



NYSERDA ORECRFP23-1



# Purchase of Offshore Wind Renewable Energy Credits

Submitted by Empire Offshore Wind LLC- January 25, 2024

Section 8.1 - Fisheries Mitigation Plan



Powering New York. Together



## Table of Contents

8.	Responsible Development.....	8-1
8.1.	Fisheries Mitigation Plan .....	8-1
8.1.1.	Fisheries Mitigation Plan Summary .....	8-1
8.1.2.	Communications and Collaboration .....	8-3
8.1.3.	Monitoring and Research Pre, During- and Post- Construction.....	8-6
8.1.4.	Supporting Other Research .....	8-10
8.1.5.	Site Design Considerations .....	8-13
8.1.6.	Construction and Operation.....	8-14
8.1.7.	Considerations for Subsea Cables .....	8-15
8.1.8.	Project Decommissioning.....	8-16
8.1.9.	Fisheries Compensation Plan .....	8-17
8.1.10.	Additional Considerations .....	8-18



## Attachments

Reference	Description
<b>8.A</b>	<b>Fisheries Mitigation Plan</b>

## 8. RESPONSIBLE DEVELOPMENT

### 8.1. Fisheries Mitigation Plan

*Elements of the Fisheries Mitigation Plan are described in detail in Appendix C. The Fisheries Mitigation Plan must address any variance among Proposals. The Submission must include both Confidential and Public versions of the Fisheries Mitigation Plan. The public version of the Fisheries Mitigation Plan will be made publicly available upon Proposal submission and should therefore utilize language accessible to the public that demonstrates an understanding of New York's diverse stakeholders, unique coastal and marine resources, and local communities.*

*The Fisheries Mitigation Plan should give as much detail as possible on how Proposer will mitigate adverse impacts on the commercial fishing industry that may be caused by the Project. Proposers are advised to review the Fish and Fisheries Study prepared for the New York State Offshore Wind Master Plan with respect to the potential impacts of offshore wind energy development on the fishing industry, and also are advised to include in their mitigation plan the appropriate Best Management Practices described in the Master Plan, its supporting studies and more recent relevant work. NYSERDA recognizes that after submission to the agency, the Proposer may change and update the Fisheries Mitigation Plan to reflect findings during the environmental reviews conducted by BOEM or New York State.*

#### 8.1.1. Fisheries Mitigation Plan Summary

*The Proposer must briefly present its philosophy and approach to avoiding, minimizing, restoring, and offsetting the potential fisheries impacts of the proposed Project and how the Proposer will use research, data and stakeholder feedback to support decision making with respect to pre-construction surveys, site design, construction, operations and decommissioning.*

Empire Wind welcomes the opportunity to submit a Fisheries Mitigation Plan ("FMP") for Empire Wind, Phase 1 ("EW1" or "Project") as part of its application to supply offshore renewable energy certificates to New York. From experience developing offshore wind energy facilities, Empire Wind believes that the responsible development of offshore wind energy resources can be compatible with fisheries resources and commercial and recreational fishing.

Empire Wind believes that impacts to fisheries can be minimized by carefully evaluating existing uses of the lease areas, avoiding impacts where feasible, or reducing impacts through mitigation. Empire Wind's approach to fisheries mitigation is founded upon the fisheries mitigation hierarchy. More specifically, this approach means that Empire Wind anticipates and avoids impacts to fisheries resources and fishers, minimizes impacts where avoidance is not possible, and takes steps to offset any significant residual adverse impacts that are predicted to remain.

Empire Wind has and will continue to review existing research and data and continue to seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle. Empire Wind will continue to seek input from stakeholders on proposed schedules and methodologies as well as design, construction and operation, and decommissioning plans for the

Project. Empire Wind has partnered with INSPIRE Environmental to establish and conduct Benthic and Fisheries Monitoring surveys pre-, during, and post-construction for the EW1 project area and export cable route. Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farms. To the extent that any restrictions are necessary, these may be limited to standard safety zones during the construction phase and operational safety zones around manned or sensitive offshore platforms or access points. Empire Wind recognizes the importance of adaptive management and will continue to improve and mature its procedures to evaluate and mitigate impacts to fisheries resources. Empire Wind and its affiliates have gained extensive experience through developing and implementing the FMPs for their portfolio of projects. It has brought all of this experience to bear in the development of this FMP, and will continue to implement lessons learned and best practices as the portfolio develops.

Empire Wind has already taken the following steps to avoid and minimize potential impacts:

- Establishing a fisheries communications and outreach strategy to effectively engage with and solicit input from a wide range of fishers and stakeholders in multiple regions;
- Modifying survey schedules and locations in survey planning—and in real-time—by adaptive management of survey locations so as to avoid areas with active and/or seasonal fishing;
- Incorporating data and feedback in early spatial planning of export cable routes to avoid high-use, high-value, and high-sensitivity fisheries areas;
- Collaboration with Responsible Offshore Development Alliance (“RODA”) in January 2020 in Philadelphia and incorporated fishermen feedback to the EW1 layout, creating the “Squid Gap” in the northern portion of the Empire Wind lease; and
- Rearranged survey schedules to avoid active lobster fishing.

Mitigation measures will continue to be identified and developed with relevant fisheries stakeholders through an iterative process occurring during all stages of the Project.

Empire Wind and its affiliates have been working with the New York State Energy Research and Development Authority (“NYSERDA”) and the Special Initiative on Offshore Wind on a multi-state compensatory mitigation initiative that includes the States of New Jersey, New York, Massachusetts, Connecticut, Rhode Island, New Hampshire, Maine, Delaware, Maryland, Virginia, and North Carolina to develop a framework for a Regional Fisheries Compensatory Mitigation Fund. Empire Wind supports these regional efforts and will continue to participate and cooperate fully with the Bureau of Ocean Energy Management (“BOEM”), NYSERDA, and the 11 coastal states initiative.

The following sections summarize Empire Wind’s approach to the commercial and recreational fishing communities throughout all stages of the Project life, including how impacts will be assessed and mitigation measures considered and applied. Furthermore, the following sections set out principles for how Empire Wind will continue to work with the fishing industry to avoid or minimize impacts and collaborate on conducting research and monitoring. Naturally, the FMP

will continue to evolve through consultation with the Fisheries Technical Working Group (“F-TWG”) and the fishing industry as EW1 develops. Empire Wind has established the Empire Wind Fisheries Study Working Group (“FSWG”) to assist with the analysis and further refinement of the fishery monitoring that will occur along the EW1 export cable routes in state waters. The first FSWG meeting was held on November 28, 2023. A number of agencies and individuals that are part of the FSWG already participated in or attended the NYSERDA F-TWG and Environmental Technical Working Group (“E-TWG”) consultations. The FSWG is a requirement of the Certificate of Environmental Compatibility and Public Need issued by the New York State Public Service Commission for EW1’s electrical transmission facility.

### 8.1.2. Communications and Collaboration

*The New York State Offshore Wind Master Plan, the New York State Public Service Commission Order Establishing Offshore Wind Standard Framework for Phase 1 Procurement issued on July 12, 2018, the Order Adopting Modifications to the Clean Energy Standard issued on October 15, 2020 pursuant to Case No. 15-E-0302, and the order on Power grid Study Recommendations issued on January 20, 2022 pursuant to Case No. 20-E-0197, and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Further, the Orders require Proposers to work with the State supported Fisheries Technical Working Group (“F-TWG”). The Proposer must describe how it will identify additional stakeholders relevant to both onshore and offshore fishery issues and describe how the Proposer intends to communicate with those stakeholders during survey work, and design, construction, operation, and decommissioning of the Project. The Proposer must also describe how, specifically, it will communicate with vessels actively fishing in areas in or adjacent to the Project area during site assessment and construction activities and facilitate proper notification to vessels and resource managers. This description of communication protocols must account for the need to coordinate with members of the F-TWG and consultations with New York State agencies during the various Project phases.*

Empire Wind believes that regular, open, and broad consultation is key to ensuring that all parties are well informed of Empire Wind’s offshore wind plans, designs, and activities so that they may provide meaningful input in design and mitigation options. Empire Wind intends for its fisheries outreach to be as inclusive as possible, including engagement with fisheries stakeholders through Fishing Industry Representatives (“FIR”) and/or groups such as F-TWG and RODA, as well as by engaging with organizations or individual fishers not represented in these groups. Empire Wind notes that this approach has proven effective and well-received throughout the continuing development of its projects in the New York Bight and New England Wind Energy Areas and submission of the Empire Wind and Beacon Wind Conference of the Parties (“COPs”). Section 2.2 of the FMP, provided as Attachment 8.A, provides a list of communication officers for EW1 to facilitate discussion of particular issues.

Empire Wind has established a comprehensive internal database of local and regional fisheries associations, societies, groups, individual fishers, and various industry organizations. This

database is maintained and regularly updated by the Fisheries Liaison Officer (“FLO”) in conjunction with Empire Wind’s key project team members.

Members of the commercial and recreational fishing communities are identified through various channels and include, but are not limited to:

- Contacting fishing industry leaders known through the combined FLO and industry experience;
- Contacting fishing industry association leaders;
- Attending Fishery Management Council meetings;
- Attending meetings related to offshore wind and fisheries interactions;
- Hosting booths at commercial and recreational fishing forums;
- Recommendations from state and federal fisheries staff;
- Public comments and documents online;
- Word of mouth from the fishing community;
- Automatic Identification System (“AIS”) monitoring including ship identification;
- Fishing vessels identified offshore during surveys by the Offshore Fisheries Liaison Representative (“OFLR”);
- National Marine Fisheries Service permit holder lists online;
- Dock visits; and
- Fisheries contacts information referenced in NYSERDA’s New York State Offshore Wind Master Plan Fish and Fisheries Study (NYSERDA, 2017; Appendix J).

