

# Commercial Fishing Frequently Asked Questions

## Wind Energy on the Outer Continental Shelf



### ✓ Does BOEM assess cumulative impacts to fisheries? Does it do so on both ecosystem- and fishery-specific levels?

- In both the Environmental Assessment (EA) that is prepared prior to lease issuance and the Environmental Impact Statement (EIS) prior to a decision on a commercial-scale Construction and Operations Plan (COP) approval, BOEM considers the individual and cumulative impacts to fisheries and other environmental and socioeconomic resources from proposed and reasonably foreseeable activities.
- BOEM analyzes fishery impacts on both an ecosystem and fisheries-specific level. The level of the analysis – including direct, indirect, and cumulative impacts – is proportionate with the scale of the proposed action.

### ✓ How are you communicating with the fishing community?

- Fishing is an important use of the Exclusive Economic Zone that BOEM must consider in its decision-making. BOEM regularly engages with commercial and recreational fishermen to ensure we fully understand their concerns from both a biological and socioeconomic impact perspective.
- This has been accomplished through focused engagement with Regional Fishery Management Councils, participation in state-led fishery advisory group meetings, and convening a National Academies Fisheries Steering Committee.
- BOEM incorporates fishing industry recommendations into the leasing process by:
  - Issuing guidelines to leaseholders or including lease stipulations to develop and implement a fisheries communication plan,
  - Developing a fishing industry webpage, and
  - Working closely with state partners to address regional fisheries monitoring associated potential impacts from offshore wind development.

▼ **Can Regional Fishery Management Councils have representation at BOEM's Intergovernmental Renewable Energy Task Force meetings?**

- BOEM has established intergovernmental task forces with 14 states.
- These task forces are for federal-state consultations and are limited to state government officials designated by the Governor, officials from affected federal agencies, elected local government officials, and elected tribal leaders. Regional Fisheries Management Councils do not meet these criteria unless specific individuals from the Councils are also representatives of a state or Federal entity. Those members may represent Council interests on the intergovernmental task forces.
- Council members and staff are encouraged to attend the meetings and participate in the question and answer period held at the conclusion of task force meetings.
- BOEM has participated in public information sessions and Regional Fisheries Management Council meetings in the North, Mid-Atlantic, and South Atlantic as part of information-sharing efforts, and will continue to seek public input and comments on proposed activities from Regional Fisheries Management Councils and the Atlantic States Marine Fisheries Commission.

▼ **If fishermen are displaced or economically impacted, will compensation be available from the Federal government? If so, how?**

- Through BOEM's compliance with the National Environmental Policy Act (NEPA), the bureau must identify environmental, economic and social impacts related to the approval and construction of offshore wind energy facilities. Mitigation measures to reduce potential impacts are evaluated in this process and may be required as a condition of approval of a COP.
- The Fishermen's Contingency Fund, established under the Outer Continental Shelf (OCS) Lands Act, compensates U.S. commercial fishermen and other eligible citizens and entities for property and economic loss caused by obstructions specifically related to oil and gas development activities on the OCS.
- An analogous fund was not established by Congress for offshore renewable energy projects with the Energy Policy Act of 2005.



▼ **In its evaluation of offshore wind facilities and their potential impacts, does BOEM consider other marine uses that may also impact the fishing community?**

- As part of our NEPA analysis of potential impacts for construction, operation, and decommissioning of a commercial offshore wind facility, BOEM evaluates past, existing and likely future uses of the coastal and ocean environment.
- This includes other renewable energy facilities; fishing; military activities; sand and gravel extraction; commercial, recreational, and military vessel traffic; oil and gas development; and any other human activities.

✓ **How much weight does BOEM give to input from the fishing community in the planning process?**

- The fishing community's input is considered by BOEM during planning decisions.
- BOEM has previously removed areas from consideration in planning areas because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], Rhode Island/Massachusetts [Cox Ledge], New York [Cholera Bank]).
- BOEM decides these issues on a case-by-case basis, balancing site-specific factors and considerations.



✓ **What is the threshold for fishery impacts that may prevent development?**

- There is no predetermined or existing threshold of fishing activity that BOEM uses that would “tip the scale” one way or another when deciding whether BOEM should include or remove certain areas from leasing and development consideration.
- BOEM will fully assess impacts to the fishing industry, should a lease be issued and a specific project proposed for an area.
- BOEM reserves the right to impose restrictions on development or require specific mitigation measures, if necessary.



