

## **ENVIRONMENTAL STUDIES PROGRAM: Studies Development Plan FY 2009-2011**

**Region:** Gulf of Mexico

**Planning Area(s):** North Atlantic and Mid-Atlantic

**Title:** Survey of Digital Geographic Datasets on Benthic Habitats and Species Distribution and Methodologies for Data Viewing

**MMS Information Need(s) to be Addressed:** The mid- and north-Atlantic areas support important commercial fisheries, provide habitat to numerous marine mammals, and are important to species migration. The Alternative Energy Workshop in June 2007 identified compilation and evaluation of geospatial data as a high priority need. This study will compile data that will provide MMS analysts and decision makers with information that can be used in a variety of tasks – to evaluate proposed AE facility sites, conduct impact assessments, understand migration patterns, species density, importance of specific areas to specific species, routes in and around areas, and identify mitigation measures to avoid impacts. It potentially will identify data gaps that need to be filled through additional studies.

**Cost Range:** (in thousands) \$450-\$650

**Period of Performance:** FY 2009-2011

### **Description:**

Background: The MMS has conducted little research in the mid- and north- Atlantic area recently. Most of the past work has been site specific and targeted rather than focused on broad geographic scales. With new activity in alternative energy likely to occur in the mid- and north-Atlantic areas, MMS needs comprehensive information about the distribution of other activities and resources in the area. GIS-based maps that overlay many types of information are needed for MMS to make critical decisions about Bureau-regulated activities, such as permitting and siting of development.

Geospatial data sets would be compiled from existing sources and would include biologic data such as benthic habitats, distributions of threatened and endangered species, commercially important species, and other indicator species. Geospatial data need to include migratory pathways, spatial and temporal distribution and habitat use for fish, marine mammals and turtles. Important habitats include soft bottoms, hard outcroppings, and artificial reefs. A topography layer is needed as the base.

Objectives: The purpose of this study is to identify and compile sources of existing digital geographic data on benthic habitats threatened and endangered species, commercially important species and other indicator species distributions into a single database with metadata for the data sources and evaluate potential methods for data viewing. The efforts will compliment ongoing efforts within MMS to provide a web-based data viewer for other information.

Methods: Digital geographic data for the mid- and north-Atlantic near-shore areas from Cape Hatteras to the border with Canada will be collected from existing sources. This could include data from other federal agencies such as U.S. Fish and Wildlife, NOAA fisheries, state natural resource departments, and university collections. Ideally, the source data will reside with the originator and the web viewer will access that information. Data validation and quality control will be needed before the maps are integrated into a single GIS system allowing the user to choose which components to overlay. A topography layer will be the base. Meta data on the source information will be provided that includes citations and descriptions of the resolution. Information on benthic habitats, threatened and endangered species, commercially important species and other indicator species will be collected. Migratory pathways and distribution of species in time and space will be included. Data gaps will also be identified.

**Revised Date:** October 31, 2007