



MARINE MAMMAL COMMISSION

18 July 2011

Mr. Timothy J. Van Norman
Chief, Branch of Permits
Division of Management Authority
Fish and Wildlife Service
4401 North Fairfax Drive
Arlington, VA 22203

Re: Amendment and Renewal of Permit No. MA09386
(U.S. Fish and Wildlife Service,
Marine Mammals Management Office)

Dear Mr. Van Norman:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the above-referenced permit application with regard to the goals, policies, and requirements of the Marine Mammal Protection Act. The applicant is requesting authorization to conduct research on walrus in the Bering and Chukchi Seas during a five-year period. Some of the proposed activities currently are authorized under the same permit number, which the applicant is seeking to amend and renew.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the U.S. Fish and Wildlife Service issue the requested permit amendment and renewal, provided that it—

- conditions the permit to require the Marine Mammals Management Office to sponsor a review of its mark-recapture assessment approach before initiating field work;
- conditions the permit to allow for a maximum number of disturbances from aerial surveys and require monitoring and reporting of all disturbance events observed during those surveys;
- requires the Marine Mammals Management Office to estimate and then document and report the number of walrus harassed incidental to conducting the biopsy sampling and tagging activities proposed in this application;
- consults with the Marine Mammals Management Office and reconsiders whether it should include authorization for some level of unintended mortality in its research permit;
- conditions the permit to require the Marine Mammals Management Office to provide documentation that any individual authorized to collect biopsy samples or tag walrus remotely has received sufficient training and has sufficient experience to conduct those activities before he or she is allowed to do so unsupervised;
- takes steps to ensure that activities to be conducted under this permit and those of other permit holders who might be conducting research on walrus in the same areas are coordinated and, as possible, data and samples are shared to avoid duplicative research and unnecessary disturbance of animals; and

- conditions the permit to require the applicant to obtain all necessary permits under the Convention on International Trade in Endangered Species of Wild Fauna and Flora before importing any walrus part.

RATIONALE

The Marine Mammals Management Office within the Alaska Region of the U.S. Fish and Wildlife Service proposes to conduct research on walruses in the Bering and Chukchi Seas. The purposes of the proposed research are to (1) determine the abundance and demographic rates of walruses by conducting a long-term, large scale genetics-based mark-recapture program and (2) monitor movement and haul-out patterns through aerial surveys and satellite telemetry.

The Management Office is requesting authorization to harass, biopsy sample, and attach satellite radio transmitters to walruses in the Bering and Chukchi Seas (Table 1). The researchers propose to biopsy sample animals using a crossbow from a distance of 30 m and to attach transmitters from a distance of 15 m. A subset of the animals to be biopsy sampled also would be tagged; those animals would be darted simultaneously by two researchers using crossbows. The researchers would biopsy sample walruses of any age class on land, on ice, or in the water, and all tagged walruses also would be biopsy sampled. They propose to biopsy sample 3 percent of the population annually to achieve a sufficient recapture rate for adequate statistical power. The Management Office would work with Alaska Native groups and Russian colleagues to obtain additional biopsy samples. In addition, the Management Office is requesting authorization to collect an unlimited number of tissue samples and body parts from dead beachcast walruses and walruses taken by subsistence hunters. It is not clear from the application that the Management Office has made such arrangements with the pertinent Alaska Native communities and, at this point, the Commission can only assume that such cooperation will be forthcoming.

Table 1. Requested annual takes by activity

Activity	Number of walruses taken per year
Biopsy sample	6,000
Instrument with tag	50
Harass incidentally during sampling and tagging	unlimited

Research Design

The proposed research is intended to provide important information on the abundance and composition of the Pacific walrus population. The research will require years of field effort, genetic analysis of large numbers of tissue samples, and extensive statistical analysis of the resulting data. In short, the planned activities represent a major investment of resources. Those activities also pose a considerable risk of disturbance to the population at a time when it is subject to rapid and substantial changes in its environment. In its recent evaluation of the need to list the walrus under

the Endangered Species Act, the Service acknowledged that the population may decline rapidly in the coming years, primarily because of declining sea ice and access to historical foraging grounds.

The mark-recapture assessment approach proposed in this application offers a potentially useful assessment tool for this population, but the approach also entails considerable assumptions that relate to the probability of any particular animal being sampled (i.e., biopsied). Although the Management Office acknowledges those assumptions, the Commission questions whether the available information is sufficient to test or validate them. The assumptions are based on the movement of walrus of different age classes and sexes in an environment characterized not only by strong seasonal variation but also rapid changes in environmental conditions caused by climate change. At this time, the assumption that the spatial and temporal dynamics of various age classes and sexes are relatively predictable seems, at the least, questionable. In addition, the costs and/or risks associated with this approach are potentially substantial, both in terms of the resources required, the disturbance that may result, as well as the time that may be lost if this approach does not provide reliable results.

