Evaluation of Technologies for Trawl and Dredge Vessels to Safely Operate within Offshore Wind Farms

Christopher Rillahan & Pingguo He
in partnership with Capt. Micheal Decker, Paul Farnham, John Lees

HOW THE STUDY WORKS

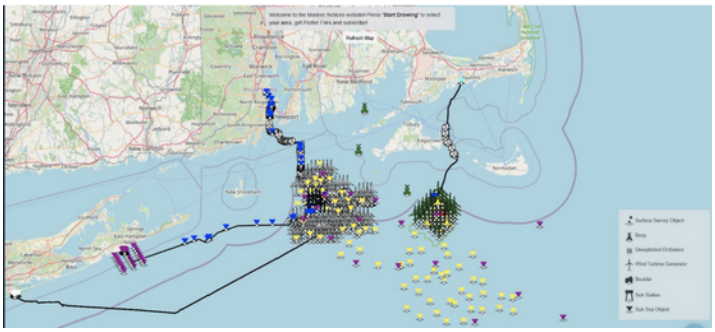
- Compile a list of **chart plotters, radar systems**, and **gear monitoring solutions** and evaluate their **capabilities, compatibility, effectiveness, and cost.**
- Real-world evaluation of several chartplotting and gear monitoring systems will be conducted through **sea trials** onboard a **commercial demersal otter and scallop trawler** and in the **Vineyard Wind 1** and **Revolution Wind** lease sites.
- A **project report** and **outreach report** will be completed with a compilation of the findings of this project.

OUTCOMES

- The **compilation** and **evaluation** of relevant **technologies** will serve as a resource for **stakeholders** interested in **promoting coexistence** and **reducing conflict** between **offshore energy development** and **commercial fishing**.
- **Promote safe, sustainable**, and **efficient fishing practices** within wind farm zones and **mitigate potential risks**.

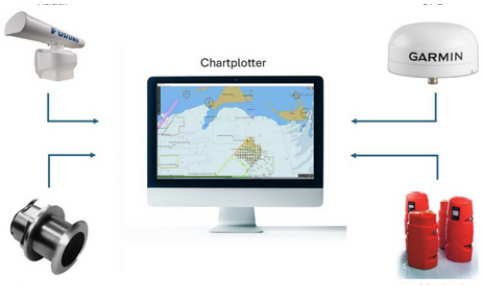
PROJECT OVERVIEW

This project aims to synthesize the current state of **commercially available technologies**, including **chartplotting software** and **gear monitoring systems**, to help **mobile fishers increase situational awareness when working within wind farm areas**. Suitable technologies will be selected for **sea trials** in wind lease sites onboard a **commercial demersal otter trawl** and **scallop dredge vessel**. This project aims to promote safe, sustainable, and efficient fishing practices within wind farm zones by mitigating potential risks such as gear entanglement and turbine allisions.



Map of current hazards to fishermen associated with wind farm development (left). Map obtained from www.marinernotices.com

Schematic of an integrated chartplotting system combining and plotting radar, echosounder, GPS, and net monitoring data (right).



WHY THIS MATTERS

- Offshore wind farms are often **co-located** around **traditional fishing grounds**, creating a **potential conflict**.
- **Mobile gear operators** face **safety** and **operational risks** when operating in **close proximity** to **offshore wind turbines**.
- Recent **technological advancements** in fishing gear monitoring and navigation offer **potential solutions** for fishers to increase the **situational awareness** of operations in congested areas, thereby **mitigating risk** when operating within offshore wind farms.

PROJECT GOALS

- Interact with fishermen, electronics installation professionals, and equipment manufacturers to understand the **capabilities** and **limitations** of **existing technologies**.
- Evaluate the **performance** of a suite of existing technologies onboard **commercial fishing vessels** within an **existing wind farm**.
- Distribute **relevant knowledge** of **options**, **performance**, and **cost** throughout the fishing industry to **facilitate uptake** and **system improvements**.

ROSA
Regional Research & Monitoring

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