

July 30, 2018

Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources, NMFS
1315 East West Highway
Silver Spring, MD 20910

Dear Jolie,

I am writing to provide comments on the application submitted by Lamont-Doherty Earth Observatory (LDEO) for an incidental harassment authorization (IHA) for takes of marine mammals incidental to a geophysical survey in Hawai‘i.

This survey passes through the ranges of a number of small island-associated populations around the main Hawaiian Islands (Baird 2016). Although many of these populations are small and isolated, and thus potentially at more risk from exposure to seismic surveys than open-ocean populations, I am particularly concerned about the potential effects of this survey, and the ability to monitor these effects, on endangered main Hawaiian Islands false killer whales and the Kohala resident stock of melon-headed whales. Line 1 of the seismic survey passes directly through a high density area for the main Hawaiian Islands false killer whale population (Baird et al. 2012), and thus has an extremely high probability of exposing individuals from this population. We undertook a GIS analysis of the proposed Line 1 of the survey to assess the overlap with the stock boundaries of the Kohala resident stock of melon-headed whales. With a 6.7 km buffer on either side of the line, the area estimated for Level B takes, this analysis shows that 22% of the range for this stock will be exposed to Level B takes (see Figure 1). Given the average group size from this population (median=210), and the fact that all individuals in this population are at least occasionally seen together in a single group (Forney et al. 2017), such a survey has the potential to expose every individual in the population. The seismic surveys are undertaken both during the day and at night. At night visual observers will be ineffective at detecting animals of either species, and thus any monitoring and potential mitigation of exposure will not be possible. Given the concerns that have been previously raised about such activities within the range of the melon-headed whale population (Forney et al. 2017), and the risks to the endangered main Hawaiian Islands population of false killer whales, NMFS should require that any seismic surveys through their ranges be undertaken during daylight hours only, in order to allow for some likelihood of effective monitoring and mitigation.

Melon-headed whales are a species known to be susceptible to the impacts of high intensity underwater sounds (Southall et al. 2006, 2013). Given the likely rough sea states to be

experienced as the survey vessel undertakes Line 1, and thus a reduced likelihood of detecting melon-headed whales, even if they are close to the vessel, additional monitoring of this population should be undertaken during the LDEO seismic survey. The most effective way to do this would involve deploying satellite tags on individual melon-headed whales immediately (i.e., within a few days) prior to the survey vessel undertaking Line 1, thus having the potential to monitor the proximity of one or more groups of melon-headed whales as the survey is undertaken. If NMFS is not going to require such additional monitoring, a requirement should be included in the IHA that LDEO must notify researchers who are permitted to work in the area of the timing of the survey with enough advance notice to allow for independent monitoring to be undertaken.

Thanks very much for your consideration of these comments.

Best regards,



Robin W. Baird, Ph.D.
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Literature Cited

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- Forney, K.A., B.L. Southall, E. Slooten, S. Dawson, A.J. Read, R.W. Baird, R.L. Brownell Jr. 2017. Nowhere to go: noise impact assessments for marine mammal populations with high site fidelity. *Endangered Species Research* doi: 10.3354/esr00820.
- Southall, B.L., R. Braun, F.M.D. Gulland, A.D. Heard, R.W. Baird, S.M. Wilkin, and T.K. Rowles. 2006. Hawaiian melon-headed whale (*Peponocephala electra*) mass stranding event of July 3-4, 2004. NOAA Technical Memorandum NMFS-OPR-31.
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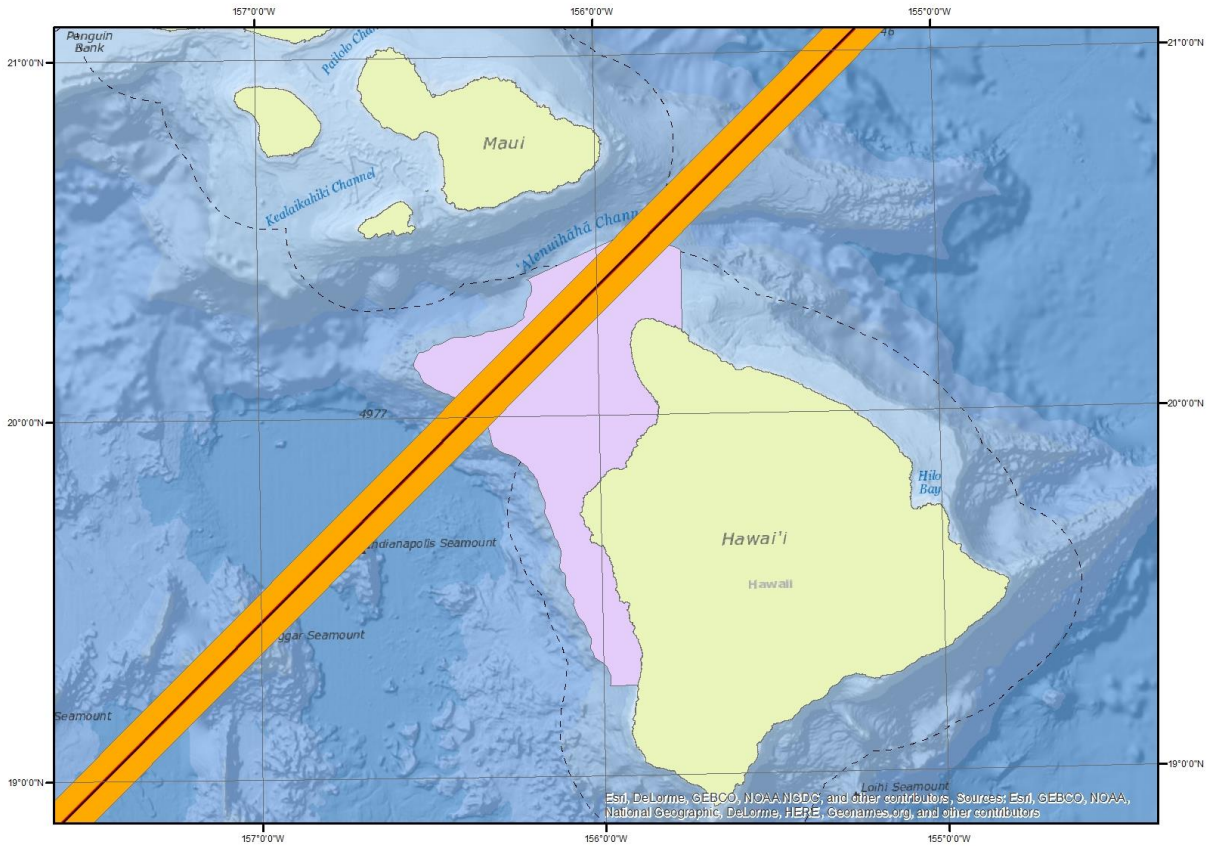


Figure 1. Line 1 from the LDEO application with a 6.7 km buffer (black line with orange buffer) on either side (the area encompassing Level B takes) and the stock boundary for the Kohala resident stock of melon-headed whales (shaded area).