ROSA Responsible Offshore Science Alliance | FishFORWRD Fish and Fisheries OffshoRe Wind Research Database

This document provides the list of Summarized Research Needs (SRNs) identified through ROSA's Research Gaps Analysis. These SRNs reflect cross-sector priorities related to offshore wind and fisheries and were developed by synthesizing hundreds of detailed research needs. Ongoing and completed research and monitoring projects have been mapped to the SRNs they address through a peer-reviewed Research Gaps Analysis available on FishFORWRD. The community is encouraged to use these SRNs, and the corresponding Gaps Analysis results, to prioritize topic areas for funding, align and enhance existing research efforts, and guide the development of new projects. More information can be found here: https://www.rosascience.org/resources/fishforwrd/

Research Category	Summarized Research Need
Habitat Fragmentation/Modification	Gradient of Change at Turbine/Farm Scale
	Artificial Reef Effect on Fish
	Decommissioning Effects
	Thermal Effects of Offshore Wind Infrastructure
	Local and Regional Changes to Ocean Hydrodynamics
	Larval Transport and Recruitment Effects
	Effects on Spawning Timing, Location, and Habitat Use
	Colonization of Non-Native and Invasive Species
	Changes in Trophic Interactions
	Changes to Light Condition
	Effect of Artificial Substrate on Benthic and Epibenthic Community
	Turbine Spacing and Connectivity of Fish Communities
	Nature-Based Design
	Baseline Benthic and Water Column Habitat
	Cable Installation Impacts
	Cable Protection Impacts
	Change in Water and Sediment Quality
	Effects of Boulder Relocation
Sound/Vibration Impacts	Characterization of Sound Pressure, Motion and Seabed Vibration
	Sound Detection Capability of Fish and Shellfish

	Offshore Wind Acoustic Signals Detected by Fish and Shellfish
	Effects of Sound on Behavior and Physiology of Fish and Shellfish
	Alteration of Natural Soundscape
	Strategies for Mitigation from Sound and Vibration Impacts
	Population, community and ecosystem-level Impacts from sound pressure, particle motion and seabed vibration
Electromagnetic Fields (EMF)	Characterization of EMF Exposures for OSW
	Characterization of EMF Effects for Fisheries Species
	Population, Community and Ecosystem-level EMF Impacts to Fisheries
	Ecological Risk Assessment Approaches, Methods and Models
Cumulative Impacts & Fisheries Management Implications	Cumulative Impact Assessment Framework/Guidance
	Cumulative Impact Assessments
	Policy alignment across ocean sectors relative to offshore wind fisheries science objectives
	Priority Data Needs and Impacts for Stock Assessment
	Management Strategy Evaluation for Councils/Commissions
Data Management	Enhance Application of Fishery Dependent Data
	Centralized Database of Ongoing Research and Monitoring
	Enhance Data Governance
	Data Integration and Tool Building
Fishery Access & Gear Modification	Spatial and Temporal Change in Fishing Behavior
	Spatial Operation Needs Within and Around Wind Farms
	Gear Modification, Fisheries Enhancement, and Other Fisheries Development to Allow Co-Use
	Fishing Interaction with Cable Protection Measures
	Impacts of Boulder Relocation on Fishing
	Navigation and Safety
Fisheries Engagement & Capacity Building	Effective Capacity Building Across Sectors to Improve Fishing Industry Engagement
	Qualitative Analysis Informing Effective Fishery Stakeholder Engagement
	Local Ecological Knowledge Methodology Development and Integration
	Social Networking and Knowledge Sharing

Socioeconomic & Sociocultural Impact	Secondary and Tertiary Effects to Supply Chains and Supporting Businesses
	Marine Spatial Planning and Use Tradeoffs
	Compensatory Mitigation Approaches
	Impacts on Recreational Fishing Behavior and Associated Costs and Benefits
	Impacts on Commercial Fishermen's Occupational Structure, Labor Markets, and Workforce
	Methods for Evaluating Socioeconomic/Sociocultural Impact
	Impacts on Seafood Production, Value, Quality
	Changes to Vessel Insurance Costs and Availability
	Offshore Wind Interaction with Ports
	Effects on Cultural Identity, Individual Well-Being, Place Attachment, and the Social Fabric of Fishing Communities.
	Fishing Community Environmental Justice Concerns
Species Distribution/Composition	Changes to biological indicators of incidence, local abundance and distribution, habitat suitability, and community structure
	Changes to growth, feeding, reproduction, recruitment, and mortality
	Effects of Offshore Wind Development Phases on Spatial Behavior
Survey Adaptation	Alternate and Advanced Technologies and Survey Techniques
	Impacts on Fisheries-Independent Surveys
	Development of Interim Provisional Survey Indices
	Project-Level Monitoring Data to Fill Regional Scientific Survey Data Needs
	New Fishery Observer Protocols to Address Questions
Resource Monitoring	Design and Evaluate Strategies for Regional Scale Monitoring
	Data Integration Across Methods to Model Species Distribution and Movement
	Regional Acoustic Receiver Array
	Use of Monitoring to Evaluate Effectiveness of Mitigation Strategies
	Use of Historical Datasets to Generate Baselines