



# MARINE MAMMAL COMMISSION

16 April 2014

Dr. Tammy Adams, Acting Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Re: Permit Amendment Application No. 15324  
(Alaska Department of Fish and Game)

Dear Dr. Adams:

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 amend permit 15324 that authorizes it to conduct research on pinnipeds in the Bering, Chukchi, and Beaufort Seas in Alaska. The current permit expires on 31 December 2016.

## RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service condition the permit to—

- include requirements to monitor darted bearded seals and report (1) their behavioral response and any activities that place them at heightened risk of injury or death, (2) whether they entered the water and their fate could not be determined, and (3) the number of dependent pups of those darted seals and their behavior; and
- halt the use of the darting technique and consult with the National Marine Fisheries Service (NMFS) and the Commission if three or more bearded seals are darted and suffer unanticipated adverse effects, including entering the water and either drowning or disappearing so that their fate cannot be determined.

## RATIONALE

ADFG is authorized to (1) monitor the status and health of spotted, ringed, bearded, and ribbon seal populations, (2) improve population assessments, and (3) determine seal movement patterns. Researchers collaborate with subsistence hunters to conduct research on each of the four species of seals in the Bering, Chukchi, and Beaufort Seas. Authorized activities include harassing, capturing, handling, restraining, administering drugs to, measuring, weighing, marking/tagging, sampling, conducting ultrasound on, and attaching instruments to various numbers of individuals of

each pinniped species. ADFG is authorized to conduct the specified activities on individuals of various age classes and either sex.

ADFG is requesting five changes to its permit, including—

- (1) increasing the number of spotted seals harassed incidental to capture activities<sup>1</sup> from 50 to 1,000 per year;
- (2) adding the use of year-round vessel and aerial surveys<sup>2</sup> to monitor seal distribution and potentially harassing up to 100,000 spotted and ringed seals and 50,000 ribbon and bearded seals per year to monitor distribution and abundance of ice seals—vessels would approach no closer<sup>3</sup> than 100 m and fixed-wing aircraft would approach no closer than 200 m in altitude;
- (3) adding subsistence hunters to the list of co-investigators;
- (4) adding additional sedatives (i.e., butorphanol and midazolam with naltrexone and flumazenil as the reversing agents and doxapram and epinephrine as the intervention drugs, if necessary) to the list of authorized immobilizing agents; and
- (5) adding the use of remotely-delivered sedatives to capture adult bearded seals hauled out on ice.

To minimize effects from vessel surveys, ADFG would leave the area if seals enter the water or change their swimming patterns in response to the vessel. Researchers also would leave the area if seals are disturbed and enter the water during aerial surveys.

Although ADFG's Institutional Animal Care and Use Committee has reviewed and approved the research protocols, the Commission is concerned that the use of the sedatives and the method of delivery of those sedatives are novel in bearded seals. ADFG indicated that a qualified veterinarian would be involved in all aspects of the chemical immobilization procedures until the principal investigator and co-investigators are competent in the procedures and are approved by the veterinarian to continue independent of direct veterinary supervision. ADFG also noted that although the drug combination protocol has not been field tested specifically for bearded seals, it is the preferred method of capture for other large marine mammals (e.g., Steller sea lions (Beckman, pers. comm.)) that notoriously have suffered high mortality rates under other drug darting protocols. The proposed drug combination should not override the dive reflex that prevents marine mammals from inhaling while submerged, even when in a surgical plane of anesthesia. Steller sea lions have recovered fully from this sedation in less than an hour, or within minutes when the reversal agents are administered by darting the animal at the water's surface. Therefore, ADFG believes that butorphanol/midazolam alone is extremely unlikely to anesthetize a bearded seal to the point it would drown<sup>4</sup> before at least partial physical restraint in the water or reversal drugs could be administered. Researchers would be prepared to deploy a net to complete the capture or to deliver the reversal if a seal enters the water and does not haul back out prior to sedation. Because the sedatives and delivery methods are untested in bearded seals, the Commission believes that NMFS should continue to take a precautionary approach, as it has with authorizing those activities under

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<sup>1</sup> Up to 200 spotted seals could be captured each year.

<sup>2</sup> Including photography.

<sup>3</sup> However, seals may approach the vessel closer than 100 m.

<sup>4</sup> ADFG did not request to change the number of authorized mortalities of eight bearded seals per year.

Dr. Tammy Adams  
16 April 2014  
Page 3

the current Steller sea lion permits. Therefore, the Commission recommends that NMFS condition the permit to include requirements to monitor darted bearded seals and report (1) their behavioral response and any activities that place them at heightened risk of injury or death, (2) whether they entered the water and their fate could not be determined, and (3) the number of dependent pups of those darted seals and their behavior. The Commission further recommends that NMFS condition the permit to halt the use of this darting technique and consult with NMFS and the Commission if three or more bearded seals are darted and suffer unanticipated adverse effects, including entering the water and either drowning or disappearing so that their fate cannot be determined.

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

The Commission appreciates the opportunity to comment on this permit amendment application. Kindly contact me if you have any questions concerning the Commission's recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca J. Lent". The signature is written in a cursive style with a large initial "R" and a distinct "Lent" at the end.

Rebecca J. Lent, Ph.D.  
Executive Director