

ALASKA REGIONAL SCIENTIFIC REVIEW GROUP

SRG members: Karl Haflinger, Lloyd Lowry, Beth Mathews, Craig Matkin, Mike Miller, Grey Pendleton, Bob Small, Kate Stafford, Robert Suydam, Dave Tallmon, and Kate Wynne

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23 September 2013

James W. Balsiger
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and

Douglas P. DeMaster
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Ted Stevens Marine Research Institute
17109 Pt. Lena Loop Road
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transmitted by electronic mail

Dear Jim and Doug:

The Alaska Scientific Review Group (AKSRG) held its most recent meeting in Seattle, Washington, on 13-14 March 2013. 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. We also appreciated the fact that staff from NMFS headquarters were able to attend the meeting and participate. Given the tough financial situation this year it was heartening to see your agency continue to support a full, face-to-face, meeting of the SRG.

A complete description of our discussions and conclusions will be available in the minutes of the meeting. The purpose of this letter is to communicate the more substantial recommendations made by the SRG, which are described in some detail in the attachment and are listed below:

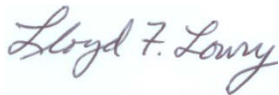
- The SRG recommends that NMFS complete comprehensive revisions of the eastern and western Steller sea lion SARs for 2014.
- The SRG recommends that NMFS evaluate all available data on killer whale stock structure and revise the killer whale SARs as appropriate.
- The SRG recommends that NMFS analyze all available Alaska harbor porpoise genetics samples and determine whether there is sufficient information to revise the existing stock structure.
- The SRG recommends that NMFS analyze all available southeast Alaska harbor porpoise survey data and revise the SAR to include new information on abundance and trend. We also recommend an in-depth review of the NMFS harbor porpoise monitoring

program to determine how it can be improved such that NMFS survey data can be analyzed and reported in a more timely manner.

- The SRG recommends that all possible methods be used to identify areas, times, and gear types causing serious injury/mortality to harbor porpoises, and that NMFS work with fishermen to use deterrents (e.g., pingers) to reduce the number of entanglements where feasible.
- The SRG recommends that NMFS and its collaborators begin major revisions of humpback whale SARs for the North Pacific.
- The SRG recommends that in each SAR, NMFS and FWS more clearly identify the number of fisheries potentially interacting with marine mammals, and the level of observer coverage of those fisheries.
- To the extent possible, NMFS should allow and encourage fishermen to use pingers to reduce the potential for entanglement of large whales. Studies should be designed and conducted to measure efficacy and potential effects of pingers.
- The SRG recommends that NMFS and FWS review current methods for estimating subsistence takes of marine mammals by Alaska Natives, and work with their co-management partners to improve struck and lost estimates. The agencies also should provide clarification on the implications of accounting for subsistence takes in determining stock status using the PBR system.

Again, thanks to you and your staffs for continued support of the AKSRG and its activities. As always, feel free to contact me if you have questions or if there are other ways in which we can help with assessment and conservation of Alaskan marine mammals.

Sincerely,



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

Cc: AKSRG members
John Bengtson, NMFS NMML
Jon Kurland, NMFS AKR
Shannon Bettridge, NMFS HQ
Richard Merrick, NMFS HQ
Geoff Haskett, FWS AKR
Deborah Pierce Williams, FWS MMM
Rebecca Lent, MMC

ATTACHMENT

Steller sea lion (SSL) SARs

The SRG recommends that NMFS complete comprehensive revisions of the eastern and western SSL SARs for 2014. SRG members with expertise in SSL are willing and available to help with such revisions.

A substantial amount of important new information on the abundance, trend, and movements of the eastern and western SSL stocks was included in the draft 2013 SARs, primarily in the “Population Size” and “Current Population Trend” sections. Further, in the “Habitat Concerns” section of the western SSL SAR there was substantial information on past management actions (e.g., programmatic SEIS, ESA Biological Opinions, NEPA, conservation measures, etc.) for which the link to habitat concerns is not clear. We recommend these three sections of both the eastern and western 2014 draft SARs be substantially revised to include new information relevant to the SARs, and to remove information not needed in the SARs; the following specific issues should be addressed by scientists familiar with the SSL information:

