Environmental Studies Program: Studies Development Plan | FY 2021–2022

Title	Management Strategy Evaluation for NEFSC Surveys Impacted by Offshore Wind Development
Administered by	Office of Renewable Energy Programs
BOEM Contact(s)	Ursula Howson (ursula.howson@boem.gov)
Conducting Organization(s)	TBD
Total BOEM Cost	TBD
Performance Period	FY 2022 - 2024
Final Report Due	TBD
Date Revised	1/31/2020
PICOC Summary	
Problem	NMFS/NEFSC trawl surveys are used to develop stock assessments and quotas for the commercial fishing industry. Offshore wind development may impact trawl surveys.
Intervention	Determine the level of impact on trawl survey data.
Comparison	Compare the error in stock assessments between current methods and methods that do not include wind development areas
Outcome	Determine the impact of excluding wind areas on stock assessments
Context	Areas along the Atlantic where leases occur as of 2020

BOEM Information Need(s): The NOAA Fisheries MSE working group defines MSE as "a process designed to identify and operationalize strategies for managing fisheries that are robust to several types of uncertainty and capable of balancing multiple economic, social and biological objectives." This study will help to address questions regarding the impact of the placement of offshore wind turbines in BOEM offshore renewable energy lease areas in the Northeast on NMFS trawl surveys, which are used to set stock quotas for the commercial fishing industry. BOEM has an obligation to understand how activities that it authorizes may impact commercially and recreationally important fish. In addition to BOEM's regulations under the Outer Continental Shelf Lands Act as amended by the Energy Policy Act of 2005, the information from this study will help in BOEM's environmental assessments under the National Environmental Policy Act and the Magnuson-Stevens Fishery Conservation and Management Act.

Background: The NOAA/NMFS Northeast Fisheries Science Center (NEFSC) conducts ship-based trawl and dredge surveys targeting federally managed fish and shellfish species. These surveys are based on a random-stratified design, where sampling locations are selected randomly within geographic strata; the strata segregate the Northeast U.S. continental shelf into along-

shelf and cross-shelf blocks. Analyses from these surveys are used by the regional fisheries management councils to calculate annual stock quotas for federally managed species. The development of offshore wind projects on the outer continental shelf will result in areas in multiple strata that may limit or exclude survey operations, thereby disrupting the statistical design used by the NEFSC trawl surveys and resulting in uncertainty in stock assessments. When uncertainty is introduced into stock assessments for federally managed species, the regional fisheries councils charged with determining stock quotas based on those stock assessments may recommend more conservative quota levels than may be necessary. Any reduction in stock quotas would result in economic impacts to the commercial fishing industry.

Even if a new statistical design is developed, the development of wind energy areas will likely preclude current ship-based sampling approaches. Larger NOAA vessels will likely have movements restricted if deemed by NOAA ship personnel as too risky to operate in wind energy development areas.

This study will be a first step in addressing the issue of impacts of offshore wind on NEFSC stock assessments. Several federally managed stock assessment surveys will be evaluated.

Objectives: The objective of this study is to determine the magnitude of impact of excluding wind energy areas for stock assessment surveys.

Methods: This science must be peer-reviewed and developed collaboratively with partners, such as fishery management councils, regional collaborative organizations, and stakeholders, with the goal of maintaining the highest quality of fisheries survey data in order to limit the level of uncertainty introduced into stock assessments for federally managed species.

A Management Strategy Evaluation (MSE) Framework will be developed for evaluating different survey designs and the effect on the precision and accuracy of scientific advice. The initial emphasis will be the NEFSC Bottom Trawl Survey. The MSE framework could then be modified for other regional surveys in future studies (e.g., Scallop Survey, Atlantic Surfclam and Ocean Quahog Survey, Ecosystem Monitoring Survey). The product of the MSE Framework will include revised designs for NEFSC surveys.

Specific Research Question(s):

- How do BOEM wind energy lease areas impact stock assessments?
- What is the strategy for NMFS ship-based stock assessments in survey strata occupied by offshore wind turbines?