



MARINE MAMMAL COMMISSION

24 August 2021

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 Application No. 25770
(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 request with regard to the goals, policies, and requirements of the Marine Mammal Protection Act (the MMPA). Dr. Daniel Costa proposes to conduct research on pinnipeds in Antarctica during a five-year period—permit 19439 authorized similar activities.

Dr. Costa proposes to conduct research on six pinniped species in Antarctica, primarily on the Western Antarctic Peninsula and in the Ross Sea. The purpose of the research is to investigate foraging ecology, diving behavior, physiology, and habitat use and movement patterns of pinnipeds in the Southern Ocean. Dr. Costa and co-investigators would harass, capture, handle, restrain, measure/weigh, sedate¹, conduct procedures² on, sample, mark/tag³, and/or attach instruments to numerous individuals of various age classes and both sexes per year (see the Take Table for specifics). All samples could be imported or exported for analyses. In addition, Dr. Costa requests up to 4 mortalities⁴ for each species per year and 10 mortalities for each species during the 5-year period. Researchers would use various measures to minimize impacts on pinnipeds and also would be required to abide by the National Marine Fisheries Service's (NMFS) standard permit conditions. A portion of the research protocols for a study currently funded by the National Science Foundation (NSF)⁵ is under review by one of the co-investigators' Institutional Animal Care and Use Committee (IACUC). It is not clear whether the rest of the protocols have been reviewed by the IACUC.

¹ Including remotely delivered sedation (i.e., darting).

² Including conducting ultrasound, stomach lavage, and enemas and administering Evan's blue dye and deuterium oxide and collecting serial blood samples.

³ Including dye/bleach, flipper tags, and/or PIT tags.

⁴ By either unintentional mortality or intentional mortality (i.e., euthanasia for humaneness purposes).

⁵ And to be authorized under Antarctic Conservation Act (ACA) permit 2022-001 by NSF.

Permit review process

On 5 August 2021, NMFS published Dr. Costa's application in the *Federal Register* (86 Fed. Reg. 42790) for public comment. Based on its informal review of the application available online, the Commission found that some of the information required in NMFS's 2016 application instructions and its implementing regulations was not consistent or clearly articulated in the application. Thus, in accordance with NMFS's recently revised permit process, the Commission provided to NMFS informal comments and questions on the application with the understanding that the agency would provide a final, revised application to the Commission based on relevant responses from the applicant.

However, NMFS did not provide the Commission with a final, revised application. Instead, the Commission received only the applicant's responses to its comments and questions, many of which referenced changes that were made to the text of the application and/or take table without indicating what changes were actually made. For example, the Commission had noted that the requested number of incidental harassment takes was inconsistent between the application text and the take table and for crabeater seals, exceeded the number of takes requested under the associated ACA permit application. In response, the applicant indicated, "This has been corrected considering the numbers requested to ACA and checked for consistency." Thus, it appears that the applicant likely did provide responses sufficient to address the Commission's concerns and amended the application accordingly. However, due to NMFS's revised permit review process⁶, NMFS no longer makes available complete, corrected applications until a decision on the permit has been made. Thus, it is impossible to ascertain how many takes have been requested and which activities are considered part of Dr. Costa's "final" application. Since some of the information in the initial application remains inconsistent or unclear, the Commission considers the application incomplete. Neither the Commission nor the public can provide informed comments until the application has been updated based on responses to the Commission's comments and questions⁷.

It is NMFS's responsibility to ensure that applicants provide consistent information, abide by the application instructions, and provide the information necessary to establish that an application is complete prior to publishing a notice of availability in the *Federal Register*. By continuing to publish applications with missing, insufficient, or inconsistent information, NMFS perpetuates a review process that lacks transparency and makes it difficult for the Commission and the public to provide meaningful assessments⁸. Therefore, the Commission recommends that, prior

⁶ NMFS relayed to the Commission through email, "In accordance with our streamlined process, we are not providing intermittent versions of the application. All changes mentioned in the informal back and forth, along with any changes stemming from recommendations of other reviewers or any necessary changes from the MMC's formal letter, will be incorporated into a final version that can be downloaded from APPS when a permit decision is made."

⁷ For discussion on the potential implications of the issuance of a permit based on inaccurate or inconsistent information in the final application, see the Commission's [26 June 2021 letter](#) for Dr. Terrie Williams, its [31 July 2020 letter](#) for Dr. Costa, its [14 July 2020 letter](#) for U.S. Geological Survey, its [17 June 2020 letter](#) for Hamilton James, and its [16 June 2020 letter](#) for Wild Space Productions.

