

Fisheries Technical Working Group

DRAFT Research Needs

November 2018

Several ongoing, concurrent regional efforts are underway to develop and prioritize research needs to improve baseline data, fill data gaps, and assess the possible impacts of offshore wind development on fish and fisheries. Within federal and state agencies, offshore wind developers, and fisheries stakeholders, there are also ongoing discussions on strategies to create and support regional research collaboratives. This document provides a summary of common research areas that have been brought up in discussions, and is meant to serve as a starting point for the Fisheries Technical Working Group (F-TWG) to assess research needs related to offshore wind development and fish and fisheries. The group will also consider strategies to refine and prioritize key research areas to better inform near-term requests for proposals (RFPs).

Research areas related to fish and fisheries and offshore wind development generally fall within three broad categories: **fish and fish habitat, socioeconomic impacts, and fisheries mitigation**. Examples of topics within these categories are provided below.

Fish and Fish Habitat

- Baseline data on spatial and temporal distribution of key species, particularly egg and larval stages and any documented species distribution shifts
- Changes in biomass, species composition, and spatial distribution of species at multiple scales
- Changes in fish condition (growth rates, fecundity, etc.)
- Impacts on spawning and recruitment
- Changes in the types of species in an area (i.e. demersal vs. pelagic)
- Impacts to benthic species (infaunal and epifaunal) biomass and species composition
- Baseline habitat data and documentation and quantification of changes (habitat features, water quality, flow dynamics, etc.)
- Impacts of construction and operation- EMF, noise, vibration, anti-fouling, scour, aggregation/reef effect

Socioeconomic Impacts

- Baseline data on spatial and temporal distribution of fishing and fishing revenue
- Quantification of revenue beyond landings (i.e. ports, processors, fish markets, bait & tackle shops, gear manufacturers, coastal restaurants, etc.)
- Impacts of WEA on fishing
 - Impacts to access to fishing areas

- Changes in catch composition
- Changes in fishing practices (i.e. gear modification)
- Changes in trip costs (transit, processing, insurance, etc.)
- Transit safety under various weather conditions
- Artificial radar effects
- Impacts to ports and shoreside industries

Fisheries Mitigation

- Alternative turbine layouts and base structures and how they impact fishing and transit
- Improve the understanding of vessel and gear maneuverability, vessel drift during set/haul back
- Review of existing mitigation methods (including compensatory mitigation) in US and Europe and their relative success
- Strategies to avoid, minimize, restore, and/or offset anticipated impacts on fisheries
- Strategies to support and encourage cooperative research