Given these concerns, the Commission suggests that the Service and the Management Office might benefit from an outside review of their proposed approach. Such a review could be conducted at a cost that is relatively small compared to that associated with this long-term program. It could be structured to provide input from multiple parties with relevant expertise, including Alaska Natives that will be involved in sampling and leading mark-recapture experts—both of which should be consulted and involved in a project of this nature and expense. In general, reviewing these matters carefully in advance of sample collection seems a much more prudent approach than collecting samples when it is not clear that sample collection procedures will, in fact, be consistent with the assumptions required for analysis. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service condition the permit to require the Marine Mammals Management Office to sponsor a review of its mark-recapture assessment approach before initiating field work.

Unintended Disturbance and Mortality

The aircraft used for the aerial surveys would maintain an altitude of approximately 457 m. Such surveys currently are authorized under the existing permit. Based on their experience with past surveys, the researchers do not believe that surveys flown at that altitude will disturb walrus and, for that reason, the Management Office is not requesting authorization to take walrus during that activity as part of its amendment and renewal request. However, past experience notwithstanding, it is not possible to rule out the potential for disturbance from aerial surveys. The evidence collected over the past several years indicates that the movement and hauling patterns of walrus are changing rapidly in response to changes in their habitat with the warming of the Arctic. The Service and Alaska Natives have documented mortality events that were unexpected but substantial. That being the case, it does not seem prudent to assume that walrus will necessarily continue to respond to human activities as they have in the past. It should be possible to anticipate some maximum number of walrus that might be disturbed by the surveys. It also should be possible to keep records of such events. Such information would be useful for assessing the impacts of the proposed

surveys and for predicting the impacts of survey activities that might be considered in the future. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service condition the permit to allow for a maximum number of disturbances from aerial surveys and require monitoring and reporting of all disturbance events observed during those surveys.

The Management Office has indicated that it would minimize disturbance of walrus on land or in shallow water by using beach cover, camouflage clothing, or a blind or by approaching downwind of animals. To minimize disturbance of walrus on ice, the researchers would back the boat away from the animals directly after they have deployed and/or retrieved the biopsy dart. Any disturbance that would result in displacement of walrus also would reduce the number of animals available to be sampled, so the researchers have an incentive to avoid disturbing walrus to the greatest extent practicable. The Management Office, however, has not estimated the number of walrus that could be harassed incidental to the proposed biopsy sampling and tagging activities. Such information seems essential for completing a reliable risk-benefit analysis of the proposed activities. To provide that kind of information for future consideration, the Marine Mammal Commission recommends that the Fish and Wildlife Service require the Marine Mammals Management Office to estimate and then document and report the number of walrus harassed incidental to conducting the biopsy sampling and tagging activities proposed in this application.

The Marine Mammals Management Office also is not requesting authorization for any unintentional injuries or deaths associated with the proposed activities. Here, too, the Commission must question the assumption that those activities will not lead to unintended mortality. As has been observed in recent years, a single stampede from a land-based haulout site could result in the deaths of a number of walrus, particularly young animals. If such an event occurs and involves even a small number of deaths, then the Service should be required to halt and re-examine its activities and make a determination as to whether those activities can be safely continued. The anticipation of such events often provides the impetus for adjusting research methods to ensure their safety to the maximum extent practicable. For that reason, the Marine Mammal Commission recommends that the Fish and Wildlife Service consult with the Marine Mammal Management Office and reconsider whether it should include authorization for some level of unintended mortality in its research permit.

Other Considerations

The information submitted in the application suggests that some of the co-investigators and subsistence hunters currently have little experience with remote biopsy sampling or tagging procedures. The Management Office has indicated that those individuals would be trained to shoot crossbows for biopsy sampling and tagging by other, more experienced co-investigators or U.S. Geological Survey colleagues prior to being allowed to engage in those activities unsupervised. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service condition the permit to require the Marine Mammals Management Office to provide documentation that any individual authorized to collect biopsy samples or tag walrus remotely has received sufficient training and has sufficient experience to conduct those activities before he or she is allowed to do so unsupervised.

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Other researchers may be conducting similar activities on walrus at the same time and potentially in the same general locations as the applicant. To minimize duplicative efforts and repeated harassment of individuals, the Marine Mammal Commission recommends that the Fish and Wildlife Service take steps to ensure that activities to be conducted under this permit and those of other permit holders who might be conducting research on walrus in the same areas are coordinated and, as possible, data and samples are shared to avoid duplicative research and unnecessary disturbance of animals.

The Commission notes that proposed activities have been reviewed and approved by the applicant's Institutional Animal Care and Use Committee, as required by section 2.31 of the Animal and Plant Health Inspection Service's Animal Welfare Act regulations and it believes that the proposed research can be conducted in a humane manner.

The Management Office is requesting authority under this permit to import walrus samples (e.g., those collected in Russia) for analyses. The Marine Mammal Commission recommends that the Fish and Wildlife Service condition the permit to require the applicant to obtain all necessary permits under the Convention on International Trade in Endangered Species of Wild Fauna and Flora before importing any walrus part.

The Commission believes that the activities for which it has recommended approval are consistent with the purposes and policies of the Marine Mammal Protection Act.

Please contact me if you have any questions concerning the Commission's recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive style with a large initial 'T'.

Timothy J. Ragen, Ph.D.
Executive Director