



MARINE MAMMAL COMMISSION

6 May 2011

Mr. P. Michael Payne, Chief
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Amendment to Permit No. 14326
(National Marine Mammal Laboratory)

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the above-referenced permit amendment request with regard to the goals, policies, and requirements of the Marine Mammal Protection Act. The Commission offers the following recommendation and rationale.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested permit amendment, provided that—

- the conditions contained in the current permit remain in effect, including having an experienced marine mammal veterinarian present to ensure proper dosages and protocols for use of sedatives and anesthesia and for emergency response;
- it condition the permit to include requirements to monitor darted animals 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 animals and their behavior; and
- it condition the permit to require the permit holder to halt the use of this darting technique and to consult with the Service and the Commission if three or more animals are darted and suffer unanticipated adverse effects, including entering the water and either drowning or disappearing so that their fate cannot be determined.

RATIONALE

Permit No. 14326 authorizes the permit holder to harass, capture, sedate, sample, collect digestive contents from, mark/tag, and instrument Steller sea lions in the North Pacific Ocean. The permit is valid until 31 August 2014 and authorizes research activities at rookeries and haulouts in Alaska, Washington, Oregon, and California. It also authorizes incidental harassment of northern fur seals, California sea lions, northern elephant seals, and harbor seals. Finally, it authorizes the unintentional deaths of up to five Steller sea lions per year from the western distinct population segment and 15 Steller sea lions per year from the eastern distinct population segment. The purpose

of the research is to study Steller sea lion population status, vital rates, foraging ecology, habitat requirements, and effects of natural and anthropogenic factors on Steller sea lions.

The permit holder requests that the permit be amended to authorize additional research activities involving the western distinct population segment of Steller sea lions in Alaska. Specifically, the permit holder is seeking amendments to—

- double the number of non-pup sea lions that can be incidentally harassed from 10,000 to 20,000 per year to accommodate one aerial survey in the Aleutian Islands each winter;
- increase the number of pups that can be incidentally harassed during the breeding season (June–July) from 300 to 800 per year and non-pups from 3,000 to 8,000 per year to collect better information used to estimate reproductive rates but decrease the number of non-pups that can be harassed during the non-breeding season (August–May) from 20,000 to 15,000 per year;
- increase the number of pups that can be incidentally harassed from 120 to 400 per year and the number of non-pups from 600 to 1,000 per year to allow the permit holder to supplement aerial surveys in the Aleutian Islands with ground-based surveys if aircraft access is limited (currently, ground-based surveys are authorized only during 2011 and 2013);
- increase the number of pups that can be captured, restrained, sampled (including blubber, fecal, vibrissae, and milk via lavage), and marked at rookeries in the Aleutian Islands from 200 to 500 per year and increase the number of pups that can be incidentally harassed from 700 to 1,500 per year and non-pups from 1,700 to 3,700 per year to estimate pup survival and reproductive rates;
- obtain authorization to capture, restrain, sample (including blubber, feces, vibrissae, and milk via lavage), and mark 300 pups per year in the eastern Gulf of Alaska during 2012 and 2014 and increase the number of pups that can be incidentally harassed from 300 to 490 per year and non-pups from 700 to 1,500 per year to estimate pup survival and reproductive rates;
- decrease the number of pups that can be captured, restrained, sampled, and marked from 500 to 150 per year at other sites and decrease the number of pups that can be incidentally harassed from 1,350 to 950 per year and non-pups from 3,250 to 2,450 per year due to increased effort in the Aleutian Islands and the eastern Gulf of Alaska;
- allow the permit holder to dart remotely up to 30 juvenile/sub-adult and 10 adult sea lions per year of either sex to immobilize the animals with a combination of medetomidine, butorphanol, and midazolam;
- increase the number of adult female sea lions that can be captured, restrained, sampled, marked, and instrumented from 10 per year to 40 per year in 2012 and 2013 and 20 per year in 2014 to study foraging behavior; and
- clarify that all anesthetized adult female sea lions captured during the non-breeding season will be imaged using ultrasound (including transrectally and/or transvaginally) by qualified personnel to determine pregnancy and ovulation rates.

