



MARINE MAMMAL COMMISSION

8 March 2021

Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Permit Application No. 24334
(Alaska Department of Fish and Game)

Dear Ms. Harrison:

The Marine Mammal Commission (the 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 MMPA). Alaska Department of Fish and Game (ADFG) is seeking to renew its permit to conduct research on cetaceans in the Arctic during a five-year period—permit 18890 authorized similar activities.

ADFG proposed to conduct research on bowhead, beluga, gray, humpback, and killer whales in the Bering, Chukchi, and Beaufort Seas on a year-round basis. The purpose of the research is to investigate (1) abundance, distribution, and stock structure, (2) movements and habitat-use patterns, (3) demographics and life history parameters, and (4) behavior relative to human disturbance. Researchers would harass, observe, photograph/videotape¹, capture², restrain, handle, weigh, measure, record acoustically³, sample⁴, instrument⁵, and conduct procedures⁶ on numerous cetaceans of both sexes and various age classes (see the application and take tables for specifics). ADFG requested up to three beluga whale mortalities during the five-year period, which could be either unintentional or intentional⁷, as well as authorization to import, receive, possess, and/or export samples from cetaceans. ADFG would use various measures to minimize impacts on marine mammals and would be required to abide by the National Marine Fisheries Service's (NMFS) standard permit conditions. ADFG's Institutional Animal Care and Use Committee has reviewed and approved the research protocols.

¹ Including using manned aircraft, unmanned aircraft systems, and conducting photogrammetry.

² Only juvenile and adult beluga whales from the Beaufort Sea, Bristol Bay, Eastern Bering Sea, and Eastern Chukchi Sea stocks would be captured.

³ Including conducting acoustic evoked potential (AEP) tests.

⁴ Including skin, blood, blubber, swabs, exhaled air, feces, urine, and milk.

⁵ With either suction-cup, dart, implantable, and/or spider tags.

⁶ Including conducting ultrasound, lavage, stomach temperature studies with ingestible 'pills', and measuring colonic temperature.

⁷ Via euthanasia for humaneness purposes.

Mitigation measures during beluga whale captures

ADFG indicated that researchers would minimize stress on captured beluga whales by limiting handling time and trying to collect samples and attach instruments efficiently. If a captured whale shows any signs of distress, researchers will immediately release it, provided they think it would survive after being released. Additionally, though unlikely, animals could exhibit physiological and behavioral responses associated with capture activities, including dive reflex or stress response, making them unlikely to survive if they were released in such a compromised state. However, because of concerns about potential contamination of the meat should the animal die and be consumed as food by the Alaska Native community, ADFG did not request authority to administer emergency drugs⁸ to mitigate these responses and presumably an animal would instead be euthanized by gunshot⁹.

The Commission recognizes the importance placed on making the meat of an animal not expected to survive available for subsistence use and that administering drugs to animals in critical condition may be difficult in remote Arctic areas, often with limited personnel participating in research activities. However, consistent with guidelines from Andrews et al. (2019) and previous permit applications for captures of pinnipeds in the Arctic¹⁰ and captures of cetaceans elsewhere¹¹, the Commission believes that this permit should require emergency drugs to be carried by a veterinarian present during capture activities. They should be used at his or her discretion in the event that a whale could be saved with such drugs, rather than the animal be euthanized. This approach would also help ensure that ADFG's capture activities prioritized the welfare and survival of a beluga whale over its potential use as subsistence food or materials, consistent with the humaneness requirement under section 104(b)(2) of the MMPA. Therefore, the Commission recommends that NMFS require any veterinarian listed under ADFG's permit who participates in beluga whale capture activities to administer emergency drugs to an animal in critical condition if he or she believes that such drugs could support the survival of the animal.

ADFG also indicated that it would not be using a local anesthetic during blubber biopsies due to its view that beluga whales do not experience pain during the biopsy since reactions are not observed. It also states that injections of local anesthetics and the extra time required to allow perfusion would cause more distress than collecting samples without local anesthesia. The Commission questions that reasoning. First, it is widely held in the field of veterinary care that animals may not exhibit a visible reaction when they experience pain. Second, local anesthetics can be administered first, and other activities conducted while the anesthetic perfuses the underlying tissue. Third, a local anesthetic such as lidocaine has a half-life of two hours (McEvoy and Snow 2018), and so any concern that consumption of the meat for subsistence could be unsafe would be mitigated. Finally, researchers should provide local pain control when they have the opportunity, that is, during live-capture activities. Researchers who conduct live-capture activities on both cetaceans and pinnipeds generally use local anesthetics during blubber biopsy sampling. The

⁸ i.e., drugs used to support respiration (Doxapram) and heart rate (Atropine, Epinephrine), treat shock (Dexamethasone, Prednisolone), and treat pulmonary edema (Furosemide).

