**Using passive acoustics to monitor the presence of marine mammals during Naval exercises**

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During 2008 and 2009, we were able to passive acoustically monitor marine mammals in the presence of U.S. Navy anti-submarine warfare training exercises using mid-frequency tactical sonar. The exercises were conducted in the potential sites of the proposed east coast Undersea Warfare Training Range (USWTR). As part of the monitoring effort for these exercises, up to nine bottom-mounted passive acoustic recorders were deployed in Onslow Bay and Jacksonville USWTR sites. The recorders sampled continuously at 32 kHz and 2 kHz for approximate three weeks. We analyzed these acoustic recordings for marine mammal vocalizations and sonar activity using spectrogram correlation detector. The recordings contain hundreds of odontocete vocalizations, including pilot whales (Globicephala sp.) and sperm whales (Physeter macrocephalus), occurring before during and after the sonar events. A review of a subsample of the acoustic data revealed several instances of unidentified odontocetes apparently mimicking sonar signals with frequency modulated whistles of similar frequencies. Ongoing and future efforts will include deploying the recorders at the Jacksonville site in a tighter configuration and synchronizing them in time to localize vocalizations. This effort will provide insight on the proximity and movement of marine mammals in conjunction with Navy exercises occurring in area. These recorders yield important information about the presence and vocal activity of odontocetes during these naval exercises.
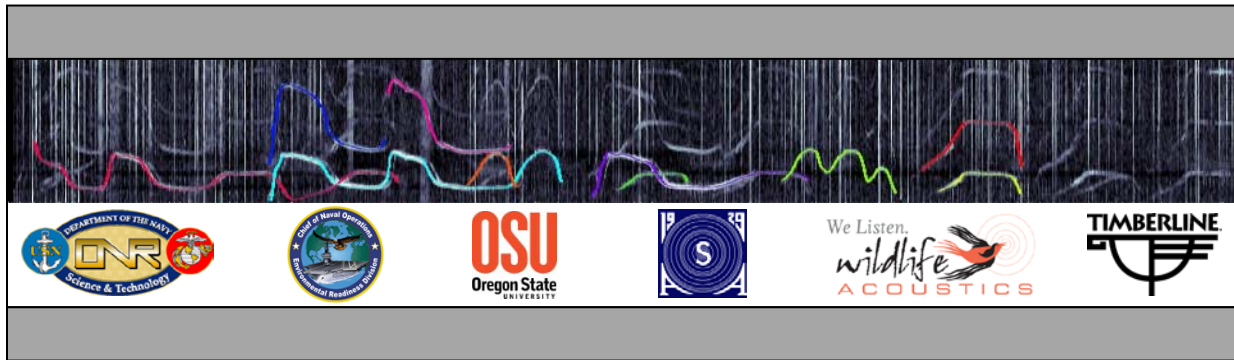
Fifth International Workshop on Detection, Classification, Localization, and Density Estimation of Marine Mammals using Passive Acoustics

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ABSTRACTS

The abstracts for oral presentations and posters at the 5th International Workshop on Detection, Classification, Localization, and Density Estimation of Marine Mammals using Passive Acoustics, predominantly focus on odontocete sounds and analytical methods for classifying clicks and whistles, as well as density estimation. Research on baleen whale sounds and some non-cetacean marine mammals is also featured, and provides further information about important methodologies.

These biennial DCLDE workshops are intended for exchanging information that advances understanding of acoustic methods to detect, classify, locate, track, count, and monitor marine mammals in their natural environment. The goal is to encourage interdisciplinary approaches to solve real-world problems related to the study of marine mammals and the effects of human activities on their behavior.

ABSTRACTS ARE IN THE ORDER OF PRESENTATION