1. There is a need to reconsider what population assessment data are most appropriate to estimate N_{MIN} . In the current and recent SARs, total population size (N) is estimated as pup counts multiplied by a correction factor while N_{MIN} is based on the sum of pup and non-pup counts. This method is different from most other SARs in which N_{MIN} is calculated as some fraction of N (e.g., as is done for northern fur seals). There is uncertainty about what multiplier to use (4.2, 4.5, and 5.2 appear in SARs), and the western stock SAR notes the 4.5 multiplier that is used may not be appropriate. Counts do provide a direct estimate of N_{MIN} , but they do not include animals at the survey site but missed during the survey, and animals not at the survey site (e.g., at-sea) during the survey. Are there analytical methods recently derived that reliably estimate these portions of the population not included in the counts?
2. Results from recent and on-going analyses indicate movement of tracked SSL across the boundary between the eastern and western stocks. Such cross-boundary movements could be important in the assessment of the stocks’ abundance and trend. Results of movement analyses should be stated more concisely and their potential influence on trend estimates should be made more clear. If cross-boundary movement results indicate the need to examine possible changes to stock structure, then they should be briefly summarized in the “Stock Definition” section. Information based on ‘in prep’ sources should be made available for SRG review, or removed from the SARs until published.
3. The “Habitat Concerns” section should include the type of information suggested in the MMPA and GAMMS, and information not relevant to the section should be removed.

Killer whale SARs

The SRG recommends that NMFS evaluate all available data on killer whale stock structure and revise the killer whale SARs as appropriate.

The SRG recognizes that stock units currently used in SARs for both resident and transient killer whales in Alaska need revision. Recent genetic analysis with support from photographic and tagging data should provide the basis of the determination of new stock boundaries, especially in the Gulf of Alaska and western Alaska. The SRG encourages NMML/NMFS, as part of this evaluation, to complete the analysis of existing genetic samples from southeast Alaska, the Gulf of Alaska, and False Pass/Unimak Island region. There is also a need to organize the photo-identification catalogs so that they can be referenced and have analyses done on them. Numbers used in N_{MIN} calculations should be referenced to specific

photo catalogs, or reports/publications, rather than to personal communications, to allow access to and review of the results and materials.

Harbor porpoise stocks

The SRG recommends that NMFS analyze all available Alaska harbor porpoise genetics samples and determine whether there is sufficient information to revise the existing stock structure.

There has been no science-based evaluation of harbor porpoise stock structure in Alaska. In 1996, Alaska's one stock of harbor porpoise was arbitrarily divided into three management units, based on the generally accepted belief that one stock was unrealistic, but in the absence of specific data to delineate stocks. It appears that there are now on hand approximately 50 genetics samples for Alaska harbor porpoise, most of which have not been analyzed. Analysis of those samples should be a high priority for NMFS. Also, the SRG believes that an in-depth review of Alaska harbor porpoise stocks should be conducted, perhaps as part of a future GAMMS workshop.

Southeast Alaska Harbor Porpoise SARs

The SRG recommends that NMFS analyze all available southeast Alaska harbor porpoise survey data and revise the SAR to include new information on abundance and trend. We also recommend an in-depth review of the NMFS harbor porpoise monitoring program to determine how it can be improved such that NMFS survey data can be analyzed and reported in a more timely manner to meet stated objectives for monitoring and conserving harbor porpoise in Alaska.

During several annual meetings and in comments written on draft SARs, the SRG has expressed concerns we have had with the southeast Alaska harbor porpoise SARs. We continue to have concerns about the timeliness of data analysis for this stock and the effectiveness of the monitoring approach being used.

The NMML surveyed the southeastern stock of harbor porpoise in all 22 years from 1991 through 2012, including multiple seasons in some years, and comprising about 46 surveys (Table 1). The objectives of those surveys as stated in the SAR have been to “: 1) obtain population estimates..., 2) establish a baseline for detecting trends in abundance, and 3) define overall distributional patterns and seasonality of harbor porpoise”. The NMFS stock assessment reports for this stock, however, do not contain current information in the sections on Stock Definition, Minimum Population Estimate, Current Population Trend, and Potential Biological Removal.

For example, the 2013 draft SAR uses data from a 1997 aerial survey to calculate N_{min} , which cannot be used “because it is now 15 years old”. Within the “Population Size” section, newer surveys are discussed, including line transect vessel surveys in southeastern Alaska between 2006 and 2012 designed specifically to be comparable to the 1991-1993 surveys. An abundance estimate from the 2010 vessel survey with a CV is provided, but the 1997 aerial survey data (now being considered obsolete) are used to estimate N_{min} instead of one of the more current surveys. If the aerial survey methods used in 1997 are considered optimal for obtaining an abundance estimate, why haven't additional aerial surveys been included in the overall monitoring plan for harbor porpoise?

