EXPLORING APPROACHES TO FISHERIES' COEXISTENCE WITH FLOATING OFFSHORE WIND

Dr. Tayebeh Tajalli Bakhsh, Principal[1]
Alice Sandzen, Partner[1]
Meghan Suslovic, Offshore Wind Energy Policy Analyst[2]

Introduction

ERM, in partnership with the Gulf of Maine Research Institute, is supporting the State of Maine Governor's Energy Office, and the Maine Offshore Wind Research Consortium in advancing Maine's priorities on the coexistence of fishing and floating offshore wind (FOW). The project aims to foster collaborative research with the fisheries community, establish baseline conditions, identify gaps in knowledge, and develop guidelines for coexistence. By leveraging local and global expertise, the project aims to provide practical strategies for coexistence, with results anticipated by January 2025.

Objectives

- Collaborate with community stakeholders, especially fishermen.
- Identify and contribute to filling key data gaps.
- Build on existing knowledge.
- Support informed decision-making by government, developers, and others.

Methodology and Preliminary Results:

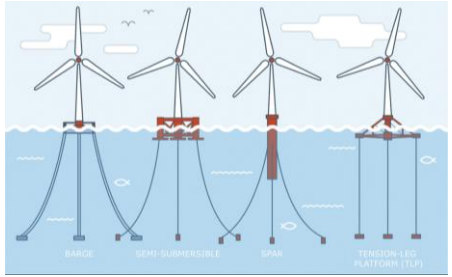
- **Stakeholder Engagement:** Multiple checkpoints throughout the project involved direct consultations with fishermen, and other stakeholders to ensure the relevance and practical applicability of findings.
- **Regulatory and Case Study Review of Coexistence:** The team compiled and analyzed existing literature and regulatory frameworks to identify suitable coexistence approaches.
- **Data Collection and Analysis:** The team conducted a desktop analysis to understand the current interaction between commercial fishing and FOW in the Gulf of Maine. ERM reviewed NOAA Fisheries landings data and reports (2008-2022) to identify key fishing species, their commercial value, and dominant gear (table below) and vessel types in the region, focusing on proposed lease areas.
- **FOW Technology Assessment and Design:** ERM evaluated the FOW technologies, focusing on platform and mooring systems (figures on the right), and their potential interference with fishing activities. The compatibility of these technologies with fishing practices was evaluated through fisheries technology assessments, and they were ranked based on their spatial footprint and the accessibility of fishing grounds.

Results and Recommendations:

Necessary recommendations for effective management of co-use and coexistence are being developed and will be provided in January 2025. Scan the QR code for news alerts and updates on the report.

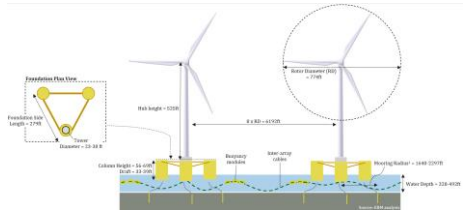
*Additional species identified by the local stakeholders.

Top Species	Gear Type
Haddock	Bottom Trawl
Pollock	Bottom Trawl
Cod	Bottom Trawl, Bottom Gillnet
Monkfish	Bottom Trawl, Bottom Gillnet
Redfish	Bottom Trawl
American Lobster	Pots & Traps
Sea Scallop	Dredge
White Hake	Bottom Trawl, Bottom Gillnet
American Plaice Flounder	Bottom Trawl
Witch Flounder	Bottom Trawl, Bottom Gillnet
Atlantic Herring (Bait)*	Pelagic Trawl, Purse Seine
Bluefin Tuna*	Harpoon



FOW platforms assessed for fishing technology compatibility

Source: Hong et al. 2024. Floating offshore wind farm installation, challenges and opportunities: A comprehensive survey – Ocean Engineering, Volume 304, 117793 .



Illustrative dimensions for a FOW array in the Gulf of Maine (not drawn to scale), considering, for example, a 15 MW wind turbine generator capacity and a generic semi-submersible foundation design. The exact values will vary according to project-specific considerations, and this graph is only a schematic.

Acknowledgements:
Funding from the Maine Offshore Wind Research Consortium through the Governor's Energy Office.
Affiliation:
[1]ERM
[2]State of Maine Governor's Energy Office
Contact:
Tayebeh.Tajallibakhsh@erm.com