ALASKA REGIONAL SCIENTIFIC REVIEW GROUP

SRG members: Karl Haflinger, Lloyd Lowry, Beth Mathews, Craig Matkin, Grey Pendleton, Jan Straley, Robert Suydam, and Kate Wynne

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and

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transmitted by electronic mail

Dear Jim and Doug:

The Alaska Scientific Review Group (AKSRG) held its most recent meeting in Anchorage, Alaska, on 31 January and 1 February 2012. As usual, staff from the National Marine Fisheries Service (NMFS) Alaska Fisheries Science Center (AFSC) and Alaska Regional Office (ARO) did a very good job of organizing the meeting, preparing draft stock assessment reports (SARs), and providing information on recent and planned marine mammal research and management activities. SRG members appreciate and value the opportunity to communicate directly with NMFS scientists and managers at these meetings. One thing that we were told is that the NMFS budget may no longer allow annual SRG meetings unless costs can be reduced. While we understand that there are serious funding constraints now and in the future, we urge you to do what you can to provide adequate support for SRG activities. I don't believe that it's just old-fashioned to think that a group with the composition and task of the SRG can best do its work face-to-face at a real meeting. Some SRG members offered suggestions of how to reduce costs of an annual meeting, such as holding it in conjunction with other meetings where some SRG members' travel may be paid for by another entity.

We were pleased to hear that much has been accomplished on the management side. Endangered Species Act (ESA) recovery plans and status reviews for large whales that have been completed, or are ongoing, are very timely. Much has been learned since these species were listed under the ESA, and our improved understanding of whale biology and genetics should allow some interesting new conclusions and proposals. We look forward to completion of the ice seal ESA evaluations. These are also timely and valuable efforts that must have taken large amounts of your staff's time. But the best news was that the wealth of scientific information on Alaska harbor seals has finally been used to divide them into 12 stocks. It will

now be possible to look at seal abundance and trend, and takes by fisheries and other sources, in a more realistic way and identify areas where management issues or conservation concerns may exist.

We also commend NMFS for moving forward in two specific areas. First, the dedicated observer program to monitor incidental takes of marine mammals in some southeast Alaska nearshore fisheries during 2012-13 will greatly enhance our understanding of where gillnets are interacting with harbor porpoise and other marine mammals. Second, the ARO, in collaboration with the National Park Service, is working with the cruise ship industry to develop mitigation measures aimed toward the goal of reducing ship strikes of humpback whales. It has taken many years for the cruise industry to acknowledge that this issue is significant and that it could become a major issue for ships navigating in the coastal waters of Alaska.

On the science side we were told that new information on abundance and trend will become available for several marine mammal stocks in the next two years. This is good news, and we encourage AFSC to make these analyses available to the SRG as soon as possible so that we can give them thorough reviews. We also understand that recent and expected budget reductions may seriously impact the ability to conduct additional research, especially that requiring expensive logistics as is so often the case in Alaska. That is unfortunate.

We also heard a report from the GAMMSIII workshop which has recommended that some changes be made to the NMFS Guidelines for Assessing Marine Mammals. The AKSRG had concerns with some of the proposed changes which we detailed to NMFS in correspondence of 26 March 2012 (see attached).

AKSRG members have many years of experience with Alaskan marine mammals. Four of us have been on the SRG since it formed in 1994. Working closely with NMFS (and Fish and Wildlife Service) on stock assessments over this 18 year period has given us a good perspective on progress and problems. When we first started work on stock assessment reports we realized that the required data were inadequate to non-existent for many stocks, but we thought that NMFS and its science collaborators could fill those gaps if they were given sufficient resources. We still think we were correct about scientific capabilities, but sufficient funding never materialized. There have been bright spots such as our vastly improved understanding of humpback whales, killer whales, Steller sea lions, and harbor seals. But we still have several species for which stock identity is not known, and many stocks for which abundance estimates are unavailable, incomplete, imprecise, or outdated. Compounding this is the fragmentary dataset on the number of animals being incidentally taken in commercial fisheries. After 18 years of the current management regime, some of the nearshore gillnet fisheries have not been observed even once. For some fisheries, entanglements observed more than 20 years ago are assumed to represent current take levels, and worse yet takes in many unobserved fisheries are simply assumed to be zero. The overall situation has not gotten much better since 1994, and may actually be getting worse. If the GAMMSIII recommendations for calculating potential biological removal (PBR) with outdated abundance estimates are adopted, the next time around the majority of Alaska stocks will merit classification as strategic.

