



# FishFORWRD

## ROSA FishFORWRD v2.1.0 Launch

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## Executive Summary

The Responsible Offshore Science Alliance (ROSA) in conjunction with WSP USA, Inc. (WSP) has developed an update of the ROSA Fish and Fisheries OffshoRe Wind Research Database (FishFORWRD) to improve upon the resource and provide a platform for interested stakeholders to view and learn of new and existing funded research projects and stated research needs in the offshore wind fisheries space on the U.S. east coast. FishFORWRD catalogs all research, monitoring efforts, and stated research needs for offshore wind, fish, and fisheries. This database differentiates ongoing projects funded to examine offshore wind interactions from other programs that provide valuable data, but which haven't necessarily been designed to assess offshore wind impacts. The objective of FishFORWRD is to increase awareness of ongoing work, avoid duplication of efforts, and create a common understanding of research needs. This tool is meant for research funders, fisheries and offshore wind researchers, offshore wind developers, and the public.

FishFORWRD was first released on ROSA's website in 2022 as a excel sheet complete with tables of ongoing research and research needs, as well as a pivot table to provide a gaps analysis of which research needs were currently being addressed by funded projects and which research needs still remained. The associated [report](#) outlines how to use this first version of the databases and how the database was created. In an effort to make this information more accessible, ROSA and WSP have continued their partnership to 1. update the database with new research projects and research needs announced since 2022; 2. create an interactive webtool to view, filter, and download information held within FishFORWRD.

Through mining of relevant sources, effective communication with the inaugural ROSA Offshore Wind Fisheries Funder Coordination Meeting held in May 2024, and one-on-one meetings held with each offshore wind developer, FishFORWRD v2.1.0 features an updated list of funded research projects, each fisheries monitoring survey being conducted for each developers implemented Fisheries Monitoring Plan, and each relevant research need from 17 different published documents by federal agencies, states agencies, and public-private partnerships. Research projects are included within FishFORWRD if they are conducted within the U.S. and funded to investigate effects of offshore wind on fish and fisheries. FishFORWRD v2.1.0 shares this information on an interactive webtool that allows for filtering projects and research needs by location, receptor, methodology, funder, and more. Lastly, the webtool provides submission forms for new projects, new research needs, and any requested corrections.

## Database Structure

FishFORWRD v2.1.0 contains 4 tabs.

1. Welcome Page

The Welcome Page features a description of the purpose of the database, instructions for use, and a description of other tabs. Statistics of information within the database are featured on the side.

2. Current Projects

The Current Projects page features a “snapshot” or high level overview of research projects included in the database and a visualization of number of projects by location and research category; and of project timelines with additional information on wind development phase, research category, and receptor.

3. Database Center

The Database Center page holds full information on all research projects and research needs, acronyms list, definition of terms, and references for research needs. Detailed information on attributes and definitions is explained below.

4. Submit Project

The Submit Project page holds links to submission forms for new projects, new research needs, and corrections. There are also additional links to other relevant databases and tools a user may be interested in.

The data is organized in the following attributes and under the following definitions.

## Research Projects

Attribute	Selections
Research Category	Habitat Fragmentation/Modification Socioeconomic Impact Cumulative Impacts Sound/Vibration Impacts Species/Distribution/Composition EMF Fisheries Access & Gear Modification Fisheries Engagement & Capacity Building Survey Adaptation Data Management Resource Monitoring
Developer Fisheries Monitoring Plan	Yes No
Fixed or Floating	Fixed Floating Both

Attribute	Selections
Wind Farm Development Phase	Preconstruction Construction Operation/Maintenance Decommissioning
Spatial Scale	Offshore Wind Project State Regional National
Location	Gulf of Maine Southern New England New York/New Jersey Bight Central Atlantic South Atlantic Atlantic Coast
Project Title	
Lead Entity	
Partner Entities	
PI Name	
Project Objectives	
Methodology	Acoustic Telemetry Baited Remote Underwater Video (BRUV) Bottom Trawl Trap/Pot Dredge Gillnet ROV/video/stills Ichthyoplankton Survey Other Fishing Gear eDNA SPI/PV Multibeam Echosounder Benthic Grab PAM Oceanography Tools Social Science Methodology Modeling Methods Other

Attribute	Selections
Receptor	Demersal/Groundfish/Squid Crustaceans HMS Pelagic Fish Shellfish Benthic Invertebrates/Community Ichthyoplankton Habitat All Reported Fishing Industry
Project Start	
Estimated Project End	
Funder	
Funding Partners	
Project Website	

### Research Needs

Attribute	Selections
Research Category	Habitat Fragmentation/Modification Socioeconomic Impact Cumulative Impacts Sound/Vibration Impacts Species/Distribution/Composition EMF Fisheries Access & Gear Modification Fisheries Engagement & Capacity Building Survey Adaptation Data Management Resource Monitoring
Source	
Spatial Scale	Offshore Wind Project State Regional National
Summary of Need	

