

Environmental Studies Program: Studies Development Plan | FY 2019–2021

Title	Risk Analysis for Vessel Strikes on Whales from Offshore Wind Development Support Activities
Administered by	Office of Renewable Energy Programs
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Procurement Type(s)	Competitive
Approx. Cost	\$200 (in thousands)
Performance Period	FY 2019–2020
Date Revised	August 8, 2018
PICOC Summary	
<i>Problem</i>	Evaluating risk to whales from offshore vessel activity that supports wind development.
<i>Intervention</i>	Currently, mitigation for risk to whales is based on a best evaluation without supporting information. The mitigation may not match the risk.
<i>Comparison</i>	The risk from vessels supporting offshore wind will be put into context with all other vessel traffic.
<i>Outcome</i>	Improved mitigation to assure that whales are protected while not imposing excessive restrictions.
<i>Context</i>	North, Mid-, and South Atlantic

BOEM Information Need(s): BOEM Office of Renewable Energy is required by the Endangered Species Act, Marine Mammal Protection Act, and the National Environmental Policy Act to assess the potential and apply appropriate mitigation for the protection of marine mammals. Vessel strikes are one potential impact that must be addressed. Determining the best mitigation that balances protection of marine mammals with development of offshore renewable energy requires an understanding of the probability of a vessel strike in the context of all activities occurring.

Background: The approval of wind projects both on land and at sea typically involves an assessment of the risk they pose to wildlife. Risk is generally considered to be a function of the probability of an event occurring and the consequence of the event, should it occur. Often, there is limited information on which to base this evaluation and the default is to err on the side of precaution. The potential presence of an individual during an activity is assumed to result in an impact. Activities that are sporadic are assumed to be continuous. With these assumptions, the perceived risk is often more conservative than actual risk. While risk models exist for some species of whales, the focus is on the risk in areas of high vessel usage such as shipping lanes. For renewable energy projects, some vessel traffic is expected during construction and even less during operation and maintenance. The estimate is on vessel trip per week or a similar order of

magnitude. Thus far, models have not looked at the specific circumstances nor put into context the risk.

At present, all vessels 65 feet (19.8 m) or longer must travel at 10 knots or less in certain locations along the U.S. east coast at certain times of the year to reduce the threat of ship collisions with critically endangered North Atlantic right whales. Discussions with NOAA have led to the potential extension of this requirement to all vessels at all times for vessels servicing offshore renewable energy development. While this application of the precautionary principle may seem prudent, it was not determined based on a thorough analysis of the risk. This study will conduct the needed analysis to determine if these precautions are warranted. The risk also needs to be put into context of the overall risk from collision based on other vessels in the area. Since whales migrate, the risk should be apportioned monthly. Fully assessing the risk allows for the appropriate application of mitigations such as reduction in speed.

Objectives: The objective of this study is to ensure appropriate mitigation from vessel strikes is applied to offshore renewable energy development.

Methods: The approach will be to develop a risk assessment model to address the specific circumstances for offshore renewable energy, focusing on the wind energy areas already identified. The process is to identify the risk, assess the exposure, and then characterize the risk. For vessel strikes, the number of vessels operating, the number of whales that could be impacted, and the probability of the vessel and whale occupying the same space needs to be taken into account. The results will be put into context of other vessel activities on the Atlantic OCS. The final product will be a risk model that can be used by BOEM staff to evaluate and communicate risk to the public, a report describing the methodology, and communication materials to share the results with the public.

Specific Research Question: What is the risk to whales from offshore wind support vessels?