Empire Wind participates and consults with other stakeholders and working groups, including:

- Empire Wind is participating in E-TWG and its current representation on the E-TWG can be found within the Environmental Mitigation Plan being submitted with this proposal as Attachment 8.C;
- Empire Wind attends “State of the Science” workshops and participates in focal species workgroups;
- Empire Wind is consulting with New England state agencies, as appropriate;
- Empire Wind participates in other state Fisheries Working Groups, for example, the Massachusetts Fisheries Working Group;
- Empire Wind is a founding member of the RODA joint industry task force; and
- Empire Wind is a founding board member of Responsible Offshore Science Alliance (“ROSA”) and participates as a member of the advisory council.

Empire Wind will continue to participate in the F-TWG, represented by those listed within the Communication Officers table in the FMP. Empire Wind will present all aspects of the FMP to the F-TWG during dedicated workshops at appropriate timing intervals to ensure the goals of the FMPs are met, and the FMPs are improved to reflect feedback. As well as the F-TWG, Empire Wind will continue to proactively engage with the fishing industry not represented on F-TWG, or

in addition to those on F-TWG. This may occur through industry groups such as RODA, other FIRs, or with individual fishing organizations or fishers.

Empire Wind is committed to continuing consultation with New York State agencies throughout the project development processes. This includes:

- Providing project development updates and schedules for Empire Wind;
- Consulting on benthic and fisheries resources; and
- Introducing and updating New York State agencies concerning Empire Wind activities. Empire Wind has engaged with and continues to engage with:
  - New York State Department of State (“NYSDOS”); New York State Department of Environmental Conservation (“NYSDEC”);
  - New York State Office of Parks, Recreation and Historic Preservation;
  - New York State Department of Public Service (“NYSDPS”);
  - New York Office of General Services (“NYSOGS”); and
  - NYSERDA.

Empire Wind has reached a wide range of potentially affected parties in order to provide project updates, communicate during offshore activities, and solicit feedback on offshore wind energy development. To achieve this, Empire Wind is taking a broad approach to disseminating information. Empire Wind will continue to use these practices as the Project develops and will add further outlets as appropriate.

Empire Wind communicates with vessels actively fishing in areas in or adjacent to the Project’s area during site assessment activities. Empire Wind will continue to implement this practice during construction and decommissioning activities to ensure proper notifications to vessels and resource managers through the following means:

- Regular updates to the [Mariners and Fisheries section of the Empire Wind website](#), with provided current and historical communications to stakeholders;
- Notification of upcoming site assessment and/or construction activities via various sources, including Survey Flyers, Local Notices to Mariners (“LNM”), email notifications, and details on project-specific webpages and relevant fisheries webpages;
- The OFLR will be responsible for monitoring the presence of fishing vessels and/or fishing gear in or around locations of site assessments and/or construction activities, and communications with vessels at sea and for relaying information back to the FLO;
- The FLO will be responsible for engaging with fisheries managers, fleet managers, FIRs, and individual fishermen prior to and during site assessment and/or construction activities;
- The FLO will monitor AIS in real-time to identify fishing activity (for those fishing vessels carrying AIS) in or around locations of sites assessment and/or construction activity; and
- Where appropriate, scout vessels acting on behalf of Empire Wind will monitor for the presence of static fishing gear, identify owners and contact details, and relay the information to site assessment/construction vessels/OFLRs and the FLO.

The FLO have had extensive and engaging consultations with the commercial and recreational fishing stakeholders and will continue to do so throughout all the stages of development. The FLO consult with individual fishermen; fishing organizations; fishing councils; working groups; Local, State, and Federal governments; academia; and interested individuals. Email, regular port and dock visits, phone calls, and texts are the primary means of communications to the fishing industry, along with Fisheries Open Houses and sponsoring, attending, and presenting at fishing forums and expos. Empire Wind will always be open to consideration of other means or methods that would provide for more effective and efficient communication with the fisheries stakeholders.

### 8.1.3. Monitoring and Research Pre, During- and Post-Construction

*Fisheries research and peer-reviewed publication of research findings is key to advancing the knowledge of how offshore wind energy development might affect fish and fisheries. Proposers are encouraged to work with the fishing industry in the collection of data, to publish their own work in scientific journals or other scientifically vigorous products, and to coordinate with scientists and regulators interested in investigating fishery- and wind- energy-related scientific questions.*

*Because offshore wind energy development is in early stages in the US there is little empirical information as to the effects such development may have on ecological communities and fishery resources specific to the New York Bight. Thoughtfully planned, designed, and implemented pre-, during- and post-construction monitoring and research to understand fish responses and potential effects from development is key for adaptive management. Further, multiple regional sites working together and coordinating monitoring and research in a consistent manner would bring additional value to the scientific understanding of how development of offshore wind energy is affecting regional resources.*

*The Proposer must (to the extent possible at this stage) describe how it plans to conduct scientifically sound, statistically rigorous studies to accomplish the following:*

- 1. Establish baseline data on the spatial and temporal presence of fish and invertebrates in the proposed area of the Project at multiple life history stages included egg, larval, juvenile, adult, and spawning stages, as well as associated fish and invertebrate habitats;*
- 2. Monitor for impacts on these types of life history stages during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects;*
- 3. Assess and quantify (to the extent practical) changes attributable to Project activities; and*
- 4. Determine how the proposed Project area is used by commercial and recreational fisheries in the region, including current and historic usage as well as associated transit routes, and how usages changes in commercial and recreational fishing patterns will be calculated post-construction.*

*Proposers should also identify opportunities for developing or investing in collaborative research with the fishing industry to collect ecological and/or fishing data. The description must account for the need to coordinate with members of the F-TWG during data gathering and assessment.*

*Proposers should identify collaborative efforts currently underway or in the planning stages to help highlight means by which the industry plans to standardize scientific methods, surveys, and monitoring plans across the region to enhance data compatibility and utility. Proposers are encouraged to reference resources such as the Responsible Offshore Science Alliance (ROSA) [Offshore Wind Project Monitoring and Guidance Document Research and Monitoring Recommendations](#).*

*In the event that these activities cannot be clearly defined at this stage, the Proposer must describe how it will approach these questions and data gaps.*

*The Proposer must describe how it plans to make fisheries data available in accordance with Section 2.2.8 of the RFP.*

Empire Wind is committed to collecting and evaluating existing data, conducting research studies, incorporating feedback from the fishing community, and conducting site-specific or collaborative regional surveys and research in order to establish a baseline characterization of the lease areas' natural habitat, resources, and uses. Establishing this baseline data is necessary to identify and quantify potential impacts from the proposed offshore wind energy development, identify mitigation options to avoid or minimize impacts, and establish protocols for monitoring impacts or data gaps where appropriate. Empire Wind's efforts to establish baseline data and monitor for potential impacts are conducted in accordance with best practices, including BOEM guidance as well as consideration of recommendations for further research from groups such as F-TWG and E-TWG. This section provides an overview of Empire Wind's approach to establishing baseline data, monitoring for potential impacts and changes in usage, and assessing and quantifying changes attributable to project activities (*i.e.*, pre-, during, and post-construction).

In the summer of 2022, Empire Wind contracted with INSPIRE Environmental to develop the Empire Wind Fishery and Benthic Monitoring Plan. After several months of consultation with F-TWG, E-TWG, the National Oceanic and Atmospheric Administration ("NOAA"), Northeast Fisheries Science Center ("NEFSC"), the fishing industry, state agencies, ROSA, and other stakeholders, Empire Wind promulgated the Final Plan in May 2023. The complete plan involves the following schedule of monitoring methods/activities:

- Squid Trawl
  - Sampling 1 year pre-construction, 1 year during, 2 years post-construction (2024-2027)
  - 4 field sampling trips per year between July and August
- Baited Remote Underwater Video ("BRUV")
  - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
  - 32 locations sampled quarterly

- Acoustic Telemetry
  - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
  - 48 acoustic telemetry receivers deployed year, with semi-annual data retrieval
- eDNA sampling
  - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
  - Sampling conducted on BRUV and trawl trips
- Scallop Plan View conducted by INSPIRE Environmental
  - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
  - Sampling one trip per year, 120 stations
- Benthic Sediment Profile Imagery (“SPI”)/Plan View (“PV”) and grabs
  - Sampling in late summer 2024 (pre), 2026, 2027, 2028, 2029, 2032
  - 11 sampling days, 352 SPI/PV stations, 60 grab stations
- Post-construction Benthic Stereo Camera ROV
  - Sampling in 2026, 2027, 2028, 2029, 2032

Since June 2023, Empire Wind has contracted with INSPIRE Environmental to execute 2 years of preconstruction monitoring. Empire Wind is in the process of further contracting the remaining monitoring efforts for the construction and post-construction phases.

Baseline data characterization and monitoring are being conducted in accordance with best practices, including BOEM guidance, and with consideration of recommendations for further research from groups such as F-TWG and E-TWG and ROSA’s Offshore Wind Project Monitoring and Guidance Document Research and Monitoring Recommendations. To date, the following pre-construction fishery and benthic plan activities have occurred:

- **Acoustic Telemetry:** Acoustic telemetry receivers were deployed starting on October 25, 2023. The acoustic telemetry surveys will help Empire Wind monitor species presence, persistence, and movements. This survey includes 48 receivers that are evenly distributed to maximize coverage within the Lease Area and along export cable routes (23 in the Lease Area, 9 in export cable routes in federal waters, 16 in export cable routes in state waters). The receivers will remain deployed year-round, and the data will be downloaded 2 times a year (spring and fall). Additionally, there will be 325 new tags per year targeting the following species: Atlantic Sturgeon, Black Sea Bass, Striped Bass, Winter Flounder, and Summer Flounder. This survey will build upon work of Stony Brook and Monmouth University from 2017-2018;
- **BRUV with eDNA:** Surveys will be conducted quarterly. The first survey occurred on July 5 and 6, 2023, the second survey on September 11 and 12, 2023, and a third survey was conducted on December 6 and 7, 2023. These surveys assess the change in abundance of individual species or assemblage composition with respect to distance from turbine

foundation. The survey includes deploying the BRUV at four distance intervals at 8 turbine sample locations;

- **Sea Scallop Drop Down Imaging:** The first Sea Scallop drop down imaging survey was conducted from June 18 to 21, 2023. This survey uses a Before-After Control-Impact design in the reference area. The plan view camera uses a trigger wire to collect images prior to hitting the seafloor. For this survey, there are 120 stations total with 60 in each area (Lease and reference). This survey will be conducted annually; and
- **Benthic SPI/PV Survey:** A sediment profile and plan view imaging survey was conducted along the EW1 export cable route from August 31 to September 7, 2023. Sampling was conducted at discrete station locations in the Lower Hudson Bay along the east side of Ambrose Channel out to the 3-mile New York state waters boundary.

