Modeling of zones of influence and ambient noise metrics to inform decision making

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Farrell, D. M. (1), P.H. Dahl (1, 2), M. Perdue (3) Summary: Underwater measurements of noise from pile driving in San Diego Bay were collected to inform placement of marine mammal observers during marine construction, and support adherence to Incidental Harassment Authorization requirements. We discuss ambient noise metrics from a regulatory standpoint and modeling of Zones of Influence. Abstract: Measurements of underwater noise from pile driving were collected in San Diego Bay during a marine construction project to inform placement of marine mammal observers, and adhere to Incidental Harassment Authorization (IHA) requirements. This work presents the modeling of Zones of Influence (ZOIs) for pile driving noise as well as results from ambient noise monitoring. Results from real-time monitoring showed good agreement with the modeling isopleths associated with the 190 dB and 180 dB isopleths (rms level, dB re 1 µPa) that define Level A injury thresholds for pinnipeds and cetaceans, respectively. Ambient noise measurements were also collected in the bay; we evaluate the L10, L50 and L90 exceedance levels (where Lx means these values were exceeded x% of the time) from a regulatory standpoint. Address: 1) Mechanical Engineering Department, University of Washington, 3900 Northeast Stevens Way, Seattle, 98195 2) Applied Physics Laboratory, University of Washington, 1013 NE 40th Street, Seattle, WA 98105 3) Naval Facilities Engineering Command Southwest 1220 Pacific Highway San Diego, CA 92132

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