⁸ The Commission began conducting more detailed informal reviews of applications five years ago when it became apparent that NMFS was not ensuring that its application instructions were being followed and that accurate and consistent information was being provided by the applicant. These issues resulted in final applications that were inaccurate or inconsistent such that it was difficult to determine what activities and procedures were authorized by way of the permit, as well as final permits that included take tables that were missing information or that included inaccurate and inconsistent information.

to publication of any application in the *Federal Register*, NMFS staff review each application in light of the applicable instructions to ensure that all required information is included, is internally consistent, is consistent with NMFS's policies, and is in a format that facilitates review by the Commission and the public. In regard to Dr. Costa's application, the Commission recommends that NMFS refrain from issuing a permit to Dr. Costa until NMFS (1) revises the final application based on responses to the Commission's comments and questions, and (2) provides the final application for review and comment. The Commission will continue to recommend that NMFS refrain from issuing a permit to any applicant unless these conditions have been met.

Should NMFS decide to issue the permit despite the Commission's recommendation that issuance be deferred, the Commission has the following additional concerns regarding Dr. Costa's permit application.

Remote darting

Dr. Costa proposed to sedate adult and juvenile crabeater and leopard seals using remotely deployed darts and indicated that this method would be used only when capture and restraint of an animal was not possible using traditional capture methods. Animals would be darted at least 25 m from the water's edge, and females with pups would not be darted. Dr. Costa also stated that over 50 crabeater seals and one leopard seal had been successfully darted during the 2000 to 2007 field seasons, yet information was not included regarding the number of pinnipeds that were targeted for remote sedation under his previous permits or the number that were successfully captured, handled, and released. Since darting does have inherent risks, the Commission believes that NMFS should continue to take a precautionary approach, as it has with authorizing darting activities under Dr. Costa's previous permit. Therefore, if NMFS decides to issue a permit to Dr. Costa, the Commission recommends that NMFS condition the permit to require Dr. Costa to monitor pinnipeds that have been remotely sedated from the time of darting to time of recovery from sedation and report on (a) their behavioral response and any activities that place them at heightened risk of injury or death, and (b) whether they entered the water and their fate could not be determined. The Commission further recommends that NMFS condition the permit to halt the use of the darting technique and consult with NMFS and the Commission if three or more pinnipeds are darted and suffer unanticipated adverse effects, including entering the water and either drowning or disappearing so that their fate cannot be determined.

Personnel qualifications

Based on the personnel table, several co-investigators (CIs) would be authorized to conduct certain invasive procedures under the permit, including remote sedation and administering anesthesia via gas or intubation. However, in their qualification forms (QFs), the CIs either indicated that their levels of experience⁹ entailed receiving training in or assisting others with those activities

⁹ Level 1 denotes having assisted or received education/training in performing the procedure, but **not having successfully performed** the procedure. Level 2 denotes having performed the procedure while **under supervision or training** of an expert (e.g., PI, CI, or veterinarian). Level 3 denotes having performed the procedure **without supervision** by a PI/CI. Level 4 denotes being considered an **expert** in performing this procedure, and having **supervised or trained** others in performing this procedure.

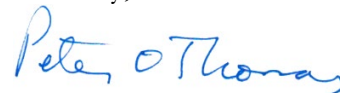
(Level 1) or did not specify any experience at all. The Commission has repeatedly asserted¹⁰ that personnel who have only assisted others or received training in conducting an invasive procedure, or who do not adequately describe their experience conducting the invasive procedure, should not be authorized to conduct the procedure unsupervised. Thus, if NMFS decides to issue a permit to Dr. Costa, the Commission recommends that NMFS authorize a principal investigator (PI) or CI only to conduct invasive procedures that he or she has at least performed under supervision (Level 2 or greater).

Personnel table

The personnel table in the application lists the PI and each CI and the procedures that he or she could *not* conduct, as well as a statement that he or she could conduct all other procedures to be authorized under the permit. However, as stated in its more general 14 November 2019 letter on these matters and other previous letters¹¹, the Commission asserts that it is difficult to discern which activity a PI or CI would be authorized to conduct or supervise when dozens of procedures have been proposed, especially when some QFs do not specify any demonstrated experience for some of those procedures. To clarify which procedure a PI or CI would be authorized to conduct or supervise, the personnel table should list the PI and each CI and each procedure with X's designating activities to be conducted by him or her. Such tables¹² have been used by the majority of other applicants who have proposed to conduct live-capture procedures in the last three years on pinnipeds¹³ and cetaceans¹⁴ and by other applicants who have proposed to conduct numerous invasive procedures¹⁵. If NMFS decides to issue a permit to Dr. Costa, the Commission recommends that NMFS require Dr. Costa to provide a personnel table based on the example provided in the Commission's 14 November 2019 letter.

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

Sincerely,



Peter O. Thomas, Ph.D.
Executive Director

cc: Dr. Polly Penhale, NSF

¹⁰ e.g., in its [14 November 2019 letter](#) on NMFS's revised application instructions and its [9 December 2020 letter](#) for Marine Mammal Lab (MML).

¹¹ e.g., its [29 March 2021 letter](#) for Jan Straley and its [31 March 2020 letter](#) for MML.

¹² Which include dozens of procedures.

¹³ e.g., Alaska Department of Fish and Game permit 20443.

¹⁴ e.g., Wells permit 20455.

¹⁵ e.g., Scripps Institution of Oceanography permit 22835 and Baird permit 20605.