

## **Environmental Studies Program: Ongoing Studies**

**Study Area(s):** Atlantic

**Administered By:** Office of Renewable Energy Programs

**Title:** Marine Mammal and Sea Turtle Field Surveys and Marine Resource Characterization for Offshore Wind Energy Planning Offshore Rhode Island and Massachusetts - PHASE 2

**BOEM Information Need(s) to be Addressed:** This information will facilitate the review of construction and operation plans by BOEM and the Commonwealth of Massachusetts by providing distribution and abundance data for key species. The information will also be used in consultations with NOAA for protected species.

**Total Cost:** \$500,000

**Period of Performance:** FY 2017-2019

**Conducting Organization(s):** Massachusetts Clean Energy Center

**BOEM Contact:** [Brian Hooker](#)

### **Description:**

**Background:** BOEM oversees the exploration and development of oil, natural gas, and other minerals and renewable energy on the nations' Outer Continental Shelf (OCS). The program not only supports decisions made within the Department of the Interior, but also provides coastal states, tribes and local governments with the information necessary to ensure that all stages of offshore energy and mineral activities are conducted in a manner to protect both human and natural environments.

BOEM partnered with the Commonwealth of Massachusetts via a Cooperative Agreement for protected species field surveys in the renewable energy lease areas offshore Rhode Island and Massachusetts between 2012 and 2015. The final reports are now available at the links below. Phase two of the study will add an important third season of data for the Deepwater One Lease Area. This area was surveyed for only two seasons, while the Bay State Wind Lease Area and OffshoreMW Lease Areas located closer to Martha's Vineyard, were surveyed for three seasons. Additionally, during Phase 2, BOEM and the Commonwealth address a key recommendation in the first report, and host a workshop in the fall/winter of 2017 to develop a framework to understand impacts to marine mammals from construction and operation of offshore wind. A key recommendation from the Phase 1 report stated:

“We recommend some focused oceanographic studies in the Study Area (SA), in order to interpret the occurrence of endangered whales in the SA. Most importantly for future wind farm development, it will be important to separate two hypotheses. One, do wind farms alter the acoustic or physical characteristics in ways that cause displacement of whales to other areas? Two, are whale distributions food dependent, and the changes in distribution and/or behavior are due to changes in prey species in the area? Distinguishing between these two hypotheses will be important in the context of managing future development.”

**Objectives:** The objective is to further establish baseline conditions for cetaceans and sea turtles in renewable energy lease areas in Southern New England and develop an understanding of the drivers of cetacean occurrence in the study area. In addition, the study develop a framework for understanding impacts to cetaceans from offshore wind energy development and operation.

Major tasks:

1. Conduct an additional year of aerial surveys over the Deepwater One, Bay State Wind, and OffshoreMW Lease Areas to determine density and abundance estimates, large whales (with a focus on right, fin and minke whales) and turtles.
2. Automated vertical photography to capture smaller, cryptic species likely to be missed by observers scanning out to 2 nm. Distribution and abundance estimates of species sighted. Opportunistic vertical photography detection of mammals, sharks, fish and fixed fishing gear.
3. Conduct oceanographic studies to in order to interpret the occurrence of large cetaceans in the study area.

**Current Status:** The 2017 field season was successful with 27 aerial surveys covering over 11,492 flight nautical miles. There are a few remaining flight days that will occur in early 2018. Additionally zooplankton sampling occurred at control sites and areas of whale occurrence. Analysis of zooplankton has shown seasonal trends in copepod abundance.

**Final Report Due:** November, 2018

**Affiliated WWW Sites:** None.

**Revised Date:** January 25, 2018