



MARINE MAMMAL COMMISSION

17 September 2025

Mr. Trevor Spradlin, Supervisor
Directed Take Program
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Permit Application No. 28742
(Institute of Marine Sciences)

Dear Mr. Spradlin:

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 (MMPA). The Institute of Marine Sciences proposed to conduct research on northern elephant seals along the U.S. West Coast during a ten-year period—permit 23188 authorized similar activities.

The purpose of the research is to continue a long-term study investigating northern elephant seal (1) population growth and status, (2) reproductive strategies, (3) behavioral and physiological adaptations for diving and fasting, (4) general physiology and metabolism, (5) health, and (6) bioacoustics and responses to sensory stimuli. Researchers would harass, observe, photograph/videotape¹, capture, handle, restrain, transport/translocate, temporarily hold in captivity, sedate, measure/weigh, sample, mark/tag, conduct procedures on², acoustically record, and attach instruments to or implant instruments in³ northern elephant seals of either sex and any age class each year. The Institute of Marine Sciences requested up to five mortalities per year⁴, which could be either unintentional or intentional⁵, as well as authorization to import, receive, and/or export samples from elephant seals. Researchers would use various measures to minimize impacts on northern elephant seals and other pinnipeds that might be harassed incidentally and also would be required to abide by the National Marine Fisheries Service's (NMFS) standard permit conditions.

¹ Including using unmanned aircraft systems.

² Including (1) conducting acoustic playback and scent experiments, (2) using a metabolic chamber/diving helmet and/or metabolic cage, and (3) administering Evan's blue dye, tritiated water, and/or various infusates and collecting serial blood samples.

³ Including surgical implantation of life history transmitter (LHX) tags.

⁴ With a maximum of 10 mortalities over the duration of the permit.

⁵ Via euthanasia for humaneness purposes.

Procedures to be conducted on weaned pups

In its application, the Institute of Marine Sciences considered weaned pups and individuals up to three years of age to be juveniles. The application narrative and take table described procedures that would be conducted on juveniles, but only rarely distinguished between weaned pups and older “juveniles”. For example, the application indicated that weaned pups would be physically restrained for weighing during Category 2 procedures⁶, while mild chemical restraint techniques could be used on “larger” animals during weighing, measuring, and sampling. The narrative, however, did not specify whether weaned pups could be sedated for sampling, whether non-sedated animals would be subjected to all sampling procedures, or whether methods would be altered for non-sedated animals. The narrative also did not specify whether a local anesthetic would be administered to non-sedated animals prior to blubber or muscle biopsy sampling.

The application should clearly state whether any of the more invasive procedures—for example, blubber and muscle biopsy sampling, instrumentation with invasive tag types⁷, or other procedures that typically occur under sedation or anesthesia—would be conducted on all juveniles, including weaned pups, or if they would be conducted on only older individuals. The Commission recommends that NMFS work with the Institute of Marine Sciences to ensure the final application specifies the minimum age for any procedure that would be conducted on only older juveniles and describes alternative methods for procedures that may be modified when conducted on weaned pups. If blubber and muscle biopsy samples could be collected from non-sedated, weaned pups or juveniles, the Commission further recommends that NMFS require the researchers to use a local anesthetic prior to sample collection.

Alternative methods for weaned pups should also clarify tag combinations and placements that might be specific to that age group. For example, since three different tag types could be attached to the jaw⁸, the Commission recommends that NMFS condition the permit to specify the maximum number of tags that could be applied to the jaw or head of a weaned pup at one time, the combination of which could have severe implications for newly-weaned pups that are still learning to forage. Similarly, the application stated that all animals may be instrumented with a combination of external tag sensors not to exceed 10 percent of the seal’s cross-sectional area and 2 percent of the seal’s mass, but it did not indicate whether or how LHX tags are included in the mass calculations. Surgical implantation of LHX tags and the attachment of external instrumentation on weaned pups, which are still learning to feed, may cause undue stress and a compromised ability to forage. As such, the Commission recommends that NMFS condition the permit to require the Institute of Marine Sciences to include both external and internal instrumentation in the mass calculation to determine how many tags can be attached or implanted at a given time.

Institutional Animal Care and Use Committee (IACUC) protocols

During the informal review process, the Commission noted that some of the procedures proposed in the permit application were not included in the approved IACUC protocols that were provided with the application. For example, the approved protocols did not include internal

⁶ Which include weighing, measuring, and sampling.

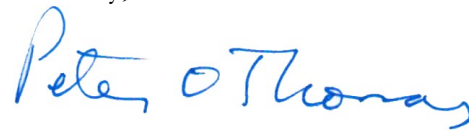
⁷ Including LHX tags.

⁸ Based on correspondence during the informal review process.

instrumentation or procedures using a metabolic chamber/diving helmet and/or a metabolic cage, and the protocols stated that no surgeries would be performed even though the permit application indicated that LHX tags would be surgically implanted. NMFS responded that because this permit covers multiple research projects and institutions, some of the protocols are “approved through other institutions, some through other IACUC protocols at UCSC, and others have been approved by current IACUCs but are currently expired because the applicant does not have immediate plans to do the work...and the timeline of IACUC protocols...is not the same as the NMFS permit.” The Commission understands that the various procedures may be covered under multiple IACUCs and protocols, but in that scenario, multiple sets of protocols are typically submitted with the permit application. Regardless of the timelines of IACUC protocols⁹ and research permits¹⁰ and consistent with NMFS’s standard permit conditions and permit application instructions, prior to conducting research, all relevant procedures must be reviewed and approved by the appropriate IACUC, the IACUC protocols must be consistent with the research methods and include numbers of takes that are not greater than those authorized by the permit, and all relevant IACUC protocols and approvals must be provided to NMFS.

Please contact me if you have any questions concerning the Commission’s recommendations.

Sincerely,



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

⁹ 3-year duration with 1-month application time, as stated by NMFS.

¹⁰ 5- to 10-year duration with much longer application and modification time, as stated by NMFS.