The AKSRG has discussed this overarching problem and made recommendations a number of times, most recently at the GAMMSIII Workshop. The following are some of the things we have recommended:

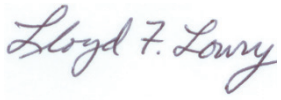
- Where necessary (e.g., when PBR cannot be calculated due to no Nmin or outdated abundance data and it is known that interactions with fisheries occur), alternative methods to the PBR process should be allowed for evaluating status of stocks.

Methods that should be considered include trend surveys, catch-per-unit-effort for species harvested for subsistence, reports from qualified observers, population modeling, etc.

- Where appropriate and possible, methods other than observer programs should be used for determining where, when, and approximately how many marine mammals are being seriously injured or killed in fisheries. Alternatives that should be considered include beach surveys for marine mammal carcasses, compilation and review of stranding records, interviews with fishermen, reports from qualified observers, electronic monitoring systems, and geographic information system analyses of fisheries effort and marine mammal distributions.
- Regardless of its level, marine mammal bycatch in fisheries is both biologically and economically undesirable. We recommend that if there are known interactions between marine mammals and fisheries resulting in serious injury or mortality, mitigation should be conducted whenever possible, whether or not known strategic stocks are being taken and take reduction teams can be required. Examples of such situations in Alaska are nearshore gillnet fisheries that take harbor porpoises and other species, and pot fisheries that take large whales by entanglement in vertical lines.

The AKSRG urges you to seriously consider these recommendations. While in some other regions of the country the PBR process has worked fairly well, this is a case where things really are different in Alaska. Waiting and hoping that AFSC and ARO will someday receive enough funding to assess the population status of all marine mammal stocks, and quantify serious injury/mortality in all fisheries that might take from those stocks, at intervals required by the PBR guidelines, is not a viable approach. Your agencies have never had enough resources to fully cover their protected species responsibilities, and the current fiscal environment of asking you to do more with less won't make that any better. We would be happy to discuss our ideas and concerns with you in more detail if that would be helpful.

Sincerely,



Lloyd F. Lowry, Chair
for the Alaska Scientific Review Group

Cc: AKSRG members
John Bengtson
Jon Kurland
Shannon Bettridge
Richard Merrick
Tim Ragen

Attachment

Comments by the Alaska Scientific Review Group on recommendations made by the GAMMS III meeting, submitted to the National Marine Fisheries Service, 26 March 2012

Topic 1: PBR calculations with outdated abundance estimates

The provisions of the 1994 amendments to the MMPA assumed that vital parameters of marine mammal stocks, and human takes from those stocks, would be measured with reasonable accuracy and at adequate intervals. In response, NMFS and its collaborators developed a sophisticated science-based system for taking those sorts of data, assessing the status of marine mammal stocks, and determining if the number of human takes exceeded their potential biological removal (PBR) level. However, for many stocks in Alaska, and some in other regions, data on marine mammal abundance is inadequate or totally lacking. The AKSRG appreciates that NMFS is continuing to look for ways to deal with this problem. But, based on 18 years of experience, we are convinced that there will never be adequate funding to assess the abundances of all Alaska stocks at anything like an 8-year interval.

This topic dealt with the specific case of how to deal with outdated ($\geq$ 8 years old) abundance estimates. We agree that the system discussed at GAMMS III and described in the Technical Memorandum is an improved means to deal with situations where reasonable estimates have been derived in the past 8 years and there is some hope that equivalent data will be collected in the "near" future. This relatively good situation would apply to only 9 of the 36 NMFS-managed Alaska stocks as assessed in 2009. Interestingly, six of those stocks are already listed as strategic (and also endangered or threatened under the ESA) which probably explains why they have been better studied. Seventeen of the remaining stocks have some sort of historical population estimate (> 8 years old), and in most cases plans for updating abundance estimates are very uncertain. We have three major concerns about implementing the recommended framework for those stocks. First, while we recognize the need to be precautionary and how uncertainty impacts projections of future stock size, it is not realistic or appropriate to assume that every stock has declined by 10% per year starting on the 9th year after the last survey. At that point N_{min} would be reduced by 61%, and in the Alaska case nearly 50% of our stocks would qualify for a strategic listing for that reason alone. Second, if abundance before year eight takes known trend into account and after year eight a 10%/year decline is assumed there will be a major step decrease in N_{min} and PBR. That is not biologically realistic and will not be well understood by many SAR users. Third, there is nearly always a lag of two or more years between when survey or census data are collected and when abundance estimates are ready for use. When there is a lag, estimates used in the SARs are always going to be out of date and there will never be a PBR used that was calculated based on the actual current abundance estimate.