⁹ ADFG states in the application that "if a beluga were seriously injured to the point where it was unlikely to survive upon release, as decided by a veterinarian or PI, it would be euthanized by gunshot". The Commission interprets "injured" animals to include those experiencing dive reflex or stress response.

¹⁰ e.g., applications for Marine Mammal Lab permit 23858 and ADFG permit 20466.

¹¹ e.g., application for Wells permit 20455.

Commission thus recommends that NMFS require ADFG to use a local anesthetic during blubber biopsy sampling.

Research during subsistence harvest activities

ADFG explains that tagging beluga whales may also be conducted in conjunction with subsistence harvest activities. In these cases, whales would be captured in nets set by Alaska Native subsistence hunters who are also listed as co-investigators under the permit. Whales still alive when the hunter checks the nets could be used for research rather than subsistence. Based on the application, these hunters have been trained to handle whales and tag and release them humanely. They would not conduct intrusive sampling¹².

The MMPA sets forth different requirements applicable to taking for subsistence purposes and taking for purposes of scientific research. Section 101(b) provides an exemption for Alaska Natives to take marine mammals for subsistence and handicraft purposes, provided that the taking is not accomplished in a wasteful manner. Section 104(c)(3) allows for permits to be issued authorizing taking for a *bona fide* scientific purpose. Further, lethal taking can be authorized only if non-lethal methods for conducting the research are not feasible. In addition, NMFS must determine that the authorized manner of taking is humane.

If, as might be the case under this application, the purpose of the taking changes mid-way through the activity, this raises questions as to whether the taking is consistent with the statutory requirements. The Commission understands that the risk of an animal drowning when captured in a net during a hunt is based on infrequent checks of the nets—they are not monitored continuously. Conversely, ADFG only sets nets to capture beluga whales for research when animals are present and targeted for capture. As such, the proposed netting method for hunts could not be authorized directly under a scientific research permit, as it would run afoul of the MMPA’s humaneness requirement. It poses too high a risk that whales would be killed when alternative approaches are available (e.g., targeted net captures of animals, continuous net monitoring). On the other hand, netting the whale during a hunt arguably would not be for a subsistence or handicraft purpose if the whale is ultimately used for some other purpose (i.e., research). It also could constitute wasteful taking if the captured whale is not used for authorized subsistence purposes, particularly if “converting” the whale into a research animal merely results in a different whale being killed to meet community subsistence needs. The Commission believes that the best way to avoid such problems is to have clear separation between taking initiated for subsistence and taking where the eventual use is for research. The Commission therefore recommends that NMFS not authorize the conversion of beluga whales initially taken for subsistence purposes into research subjects under ADFG’s permit.

On a related point, the application fails to specify whether the decision to convert a whale from subsistence to research would always be made at the hunter’s discretion or instead the decision would be made based on certain criteria that would be established and applied. In particular, the Commission is concerned that economic considerations may factor into the decision. If NMFS decides to authorize subsistence hunters to tag and release beluga whales during hunts despite the Commission’s recommendation to the contrary, the Commission further recommends that NMFS specify in the permit the criteria that would be used to make such decisions and explicitly prohibit

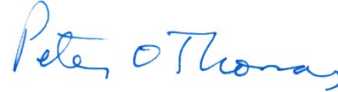
¹² As defined by NMFS’s implementing regulations (50 C.F.R. § 216.3).

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ADFG or anyone else from compensating the hunter for the capture of the whale or for any other procedure conducted on that whale under the permit.

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

Sincerely,



Peter O. Thomas, Ph.D.
Executive Director

References

- Andrews, R.D., R.W. Baird, J. Calambokidis, C.E.C. Goertz, F.M.D. Gulland, M.P. Heide-Jørgensen, S.K. Hooker, M. Johnson, B. Mate, Y. Mitani, D.P. Nowacek, K. Owen, L.T. Quakenbush, S. Raverty, J. Robbins, G.S. Schorr, O.V. Shpak, F.I. Townsend, Jr., M. Uhart, R.S. Wells, and A. Zerbin. 2019. Best practice guidelines for cetacean tagging. *Journal of Cetacean Research and Management* 20: 27–66.
- McEvoy, G., and E.K. Snow. 2018. *AHFS Drug Information 2018*. American Society of Health Pharmacists, Bethesda, Maryland. 3824 pages.