



# MARINE MAMMAL COMMISSION

3 December 2025

Mr. Trevor Spradlin, Supervisor  
Directed Take Program  
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. 29017  
(Alaska Department of Fish and Game)

Dear Mr. Spradlin:

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 (MMPA). Alaska Department of Fish and Game (ADFG) is seeking to renew its permit to conduct research on cetaceans in Alaska during a ten-year period—permit 24334 authorized similar activities.

ADFG proposed to conduct research on bowhead, fin, gray, humpback, minke, killer, and beluga 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, (4) behavior relative to environmental conditions and human disturbance, and (5) health. Researchers would harass, observe, photograph/videotape<sup>1</sup>, capture<sup>2</sup>, restrain, handle, weigh, measure, record acoustically<sup>3</sup>, sample<sup>4</sup>, instrument<sup>5</sup>, and conduct procedures<sup>6</sup> on numerous cetaceans of both sexes and various age classes. ADFG requested up to six beluga whale mortalities during the ten-year period, which could be either unintentional or intentional<sup>7</sup>, 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)

---

<sup>1</sup> Including using manned aircraft, unmanned aircraft systems, and conducting photogrammetry.

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

<sup>3</sup> Including conducting acoustic evoked potential (AEP) tests.

<sup>4</sup> Including skin, blood, blubber, swabs, exhaled air, feces, urine, gastric fluid, and milk.

<sup>5</sup> With either suction-cup, dart/barb, deep-implant, and/or spider-type (spider) tags.

<sup>6</sup> Including conducting ultrasound, lavage, stomach temperature studies with ingestible telemeter pills, and measuring colonic temperature.

<sup>7</sup> Via euthanasia for humaneness purposes.

standard permit conditions. ADFG's Institutional Animal Care and Use Committee has reviewed and approved the research protocols.

### **Pain management during attachment of spider tags**

ADFG proposed to attach long-term spider tags<sup>8</sup> to captured beluga whales. The tags are attached by three pins, approximately 33 cm in length and 10 mm in diameter. Holes for the pins are made using a sharp, coring tool that is inserted through the skin and blubber, approximately 5 cm below the dorsal surface. ADFG indicated in its application that it would not administer drugs for pain management during tag attachment because researchers have not observed a reaction in the whales tagged previously (i.e., no evidence from the behavior of the beluga of pain during coring). ADFG also stated in its application that administering a local anesthetic, specifically lidocaine, would add to the holding time unnecessarily.

During its informal review of this application, the Commission asked ADFG to justify how lidocaine would add to the holding time unnecessarily during capture and attachment of spider tags and how a lack of an observed response indicates a lack of pain. ADFG replied that none of the participating veterinarians or aquarium personnel have suggested that lidocaine was necessary given the lack of response of the whales to the tag attachment process. However, animals do not necessarily exhibit a visible reaction when they experience pain (Short 1998). Multiple National Academy of Sciences' Committees have concluded that procedures that cause pain in humans also may cause pain in animals, making the management of pain in research animals an ethical and scientific imperative (e.g., National Research Council 2009 and 2011). Therefore, the Commission challenges ADFG's assumption that a lack of response equates to the absence of pain during the coring process.

With regard to increased holding time, ADFG stated that lidocaine takes 5–10 minutes to begin working, may not reach its full effect for 60–90 minutes, and can take hours to wear off. Further, ADFG claimed that the administration of lidocaine at six locations and at multiple depths would take at least 10 minutes, in addition to the 10 minutes before it would start to take effect, and expressed concerns that the increased holding time would increase stress. The Commission challenges ADFG's assertion that lidocaine takes that long to take effect and that administration of lidocaine would significantly increase handling time. For example, studies conducted on human patients suggest that, on average, it takes 1–2 minutes to achieve analgesia (Almeida et al. 2005, Bajwa et al. 2023). Similarly, Wildlife Computers specifies in its attachment protocols that are included with marine mammal Type B tags how lidocaine should be injected and that 2 minutes should be allowed for the drug to take effect<sup>9</sup>. In the few minutes it would take to administer lidocaine at the six sites, ADFG would be able to begin blubber coring at the first site. This is corroborated by Wells et al. (2013), who were able to fit a Type B satellite tag to the dorsal fin of each of two pilot whales, clean the area with chlorhexidine and methanol, administer lidocaine and epinephrine, bore a hole with a coring tool, and attach the tag using a pin—all in approximately 5

---

<sup>8</sup> Spider tags are considered Type B (Bolt-on) tags, along with single- and three-pin tags routinely attached to smaller odontocetes (Andrews et al. 2019).

