



MARINE MAMMAL COMMISSION

29 February 2016

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. 77245B
(Anthony Pagano,
U.S. Geological Survey)

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). Mr. Pagano is requesting authorization to conduct research on two captive polar bears for up to five years—similar activities were authorized under permit 95406A.

Mr. Pagano proposes to conduct an energetics study on two captive polar bears¹ at the Oregon Zoo. The purpose of the study is to estimate energy demands and better understand how polar bears in the wild are responding to loss of sea ice. Oxygen consumption via open-flow respirometry, acceleration via collar-mounted tri-axial accelerometers, and body composition via deuterated water administration and serial blood sampling would be measured on each bear (see the application for the study schedule). Oxygen consumption and acceleration would be measured while the bears are resting, walking on a metabolic treadmill, and swimming in a metabolic flume—each session would last for 10 minutes. Husbandry staff have trained the polar bears to allow blood sampling without immobilization. The female bear is trained and the male bear would be trained to allow fitting and removal of the accelerometer collar without immobilization as well. The collar would remain attached for a 3-hour period but could be triggered remotely to fall off the bear, if needed. Both bears would be trained to walk on the treadmill and swim in the metabolic flume.

Each bear's stress level would be monitored, and the training or study trial session would cease at sign of distress. Oregon Zoo holds Exhibitor's License 92-C-0001, issued by the U.S. Department of Agriculture. The Institutional Animal Care and Use Committees at the U.S. Geological Survey and University of California Santa Cruz² have reviewed and approved the research protocols. Therefore, the Commission believes that the proposed activities are consistent

¹ One adult female and one adult male.

² Oregon Zoo's Research Review Committee also reviewed and approved the protocols.

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with the purposes and policies of the MMPA and recommends that the U.S. Fish and Wildlife Service 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" and a distinct "Lent" at the end.

Rebecca J. Lent, Ph.D.
Executive Director