✓ **Are there siting considerations to address potential impacts to fisheries and habitat (e.g., turbine configuration to minimize navigational impacts and turbine design options to provide habitat for species such as lobster)?**

- Through public comment and fisheries best management practices workshops, BOEM has received recommendations regarding the placement of wind turbines. Recommendations seek to facilitate the use of bottom-tending mobile gear within the array with the least amount of cable crossings.
- BOEM will continue to gather information through workshops, public comments, and studies regarding individual projects and site-specific concerns.
- BOEM will consider facility design alternatives that reduce potential impacts to fishing and navigation through the environmental assessment process.

## What are the effects of electromagnetic fields (EMF) on fish species?

BOEM has completed several studies related to understanding the effect of EMF on fish species. The cables are wrapped in a sheath that eliminates direct electric fields and reduces magnetic and induced-electric fields.

To date, effects on representative sensitive species indicate that while some marine species are observed to respond to EMF, the responses have not risen to the level of being detrimental to any species.

The following studies examine the effects of EMF on marine animals (primarily fish):

- In 2018, BOEM completed the study “Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables.” The study examined the movements of lobster and little skate response to a direct current cable in Long Island Sound. The report concluded that both the lobster and skate would cross the cable unimpeded. The report is located at [www.boem.gov/espis/5/5659.pdf](http://www.boem.gov/espis/5/5659.pdf).
- In 2016, BOEM completed a study titled “Renewable Energy in situ Power Cable Observation” that evaluated species densities along electrified and non-electrified undersea power cables off the California coast. The report concluded that there was no observable difference between the two cables. The report is located at [www.boem.gov/2016-008](http://www.boem.gov/2016-008).
- In 2011, BOEM completed the study “Effects of EMFs from Undersea Power Cables on Elasmobranchs (Sharks and Rays) and Other Marine Species.” This study researched potential ecological effects of EMFs emitted by sub-sea power transmission cables, suggested solutions that reduce EMF exposure, and identified data gaps and future research priorities. The report is located at [www.boem.gov/ESPIS/4/5115.pdf](http://www.boem.gov/ESPIS/4/5115.pdf).
- A United Kingdom study, “EMF-Sensitive Fish Response to EM Emissions from Sub-Sea Electricity Cables,” looked at behavioral reactions of certain sharks and rays to EMF in a large sea pen. The report concluded that although some fish appeared to respond to EMF, no positive or negative effects could be determined.

## Will areas in and around wind turbines and other structures exclude vessel traffic and fishing activity?

- BOEM does not have the authority to restrict vessel traffic in and around offshore wind facilities.
- If a safety zone or buffer were implemented, it would likely be by the U.S. Coast Guard (USCG) under its mandate to ensure safety at sea. The USCG has stated that safety zones and buffers would be evaluated on a case-by-case basis, and that they only intend to implement them during construction.
- For the Block Island Wind Farm, the USCG implemented a 500-yard safety zone around the wind turbine location during construction activities.



▼ **What are the effects of turbines on navigation and radar issues for fishing operations within or near the turbine arrays?**

- To ensure navigational safety, all structures will have appropriate markings and lighting in accordance with USCG requirements for Private Aids to Navigation and International Association of Marine Aids to Navigation and Lighthouse Authorities guidelines.
- Existing fishing use is analyzed in an attempt to understand where fishing grounds are located and how vessels transit those areas. Fishing-vessel use is also studied as part of the Navigation Safety Risk Assessment submitted by developers in their COP.
- BOEM has several best management practices to address the potential effects of renewable energy project development including:
  - Siting of facilities to avoid unreasonable interference with major ports and USCG-designated Traffic Separation Schemes.
  - Placing proper lighting and signage on structures to aid navigation and comply with other applicable USCG requirements.
- Turbine locations will be charted by the National Oceanic and Atmospheric Administration and may include physical or virtual automatic identification system at each turbine.
- Current mitigation techniques include upgrading radar systems, addition of infill radars, adjusting the array layout, utilizing adaptive scanning, and adjusting how the radar processes data.

