



MARINE MAMMAL COMMISSION

1 December 2014

Mr. Timothy J. Van Norman, Chief
Branch of Permits, MS: IA
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, Virginia 22041-3803

Re: Permit Application No. 45505B
(Terrie Williams, Ph.D.,
University of California, Santa Cruz)

Dear Mr. Van Norman:

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). Dr. Williams is requesting authorization to conduct research on captive sea otters during a five-year period—permit 45447 authorized similar activities.

Dr. Williams proposes to conduct research on up to 20 captive releasable or non-releasable female (10 pregnant or lactating and 10 non-pregnant or non-lactating) sea otters during the five-year period. Those sea otters would be animals that stranded and were brought into rehabilitation under Monterey Bay Aquarium's (MBAQ) stranding program and permit 32027. The purpose of the research is to determine (1) energetic cost of lactation and milk production in adult female sea otters and (2) the impact of lactation on energetic balance, body condition, and survival of female otters.

Metabolic data through open-flow respirometry would be collected from each female up to two times per week for up to 2 hours each time. Pups that were born either before or during the study would be held under the metabolic dome¹ with their mothers to reduce separation stress and handling time—no other research activities, including collecting samples, would be conducted on the pups. However, milk, urine, and blood samples would be collected from the females at the discretion of the attending veterinarian. Researchers could conduct ultrasound on pregnant females every few weeks to track fetal development. Activities would occur primarily at the University of California, Santa Cruz² but also could occur at MBAQ. Releasable females would be held in captivity no longer than one year, which includes the time through gestation, giving birth, and five months post-partum³ or until the attending veterinarian at MBAQ deems appropriate. All study animals,

¹ Which is placed over either a small pool or tote.

² Including facilities at both Long Marine Lab and California Department of Fish and Wildlife.

³ Which is prior to the average age of weaning.

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including the pups, would be released back to the wild by MBAQ unless deemed non-releasable by the U.S. Fish and Wildlife Service (FWS).

The proposed activities would not be conducted on otters that are unfit. If any animal becomes medically unstable, it would be removed from the study and transferred back to MBAQ. Although Dr. Williams does not anticipate any deaths directly related to the research activities, she is requesting the intentional death via euthanasia or unintentional death of up to one sea otter during the five-year period due to the generally compromised health status of stranded sea otters. A necropsy would be performed if a sea otter dies.

Because the ultimate disposition of the releasable otters is to return them to the wild, researchers would not train any of the releasable otters during the activities. All animals would be handled using the same protocols that MBAQ uses for housing and releasing stranded sea otters. Researchers also would use remote techniques⁴ when working with the animals. In addition, they would observe otters constantly during the metabolic activities and would remove them from under the metabolic dome if any of the animals show signs of stress. The same methods have been used successfully to collect metabolic rates from sea otter pups at MBAQ. Finally, Dr. Williams' Institutional Animal Care and Use Committee has reviewed and approved the research protocols.

For all of these reasons, the Commission believes that the proposed activities are consistent with the purposes and policies of the MMPA and therefore recommends that FWS issue the permit, as requested. Kindly contact me if you have any questions concerning the Commission's recommendation.

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".

Rebecca J. Lent, Ph.D.
Executive Director

⁴ Those techniques do not allow the otters to see or interact with humans and have been used with northern fur seal pups that were successfully returned to the wild.