The AKSRG recognizes the need to use sound science and the precautionary principle when computing abundance and PBR values. However, it is also important that the results of the process be understood by those who are affected by them, and are viewed as credible. This is especially true in Alaska where conclusions from SARs are important to Native Alaskan subsistence users as well as fishers, industry, scientists, and others. The proposed system for dealing with outdated abundance estimates will likely fail the credibility test. While it may be theoretically possible that 17 stocks of Alaska marine mammals have all been declining at 10%/year since the last time they were assessed, this seems highly unlikely and a poor

assumption to start with. When this decline is projected over the time since the last survey, the resulting N_{min} values will show some stocks nearly extirpated. For example, the Beaufort Sea stock of beluga whales, with a N_{min} estimated at 32,453 in 1992, would have an estimated N_{min} of 2,367 in 2012. Alaskan and Canadian subsistence hunters who have been harvesting 150-200 whales per year for this entire period will have a hard time believing that the stock has crashed to this extent and that PBR is suddenly just a few animals per year.

The AKSRG does not have specific suggestions for how best to deal with outdated abundance estimates, other than to gather better data for more stocks which unfortunately we do not expect to happen on a broad scale. Given that funding is unlikely to be available to assess Alaska stocks on a regular basis, alternative approaches such as "expert opinion" or "weight of evidence" might be worth considering. Other sources of information, besides rigorous population or bycatch estimates, could be considered. In many case, Alaska Natives have a good understanding of population size and trend of marine mammal stocks, albeit without point estimates or confidence intervals. NMFS and FWS could use their relationships with their co-management partners to document traditional and local knowledge about the status of marine mammal stocks. Furthermore, some fishers likely have a good understanding of the size and trend of marine mammal stocks. Stranding information and anecdotal information from other scientific surveys might also be helpful for assessing stocks with outdated abundance estimates. We encourage NMFS to not implement the approach derived by GAMMS III and to continue to search for a more realistic, understandable, and credible way to balance uncertainty and risk.

Topic 2: Improving stock identification

The GAMMS II meeting report makes several very good recommendations for improving stock identification, and the AKSRG agrees with all of them.

Topic 3a: Assessment for very small stocks

This topic dealt primarily with bias in serious injury and mortality rates due to inadequate coverage in observer programs. The AKSRG has no comment on the specific guideline changes suggested. However, we take this opportunity to note that in Alaska our primary problem is not with insufficient coverage in observed fisheries, but rather that several important fisheries have not been observed at all.

Topic 3b: Assessment of small endangered stocks

This topic addresses a conflict between the formulaic application of PBR, which will produce a figure for potential removals even from very small and declining stocks, and the common sense realization that in such situations any human removals are likely to cause additional risk to survival of the stock. The AKSRG agrees that this problem should be dealt with consistently in SARs, and our preference in such instances would be to call PBR "undetermined." If numerical estimates of PBR are to be given in SARS we recommend that language be included clarifying whether or not negligible impact determinations have been made, if they have what they are, and if not stating that no human-caused takes are authorized (see paragraph on pages 31-32 of the GAMMS III Technical Memo). We do not agree with the conclusion of the Tech Memo that this topic is beyond the scope of SARs, and rather believe that inclusion of such information would help readers understand the actual meaning of PBR in this case.

Topic 4: Apportioning PBR among feeding aggregations, mixed stocks, and transboundary stocks
The AKSRG has no comment on this topic.

Topic 5: Making reporting of mortality more consistent
The AKSRG does not have comments on the technical advice to authors contained in the "Annual human-caused mortality and serious injury section". However, the SRG believes that extensive tabling of interactions between marine mammals and commercial fisheries should be confined to an Appendix, with only a summary table that includes mortality in the various federal groundfish fisheries, state's waters fisheries, and international trans-boundary fisheries included in the body of the assessment. The strategy of summarizing fishery interactions should lead to a single clearly-documented estimate of mortality and associated variance for all fisheries combined with easy access to details available preferably in an online appendix.

On a related subject, the AKSRG is concerned that very different approaches are taken for the "PBR side" vs. the "mortality side" of SARs. A great deal of modeling effort, simulations, etc. have gone into making the PBR calculations conservative (i.e., risk averse); this is extended further in the GAMMS III draft guidelines for using older population information (Topic 1). But there is no similar concern, or at least it is at a much reduced level, for the mortality and serious injury data. On page 29 of the GAMMS III draft guidelines it says "However, information more than 5 years old should be used if it is the most appropriate information available in a particular case". This results in some of the Alaska SARs using 20+ year-old observer data because it is the only mortality data for a particular fishery. AKSRG members know that the nature of Alaska fisheries can change quite quickly and for that reason we strongly object to using such old data. Clearly, the reliability of the data on removals is just as important as population data when takes are compared with PBR to assess whether or not a stock is strategic. This issue merits serious attention, and as a first step the quality of removals data should be thoroughly and explicitly evaluated when uncertainty in SARs is evaluated (see comment below on Topic 8).