<sup>9</sup> Which is based on the standard of care for attaching Type B tags on small odontocetes (Wells, pers. comm.; see related [video](#)).

minutes. Therefore, the Commission contends that using lidocaine would not significantly increase handling time and instead would align the ADFG tagging protocol with accepted guidelines, standard of care procedures, and current research permits for attaching Type B tags on cetaceans.

The best practice guidelines for cetacean tagging (Andrews et al. 2019) recommend that restraint and handling time be the briefest time *required to conduct the procedures humanely* and safely. That is, the quickest manner in which procedures can be conducted is not necessarily the most humane. Guidelines for the treatment of marine mammals in field research state that some form of anesthesia or analgesia should be used when conducting potentially painful procedures (Gales et al. 2009), and, more specifically, the best practice guidelines for cetacean tagging recommend that local anesthesia be used in odontocetes, especially for multiple piercings (Andrews et al. 2019). Using lidocaine also would be consistent with the methods authorized under NMFS's Marine Mammal Health and Stranding Program (MMHSRP) permit #24359, which included the administration of lidocaine prior to spider tag attachment of beluga whales. In addition, administering lidocaine prior to attaching Type B tags is standard of care for live-captured bottlenose dolphins (e.g., Balmer et al. 2008, Wells et al. 2017), live-captured mysticetes (e.g., Harms pers. comm.; Houser et al. 2024), stranded odontocetes (e.g., Wells et al. 2013), and rehabilitated odontocetes (e.g., Wells et al. 1999)<sup>10</sup>.

ADFG further expressed concerns regarding unknown side effects of lidocaine that may be problematic for beluga whales after release, as well as unknown effects of the drug on the diving physiology of marine mammals. It is common practice for researchers who conduct live-capture activities on marine mammals to use local anesthetics during blubber biopsy sampling and other procedures that may cause pain, beyond attaching Type B tags. For example, lidocaine is routinely used in non-sedated small cetaceans for biopsy collection, dorsal fin notching, and tooth extraction (e.g., MMSHRP permit #24359 and Wells permit #26622). Lidocaine also is routinely used to collect biopsy samples from non-sedated pinnipeds (e.g., ADFG permit #27503 and National Marine Mammal Laboratory permits #23858 and #28810) and in conjunction with sedatives and general anesthesia under numerous permits. Despite its use to conduct various procedures on numerous species of marine mammals, the Commission is unaware of any incidents when lidocaine has caused side effects or has impaired an animal's diving ability post-release.

Finally, ADFG stated that tagged beluga whales have been harvested shortly after tagging and that lingering drugs are a problem for human consumption. Criteria for permits issued under 104(c) of the MMPA require first and foremost that ADFG's research activities prioritize the welfare of the individual animal, consistent with the humaneness requirement under section 104(b)(2). Lidocaine has a half-life of 1.5–2 hours (American Society of Health-System Pharmacists 2025), so concerns that consumption of the meat for subsistence could be unsafe would be mitigated after several hours. For all these reasons and in order to meet the humaneness criterion for permit issuance, the Commission recommends that NMFS condition the permit to require ADFG to use a local anesthetic prior to blubber coring during the deployment of spider tags on beluga whales.

---

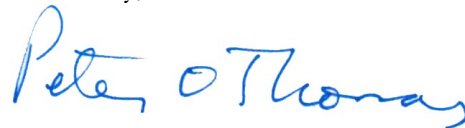
<sup>10</sup> The standard of care is used for all Type B tagging activities under MMHSRP permit #24359 as well.

## Personnel qualifications

If issued, this permit would authorize co-investigator Justin Crawford to collect biopsy samples and to deploy dart/barb tags, both via crossbow only, on all species (including mysticetes, killer whales, and beluga whales). While Mr. Crawford has extensive field experience on various ADFG marine mammal research projects, his experience biopsy sampling and dart/barb tagging has been with walrus using a crossbow, and that experience was 10 years ago (2015). His experience working with cetaceans has been focused on observing, counting, and photo-identifying mysticetes. Since walrus are smaller and have a thinner blubber layer than cetaceans, NMFS determined that his experience with walrus translated across taxa to cetaceans. However, deploying a dart/barb tag or a biopsy dart on a swimming cetacean, especially a beluga or killer whale, is very different than deploying a tag on a stationary target on land or ice. Therefore, the Commission recommends that NMFS refrain from authorizing Mr. Crawford to biopsy sample and tag cetaceans unsupervised until he has gained experience successfully conducting those procedures on cetaceans under supervision.

