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Ruggedized Portable Instrumentation Package for Marine Mammal Evoked Potential Hearing Measurements (DURIP)

Paul E. Nachtigall
Marine Mammal Research Program
Hawaii Institute of Marine Biology
P.O. Box 1106
Kailua, Hawaii 96734
phone: (808) 247-5297 fax: (808) 247-5831 email: nachtiga@hawaii.edu

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LONG-TERM GOALS

To examine the hearing of as many marine mammals and species as possible in order to develop an understanding of the normal hearing capabilities of marine mammals. To advance the technology for testing hearing in the laboratory and the field.

OBJECTIVES

To build a rugged field-ready portable battery-operated system to use to measure the hearing capabilities of marine mammals in the lab, on ships, on the beach or wherever we have the opportunity.

APPROACH

Assemble equipment into a field-ready system, test the system in the laboratory, improve it with use, deploy it to stranded animal and field situations as they become available and test the hearing of marine mammals.

WORK COMPLETED

Beaked whale audiogram collected indicating that the best frequencies for Blainville's beaked whale are the same as recorded echo returns between 40 and 50 kHz.

RESULTS

Construction of Ruggedized equipment continues. The portable equipment was used at the Hilo Stranding Center to obtain the audiograms. Ready and available for RIMPAC excercises.

IMPACT/APPLICATIONS

Of the 85 species of whales and dolphins, we have basic hearing measurements on only 17 species. Many of our audiograms come from a single animal. This equipment will greatly assist in gathering information on what marine mammals hear. If navy operations are stopped because of the effects of noise on whales, it is imperative that we have baseline information on marine mammal hearing.

RELATED PROJECTS

Basic Hearing and Echolocation Mechanisms of Marine Mammals: Measured Auditory Evoked Potential and Behavioral Experiments: Award Number: N00014-08-1-1160
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