Topic 6: When does a stock decline merit a strategic designation?
This topic provides more precise language for interpreting the meanings of "below Optimum Sustainable Population" and one of three definitions of "strategic" in Section 3(19)(B) of the MMPA. GAMMS III proposes changes to address the issue of Section 3(19)(B) not including quantitative language to interpret "is declining" or "foreseeable future." We support the GAMMS III quantitative recommendations for determining when non-ESA listed stocks should be considered as "strategic." We also find the rationale for using 15 years as "the foreseeable future" a reasonable default because it is based on a 5% decrease over a 15-year period resulting in a 50% decline.

We support the following GAMMS III insertion:

> *A stock that is strategic because, based on the best available scientific information, it is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future (sec. 3(19)(B) of the MMPA) should use a recovery factor between 0.1 and 0.5.*

We agree with the working group's recommendation that a Recovery Factor (Fr) scaled from 0.1 to 0.5 be associated with this as opposed to a fixed 0.5 Fr. In some cases where a decline is steep and ongoing, or where the uncertainty about the population or causes of the decline are high, a lower recovery factor could be warranted.

We agree with the Pacific SRG's recommendation that the following sentence be deleted from the draft revised guidelines (p. ix, P1): "It was further recommended that it should be recorded in the Status of Stocks section that a stock was below OSP to ease the process of the Marine Mammal Commission requesting that the Secretary list the stock as depleted." We support the PSRG's rationale for that deletion "that although this definition facilitates the ability to list a stock as depleted, it does not relieve NMFS of the obligation to determine a stock is depleted prior to classifying it as strategic."

We also recommend that there be a more formal process for NMFS to regularly review non-ESA listed stocks of concern to determine their status.

Topic 7: Assessment of stocks without abundance estimates or PBRs

This topic addressed an issue of particular concern to the AKSRG, as described in detail in the working paper we submitted to the GAMMS III meeting (see attached). We understand that many of our concerns and suggestions were outside the topic of the meeting, and we appreciate and support the suggested guideline modifications relating to use of trend monitoring. However, the bottom line is that small changes to the guidelines will do very little to help the Alaska situation. More substantive changes and new approaches are needed, some of which are described in our working paper.

Topic 8: Reporting uncertainty in the SAR

The AKSRG supports changes to guidelines that would help ensure that SARs provide adequate and honest evaluations of the uncertainty associated with all the information used in the assessment, as the value of the information is greatly reduced without accompanying evaluations of reliability. While we understand the need to keep the SARs brief, it is critically important that those who read and use the SARs have a good understanding of data quality and how that affects the figures and conclusions in the reports. To this end, we recommend a 'report card' format as suggested by Taylor and Wade (GAMMS III-WP-8). A report card format likely will be easier for users of SARs to locate in the reports, more consistent among SARs written by different authors and in different regions, and more concise than the text additions recommended in the GAMMS III draft guidelines (i.e., reducing the length of the SARS). It would be helpful if the report card also included the proportion of potentially interacting fisheries within the range of the stock that have been monitored within the last 5 years; this information often is difficult or impossible to determine when examining only individual SARS without the appendices. We agree with including a characterization of uncertainty in the Status of Stocks section, and we recommend that, based on the report card of the uncertainty of individual elements in the SAR, that the status be described as "reliable", "moderately reliable", or "unreliable" as a clear way to characterize the overall utility of the status determination. We also support the suggestion that an overall assessment of the quality of SARs be conducted periodically and reported as Tech Memos, but not as a substitute for the "report cards" in the individual SARs.

Topic 9: Including non-serious injuries and disturbance in the SARs

The SRG agrees that SARs should include the annual levels of mortality and serious injury reported through LOAs, IHAs, and research permits in the "Other Mortality" section.

The MMPA allows for SAR comments on non-lethal factors affecting recovery for strategic stocks, and it seems reasonable that SARs for non-strategic stocks should also evaluate such factors. However, because there is a high degree of uncertainty regarding population-level effects of non-lethal injury and disturbance, it is inappropriate to include estimates of those takes in the SARs unless there is evidence they are affecting stock recovery. Disturbance and non-serious injury do not constitute "Potential Biological Removal." While it may be useful for NMFS permittees or others to compare their potential for disturbance/injury to a stock's PBR, this falls outside the intent of the MMPA-mandated PBR process for managing interactions with commercial fisheries.