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

Sincerely,



Peter O. Thomas, Ph.D.,  
Executive Director

## References

- Almeida, G.P., G.L. Boos, T.G. de Alencar, and G.R. de Oliveira Filho. 2005. Onset of 1% lidocaine for skin infiltrative anesthesia. *Revista Brasileira de Anestesiologia* 55(3):284–288.
- American Society of Health-System Pharmacists. 2025. AHFS Drug Information 2025. American Society of Health-System Pharmacists, Bethesda, Maryland.  
<https://doi.org/10.37573/9781585287611>
- 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. Zerbini. 2019. Best practice guidelines for cetacean tagging. *Journal of Cetacean Research and Management* 20:27–66. <https://doi.org/10.47536/jcrm.v20i1.237>
- Bajwa, M.S., M.M. Bashir, M.H. Bajwa, Z. Iqbal, M.A. Salahuddin, A. Hussain, and F. Shahzad. 2023. How long to wait after local infiltration anaesthesia: Systematic review. *British Journal of Surgery* 7(5):zrad089. <https://doi.org/10.1093/bjsopen/zrad089>

- Balmer, B.C., R.S. Wells, S.M. Nowacek, D.P. Nowacek, L.H. Schwacke, W.A. McLellan, F.S. Sharf, T.K. Rowles, L.J. Hansen, T.R. Spradlin, and D.A. Pabst. 2008. Seasonal abundance and distribution patterns of common bottlenose dolphins (*Tursiops truncatus*) near St. Joseph Bay, Florida, USA. *Journal of Cetacean Research and Management* 10(2):157–167. <https://doi.org/10.47536/jcrm.v10i2.650>
- Gales, N.J., W.D. Bowen, D.W. Johnston, K.M. Kovacs, C.L. Littnan, W.F. Perrin, J.E. Reynolds III, and P.M. Thompson. 2009. Guidelines for the treatment of marine mammals in field research. *Marine Mammal Science* 25(3):725–736. <https://doi.org/10.1111/j.1748-7692.2008.00279.x>
- Houser, D.S., P.H. Kvaldsheim, L. Kleivane, J. Mulsow, R.A. Ølberg, C.A. Harms, J. Teilmann, and J.J. Finneran. 2024a. Direct hearing measurements in a baleen whale suggest ultrasonic sensitivity. *Science* 386(6724):902–906, including supplementary materials. <https://doi.org/10.1126/science.ado7580>.
- National Research Council. 2009. *Recognition and Alleviation of Pain in Laboratory Animals*, 2<sup>nd</sup> edition. National Academies Press, Washington, District of Columbia. 198 pages. <https://doi.org/10.17226/12526>.
- National Research Council. 2011. *Guide for the Care and Use of Laboratory Animals*, 8th edition. National Academies Press, Washington, District of Columbia. 246 pages. <https://doi.org/10.17226/12910>.
- Short, C.E. 1998. Fundamentals of pain perception in animals. *Applied Animal Behaviour Science* 59(1-3):125–133. [https://doi.org/10.1016/S0168-1591\(98\)00127-0](https://doi.org/10.1016/S0168-1591(98)00127-0)
- Wells, R.S., [H.L. Rhinehart](#), [P. Cunningham](#), [J. Whaley](#), [M. Baran](#), [C. Koberna](#), [D.P. Costa](#). 1999. Long distance offshore movements of bottlenose dolphins. *Marine Mammal Science* 15(4):1098–1114. <https://doi.org/10.1111/j.1748-7692.1999.tb00879.x>
- Wells, R.S., E.M. Fougères, A.G. Cooper, R.O. Stevens, M. Brodsky, R. Lingenfeller, C. Dold, and D.C. Douglas. 2013. Movements and dive patterns of short-finned pilot whales (*Globicephala macrorhynchus*) released from a mass stranding in the Florida Keys. *Aquatic Mammals* 39(1): 61–72. <https://doi.org/10.1578/AM.39.1.2013.61>
- Wells, R.S., L. Schwacke, T.K. Rowles, B. Balmer, E. Zolman, T. Speakman, F.I. Townsend, M.C. Tumlin, A. Barleycorn, and K. Wilkinson. 2017. Ranging patterns of common bottlenose dolphins (*Tursiops truncatus*) in Barataria Bay, Louisiana, following the Deepwater Horizon Oil Spill. *Endangered Species Research* 33: 159–180. <https://doi.org/10.3354/esr00732>