

Investigating the response of coastal dolphins to mine exercise (MINEX) training activities

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Mine detonation exercises in coastal waters have the potential to disturb, injure or even kill marine mammals occurring in the same area. To address concerns about this possibility at the U.S. Navy's Virginia Capes (VACAPES) Range Complex, an effort was begun in August 2012 to monitor odontocete activity at the mine exercise (MINEX) training range using passive acoustic methods. The objectives of the project were to establish the daily and seasonal patterns of occurrence of dolphins in the VACAPES MINEX training area, to detect explosions related to MINEX activities, and to determine whether dolphins in the area show evidence of a response to MINEX events. Data from moored recorders were analyzed for the daily presence/absence of dolphins and their acoustic activity was quantified in detail for the period prior, during and after MINEX activities, as well as at various distances from the training site. The results reveal that dolphins exhibit a short-term acoustic response immediately following an explosion event. Acoustic activity increases briefly and then declines substantially. There is also evidence of a decrease in overall acoustic activity lasting several hours following the exercise. Current analyses aim to establish whether the observed response represents a shift in acoustic behavior or a spatial redistribution of the animals.

Watkins Memorial Marine Mammal Bioacoustics Symposium



Presented by the
Woods Hole Oceanographic Institution
Co-sponsored by the
Acoustical Society of America
March 27-29, 2015



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