Prior to the development of the monitoring plan, Empire Wind had been defining baseline data on the spatial and temporal presence of fish and invertebrates in the proposed area of the project using key existing literature and datasets:

- Public data sources suitable for characterizing benthic habitat and fisheries resources in the relevant area, including evaluation of NYSEDA's Master Plan Fish and Fisheries Study (2017; Appendix J);
- 2017 to 2019 digital aerial survey images, monthly and quarterly reports of avian species, marine mammals, sea turtles, and large bony fish assemblages as observed from the 12 x monthly digital aerial surveys carried out from November 2017 to December 2019.
  - These data and reports are [publicly available](#);
  - Data are also publicly available on Duke University's Ocean Biodiversity Information System Spatial Ecology Analysis of Megavertebrate Populations ("OBIS-SEAMAP"):
    - OBIS-SEAMAP Dataset - [Empire Wind Digital Aerial Wildlife Surveys for BOEM Lease Area OCS-A 0512, Equinor Wind US LLC, November 2017-October 2018](#);
    - OBIS-SEAMAP Dataset - [Empire Wind Digital Aerial Wildlife Surveys for BOEM Lease Area OCS-A 0512, Equinor Wind US LLC, February - December 2019](#);
- NOAA National Centers for Coastal Ocean Science and BOEM Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic (2019);
- Estuarine Living Marine Resource database (NOAA 2000) provide descriptions of spatial and temporal distributions of species (by life stage) in Hudson River/Raritan Bay and the Great South Bay; however, the database is not updated regularly;
- Use of fisheries effort data as a proxy for fish species; and
- In accordance with BOEM's guidelines (BOEM 2020) and site characterization requirements 30 C.F.R. § 585.626(3), Empire Wind supported digital aerial surveys of the Lease Area to identify wildlife and supplement fisheries data in the Lease Area. Twenty-four surveys were conducted approximately monthly from November 2017 to October 2018 and February 2019 to December 2019.

A full description of baseline data for fish and invertebrates has been presented in [Volume 2b and Appendix T](#) of the COP for Lease OCS-A 0512.

Empire Wind is committed to supporting regional wildlife and fisheries research and monitoring initiatives through the Regional Wildlife Science Collaborative (“RWSC”) and ROSA. Empire Wind participates as an RWSC Steering Committee and Industry Caucus member and a ROSA Board and Advisory Council member. In addition, Empire Wind participates in a number of technical subcommittees to help shape regional science, monitoring, and research plans within the organizations. Empire Wind has signed a contract with ROSA to support the development of a research administration framework (*i.e.*, project selection, Request for Proposal (“RFP”), and project management process). Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

#### 8.1.4. Supporting Other Research

*The selected Proposer will be required to coordinate with third-party supported scientists, providing reasonably-requested Project data and access to the Project area for independent scientists examining environmental and fishery sensitivities and/or the impacts of offshore wind energy development on fish, invertebrates and fisheries for the purpose of publication in peer reviewed journals or other scientifically vigorous products.*

*The Proposer must describe how such requests will be considered and processed, and any restrictions on data provision or access the Proposer believes may be required to protect trade secrets or maintain site security.*

*The Proposer shall identify ways to enhance site accessibility for the advancement of third party scientific and technological study.*

*The Proposer may also elect to identify a level of financial commitment that will be appropriated to leverage third-party environmental research funding related to fish, invertebrates and fisheries, including federal or State-supported research into relevant fish and invertebrate communities and associated commercial and recreational fisheries and the effects of offshore wind energy development. Such financial commitments will be favorably considered in the Proposal review process. Funding identified here should be separate from funding allocated under Section 2.2.7 of the RFP.*

Empire Wind is committed to collaborating with the scientific community, E-TWG, relevant stakeholders, other offshore wind energy developers, and third-party groups to conduct robust and relevant research studies that relate to environmental resources and offshore wind projects. Equinor spent around \$20 million in 2023 on developing new knowledge, monitoring methods, and new solutions for a positive coexistence between offshore wind energy and nature. Future studies may include fishing feasibility (by technique) within operational wind farms, and options for research can be discussed through the F-TWG or other fisheries related initiatives, such as

ROSA and the fishing industry. Monitoring of sensitive wildlife and research programs to support conservation efforts are also part of Empire Wind's commitments to protect the environment. Empire Wind is committed to providing researchers and scientists with data that is not commercially sensitive. Empire Wind and its affiliates have a tradition of publishing research data on their environmental studies; such published studies include studies on benthos, biomass, noise, artificial reefs, and microplastics.

Oceanographic data not deemed proprietary (*e.g.*, seawater temperature and salinity) from the "Metocean Facilities" deployed within the Lease Area. Requests can be made directly via Michelle Fogarty at [mfog@equinor.com](mailto:mfog@equinor.com). Metocean information is publicly available at the [MARACOOS OceansMap](#). Empire Wind will make non-proprietary environmental and fisheries data publicly available in a format and manner best suited for efficient distribution. Empire Wind also will consider making existing wind farm related vessels, buoys, or structures available for research opportunities where the research activities will not materially impact the existing objectives of those resources.

Empire Wind is committed to supporting regional wildlife and fisheries research and monitoring initiatives through RWSC and ROSA. Empire Wind participates as an RWSC Steering Committee and Industry Caucus member and a ROSA Board and Advisory Council member. In addition, Empire Wind participates in a number of technical subcommittees to help shape regional science, monitoring, and research plans within the organizations. Empire Wind has signed a contract with ROSA to support the development of a research administration framework (*i.e.*, project selection, RFP, and project management process). Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

Empire Wind will make an effort to meet with any interested parties when contacted to discuss prospective research. Empire Wind is also willing to consider requests to access Equinor's existing operating offshore wind energy developments in Europe to conduct research and monitoring. With regards to any restrictions, Empire Wind will restrict confidential, proprietary, and commercially sensitive data (as noted within the FMP).

Empire Wind already is collaborating with third-party researchers in support of monitoring activities and assessing impacts in the following ways (note that below examples include Empire Wind and its affiliates' collaborations across our regional portfolio):

- Empire Wind has partnered with INSPIRE Environmental to establish and conduct Fisheries and Benthic Monitoring. This Fisheries and Benthic Research Monitoring Plan has been developed in accordance with recommendations set forth in "Guidelines for Providing Information on Fisheries for Renewable Energy Development on the Atlantic Outer Continental Shelf" (BOEM 2019), which state that a fishery survey plan should aim to:

- Identify and confirm which dominant benthic, demersal, and pelagic species are using the project site, and when these species may be present where development is proposed;
  - Establish a pre-construction baseline which may be used to assess whether detectable changes associated with proposed operations occurred in post-construction abundance and distribution of fisheries;
  - Collect additional information aimed at reducing uncertainty associated with baseline estimates and/or to inform the interpretation of research results; and
  - Develop an approach to quantify any substantial changes in the distribution and abundance of fisheries associated with proposed operations.
- Empire Wind collaborated with SUNY Stony Brook to attach four fish tag receiver gates to the Empire Wind metocean facilities. The receiver gates, used primarily for detecting Atlantic sturgeon but also capable of detecting other tagged species, were part of a previously BOEM-funded study. Empire Wind coordinated with Stony Brook on opportunities to download and service the sensors during scheduled service visits approximately every six months;
  - Empire Wind is collaborating with the Wildlife Conservation Society and Woods Hole Oceanographic Institute on real-time large whale detection and notification buoys in a [minimum nine-year monitoring program](#). This includes an exhibit at the New York Aquarium and [publicly-available near-real time data stream](#);
  - Empire Wind metocean facilities (e.g., current meters and wave buoys) were deployed from 2018 to 2020, the [historical data](#) is publicly available on [MARACOOS OceansMap](#);
  - Equinor Wind was a founding board member of ROSA and is committed to continue supporting ROSA. Scott Lundin (Head of Environment and Permitting – New England) sits on the Board of Directors. E.J. Marohn (Marine Affairs Manager) is a member of the Advisory Council. Empire Wind contributed \$300,000 to the startup of ROSA with a commitment for an additional \$50,000;
  - Empire Wind and its affiliates are committed to continue participating in the development of the RWSC as it matures, where Jennifer Dupont (Head of Technical Environmental Affairs) has served on the Steering Committee for the past three years; multiple technical members sit on each of the subcommittees (marine mammals, sea turtles, birds and bats, etc.) Empire Wind contributes \$20,000/year in membership fees to RWSC;
  - Equinor Wind is a former member of the RODA Task Force;
  - Equinor Wind holds a board position on the Atlantic Marine Conservation Society board; and
  - 

Empire Wind, contingent upon a winning bid under this OREC RFP, is committed to supporting regional monitoring of wildlife and key commercial fish stocks equivalent to the specified value

of \$10,000 per MW of offer capacity. Half of this will support regional monitoring of key commercial fish stocks to better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks; and the other half will support regional monitoring of wildlife to better understand how offshore wind energy development effects distribution and abundance of sensitive species. Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA, per signed contracts, to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