The draft SAR's “Current Population Trend” section has similar problems. The section begins by referring to surveys in 1993 and 1997 and noting that “[t]hese estimates are not directly

comparable because the area surveyed in 1997 was larger than that in 1993, including inside waters, and because the 1997 abundance estimation involved direct calculation of perception bias, while the 1993 estimate used a correction factor based on some untested assumptions about observer behavior and visibility of harbor porpoise.” Two previously included trend estimates were removed from the 2013 draft. The section concludes with no current trend provided and states that “Data analysis from a new survey (2012) are underway, and a refined estimate of trends in abundance for Southeast Alaska harbor porpoise will be available next year.” Given that the best available scientific information is to be used in the SARs, either the two extracted trends should be included in the 2013 SAR, or a better explanation for their removal needs to be provided.

It is not clear why the southeast Alaska harbor porpoise SAR does not include more timely data for abundance or trend, given the 22 year span of data collection, a shift in NMFS research focus back to harbor porpoise in 2006 with improved line transect surveys in at least 4 years between 2006 and 2012, and the recognized vulnerability of the species. Full analysis of these data should be a high priority for NMML, and if the analysis warrants, the harbor porpoise monitoring program should be revised. The SRG understands the cost-effectiveness of multi-species surveys when survey methods are compatible. Given the issues identified in the harbor porpoise monitoring outcomes, we encourage NMFS to review the combined photo-identification surveys for killer whales, humpback whales, and harbor porpoises to assess their compatibility and to determine if there are ways to improve timely estimates of population size, trend, and status for harbor porpoise.

Table 1. Summary of harbor porpoise surveys conducted in southeast Alaska, 1991-2012 (from Dahlheim et al. 2008 and 2010 memo and Dahlheim, personal communication).

	Years	Season	Vessel-Inland		Aerial	
			Line transect	Non-line transect	Inland	Offshore
1991-1993	3	Sp	3			
		Su	3			1
		F	2			
1994-2005	12	Sp/Su		12		
		F		12		
1997	1	Su			1	1
2006	1	Sp	1			
		Su	1			
2007	1	Sp	1			
		Su	1			
		F	1			
2010-2012	3	Sp/Su	3			
		F	3			
Total years	21					
Total surveys	46		19	24	1	2

Harbor porpoise takes in fisheries

The greatest threat to harbor porpoise stocks comes from fisheries that employ gillnets. In Alaska there is minimal information on harbor porpoise bycatch in these fisheries and that information is often incomplete or out-of-date. The SRG is encouraged that the Alaska Marine

Mammal Observer Program (AMMOP) monitored marine mammal bycatch in Southeast Alaska in 2012, following a pilot study in this region in 2011. These are the first comprehensive sources of observer bycatch data for this region, where drift and set net fisheries are common. We are concerned that local depletions of harbor porpoise may already have occurred, given the tendency for restricted movements of this species identified elsewhere, the potential for localized fisheries mortalities throughout their range, and the likelihood that the three currently recognized stocks in Alaska do not adequately describe population structure and there likely should be several more stocks.

The SRG recognizes that federal budgets do not allow for expansion of dedicated marine mammal observer programs on fisheries. Nonetheless, we recommend that all possible methods be used to identify areas, times, and gear types causing serious injury/mortality to harbor porpoises, and that NMFS work with fishermen to use deterrents (e.g., pingers) to reduce the number of entanglements where feasible.

Humpback whale SARs

The SRG recommends that NMFS and its collaborators begin major revisions of humpback whale SARs for the North Pacific.

The SPLASH study has very substantially improved understanding of humpback whales in the North Pacific. It is now seven years since the fieldwork for SPLASH was completed and some of that information has started to appear in draft SARs. Population estimates from SPLASH were added to the humpback SARs in 2009 with the statement that “[c]onfidence limits or CVs have not yet been calculated for the SPLASH abundance estimates.” Yet, it is now four years later and there are still no CVs associated with these estimates in the SARs.

The SPLASH study also collected substantial new information on distribution and stock structure from photographic resights and genetic analysis. That information should be used to redefine stocks where appropriate, and new draft SARs should be developed with SPLASH-based estimates of abundance and CV of abundance for those stocks. The SRG notes that less than half of the biopsy samples collected during SPLASH have so far been analyzed genetically. NMFS should review what genetics samples have and have not been analyzed, and, with consideration of what has been learned so far, identify and analyze additional samples that will help ensure that stock revisions are done with the best possible science.