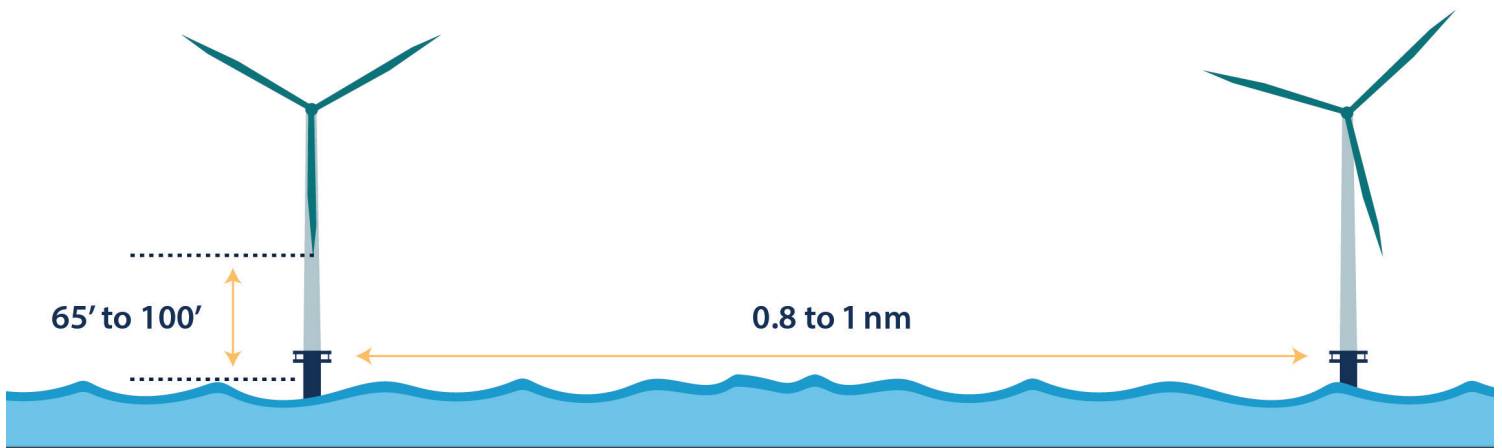


▼ **Will USCG be able to conduct search and rescue operations within a wind turbine array?**

- Yes, USCG will evaluate every project through the Navigational Risk Assessment that is required for each COP.

▼ **How deep are the electrical transmission cables buried under the sediment?**

- The standard commercial practice is to bury submarine cables 3-10 ft deep, in waters shallower than 6,562 ft, to protect them from external aggression hazards, such as fishing gear and anchors.
- Cables may be buried as deep as 32 ft under the seabed, depending on the local hazards, water depth, and substrate composition.
- Cable depths may vary by project and will be buried below the seafloor at an appropriate depth based on the underlying geology.
- Mitigation measures may include placing concrete mattresses – concrete block sections connected by metal braided cables – over the cable for protection in cases where a minimum burial depth is not practicable.



### What is the average height above sea surface and distance between wind turbines?

- Project parameters, such as the turbine height, vary from project to project and are contained within the COP submitted by developers.
- Based on current technology, the lowest point of the rotor sweep would be 65–100 ft above the surface. As larger turbines are used, rotor sweep would be approximately 200 ft above the surface.
- For example, the Siemens 6 MW turbine has a blade length of 246 ft and a rotor diameter of 505 ft. If the unit is installed on a 328–394 ft tower, the distance from the tip of the blade to calm seas would be between 81–146 ft.
- Spacing between turbines is determined on a project-by-project basis weighing multiple variables, including minimizing wake effects between turbines. Current projects propose spacing of about 0.8 to 1 nautical mile between turbines.

### Will offshore wind facility structures be removed after the expiration of a lease?

- Within two years of cancellation, expiration, or other termination of the lease, the lessee would be required to remove all devices, works, and structures from the site and restore the leased area to its original condition.
- Bottom-founded structures and related components would be severed at least 15 ft below the mud-line to ensure nothing is left exposed to interfere with future lessees and other activities in the area.
- Rights-of-way facilities (such as electrical transmission cables) may stay in place as long as they are being used and properly maintained, pending BOEM approval.
- Before facilities may be installed under an approved COP, a lessee must provide financial assurance that covers the decommissioning of all structures, cables, and obstructions.

### Where can I find more information about offshore wind energy development in the Atlantic?

- Information on the planning process and the status of offshore wind leases, including opportunities for comment, can be found at [www.boem.gov/Renewable-Energy](http://www.boem.gov/Renewable-Energy).
- Information specific to offshore wind development and fisheries can be found at [www.boem.gov/Fishing-Offshore-Wind-Mitigation-Measures-Development-Workshops](http://www.boem.gov/Fishing-Offshore-Wind-Mitigation-Measures-Development-Workshops).