ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Study Areas: North, South, and Mid-Atlantic

Administered By: Office of Renewable Energy Programs

Title: Fishery Physical Habitat and Epibenthic Invertebrate Baseline Data Collection

Importance to BOEM: At present there is a lack of a systematic independent baseline benthic habitat characterization of offshore wind energy areas. This information is not only important for the evaluation and assessment of a lessees construction and operations plan, but also necessary for consultations with NMFS pursuant to the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act.

Total Cost: $1,085,998 **Period of Performance:** FY 2013-2018

Conducting Organization(s): National Marine Fisheries Service, Northeast Fisheries Science Center, J.J. Howard Marine Lab.

BOEM Contact: Brian Hooker

Description:

Background: This project will build upon previous efforts to collect baseline habitat data and to analyze the data in the context of potential impacts from renewable energy development. There is a lack of standard regional or WEA scale baseline benthic habitat data that includes areas for potential wind energy development along the Atlantic OCS. Previous habitat characterization efforts have primarily been inshore or designed for other specific purposes in areas that do not overlap with potential wind energy lease areas.

The study will assess and characterize benthic habitat and the epibenthic macro-invertebrate community in existing and proposed WEAs from Massachusetts to North Carolina via multibeam sonar, and optical (still and video) imaging of the seafloor. This survey will collect data allowing the selection of appropriate control study sites and setting a baseline of macrofaunal species presence, abundance, and sediment/seabed type. This study may include analysis of previously collected data of similar type as well as new data collection and analysis.

The study will conduct multibeam sonar data and imaging surveys (video and still photography) of benthic habitat at present and proposed WEAs. Currently, 11 Wind Energy Areas (WEAs) have been identified for survey sampling in Massachusetts, Rhode Island, New Jersey, Delaware, Maryland, and Virginia. Additionally, North Carolina has identified 3 potential areas off its coast and areas may be identified in Maine, New York, and South Carolina depending on

the availability of funds. Sampling resolution may be increased based upon diversity of habitat types found. The survey will use high resolution geophysical surveys, videography, and still imagery to characterize the benthic habitat. This survey will provide distribution and density estimates of prevalent megafauna and a classification of substrate type across the survey domain. The number of stationary quadrats per station and/or length of survey tows will be refined in the project plan. Final products of this project will include at a minimum, a report characterizing the benthic habitat in the identified wind energy areas, a data catalog of video and still imagery, and the classification of biological and physical properties of benthic habitat.

Objective: The objective of this study is to establish baseline benthic habitat characteristics at regional/WEA scales. This data would allow for improved siting, impact assessments, and provide a baseline to evaluate project-scale habitat surveys submitted by lessees.

Table 1. Progress as of January 27, 2017, and projected completion dates for tasks to complete project goals. "C" indicates completed tasks, months (Mar-17, Apr-17) indicate indicate expected completion dates,"n" indicates tasks that have not been scheduled, either because there are other sources of data or because they are of lower priority.

		Wind Energy Areas							
phase	data type	MA	RIMA	NY	NJ	DE	MD	VA	NC-KH
physical	acoustic mapping	C	C	C	C	C	C	C	n
	photo survey collected/analyzed	C	C	C	C	C	C	n	n
	sediment analysis performed	C	C	C	C	Mar-17	C	C	Mar-17
	hydrological survey data compiled	C	C	C	C	C	C	C	C
biological	benthic infauna sampled/analyzed	C	C	C	C	Mar-17	C	C	Mar-17
	benthic epifauna sampled/analyzed	C	C	C	C	C	C	C	C
	fish survey data assembled	C	C	C	C	C	C	C	C
integrate	physical habitats defined	Apr-17	Apr-17	Apr-17	Apr-17	Apr-17	C	Apr-17	Apr-17
	biotic habitats defined	Apr-17	Apr-17	Apr-17	Apr-17	Apr-17	C	Apr-17	Apr-17
	integrated habitat model	Apr-17	Apr-17	Apr-17	Apr-17	Apr-17	C	Apr-17	Apr-17
	habitat maps created	Apr-17	Apr-17	Apr-17	Apr-17	Apr-17	C	Apr-17	Apr-17

Current Status: The interagency agreement was awarded on July 16, 2013. Field work is underway in several WEAs.

Final Report Due: January 31, 2018

Publications: Maryland Wind Energy Area Interim Report

Affiliated Web Sites: None.

Revised Date: July 6, 2017