#### 8.1.5. Site Design Considerations

*As offshore wind energy technology advances, Proposers are able to consider various alternatives for elements of the proposed site design and related infrastructure. The Proposer must describe how it will consider the potential adverse impacts of infrastructure design elements (e.g., turbine spacing and layout, turbine foundation type, cable burial and protection methods, offshore substation design, and cable crossing designs) on fishing in the proposed Project area.*

*The Proposer must demonstrate that the Project area and proposed site design allows for reasonable flexibility in the site layout (e.g. orientation of turbine lines, distance between turbines, and navigation areas) to accommodate changes that may be needed in the future. The Proposal must outline how the Proposer will engage with stakeholder groups such as the F-TWG and other regional fishermen and shipping and navigation to determine Project layouts that address stakeholder concerns.*

*The Proposer must identify in their site design the use of benthic habitat enhancement techniques that are applicable to promote added beneficial ecological improvement while offsetting adverse impacts.*

Fisheries data and consultation feedback from the fishing industry and maritime community has resulted in different layout approaches for the U.S. offshore wind portfolio. Empire Wind believes that layout of infrastructure design elements depends on the specific lease location and many factors that may be unique to a given project area. Empire Wind has engaged in active dialogue with local fishermen through regular engagement with RODA. As part of these efforts, Empire Wind has held numerous workshops to discuss the potential interactions between the commercial fishing industry and the offshore wind industry and has incorporated insights and input into the design of the layout. The layout has been influenced by various considerations related to the preservation of fisheries resources, commercial fishing, and navigational safety. For instance, as a result of the engagement with RODA, Empire Wind has opened up the wind turbine generator (“WTG”) layout in the western portion of the lease area to minimize potential impacts to the squid fishery in the area while also ensuring efficient use of the lease area.

Empire Wind has conducted a Navigation Safety Risk Assessment of the Empire Wind Lease area. As a result, Empire Wind incorporated several mitigation planning factors in the layout design to ensure the safe navigation and shipping in and around the lease area. In order to not interfere

with the Traffic Separation Scheme (“TSS”) operations, Empire Wind has instituted a 1 nm setback from the TSS within the licensed area. In addition, the periphery WTG positions maintain straight line edges with the TSS lanes.

In consultation with the USCG, Empire Wind has maintained a single line of north-south orientation to facilitate Search and Rescue (“SAR”) access to and through the lease area. In addition, the proposed EW1 offshore substation was relocated to align with those SAR lanes.

Empire Wind will use a cable burial risk assessment to determine sufficient burial depth for the inter-array cable layout and along the export cable routes. To further reduce the risk of anchors and fishing gear snagging the submarine export cables, the export cable route has been selected targeting areas where chances of burial are improved and to avoid areas of high fishing activity. Where target burial depth cannot be reached, secondary protection shall be considered. The secondary protection will be of a design that will enable over-trawlability of fishing equipment.

#### 8.1.6. Construction and Operation

*The Proposer must describe its planned operational protocol to avoid, minimize, and mitigate impacts to fish, invertebrates and fisheries during Project construction and operation phases, such as vessel transit routes, designation and monitoring of safety zones, gear monitoring and retrieval, and communication with fishing vessels and resource managers. The Proposer must also describe its process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore fisheries in an alternative location or when the provision of compensation of some form may be appropriate.*

*The Proposer must describe how they will minimize potential loss of fishing gear due to snags on turbine structures, associated cables or cable mattresses, or related structures installed or deployed as a result of offshore wind energy development, and how the Proposer will approach claims of lost gear in the event of a snag that provides for a fair and timely review of the claim and appropriate compensation of impacted parties.*

Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farm. To the extent they are necessary, potential construction strategies, such as rolling construction with safety zones, could be used in consultation with the appropriate regulators, F-TWG, and the fishing community to minimize the overall area of temporarily closed areas. Scout vessels will be used to identify fixed gear in advance of project-specific activities, project-related vessels will use prescribed transit routes, and safety vessels will be placed around high-risk structures.

During the construction and operations phase, the FLO will communicate with fisheries concerning temporary construction closures through in-person communications, email services, flyers, websites, and LNMs. Vessels associated with the project will comply with international and flag state regulations including the Convention on the International Regulations for Preventing Collisions at Sea, 1972 and the Safety of Life at Sea, and will utilize existing TSSs, maintained channels, and transit lanes to the extent practicable. Empire Wind will complete a Cable

Installation Plan detailing how cable installation will be managed to ensure disruption is minimized. All submarine export cables, inter-array cables, wind turbines, and offshore substation locations will be provided to NOAA for inclusion on nautical charts. To the extent practicable and in consultation with the fishing industry, these features will be marked on the most common types of software used by fishermen for navigation and fishing. Following installation of the export and inter-array cables, Empire Wind will conduct cable burial surveys at appropriate intervals to assess if target burial depth is being maintained, and Empire Wind will share information on identified navigational risks as appropriate. The use of concrete mattresses as surface cable protection will be limited, to the extent practicable.

Empire Wind has consulted with regulatory authorities and fisheries stakeholders to advance our approach to Gear Loss Prevention and Claim Procedure. The developed gear claims/conflicts application has been developed in collaboration with other regional offshore wind developers to support consistency in reporting and does not dictate that the claim review procedure will be identical among developers.

#### 8.1.7. Considerations for Subsea Cables

*New York State has developed an Offshore Wind Cable Corridor Constraints Assessment (Assessment) to better understand the constraints of siting cables in New York State waters, at landfall, and along overland routes to existing points of interconnection. The potential fish and fisheries impact of activities associated with subsea cable routes should be identified.*

As documented in the Article VII Joint Proposal contained in the December PSC Order, the proposed routing, installation techniques, and operations of the EW1 cables in New York State have been evaluated by the state agencies in the context of the cable siting principles developed as part of the NYSERDA Offshore Wind Cable Corridor Constraints Assessment (NYSERDA 2023). As described herein and detailed in the Article VII Certificate Conditions: the proposed cable route avoids direct impacts to known in-water and onshore sensitive resources; certain unavoidable impacts to sensitive resources may occur, but these have been minimized to the extent practicable:

- Empire Wind will employ methods to minimize the lateral separation distance between the EW1 submarine export cables in accordance with Certificate Condition Y12(d);
- The Project has been sited in a manner that may enable future linear infrastructure projects to apply parallel routing and the two (2) HVAC cables will each remain bundled for their entire length in State waters;
- Where active and potential out-of-service cable and pipeline are encountered crossings will be perpendicularly to the extent practicable to minimize the impacts associated;
- Unavoidable impacts to anchorage areas and navigation channels have been minimized to the extent practicable;

- Once onshore, the underground cables will be installed within existing rights-of-way (“ROWS”) infrastructure, to the extent practicable and will use trenchless crossing methods; and
- Impacts to environmental justice area and disadvantaged communities have been minimized to the extent practicable with the predominantly submarine cable routing that avoids disruptions to onshore communities combined with a range of minimization and mitigation measures addressing construction, noise, lighting, and visual impacts among others.

In addition, as outlined in the Empire Wind Fishery and Benthic Monitoring Plan, Empire Wind is currently conducting pre-construction baseline monitoring through the use of 10 acoustic telemetry receivers along the EW1 export cable route (federal and state waters). These receivers will monitor the movements, presence, and persistence of several commercially and recreationally important species (*e.g.*, black sea bass, summer flounder, winter flounder, tautog) as well as the federally endangered Atlantic sturgeon. Pre-construction benthic SPI/PV and sediment sampling was conducted in August and September 2023 along the EW1 (State Water) export cable route, SPI/PV in federal waters will be conducted prior to cable installation as well as post-construction to study and monitor habitat impacts.

#### 8.1.8. Project Decommissioning

*The Proposer must describe how it will develop a decommissioning plan, including coordination with fisheries stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage. Proposals demonstrating thoughtful consideration of the full life cycle of offshore wind energy Projects will be considered favorably.*

Empire Wind will be required to develop a decommissioning plan for EW1, subject to review and approval under BOEM’s regulations in 30 C.F.R. Part 585. The decommissioning plan may require additional environmental review and analysis under the National Environmental Policy Act (“NEPA”). For Lease OCS-A 0512, Empire Wind has provided a conceptual decommissioning plan in its COP. In addition, under state Article VII requirements, Empire Wind is required to prepare a Decommissioning Plan to be included in the Environmental Management & Construction Plan (“EM&CP”) for each segment. These decommissioning plans will undergo public and agency review as part of the EM&CP review and approval process. Empire Wind also pre-submitted the draft decommissioning plans for initial review to the NYSDPS Staff, NYSDEC, NYSOGS, Long Island Commercial Fishing Association, NYSDOS New York City Department of Environmental Protection, New York City Department of Transportation, and New York City Small Business Services. At this time, Empire Wind has submitted Decommissioning Plans for Part 1 (onshore below grade work) and Part 2 (submarine cable and landfall work) EM&CPs.

Empire Wind will consult regulators and fisheries stakeholders to study the potential impacts of decommissioning. At this early stage, it is not possible to accurately predict impacts and appropriate mitigation for decommissioning; however, decommissioning impacts are not expected to exceed impacts from construction. Potential impacts and mitigation options will

become clearer post-construction and during operations, facilitated by marine habitat monitoring.

The process for development of a decommissioning plan will be discussed further with E-TWG and F-TWG and relevant regulators and stakeholders. Lessons learned from the construction and operations activities will be applied to the decommissioning plan at the appropriate time. Empire Wind will consult with the fishing industry on the Empire Wind decommissioning plans at the appropriate time, closer to the decommissioning activities.