Following procedures outlined in its original permit application and first permit amendment, the National Marine Mammal Laboratory captured adult female sea lions in Southeast Alaska in November 2010 to refine its capture and handling techniques. The success of that pilot study suggested that capturing and handling adult females may be significantly safer than originally predicted based on problems associated with captures during the 1990s. During the 2010 pilot study, the applicant darted six adult females, all accompanied by dependent pups. Three of the females were successfully immobilized using a combination of medetomidine, butorphanol, and midazolam and subsequently were handled, instrumented, and sampled successfully. Following these procedures, the sea lions were injected with sedative reversal agents and monitored during recovery and release. One of those three animals initially entered the water after being darted but hauled back onto land before the immobilization drugs took effect. The three other animals that researchers darted entered the water and were not captured. One of those sea lions hauled back onto a rock and was monitored throughout the course of a full recovery. Of the two that remained in the water following darting, one subsequently was observed for more than an hour until it had recovered from the effects of the sedative. The other animal was followed and eventually darted from a skiff to administer the reversal agent. However, the sea lion reacted strongly to the second of three reversal darts and swam away prior to receiving the third dose. Fortunately, this animal later was observed hauled on land and calling for her pup.

Based on its experience with those sea lions, the permit holder believes that sea lions entering the water after immobilization drugs have been administered are able to maintain buoyancy and respiration sufficient to survive until sedative effects wear off and remain responsive enough to avoid capture from a skiff. The permit holder believes that the sedative combination of medetomidine, butorphanol, and midazolam appears to be sufficiently well tolerated to buffer against possible excess dosages, if weight estimation is not precise. This sedative combination also allowed for rapid recovery after reversal agents were administered. As such, the permit holder believes this sedation method to be a useful and safe technique for capturing larger juveniles and sub-adults of either sex and adult males, if other methods are ineffective or impractical.

The Commission does not agree. A sample size of six, of which three entered the water shortly after darting, is not an adequate basis for concluding that remote darting of animals close to the water is safe. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service condition the permit to include requirements to monitor darted animals 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 animals and their behavior. The Marine Mammal Commission further recommends that the National Marine Fisheries Service condition the permit to require the permit holder to halt the use of this darting technique and to consult with the Service and the Commission if three or more animals 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 application of this procedure needs careful and thorough assessment before it is assumed to be safe.

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To enable it to conduct more intensive research on the population dynamics and foraging behavior of the eastern distinct population segment of Steller sea lions (including research with a bearing on the possible delisting of this population), the permit holder requests that the permit be amended to authorize additional research activities in Washington, Oregon, and California. Specifically, the permit holder is seeking amendments to —

- increase the number of aerial surveys that may be conducted from 4 to 12 per year and correspondingly increase the numbers of Steller sea lions, California sea lions, northern elephant seals, and harbor seals that can be incidentally harassed;
- increase the number of vessel-based surveys that may be conducted from 10 to 24 per year and correspondingly increase the numbers of Steller sea lions, California sea lions, northern elephant seals, and harbor seals that can be incidentally harassed;
- increase the number of ground-based surveys that may be conducted from 5 to 24 per year and correspondingly increase the numbers of Steller sea lions, California sea lions, northern elephant seals, and harbor seals that can be incidentally harassed;
- double the number of non-pups that can be captured, restrained, sampled, and marked from 10 to 20 per year in Oregon and include blood, hair, and skin sampling that inadvertently was omitted from the procedures authorized for Oregon under the original permit; and
- allow the use of floating traps at other locations in Washington in addition to Puget Sound to capture sea lions.

The permit holder indicated that the Institutional Animal Care and Use Committee at the National Marine Fisheries Service's Alaska Fisheries Science Center/Northwest Fisheries Science Center has reviewed and approved the revised research activities for which it is seeking authorization and associated takes of marine mammals, in accordance with the requirements of section 2.31 of the Animal and Plant Health Inspection Service's Animal Welfare Act regulations.

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 recommendation.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director