Attribute	Selections
Location	Gulf of Maine Southern New England New York/New Jersey Bight Central Atlantic South Atlantic Atlantic Coast
Fixed or Floating	Fixed Floating Both
Receptor	Demersal/Groundfish/Squid Crustaceans HMS Pelagic Fish Shellfish Benthic Invertebrates/Community Ichthyoplankton Habitat All Reported Fishing Industry

### Research Category Definitions

Research Category	Definition
Cumulative Impacts	Additive, interactive, or synergistic changes caused by the development of offshore wind projects, accumulating over broad temporal or spatial scales. Cumulative impacts could include how effects from offshore wind are additive to ongoing processes such as climate change or fisheries management constraints.
Data Management	Efforts to organize, store, manage, and/or create increased utility for offshore wind fisheries data.
Electromagnetic Fields (EMF)	Electromagnetic fields associated with cables that carry electricity from and between energy sources, such as wind turbines, to power stations.

Research Category	Definition
Fishery Access & Gear Modification	Changes to access and operation within fishing grounds (e.g., impairment of navigational equipment, potential to catch buried cables in fishing gear and/or anchors, increased risk of collision with structures). Includes displacement and/or changes in location and timing of commercial and recreational fishing efforts. Gear modification includes research or needs around new fishing gear to allow for commercial or recreational fishing within offshore wind farms. This category also includes the topic of Fisheries Enhancement.
Fisheries Engagement & Capacity Building	Methodology for exchange of information between the commercial and/or recreational fishing community, agency representatives, and offshore wind developers. Capacity building refers to the process of obtaining or improving the knowledge or skills needed to engage in the offshore wind process and/or understand science and management around fisheries and offshore wind.
Habitat Fragmentation/Modification	Habitat fragmentation is the loss of suitable habitat that results in division of large, contiguous habitats into smaller disconnected habitat patches. Habitat modification is the change in size, composition, structure, or function of an existing habitat (e.g., artificial reef effect, effects on oceanographic processes, etc). Nature inclusive design is included within this category.
Resource Monitoring	How, when, where fish and fishery resources are surveyed/monitored.
Socioeconomic Impact	Includes changes to the economic value of commercial and recreational fishing industries (e.g., revenues, landings, trips, employment) due to offshore wind developments; effects to shoreside infrastructure such as, but not limited to access or availability to ports and docks,

	fueling stations, fish processing facilities, and other related systems associated with offshore wind energy development; as well as social and cultural changes on fishing communities due to offshore wind development.
Research Category	Definition
Sound/Vibration Impacts	<p>Sound is created by a vibrating object and travels as a pressure wave through a medium, and these pressure waves can be sensed by organisms using hearing or depth regulating organs. Activities that produce sound include, but are not limited to, exploratory surveys, pile driving, dredging, and vessel operation. Vibration is an oscillation of parts of a fluid. Vibration can result in particle motion, which is detectable by some marine organisms. Although sound usually has a vibratory component, it differs from vibration in general in that sound also contains a waveform and is perceived by hearing organs; sound is not included in this category. Research needs related to sound/vibration impacts are exploring the effects of increased sound/vibration related to all stages of wind farm development and operation on marine organisms.</p>
Species Distribution/Composition	Changes in target fish abundance, distribution, taxonomic composition, and or/behavior as a direct or indirect result of offshore wind energy development.
Survey Adaptation	Alteration or creation of new survey methodology to allow for fisheries independent data collection within/around offshore wind farms.



## **Suggested Use of FishFORWRD**

Each tab allows the user to filter through the different attributes described above. Recommended use for a selection of possible users is below.

### Funder

A funder may use FishFORWRD to consider ongoing research projects to avoid duplication of efforts in future funding opportunities. Additionally, funders can consult the listed research needs to inform future solicitation topics or collaborate with entities that have expressed similar needs.

### Researcher

A researcher may use FishFORWRD to gain a comprehensive understanding of ongoing work in their area of expertise. The database can help researchers connect with others conducting similar work, allowing them to leverage resources, data, and capacity for stronger future funding applications and better scientific outcomes. Additionally, researchers can consult the research needs list to develop new project ideas for future funding opportunities.

### Offshore Wind Developer

An offshore wind developer may use FishFORWRD to explore the objectives, targeted receptors, and methodologies used in implemented fisheries monitoring plans. This awareness can promote regional standardization, resource leveraging, and ease in preparing future monitoring plans. Additionally, developers may use the database to financially support ongoing projects with common interests or to solicit new projects addressing specific research needs.

## **Next Steps**

ROSA will continue to update and develop the database in two ways:

1. Biannual updates will occur to add new projects and research needs submitted through the forms within FishFORWRD, shared through biannual meetings of the Offshore Wind Fisheries Funder Coordination, or shared through other coordination activities of ROSA.
2. ROSA and WSP are working to perform and include an updated Research Gaps Analysis within the webtool. This process includes consolidating duplicative research needs, matching current projects to research needs, and highlighting which research gaps remain.