



MARINE MAMMAL COMMISSION

15 October 2018

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. 22095
(SeaWorld, LLC)

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 application with regard to the goals, policies, and requirements of the Marine Mammal Protection Act (the MMPA). SeaWorld, LLC, (SeaWorld) proposes to conduct research on a captive Cook Inlet beluga whale during a five-year period.

SeaWorld proposes to conduct research on a beluga whale year-round. The purpose of the research is to investigate hearing capabilities, vocalizations, and behavior. Researchers would harass, observe, photograph/videotape, record acoustically, and measure auditory evoked potentials (AEPs; see the take table and application for specifics). The relevant Institutional Animal Care and Use Committee will review the proposed research protocols and the approval will be provided to the National Marine Fisheries Service (NMFS) before initiation of the activities.

SeaWorld proposed to investigate beluga whale hearing by measuring AEPs and using those data to construct audiograms, which it indicated could inform the design of sound-limiting mitigation measures. SeaWorld also mentioned anthropogenic sound, specifically vessel sound, as affecting Cook Inlet beluga whale behavior and vocalizations and being a key threat identified in the recovery plan. However, it proposed to measure AEPs at frequencies of only 4 to 180 kHz. The Commission informally noted that, if SeaWorld intends to investigate the potential impacts of various anthropogenic sources, the AEPs should be measured at frequencies much lower than 4 kHz. The sound emitted by many of the anthropogenic sources are broadband in nature, with the greatest amount of energy in the low-frequency and/or lower mid-frequency range. Thus, it would be prudent to derive audiograms using lower frequency acoustic stimuli¹, which would better fulfill some of their proposed outcomes. The Commission recommends that NMFS issue the permit and

¹ If SeaWorld's current equipment cannot emit tone-bursts at low frequencies and it is unsure how to emit such sounds, it should consult with researchers authorized to conduct AEP measurements on mysticetes regarding how best to emit low-frequency stimuli.

Ms. Jolie Harrison
15 October 2018
Page 2

encourage SeaWorld to measure AEPs at frequencies less than 4 kHz and well into the low-frequency range.

The Commission believes that the proposed activities are consistent with the purposes and policies of the MMPA. Kindly contact me if you have any questions concerning the Commission's recommendation.

Sincerely,



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