ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

Region: National

Planning Area(s): All

Title: Support for the Interagency Sound-Field Mapping and Cetacean Density and Distribution Mapping Working Groups Symposium (NT-12-x13)

BOEM Cost: (in thousands) $75 **Period of Performance:** FY 2012

Conducting Organization(s): National Marine Fisheries Service (M12PG00016)

BOEM Contact: Dr. Brad Blythe

Description:
Background: In a January 19, 2010 letter to the Council on Environmental Quality, NOAA Administrator Dr. Jane Lubchenco committed to convening, with the involvement of other Federal partners, two inter-related workshops to spatially assess and manage marine mammals and underwater sound. A strategic, structured approach was derived by an internal NOAA steering committee and subsequently discussed and coordinated with representatives of other federal agencies, including BOEM. The approach consisted of two small, product-driven working groups consisting of subject matter experts from within and outside NOAA to develop geospatial tools to describe and visualize the density and distribution of cetaceans and noise from human sources within the U.S. Exclusive Economic Zone (EEZ). To date, BOEM has worked as a Federal partner in these efforts by providing input on BOEM-authorized activity levels to help inform the technical tools being developed in this process.

At present, several work products are being developed to visually depict the sound budget potentially affecting marine mammals. After completion of these products, NOAA will convene a larger, integrative Symposium with scientists, industries, federal agencies, conservation managers, and representatives from environmental non-governmental organizations to discuss the management implications and application of these tools.

Ultimately, the Symposium will provide a more robust, comprehensive, and context-specific biological and acoustic basis by which to inform subsequent management decisions regarding marine mammals and anthropogenic sound in our oceans. These products will be of vital importance to BOEM in supporting the analyses and decisions necessary to balance environmental concerns with offshore energy development, and for the prioritization of research projects.

Costs to date have been covered by NOAA and the US Navy. Advance work products are being produced under NOAA contract to Heat Light, & Sound Research, Inc. and the Marine Geospatial Ecology Laboratory at Duke University. BOEM has contributed staff time but no

additional resources. NOAA, in a letter to David Hayes on January 12, 2012, requested BOEM support of $125,000 to cover the remaining costs of this large effort. BOEM has determined that a $75,000 contribution is warranted to ensure full BOEM participation in this effort, access to work products, and contributions to decisions of application of these new tools to management and decision-making.

Objectives: The objectives of this study are four-fold, including compiling and integrating existing data to spatially and temporally identify: (1) cetacean density and distribution in the U.S. EEZ; and (2) sound fields (noise budgets produced by ambient and anthropogenic noise) across various areas of the EEZ. Further, from the integration of these products, solicit stakeholder input on how these products should be used in a management context.

Methods: This study will use the following methods:

- **Task 1. Cetacean Density and Distribution Mapping:** develop final cetacean density and distribution mapping and modeling products and produce a narrative report describing the underlying data, methods and assumptions used.
- **Task 2. Underwater Sound-field Mapping:** develop underwater sound mapping and modeling products and produce a narrative describing the underlying data, methods, and assumptions used.
- **Task 3. Data Integration for Symposium:** integrate final cetacean and sound field mapping products into geospatial tools/maps that enable the overlay of both products and viewing in layers.
- **Task 4. Stakeholder Symposium:** hold stakeholder symposium to discuss products and recommend their use in Federal decision-making on noise-producing activities. Plan and run symposium, including: (1) form advisory group to help develop agenda; (2) meeting logistics (e.g., venue, audiovisual needs, invitations, note taking and facilitating). Post Symposium, review outcomes with advisory group and generate synthesis of workshop results.

Importance to BOEM: The effects of anthropogenic noise remains an issue riddled with a significant amount of scientific uncertainty and a high degree of public controversy. At the same time, in this volatile and litigious environment, environmental statutes (i.e., Endangered Species Act, Marine Mammal Protection Act, Outer Continental Shelf Lands Act) all mandate that BOEM move forward in making decisions on authorizing sound-producing activities in a timely but environmentally sound manner. With these regulatory pressures, existing scientific uncertainty and known public controversy, it becomes imperative to develop (or be involved in the development) of tools that assist in reducing uncertainties and therefore improve decision making. The NOAA Sound-Field Cetacean Mapping effort is focused solely on producing, through databases, models and visual overlays, such tools to help improve BOEM decision-making on noise producing activities it regulates. This symposium and the data would also be co-sponsored by the U.S. Navy and National Marine Fisheries Service (NMFS).

Current Status: The period of performance is the date of award through 01 September 2012. To date, Task 4 (Stakeholder Symposium) has been completed; the data/maps from Tasks 1, 2, and 3 were presented at the Symposium. The NOAA working groups are now improving products from Tasks 1-3, based on stakeholder feedback during the symposium, and are posting them as available at the http://cetsound.noaa.gov/.

Final Report Due: Fall 2012

Publications: none

Affiliated Web Sites: http://cetsound.noaa.gov/

Revised Date: September 10, 2012

ESPIS: Environmental Studies Program Information System
All *completed* ESP studies can be found here:
http://www.data.boem.gov/homepg/data_center/other/espis/espisfront.asp