#### 8.1.9. Fisheries Compensation Plan

*The Proposer must describe how it will determine instances where all reasonable attempts to avoid and minimize Project impacts, or restoration to predevelopment conditions are not feasible and some type of fisheries compensation plan for potential losses and or increased costs associated with offshore wind development is warranted. The Proposer must describe how a fisheries compensation plan was, or will be developed; how the Proposer will coordinate with the F-TWG and other entities in the design or review of the fisheries compensation plan, and; how the compensation plan will be administered by an non-governmental third-party to provide reasonable and equitable. compensation for impacts that cannot be sufficiently addressed through other means.*



In addition to avoidance, minimization, and mitigation measures otherwise specified in NYSDOS decision letters for the Project, Empire Wind has agreed to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishermen for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Project.

Since June 2021, NYSERDA has been working on a multi-state compensatory mitigation initiative that includes the States of New Jersey, New York, Massachusetts, Connecticut, Rhode Island, New Hampshire, Maine, Delaware, Maryland, Virginia, and North Carolina and has solicited comments from the states on a framework for a Regional Fisheries Compensatory Mitigation Fund. The states, in turn, have encouraged and assisted BOEM in developing a standardized fisheries mitigation guidance that will encourage developers to compensate fishermen who incur

damages from unavoidable impacts of offshore wind projects as a mitigation measure for their projects. Notably, BOEM's Guidance on this is near final.

Empire Wind supports these regional efforts and will continue to participate and cooperate fully with BOEM, NYSERDA, and the 11 coastal states initiative. In contributing to the Compensatory Mitigation Fund, Empire Wind has agreed to utilize and contribute to the Regional Fund outlined above for fisheries mitigation claims once it is established. If the Fund fails to be established, Empire agrees to utilize and contribute to a compensatory mitigation fund acceptable to NYSDOS, through which impacted New York State fishermen are eligible to submit compensation claims to offset demonstrated impacts from the Projects.

#### 8.1.10. Additional Considerations

*The Proposer must outline any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on the fishing community. Proposers are encouraged to review the Bureau of Ocean Energy Management (BOEM) Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 Code of Federal Regulations (CFR) Part 585. (Available at <https://www.boem.gov/Social-and-Economic-Conditions%20-Fishery-Communication-Guidelines/>) and Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf Report on Best Management Practices and Mitigation Measures. A final report for the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewal Energy Programs, Herndon, VA. OCS Study BOEM (available at <https://www.boem.gov/OCS-Study-BOEM-2014-654/>) in the development of their Plan.*

Empire Wind is committed to working with F-TWG, regulators, and the fishing community to identify if fisheries data gaps still exist, identify if there are potential data sources and/or studies that can better inform these gaps or impacts, and reach consensus on methodologies for conducting meaningful studies.

Section 8.1

Fisheries Mitigation Plan

Attachment 8.A

Fisheries Mitigation Plan



**Fisheries Mitigation Plan**  
**for**  
**Empire Wind 1 Project**  
*Version 2.0*

**Prepared Pursuant to**  
**[contract number, date (TBD)]**

**for**

**New York State Energy Research and Development Authority**

Albany, NY

**Prepared by**

**Empire Offshore Wind LLC**

600 Washington Blvd  
Stamford, CT 06901



**January 2024**



<i>Communication Officers, Contact Information, Links</i>		
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## **Link to Project information:**

**Project website:** [www.empirewind.com](http://www.empirewind.com)

## Table of Contents

1	Fisheries Mitigation Plan Summary .....	1
1.1	Overall philosophy and principles.....	1
1.2	Overall approach to incorporating data and stakeholder feedback .....	1
1.3	Existing guidance and best practices that will be followed.....	2
2	Communications and Collaboration Approach.....	4
2.1	Overview and communication plan objectives.....	4
2.2	Communication officers/positions, responsibilities, and contact information.....	4
2.3	Identification of fishing industry stakeholders .....	5
2.4	Participation in stakeholder and technical working groups.....	6
2.4.1	Communication with F-TWG.....	6
2.4.2	Communication with other New York State agencies.....	7
2.4.3	Communication with other stakeholder and working groups.....	7
2.4.4	Communication and collaboration with other developers .....	8
2.5	Communication methods and tools .....	9
2.5.1	Methods by phase .....	9
2.5.2	Communication with vessels .....	9
3	Monitoring and Research Pre-, During, and Post-Construction.....	10
3.1	Identification of scope of monitoring activities/studies .....	10
3.2	Baseline data and characterization approach.....	10
3.2.1	Existing literature and data of benthic and fisheries resources .....	10
3.2.2	Data collected of benthic and fisheries resources .....	11
3.2.3	Existing literature and data of the fishing industry .....	11
3.2.4	Data collected by the Developer or the fishing industry.....	12
3.3	Monitor for potential impacts during each phase .....	12
3.4	Assess and quantify changes to fishery resources .....	14
3.5	Assess potential changes to commercial and recreational fishing activities.....	15
3.5.1	Current and historical usage .....	15
3.5.2	Changes in usage .....	15
3.6	Addressing data gaps.....	16
3.7	Data availability .....	16
4	Supporting Other Research .....	18
4.1	Support of collaborative research .....	18
4.2	Handling/processing requests .....	19
4.3	Proposed restrictions .....	19
4.4	Financial commitment for third party research.....	19
4.5	Proposed or existing commitments/collaborations.....	20
5	Proposed Mitigation of Impacts to Benthic/Fisheries Resources .....	21
5.1	Potential impacts/risks and mitigation measures by project stage .....	21
5.2	Coordination with F-TWG and other stakeholders .....	23
6	Proposed Mitigation of Impacts to the Recreational and Commercial Fishing Industry .....	24

6.1	Potential impacts/risks and mitigation measures by project stage .....	24
6.1.1	General approach to avoiding and mitigating fishing gear loss .....	30
6.1.2	Processing claims for lost fishing gear .....	31
6.2	Coordination with F-TWG and other stakeholders .....	31
7	Considerations for Subsea Cables .....	32
7.1	Mitigation strategies for subsea and overland cables .....	32
8	Project Decommissioning .....	34
8.1	Potential impacts based on available information and experience .....	34
8.2	Approach for developing plan and coordination with stakeholders.....	34
9	Fisheries Compensation Plan .....	35
9.1	Consideration of compensation plan.....	35
9.2	Approach to developing compensation plan .....	35
9.2.1	Coordination with stakeholders.....	35
9.2.2	Third-party administration.....	36
10	Additional Considerations .....	36
10.1	Additional mitigation strategies and FMP refinement.....	36
10.2	Process for updating the FMP .....	36

## List of Tables

Table 2-1	Communication Officers, Contact Information, Links .....	4
Table 2-2	Proposed Outreach Methods and Tools .....	9
Table 5-1	Potential Impacts to Benthic/Fishery Resources and Proposed Mitigation Measures.....	21
Table 6-1	Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures .....	24

## Acronyms and Abbreviations

Acronym	Definition
AIS	Automatic Identification System
Advisory Council	Advisory Council for RODA
BOEM	Bureau of Ocean Energy Management
CBRA	Cable Burial Risk Assessment
CFR	Code of Federal Regulations
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
COP	Construction and Operations Plan
EMF	electromagnetic fields
Empire Wind	Empire Offshore Wind LLC
E-TWG	New York State Environmental Technical Working Group
FIR	Fishing Industry Representative
ft	feet
FCP	Fisheries Communications Plan
FLO	Fisheries Liaison Officer
FLOWW	Fishing Liaison with Offshore Wind and Wet Renewables Group
FMP	Fisheries Mitigation Plan
F-TWG	New York State Fisheries Technical Working Group
HDD	horizontal directional drilling
IHA	Incidental Harassment Authorization
LNM	Local Notice to Mariners
m	meters
NEFMC	New England Fisheries Management Council
NMFS	NOAA's National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
Normandeau	Normandeau Associates
NOS	NOAA National Centers for Coastal Ocean Science
NYSDEC	New York State Department of Environmental Conservation
NYSERDA	New York State Energy Research and Development Authority
OFLR	Offshore Fishery Liaison Officer
O&M	Operations and maintenance
OSRP	Oil Spill Response Plan
Project	Empire Wind 1
PVI	Plan View Imaging
QA/QC	quality assurance and quality control
RODA	Responsible Offshore Development Alliance
ROSA	Responsible Offshore Science Alliance
SAP	Site Assessment Plan
SPI	Sediment Profile Imaging
USCG	United States Coast Guard
USFWS	U.S. Fish and Wildlife Service

# **1 Fisheries Mitigation Plan Summary**

## **1.1 Overall philosophy and principles**

*This section should describe the overall philosophy and principles the developer will follow to avoid, minimize, restore, and off-set potential fisheries impacts.*

- Empire Offshore Wind LLC's ("Empire Wind") approach and philosophy to project development is premised on the belief that the fishing industry and offshore wind energy developments can share ocean resources. Empire Wind believes that that impacts to fisheries can be minimized by carefully evaluating existing uses of the lease area, avoiding impacts where feasible, or reducing impacts through mitigation.
- Empire Wind's approach to fisheries mitigation is founded upon the fisheries mitigation hierarchy. More specifically, this approach means that we anticipate and avoid impacts on fisheries resource and fishermen; minimize impacts where avoidance is not possible; and take steps to offset any significant residual adverse impacts that are predicted to remain.
- Empire Wind believes that Empire Wind 1 ("EW1" or the "Project") can be developed in a manner that minimizes disruption to the natural environment, natural resources, and existing uses of the Lease Area. Empire Wind believes that a successful coexistence strategy requires open and regular communication between the Empire Wind Project team and the fishing industry, starting with the development and survey phase, and continuing through permitting, construction, operation, and decommissioning of the wind farm.
- Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farm. To the extent that any restrictions are necessary, these may be limited to standard safety zones during the construction phase, and operational safety zones around manned or sensitive offshore platforms or access points.
- Empire Wind recognizes the importance of adaptive management and will continue to evolve its procedures for the evaluation and mitigation of fisheries resources.
  - For example, the Plan described herein is an update to the details submitted by Empire Wind 1 as part of ORECRFP18-1 that was reviewed and commented on by the New York State Energy Research and Development Authority ("NYSERDA"), and subsequently presented to the Fisheries Technical Working Group ("F-TWG") on November 20, 2019.

