

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: National

Planning Area(s): All Planning Areas

Title: Developing BOEM's Access to Protected Species Occurrence Data for Impact Analyses and Rule-making (NT-14-02)

BOEM Information Need(s) to be Addressed: The Bureau of Ocean Energy Management needs ready access to information on marine protected species distribution for marine spatial planning, environmental impact assessments, rulemaking, adaptive management decisions, and day-to-day oversight of OCS operations to avoid or mitigate adverse impacts to protected species and other marine animals. A registry of protected species datasets is needed to provide BOEM analysts and decision-makers with basic support in the discovery and use of information resources.

Total Cost: \$201,096

Period of Performance: FY 2014-2016

Conducting Organization: USGS, OBIS-USA

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Description:

Background: Observations of protected species come from many and various monitoring programs and scientific research projects. Biogeographic databases are integrative tools for combining the scientific knowledge on species distribution. These databases focus on common elements of species observational effort, such as the record of a species occurrence. These data have many applications beyond the initial program or project, and in many cases, there are many routine aspects of these observational efforts that could be automated for more timely delivery of the information.

Typically, processing of observations into an archival format depends on program or project-level timelines for delivering the observation data, which may cause months or longer delays between collection of such observations and availability of information to the public. By the time data are made available using this method of data development, interest in the data or applicability to topical resource management issues, such as the navigation or siting of a drilling operation, can be greatly reduced. Federal agencies in collaboration under the Subcommittee on Ocean Science and Technology have been building an architecture to capture, store, make available and archive marine biological data. This data system provides the basic infrastructure for synthesizing disparate data from multiple research projects using many different methods of observations and platforms from which to make the observations.

The Ocean Biogeographic Information System of the United States of America (OBIS-USA) is the U. S. Federal node for the international OBIS system, and it resides within the U.S. Geological Survey. OBIS-USA is evolving to fulfill the data needs of partnering

organizations, and has served BOEM's needs by developing an archive for protected species observations. OBIS is a distributed data system that has been pivotal in performing this service for Federal biogeographic data needs. OBIS-USA plays an important coordination role, interfacing with other Federal entities, such as the U. S. Integrated Ocean Observing System (IOOS) and the National Oceanic Atmospheric Administration's National Oceanographic Data Center (NODC), and international entities such as the International OBIS and the Global Biodiversity Information Facility (GBIF). Of particular relevance, OBIS-USA leverages its relationship with OBIS-SEAMAP to provide for Federal needs for protected species data. Ongoing efforts include CetMap/ NOAA marine mammal modeling project, development of passive acoustic monitoring data and an online portal for Navy data and models, and the near-real-time delivery of sea turtle tracks.

Objectives:

- Improve timeliness and quality of data availability to BOEM personnel
- Use existing Federal resources for data management, including NODC and IOOS
- Engage in data sharing arrangements with interagency partners such as NOAA and the US Navy while maintaining a secure venue to conduct operations
- Implement automation of routine tasks such as enrollment, dissemination, modeling, and mapping for recently collected protected species data

Methods: This study will be conducted by the OBIS-USA/OBIS-SEAMAP partnership, which is uniquely qualified to produce the desired products. OBIS will evaluate experimental tools from the biogeographic community, such as the GBIF Integrated Publishing Toolkit, to develop techniques to better interface with data producers. Additionally, OBIS will evaluate the benefits and dangers of early data sharing, and trade-offs that this may present in terms data quality and publication. Subjects of interest are 1) methods to develop the adequate context to understand recent marine mammal location observations for siting decisions, 2) modeling to detect patterns and trends in marine mammal distribution, 3) tools to identify outlier observations to target adaptive sampling capabilities, and 4) visualizations of protected species data that help identify information needs for future BOEM funding.

Current Status: Ongoing

Final Report Due: July 2016

Publications Completed: None

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>

Revised Date: August 2016

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