

Environmental Studies Program: Studies Development Plan | FY 2022–2023

Title	Comparative Study of Aerial Survey Techniques (AT-22-03)
Administered by	Office of Renewable Energy Programs
BOEM Contact(s)	Mary Boatman (mary.boatman@boem.gov)
Procurement Type(s)	TBD
Conducting Organization(s)	TBD
Total BOEM Cost	TBD
Performance Period	FY 2022–2024
Final Report Due	TBD
Date Revised	January 5, 2020
PICOC Summary	
<i><u>Problem</u></i>	With the installation of offshore wind turbines, the traditional method of aerial surveys will not be possible in those areas.
<i><u>Intervention</u></i>	Adjust survey techniques to use cameras
<i><u>Comparison</u></i>	Comparison of aerial surveys with observers to those with camera systems
<i><u>Outcome</u></i>	Change in methodology that can be integrated into historical data bases
<i><u>Context</u></i>	The region of focus will be the Atlantic where construction may occur in the foreseeable future

BOEM Information Need(s): Future offshore wind development will include wind turbines with a height of 850 feet or more. These turbines will interfere with survey methods that are used to develop population estimates for protected species. BOEM, NOAA and FWS use aerial surveys as part of consultations, to determine population levels and make take estimates which is important across all BOEM programs. BOEM has a need to execute survey requirements in a safe and cost-effective manner while considering current and future constraints. Development of new techniques will enable BOEM to have the information needed for protected species consultations with NOAA and FWS, which support all BOEM programs.

Background: With the future construction of offshore wind facilities that will extend over many square miles, areas that were previously surveyed for marine species using observers will no longer be able to be surveyed by this traditional method. Historical surveys used for marine observations for protected species and avian species have flown at heights of 200 to 300 meters. New camera systems allow for flight heights of 1500 m or more. NOAA has raised the concern to BOEM that they have decades of survey data using protocols that involve observers in planes. Although new techniques have been in use for over a decade, NOAA has not moved to adopting these new techniques. They have cited that offshore wind development will result in a significant impact to their surveys and their ability to collect the data used to determine stock assessments of marine mammals and to closely monitor the highly endangered North Atlantic Right Whale.

BOEM has conducted some comparison surveys and examined the use of high definition surveys in a previous study (Normandeau Associates, Inc. 2012) and determined that for sea turtles, using a higher flight height, significantly increased the number of sea turtles observed.

Objectives: The objective is to develop a methodology for aerial surveys that is compatible with offshore wind farm presence and can be used to integrate with historical data sets.

Methods: While BOEM funded a comparative study (Normandeau Associates, Inc. 2012) and is pursuing methods to process the large volumes of data collected through aerial surveys. NOAA has not adopted this new methodology primarily because of the cost of equipment and the challenges of integrating historical data. The methods will include conducting comparison surveys using old and new methodologies and developing a means to integrate the data collected from aerial surveys using cameras with those using observers.

Specific Research Question(s): Can camera systems at higher flight heights replace the current observer methodology?

Current Status: N/A

Publications Completed: N/A

Affiliated WWW Sites: N/A

References:

Normandeau Associates, Inc. 2012. High-resolution Aerial Imaging Surveys of Marine Birds, Mammals, and Turtles on the US Atlantic Outer Continental Shelf—Utility Assessment, Methodology Recommendations, and Implementation Tools for the US Dept. of the Interior, Bureau of Ocean Energy Management. Contract # M10PC00099. 378 pp.