## **1.2 Overall approach to incorporating data and stakeholder feedback**

*This section should describe how the developer will use research, data, and stakeholder feedback to update the FMP and support decision-making throughout the life cycle of the project (pre-construction, surveys, site design, construction, operations, and decommissioning).*

- Mitigation measures will be identified and developed with relevant fisheries stakeholders through an iterative process of project design, including site selection, cable routing, timing of works, and consideration of construction and operations methods.
- Empire Wind has already taken the following steps to minimize potential impacts:

- Modifying survey schedules and locations in survey planning, and in real-time by adaptive management of survey locations to avoid areas with active and/or seasonal fishing;
  - Early spatial planning incorporating data and feedback, and real-time adaptive management during survey data acquisition, to avoid high use, high value, and high sensitivity fisheries areas in planning the export cable routes;
  - Establishing a fisheries communications and outreach strategy to effectively engage with and solicit input from a wide range of fishers and stakeholders in multiple regions; and
  - Applying data and fisheries feedback in early spatial planning for the Project, including setting “Layout Rules” for the wind farm layouts that aim to minimize impacts on fishing and facilitate continued safe access to traditional fishing grounds. Empire Wind will continue to seek consultation and coordinate with relevant stakeholders.
- Empire Wind will review existing research and data and seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle.
  - Empire Wind will review and seek input from stakeholders on proposed and conducted survey rationales and methodologies as well as design, construction and operation, and decommissioning plans for the Project.
  - Pre- and post-construction monitoring shall and has been designed to improve the understanding of the impacts of offshore wind energy development and operations on fisheries.

### **1.3 Existing guidance and best practices that will be followed**

*This section should present a list of existing guidance documents, publications, tools, and/or plans that will be followed to support the FMP. Include links, if available, for all references.*

- Empire Offshore Wind Fisheries Communications Plan (“FCP”) which provides an overview of Empire Wind’s overall approach to offshore wind development and consideration of fisheries resources; the principles of which have been adopted for the Empire Wind. The FCP can be found on the Project website at [www.empirewind.com](http://www.empirewind.com).
- To achieve the objective of co-existence and cooperation, the Empire Wind Projects have been and will continue to follow industry best practices, including, but not limited to:
  - Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf, Bureau of Ocean Energy Management (BOEM) 2014-654;
  - Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison - Fishing Liaison with Offshore Wind and Wet Renewables Group (“FLOWW”), UK;
  - Fishing and Submarine Cables Working Together – published by the International Cable Protection Committee;
  - BOEM 2015 – Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 Code of Federal Regulations (“CFR”) Part 585;

- BOEM 2013 – Guidelines for Providing Information on Fisheries for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585;
  - BOEM n.d.(a) – Previously Identified Offshore Wind Development Concerns;
  - BOEM n.d.(b) – Possible Best Management Practices and Mitigation Measures to Reduce Conflicts between Fishing and Wind Industries;
  - Hooker 2014 – Bureau of Ocean Energy Management Fishing and Offshore Energy - Best Management Practices;
  - McCann 2012 – Developing Environmental Protocols and Modelling Tools to Support Ocean Renewable Energy and Stewardship;
  - Ecology and Environment 2014 – Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf: Report on Best Management Practices and Mitigation Measures;
  - Virginia Coastal Zone Management Program 2015 – Collaborative Fisheries Planning for Virginia’s Offshore Wind Energy Area;
  - Lipsky et al. 2016 – Addressing Interactions between Fisheries and Offshore Wind Development: The Block Island Wind Farm;
  - Moura et al. 2015 – Options for Cooperation between Commercial Fishing and Offshore Wind Energy Industries: A Review of Relevant Tools and Best Practices;
  - Gray et al. 2016 – Changes to fishing practices around the UK as a result of the development of offshore windfarms – Phase 1;
  - Petruny-Parker et al. 2015 – Identifying Information Needs and Approaches for Assessing Potential Impacts of Offshore Wind Farm Development on Fisheries Resources in the Northeast Region;
  - Mid-Atlantic Fishery Management Council 2014 – Offshore Wind Best Management Practices Workshop;
  - New York States Offshore Wind Master Plan: Fish & Fisheries Study, Section 6 and Appendix D (2017); and
  - Anticipated best practice guidance tools that may be developed through initiatives such as F-TWG, Environmental Technical Working Group (“E-TWG”), Responsible Offshore Development Alliance (“RODA”) Task Force, and other groups.
- Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf (Benthic Guidelines; BOEM 2013a)
  - Experience gained from collaborating with the fishing industry in Equinor’s offshore wind energy developments in Europe.
  - The application of lessons learned from the US as the offshore wind industry develops.

## 2 Communications and Collaboration Approach

### 2.1 Overview and communication plan objectives

*This section should provide an overview of the communication plan and objectives and its importance in fisheries mitigation.*

- Transparency is a core value and cornerstone of the Empire Wind Project’s approach to fisheries liaison and communications. Regular, open consultation is key to ensuring that all parties are well informed of offshore activities and Project updates, and to provide meaningful input in design and mitigation options.
- Empire Wind understands that effective, clear, and inclusive communication is required to ensure as many affected stakeholders as possible can be reached.
- Empire Wind intends that its fisheries outreach will be as inclusive as possible. This includes engagement with fisheries stakeholders through Fishing Industry Representatives (“FIR”) and/or groups such as F-TWG and RODA, as well as engaging with organizations or individual fishers not represented in these groups.
- Empire Wind will seek methods and processes to allow for a two-way flow of information between key stakeholders and developers, highlighting how feedback informs their decision making.
- Empire Wind will provide updates to the fishing industry stakeholders in an appropriate manner that is easily accessed and widely distributed.

Further information on out stakeholder engagement with the fisheries community can be found in the Stakeholder Engagement Plan.

### 2.2 Communication officers/positions, responsibilities, and contact information

*This section will provide a list of communication officers, their role, and name and contact information. The list should provide stakeholders with an understanding of who should be called for a particular issue or question. It should also include links to the project website so readers know where to find additional information.*

*Table 2-1 Communication Officers, Contact Information, Links*

<b>Name/Title</b>	<b>Role/Responsibilities</b>	<b>Contact Information</b>
Elizabeth Marchetti; Fisheries Liaison Officer Empire Wind	<ul style="list-style-type: none"> <li>• Primary contact with Empire Wind Management Team on fisheries matters</li> <li>• Representative on New York F-TWG, Massachusetts Fisheries Working Group, and other working groups</li> <li>• Point of contact between Project and fishing fleets</li> <li>• Maintain database of fisheries interactions</li> <li>• Arrange meetings and disseminate Project information</li> <li>• Consult with FIRs (see below)</li> <li>• Monitor fishing activity during surveys and for assessments</li> <li>• Attendance at Fisheries Council meetings</li> </ul>	+1 401 954 2902 emarc@equinor.com

*Table 2-1 Communication Officers, Contact Information, Links*

Name/Title	Role/Responsibilities	Contact Information
	<ul style="list-style-type: none"> <li>• Fisheries data collection and supporting on impact assessments and identification of appropriate mitigation</li> <li>• Provision of Offshore Fishery Liaison Officers (“OFLRs”) and scout vessels during surveys and construction activities.</li> </ul>	
Fishing Industry Representatives (“FIRs”)	<ul style="list-style-type: none"> <li>• Essential contacts within fishing community to represent/relay views of majority of fishermen</li> <li>• Main point of contact for Fisheries Liaison Officer (“FLO”)</li> <li>• Identify individuals/groups to provide feedback on specific topics</li> <li>• Assist in distribution of information such as project updates and developments, meeting notices, offshore installation/construction schedules</li> </ul>	As above
Offshore Fisheries Liaison Officer (“OFLR”), representing Empire Wind	<ul style="list-style-type: none"> <li>• Present onboard vessels working on behalf of Empire Wind, for example survey and construction vessels</li> <li>• Maintain daily contact with and keep records of fishing vessels</li> <li>• Keep masters and watch officers informed of fishing vessels or fishing gear in the area</li> <li>• Outreach to fishing vessels</li> <li>• Ad-hoc assistance to wind farm-related vessel officers to support co-existence, including ensuring the principles of the Fisheries Mitigation Plan (“FMP”) are adhered to offshore</li> </ul>	<p>Contact details for contacting OFLRs vessel to vessel at sea will be distributed via email notification on Survey Updates</p> <p>Empire Wind FLOs will be the primary point of contact for inquiries related to survey activity (see above).</p>
EJ Marohn Marine Affairs Manager, Empire Wind	<ul style="list-style-type: none"> <li>• Supports project with fisheries management, maritime law rescue and port state control issues and will serve as a primary point of contact between the Project and the maritime transportation sector.</li> <li>• Supports FL with fisheries issues and engagements.</li> </ul>	+1 781 579 9978 ejma@equinor.com
Stephen Drew; Project Fisheries Liaison Officer, Sea Risk Solutions LLC	<ul style="list-style-type: none"> <li>• Point of contact between Project and fishing fleets</li> <li>• Arrange meetings and disseminate information</li> <li>• Consult with FIRs (see below)</li> <li>• Support development of procedures to address lost/damaged fishing gear claims as appropriate</li> </ul>	+1 908 339 7439 sdrew@searisksolutions.com

**2.3 Identification of fishing industry stakeholders**

*This section should describe the process by which stakeholders relevant to fisheries and the fishing industry will be identified and classified by stakeholder group.*

- Effective consultation is essential for sharing information and soliciting feedback. Effective consultation is facilitated with the establishment of a comprehensive contact database for local and regional fisheries associations, societies, groups, individual fishermen, and the various industry organizations. This database is maintained and regularly updated by the FLO in conjunction with Empire Wind’s key Project team members.

