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Oceanographic, Acoustic, And Marine Mammal Research

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LONG-TERM GOALS

The long-term goal of this effort is to facilitate ONR 321 Ocean Acoustics Program at-sea experiments through the preparation of scientifically rigorous environmental compliance documentation.

OBJECTIVES

The objective of this effort is to conduct analyses of the potential impacts of ocean acoustics tests and to prepare environmental documents compliant with applicable Federal and State statutes and DoD/DoN regulations and policies.

APPROACH

For each at-sea experiment, a team of marine biologists, acousticians, and analysts study proposed scenarios, acoustic source properties, forecast acoustic conditions, and marine species populations and vulnerabilities to determine potential impacts and develop mitigation measures.

WORK COMPLETED

For each experiment, the zones of influence for potential acoustic impacts on various marine species were calculated and the estimated number of animals potentially impacted was calculated. By working closely with planners, environmental analysts were able to influence the design of these experiments so that their objectives could be met while potential effects on the marine environment were minimized.

RESULTS

Environmental documentation was completed and OPNAV approval was obtained for the Delaware Bay High Frequency Acoustics Experiment, GeoClutter and Boundary Characterization 2001 Experiment, Shallow Water Acoustic Technology (SWAT) Experiment 2001, Naval Undersea Warfare Center 2001 Bottom Survey, and Asian Seas International Acoustic Experiment (ASIAEX) 2001. With the exception of the Bottom Survey (cancelled due to non-availability of assets), all of these experiments were conducted using mitigation measures developed under this task.

IMPACT/APPLICATIONS

The analyses conducted under this effort were required by U.S. law and by DoD, DoN, OPNAV, and ONR regulations.

TRANSITIONS

The results of analyses conducted under this task allowed the Delaware Bay High Frequency Acoustics Experiment, GeoClutter and Boundary Characterization 2001 Experiment, Shallow Water Acoustic Technology (SWAT) Experiment 2001, and Asian Seas International Acoustic Experiment (ASIAEX) 2001 to take place as scheduled.

RELATED PROJECTS

Environmental compliance documents were prepared for the GeoClutter and Boundary Characterization program, the Shallow Water Acoustic Technology (SWAT) program, the Asian Seas International Acoustic Experiment (ASIAEX) program, and the Delaware Bay High Frequency Acoustics program

Additionally, the Environmental Compliance Reference Database developed and maintained under the Research For Marine Mammal Mitigation project was used as a source for these impact analyses and new material and analyses compiled during the preparation of environmental documentation were added to the Environmental Compliance Reference Database.

REFERENCES

N/A

PUBLICATIONS

Environmental Assessment for the Delaware Bay High Frequency Acoustics Experiment

Overseas Environmental Assessment for the GeoClutter and Boundary Characterization 2001 Experiment

Overseas Environmental Assessment for the Naval Undersea Warfare Center 2001 Bottom Survey

Overseas Environmental Assessment for the Shallow Water Acoustic Technology (SWAT) Experiment 2001

Analysis of Potential Environmental Effects Resulting from US Participation in ASIAEX 2001

PATENTS

N/A