVs. In British Columbia, in a fishery with 100% at-sea monitoring, a randomly selected sub-sample of video images are monitored and then compared to the required logbook data maintained by the vessel's captain. If discrepancies are discovered in observed bycatch and those reported in the logbook, then the vessel may face higher costs and time delays to meet additional measures including 100% image review, more detailed analysis, or having to take an on board observer. This incentive-based approach has provided a strong motivation for fishermen to provide accurate and timely logbook data. EMS can also be used on smaller boats where having observers might not be feasible or safe. Naturally, there are some short-comings to EMS, but for some fisheries or areas in Alaska, exploring additional marine mammal bycatch monitoring approaches may be worthwhile.

5) Does the current system of fisheries categorization adequately characterize marine mammal bycatch?

Another important question about bycatch monitoring was raised during the recent AKSRG meeting: If Category III fisheries are never observed, how can a new problem with marine mammal bycatch be detected? Put another way, it seems that with the current observer program design, the data being gathered can only be used to support decisions to reclassify fisheries from Category II to III, but not the other direction. Given the dynamic nature of Alaska's ecosystems with anticipated changes in ice distribution, habitat quality, and species distributions, we suggest that this approach be re-evaluated to ensure that it is adequately risk averse for managing marine mammal stocks. In Alaska, where so few fisheries have been observed, relying on very old volunteer logbook data (known to under-report marine mammal bycatch) and strandings (as suggested in Appendix 5 of the Alaska SAR) does not seem adequate for identifying potential new or previously overlooked fisheries interactions.

6) Trend data for marine mammal stocks is valuable for identifying stocks of concern.

Shortcomings in fisheries interaction and marine mammal bycatch monitoring, however, will persist because there is not enough time or money to adequately assess all the needed fisheries in Alaska (see AKSRG letter 11 May, 2007). The SRG discussed and agreed that if the Alaska Region had good trend data for most stocks, they could use trend as a means for detecting stocks of concern. Stocks exhibiting an increasing trend would be highly unlikely to be experiencing cumulative fisheries (or other) mortalities in excess of PBR (e.g., see Lowry et al. 2008). Currently, this approach cannot be used for most of Alaska's marine mammal stocks because abundance and trend data are not available for about two-thirds of the stocks.

7) Formatting recommendations for SARs

We also have several recommendations that relate primarily to formatting of the SARs to improve their utility. To make the exposure of marine mammal stocks to fisheries of potential concern (or the lack of potential exposure) more transparent, the AKSRG recommends adding an appendix that includes a list, by marine mammal stock, which shows all fisheries that have historic mortalities or serious injuries or the potential for mortalities or serious injuries of that stock, years the fishery has been observed (even if it is zero), percent observer

coverage, and estimated serious injury and mortalities by year, and CVs and confidence intervals (CIs) for those estimates, including 1-sided CIs when estimates are zero. Appendix I in the Atlantic SRG's 2008 SAR is similar to what we are requesting, however we think that it would also be valuable to group the information by marine mammal stock. In conjunction with this, we recommend that a statement be added in each SAR summarizing the number of fisheries by category that operate within each stock's range, what proportion have been monitored, and of those how many have had takes. For example, the statement might read something like: "There are no Category I and __ Category II fisheries within the region of this stock. __ of these are known to potentially have serious injuries or mortalities with this species and __ have been monitored for marine mammal bycatch. Of the __ monitored fisheries, __ had a known take of this species (Appendix __).

We appreciate the addition of the year of the most recent survey for each stock in Appendix 2, an improvement that was recently implemented. This will allow better tracking of ageing and missing stock abundance data. Some of these recommended table and appendix format changes are already included in the Pacific and/or Atlantic SARs; we recommend that the three regions make the format of their summary tables and appendices as comparable as possible.

8) Recommendation for a newly proposed SAR

The Alaska SRG recommends that narwhals not be included as an Alaskan stock (this was a newly proposed stock in the 2009 SARs), since animals seen off northern and western Alaska are almost certainly extralimital occurrences from Russian or Canadian populations, and because the source population(s) is/are not known it is impossible to assess stock status.

In closing, we would also like to note that the SARs for which there are regular abundance estimates have improved greatly over the years. The use of gray literature and personal communications in the SARs has been kept to a minimum and more studies are being published in the primary scientific literature which increases the credibility of the SARs.

We thank NMFS staff from the Alaska Fisheries Science Center and the National Marine Mammal Laboratory for preparing the draft SARS, background documents, and presentations for our meeting. The Alaska Scientific Review Group looks forward to continuing to work with NMFS and others to ensure that high

quality science is used for the conservation and management of marine mammals in Alaska.

Sincerely,

Beth Mathews

Elizabeth A. Mathews
Chair, Alaska Scientific Review Group

Cc: AKSRG members
Jim Lecky, Director, Office of Protected Resources, NMFS
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