- Members of the commercial and recreational fishing communities are identified through various channels and include, but are not limited to:
  - Contacting fishing industry leaders known through the combined FLOs, Marine Affairs Manager, and industry experience;
  - Contacting fishing industry association leaders;
  - Attending Fishery Management Council meetings;
  - Attending meetings related to offshore wind and fisheries interactions;
  - Manning stands/booths at commercial and recreational fishing forums;
  - Recommendations from state and federal fisheries staff;
  - Fisheries Management Council Advisory Panel lists;
  - Public comments and documents;
  - Word of mouth from the fishing community;
  - Automatic Identification System (“AIS”) monitoring including ship identification;
  - Fishing vessels identified offshore during surveys by the OFLR;
  - National Oceanic and Atmospheric Administration’s (“NOAA”) National Marine Fisheries Service (“NMFS”) permit holder lists;
  - Dock/Port visits; and
  - Fisheries contacts information referenced in NYSERDA’s New York State Offshore Wind Master Plan Fish and Fisheries Study (NSERDA 2017; Appendix J).

## **2.4 Participation in stakeholder and technical working groups**

### **2.4.1 Communication with F-TWG**

*This should describe the communication and collaboration approach with members of the F-TWG and consultations.*

- Empire Wind has and will continue to dedicate Project-specific technical resources to the F-TWG.
- Empire Wind has routinely worked with and will continue to attend future F-TWG meetings and sponsored conferences.
- Empire Wind will continue to participate in the F-TWG, represented by the Marine Affairs Manager and the FLO (see contacts in Table 2-1).
- Empire Wind will continue to present all aspects of the Empire Wind FMP to the F-TWG during dedicated workshops at appropriate timing intervals to ensure the goals of the FMP are met and the FMP is evolved to reflect feedback. For example, Empire Wind provided FMP updates to the F-TWG on September 20, 2022 and December 1, 2022 which was instrumental in providing feedback and input to the development of the Empire Wind Fishery and Benthic Monitoring Plan.

- In addition to working with the F-TWG, Empire Wind will proactively engage with the fishing industry not represented on F-TWG. This may be via industry groups such as RODA, other FIRs, or with individual fishing organizations or fishers.

#### **2.4.2 Communication with other New York State agencies**

*This should describe communication with New York State agencies during each phase of the project.*

Empire Wind is committed to continuing consultation with New York state agencies throughout the Empire Wind Project development process. This includes:

- The Article VII Certificate included a Joint Proposal that was signed by several New York State agencies, including New York State Department of Public Service (“NYS DPS”), New York State Department of Environmental Conservation (“NYS DEC”), New York Department of State (“NYS DOS”), and New York State Department of Agriculture and Markets following extensive settlement negotiations with these agencies occurring approximately every two weeks spanning more than a year.
- The Joint Proposal signatory state agencies have also been, and will continue to be, reviewers of the Article VII Environmental Management & Construction Plan (“EM&CP”) submissions, including receiving pre-submittal drafts of the several plans and providing comments on both the draft and formal submissions. In addition, EW1 has been in frequent consultation with NYS DEC on the development of a Net Conservation Benefit Plan for Atlantic and shortnose sturgeon for inclusion in EM&CP Part 2.
- Consultation on matters including the Empire Wind Project development updates and schedules, benthic and fisheries resources, fisheries outreach and coexistence.
- Site Assessment Plan (“SAP”), approved on November 21, 2018, included consultation with NYS DEC.
- Consultation on the Construction and Operations Plan (“COP”), including provision of the COP for review and feedback at the time of submission to BOEM. The state agencies include:
  - NYSDOS;
  - NYS DEC;
  - New York State Office of Parks, Recreation and Historic Preservation;
  - NYSDPS;
  - New York Office of General Services; and
  - NYSERDA.
- During construction and operation, the Article VII Certificate Conditions and the EM&CP include the need for ongoing communication and consultation with NYSDPS, NYS DEC, and NYSDOS, including direct communication with Environmental Monitors.

#### **2.4.3 Communication with other stakeholder and working groups**

*This should describe any relevant participation with other stakeholder groups, such as international fisheries groups that would help inform the FMP.*

- Empire Wind is participating on international fisheries groups, including the UK’s FLOWW.

- Empire Wind is participating in the E-TWG.
- Empire Wind is participating on the F-TWG
- Empire Wind is a founding member of the RODA joint industry task force.
- Empire Wind is a founding board member of the Responsible Offshore Science Alliance (“ROSA”) and participates as a member of the ROSA Advisory Council.
- Empire Wind has/is hosting webinars for fisheries open houses.
- Empire Wind’s Fisheries Liaison Officer has served as a member of the New England Fisheries Management Council (“NEFMC”) Habitat Advisory Panel.
- Empire Wind will continue to engage with federal agencies, including:
  - BOEM as the lead agency to ensure a smooth permitting process and soliciting feedback on baseline data requirements;
  - NMFS in relation to development of survey plans, baseline characterization data (for example, benthic and fisheries data sources), and providing feedback on Empire Wind’s data collection efforts, strategic advice on threatened and endangered species, Incidental Harassment Authorizations (“IHAs”) for geophysical surveys, and the potential future requirements for IHAs in relation to construction activities.
  - U.S. Fish and Wildlife Service (“USFWS”);
  - U.S. Environmental Protection Agency;
  - U.S. Coast Guard (“USCG”) and U.S. Army Corps of Engineers; and
  - National Park Service
- Empire Wind will continue to engage with the public and fishing communities, which includes open houses and public hearings to address comments and questions. Empire Wind’s fisheries team has been conducting contact events with fishermen since 2018.

#### **2.4.4 Communication and collaboration with other developers**

*This should describe any relevant participation and collaboration with other developers in the offshore space, with a focus on communication and collaboration with adjacent leaseholders. This may include but is not limited to shared research efforts, coordination of survey methods, or standardization of navigational and safety protocols.*

- Empire Wind will continue to seek collaborative efforts with other developers particularly those in adjacent lease areas taking on similar initiatives such as fisheries research and monitoring, dissemination of project developments, electronic resources, certifications and trainings.

Other collaborating efforts include:

- Monthly Port Hours in New Bedford, MA, Point Judith MA, Montauk NY
- Informational Sessions at the New England Fishery Management Council meetings
- Collaboration with consistency with the Gear Claim and Application Process
- ACP NYB Fisheries Working Group
- NYSERDA F-TWG

- Coordination with scout/safety vessels and offshore fisheries liaison representatives
- Agreement to share PSO sightings in real time via the Mysticetus program
- Empire Wind continues to engage actively in the development of the RWSC integrated science plan and will coordinate research efforts through the RWSC to ensure that priority regional studies are addressed and that data/results are made available for broad regional application/use.

**2.5 Communication methods and tools**

**2.5.1 Methods by phase**

*This section should describe the communication and outreach methods and tools that will be employed for each stakeholder group during each phase of the project.*

<b>Proposed Outreach Methods/Tools</b>	<b>Phase*</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Contact with FIRs	X	X	X	X
Contact with fisheries associations	X	X	X	X
Directly from the FLO to individual fishermen not represented by an FIR, but identified on the FLO’s database	X	X	X	X
USCG Notice to Mariners	X	X	X	X
Electronic email distribution to commercial fishing permit holders (NOAA or state agencies)	X	X	X	X
Empire Wind’s website- “Fisheries” page	X	X	X	X
Offshore Wind-Fisheries-specific websites for disseminating information, for example F-TWG	X	X	X	X
Local harbor masters	X	X	X	X
State Fisheries mailing lists	X	X	X	X
3D Simulation Tool demonstrations (provides perspective on turbine layouts, spacing, which facilitates discussions on ability to fish and transit between turbines)	X	X		
Survey flyers / Notification Flyers (includes information related to surveys, construction or maintenance schedules and activities, contact information and requests for feedback)	X	X	X	X
Fisheries specific newsletters (includes project overview, schedules, meetings; requests for information; contact information and other information)	X	X	X	X
Presentations or networking at fishing conferences and exhibitions	X	X	X	X
Notices in fishing news publications	X	X	X	X
<i>*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission</i>				

**2.5.2 Communication with vessels**

*This section should describe communication methods/tools with vessels actively fishing in areas in or adjacent to the Project area during site assessment and construction activities and facilitate proper notification to vessels and resource managers.*

- Notification of upcoming site assessment and/or construction activities via various sources, including Survey Flyers, Local Notices to Mariners (“LNMs”), email notifications, details on Project-specific webpages, and relevant fisheries web pages.
- To avoid fisheries conflicts, to the greatest extent practicable Empire Wind shall seek to employ a fisherman (“OFLR”) or other experienced FIR to be onboard vessels during key time/activities where potential conflicts could be greatest.

- The OFLR will be responsible for monitoring the presence of fishing vessels and/or fishing gear in or around locations of site assessments and/or construction activity.
- The OFLR will also be responsible for communications with vessels at sea and for relaying information back to the FLO.
- The FLO will be responsible for engaging with fisheries managers, fleet managers, FIRs, and individual fishermen prior to and during site assessment and/or construction activity.
- The FLO will monitor AIS in real-time to identify fishing activity (for those fishing vessels carrying AIS) in or around locations of sites assessment and/or construction activity.
- Where appropriate, Scout Vessels acting on behalf of Empire Wind will monitor for the presence of static fishing gear, relay the information to site assessment/construction vessels/OFLRs, and the FLO.

### **3 Monitoring and Research Pre-, During, and Post-Construction**

#### **3.1 Identification of scope of monitoring activities/studies**

*This section should provide an overview of the anticipated monitoring activities, including how the specific scope of monitoring activities will be identified and what types of scientific questions will be addressed.*

- Monitoring methods and scientific designs shall meet the highest scientific standards.
- To the greatest extent practicable, fisheries and related research will be performed onboard commercial and recreational fishing vessels. These vessels shall meet all appropriate regulatory safety and scientific standards prior to the beginning of any monitoring activity.
- Monitoring plans for the Empire Wind Project have been developed. Baseline data characterization and monitoring is ongoing and will be conducted in accordance with best practices, including BOEM guidance as well as consideration of recommendations for further research from groups such as F-TWG, E-TWG, RODA, and ROSA.