Monitoring fisheries takes

The SRG recommends that in each SAR, NMFS and FWS more clearly identify the number of fisheries potentially interacting with marine mammals, and the level of observer coverage of those fisheries.

In spite of efforts by NMFS and the AMMOP, data on marine mammal takes in fisheries is not always comprehensive or current. In order to allow readers to assess possible bias in estimated serious injuries and mortalities, SARs should clearly list the number of fisheries that potentially interact with that stock. Potentially interacting fisheries should be determined by overlapping geography and gear type and should include both Federal and State managed fisheries. For example, southeastern Alaska fisheries could not interact with ice seal stocks and inshore set gillnet fisheries could not interact with beaked whales. Potentially interacting fisheries could, and likely would, include fisheries with no documented takes in the past.

In reviewing SARs, it often is difficult to evaluate the reliability of the reported fisheries take data because the level of observer effort (i.e., number of monitored fisheries) is unclear relative to the

number of potentially interacting fisheries. To make this clearer, the SRG recommends something similar to the following sentence be inserted into each SAR—“Twenty commercial fisheries potentially interact with this stock, of which 5 have documented at least 1 take at some time in the past. Ten of the 20 have been monitored for bycatch in the last 8 years.”

The number of recent years for summarizing the number of fisheries monitored (8 is used as a placeholder in the example text), is open for discussion (probably ≥ 5 and ≤ 10), but once chosen should be consistent across SARs.

Use pingers to reduce interactions between large whales and fishing gear

To the extent possible, NMFS should allow and encourage fishermen to use pingers to reduce the potential for entanglement of large whales. Studies should be designed and conducted to measure efficacy and potential effects of pingers.

Wherever marine mammals encounter fishing gear there are problems of entanglement and gear damage. A variety of studies have shown that attachment of pingers to nets can alert cetaceans to their presence and reduce the number of interactions. Fishermen in Alaska are having increasing problems with humpback whales swimming into their nets, severely damaging the gear and sometimes becoming entangled and injured. Preliminary testing indicates that a newly-developed pinger may be effective in alerting humpbacks so that they can avoid nets. These pinger deployment and testing efforts have largely been initiated by the fishermen themselves.

The SRG recognizes that there are ecological and perhaps legal issues relating to the use of pingers. Nonetheless, other than implementing time/area fishing closures, use of acoustic alarms is the most likely way to reduce entanglements of humpback whales and fishermen are willing to try this method of mitigation. NMFS should facilitate this process by clarifying legal issues and helping to design and conduct appropriate, collaborative, scientific studies.

Subsistence harvest

The SRG recommends that NMFS and FWS review current methods for estimating subsistence takes of marine mammals by Alaska Natives, and work with their co-management partners to improve struck and lost estimates. The agencies also should provide clarification on the implications of accounting for subsistence takes in determining stock status using the PBR system.

Alaska Native harvests have been estimated using data collected by NMFS, FWS, co-management organizations, the Alaska Department of Fish and Game, and the North Slope Borough. In spite of these numerous efforts, subsistence take data are incomplete, out of date, or totally lacking for some stocks. NMFS and FWS should, in cooperation with co-management organizations, review the adequacy of existing data collection systems, identify priority areas where better data are needed, and work toward implementing programs to collect those data. The issue of struck and lost is also important, especially for Pacific walrus. Current SARs multiply the recorded harvest by 1.72 to adjust for walruses that are struck but not retrieved. That correction factor is based on data collected between 1952 and 1972. While that is the only estimate available, it seems reasonable to think that walrus hunting practices and hunter efficacy may have changed since 40-60 years ago, and this issue should be revisited.

Section 117 of the MMPA requires NMFS and FWS to make annual estimates of “human-caused mortality and serious injury by source.” If that level of mortality and serious injury is likely to cause that stock to be reduced below its optimum sustainable population (i.e., all takes

combined exceed PBR) then it is considered a strategic stock. Stocks that are listed as endangered, threatened, or depleted are also considered strategic. Fisheries that incidentally take animals from strategic stocks may be subject to take reduction plans as described in section 118.

Nothing is said in section 117 or 118 about implications of this assessment and management system for subsistence taking, which is primarily dealt with under section 101(b), the “Native exemption”. The SARs report animals killed or seriously injured by any direct human source, including subsistence, and for certain stocks subsistence takes are much greater than incidental fisheries takes. However, it is not clear how these non-fisheries takes are considered in fisheries management decisions. The agencies should consult with stakeholders and clarify how subsistence take data fit into the stock assessment and fishery management processes and the implications, if any, for subsistence harvesters.