



MARINE MAMMAL COMMISSION

8 April 2019

Ms. Jolie Harrison, 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 19108
(Daniel Costa, Ph.D.,
University of California Santa Cruz)

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the above-referenced permit amendment application with regard to the goals, policies, and requirements of the Marine Mammal Protection Act (the MMPA). Dr. Costa is authorized to conduct research on northern elephant seals along the U.S. west coast during a five-year period—permit 19108 expires on 30 June 2020. The purpose of the research is to continue a long-term study investigating (1) population growth and status, (2) reproductive strategies, (3) behavioral and physiological adaptations for diving and fasting, (4) general and sensory physiology and metabolism, (5) health and disease, and (6) bioacoustics associated with northern elephant seals. Dr. Costa is authorized to observe, harass, acoustically record, capture/handle, hold, transport/translocate, sedate, measure/weigh, sample, mark/tag, conduct procedures on, and attach instruments to numerous individuals of various age classes and both sexes per year. He also is authorized to kill unintentionally or intentionally¹ up to five elephant seals per year.


Dr. Costa is requesting multiple amendments to his permit. These include increasing the number of takes for certain authorized activities, revising take table rows to include other currently authorized procedures, placing heart rate electrodes intravascularly, and adding the use of external sensors to measure sleep patterns and brain activity in elephant seals (see the amendment application for details). The purposes of the amendments are to (1) investigate how seals manage oxygen stores while diving and how swimming effort influences breath-hold capacity and foraging and (2) measure sleep and brain oxygenation in concert with energy metabolism. Dr. Costa's Institutional Animal and Care Use Committee (IACUC) has reviewed and approved most of the proposed procedures. Those that have yet to be approved currently are being reviewed by the IACUC. The Commission believes that the proposed activities are consistent with the purposes and policies of the MMPA and recommends that the National Marine Fisheries Service issue the permit amendment, contingent on inclusion of the current permit conditions.

¹ Euthanasia for humaneness purposes.

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Please contact me if you have any questions regarding the Commission's recommendation.

Sincerely,

A handwritten signature in blue ink that reads "Peter O. Thomas". The signature is written in a cursive style with a large initial "P" and "T".

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