#### **3.2 Baseline data and characterization approach**

*This section should describe how baseline data will be established on the spatial and temporal presence of fish and invertebrates in the proposed area of the Project at multiple life history stages included egg, larval, juvenile, adult, and spawning stages, as well as associated fish and invertebrate habitats.*

##### **3.2.1 Existing literature and data of benthic and fisheries resources**

*Describe existing literature and datasets that are available for baseline characterization.*

- Public data sources suitable for characterizing benthic habitat and fisheries resources in the relevant area, including evaluation of NYSERDA's Master Plan Fish and Fisheries Study (2017; Appendix J).
- NOAA National Centers for Coastal Ocean Science and BOEM Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic (2019).
- Estuarine Living Marine Resource database (NOAA 2000) provide descriptions of spatial and temporal distributions of species (by life stage) in Hudson River/Raritan Bay and the Great South Bay; however, the database is not updated regularly.

- Use of fisheries effort data as a proxy for fish species (see 3.2.3).

### **3.2.2 Data collected of benthic and fisheries resources**

*This section should describe survey activities undertaken or that will be undertaken by the developer that will inform the baseline characterization of benthic and fisheries resources.*

- NOAA National Centers for Coastal Ocean Science (“NOS”) and BOEM Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic research/survey collected sediment grab samples at 400 locations in the lease area, as well as bathymetric data and opportunistic fisheries data.
  - Status: Complete
- Empire Wind commissioned benthic sampling by Gardline Environmental in 2018, covering the entire Lease Area and building on previous comprehensive benthic surveys carried out by NOAA’s NOS. These surveys were conducted at a total of 67 sample stations, and included grab samples, drop down digital video and stills imagery. Grab samples were analyzed for sediment grain size distribution and macro faunal analysis. This report has been made publicly available for download from the Empire Wind website.
  - Status: Complete
- Empire Wind commissioned benthic sampling by Inspire Environmental in 2019, covering proposed potential export cable routes for the Lease Area, including the proposed Gowanus export cable route for the Empire Wind 1 Project. Sampling included Sediment Profile Imaging (“SPI”) and Plan View Imaging (“PVI”) at 157 sample stations, with 15 reference stations and sediment grab samples for sediment grain size analysis and macrofaunal analysis for verification. This report has been made publicly available for download from the Empire Wind website.
  - Status: Complete
- Geophysical, benthic habitat (through geophysical interpretation), and geotechnical surveys were conducted from March 2018 to November 2018 across the entire Lease Area and export cable corridors, with additional geophysical and geotechnical surveys carried out in 2019 to fill in data gaps and cover areas from landfall to the 65-foot (“ft”) (20-meter (“m”)) depth contour.
  - Status: Complete
- With the site specific and existing benthic data, and the existing fisheries data, there is sufficient data for the purpose of the COP impact assessments, spatial planning, and/or mitigation.
- Empire Wind will consult with E-TWG, F-TWG, ROSA, and the fishing industry, including fisheries scientists and managers, on requirements for further surveys for targeted fisheries monitoring and research.

### **3.2.3 Existing literature and data of the fishing industry**

*This section should describe the existing literature and data that are available for baseline characterization of the commercial and recreational fishing industry.*

The key data sources referenced for the purpose of understanding the fisheries use baseline are summarized below and include, but are not limited, to the following:

- BOEM's 2017 Study entitled, Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fisheries in the U.S. Atlantic;
- New York State's Master Plan Fish and Fisheries Study (2017);
- State by State analyses of public, commercial fisheries statistics as published by the NOAA Office of Science and Technology;
- NOAA Fisheries Marine Recreational Information Program data on recreational fishing;
- Rhode Island Department of Environmental Management - Division of Marine Fisheries' paper entitled, Spatiotemporal and economic analysis of vessel monitoring system data within wind energy areas in the greater North Atlantic;
- The Mid-Atlantic Regional Ocean Council Data Portal;
- The BOEM & NOAA Marine Cadaster National Viewer for geospatial data; and
- The Northeast Regional Ocean Council's spatial data portal.
- A full description of the data sources to inform the baseline will be presented in the Lease OCS-A 0512 COP, which includes the Empire Wind Project.

#### **3.2.4 Data collected by the Developer or the fishing industry**

*This section should describe data collected, or will be collected, to support baseline characterization.*

- Using long term purchased AIS datasets, real-time AIS data, and collecting AIS in the field with AIS receivers on Empire Wind survey vessels (noting not all fishing vessels carry AIS).
- Providing nautical charts to recreational and commercial fishermen and asking them to mark fished areas and hang ups. Charts included Long Range Navigation to help aid positioning.
- Requesting navigation plotter/logger data of tows, which have been provided by a number of trawlers and used for planning purposes.
- General discussions with fishermen.
- Using fisheries resource baseline and in particular commercial species, as a proxy to areas that are or may be fished.
- Using Vessel Monitoring System data.
- Visual and radar observations in the field, conducted by the OFLR since March 2018, including those fishing vessels not carrying AIS.
- Observations from the Empire Wind digital aerial avian surveys, where vessel images were an opportunistic data point.

#### **3.3 Monitor for potential impacts during each phase**

*This section should describe how potential impacts will be monitored on these types of life history stages during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.*

- As part of its Article VII commitments, Empire Wind has prepared the following plans related to marine and fisheries resources, as contained in the EM&CP:
  - Navigation Safety Plan (Appendix L EM&CP Part 2)
  - Offshore Spill Prevention, Control, and Countermeasures Plan (Appendix M EM&CP Part 2)
  - Offshore Hazardous Waste and Petroleum Work Plan (Appendix N EM&CP Part 2)
  - Suspended Sediment and Water Quality Monitoring Plan (Appendix R EM&CP Part 2)
  - Dredge Management Plan (Appendix W EM&CP Part 2)
  - Atlantic and Shortnose Sturgeon Avoidance, Monitoring, and Impact Minimization Plan (Appendix X EM&CP Part 2)
  - Mariner Notification and Public Input Process (Appendix AA EM&CP Part 2)
  - Fisheries and Benthic Monitoring Plan (Appendix BB EM&CP Part 2)
  - Fisheries Management Plan (Appendix CC EM&CP Part 2)
  - AC Magnetic Field Study Plan (Appendix DD EM&CP Part 2)
  - Operations and Maintenance Plan (Appendix EE EM&CP Part 2)
  - Net Conservation Benefit Plan (Appendix FF EM&CP Part 2)
- Empire Wind acknowledges that ongoing research and monitoring at the Project site and wider regional scale is important to refine the understanding of impacts, potential mitigation options, and for future planning purposes, including facilitating the responsible leasing and development of future offshore wind energy areas within the New York Bight.
- Empire Wind acknowledges that ongoing research and monitoring at the lease area and wider regional scale is important to refine the understanding of impacts, potential mitigation options, and for future planning purposes, including facilitating the responsible leasing and development of future offshore wind energy areas within the Northeast and Mid-Atlantic Ocean.
- Empire Wind understands that from the outset, any research and monitoring to assess changes and impacts should be statistically robust. However, for some biological monitoring, this level of robustness to adequately detect change as a direct result of an offshore wind farm is not always possible as many outside factors can influence these variations with much greater significance than the factors that can be attributed to causes from offshore wind energy developments (*e.g.*, seawater temperature, nutrient levels, etc.).
- As such, Empire Wind is open to monitoring and exploring other approaches to detect and quantify change, where further monitoring is appropriate, for example, behavioral responses or changes in temporal or spatial distribution of biological resources or fishing practices as a direct result of the offshore wind energy development. Empire Wind will work with the regulatory agencies, F-TWG, and relevant stakeholders to identify research and monitoring needs and agree on methodology.
- Empire Wind proposes to conduct studies consistent with identified needs and priorities in collaboration with other developers and stakeholders, such as regulatory agencies, fishers, F-TWG, and other fisheries groups or initiatives (*i.e.*, ROSA and the RODA Task Force).

- Potential studies should be tested for statistical power prior to initiating.
- Empire Wind is in favor of developing and supporting research initiatives aimed at improving opportunities for continued and enhanced access for recreational and commercial fishing in the operational offshore wind energy developments. For example, Empire Wind is supportive of research aimed at innovative technical approaches to issues such as turbine spacing, impacts on navigation equipment, trawling equipment, safety equipment, training and/or information dissemination options.
- Ideally, specific questions and focal taxa will be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
- Outside expertise has been and will, if practicable, be consulted during study design and data analysis processes.
- Empire Wind is committed to exploring appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources or fishing practices as a direct result of the offshore wind energy development.
- Monitoring and research should ideally be targeted towards interactions between offshore wind energy developments and the receptors it is being judged against.
- Monitoring has used and will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.

### **3.4 Assess and quantify changes to fishery resources**

*This section should describe how changes to fisheries resources will be quantified using statistically sound methods*

- Since June 2023, Empire Wind has commenced fishery and benthic preconstruction monitoring of the Empire Wind lease area and proposed export cable routes. The monitoring plan (insert reference or link here) outlines the sampling procedures, methodology, and data analysis and management that seeks to measure abundance and species composition from pre-construction to construction to operation.
- The development of the monitoring plan and its methodology also used the guidance outlined in previous versions of the Empire Wind Fishery Mitigation Plan which are repeated here:
  - Ideally, specific questions and focal taxa have and shall be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
  - Monitoring has used and will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.

Outside expertise has been and will, if practicable, be consulted during study design and data analysis processes. Additionally:

Detecting change in biological resources such as fisheries resources as a direct result of an offshore wind development can be challenging, as the fisheries resource may be subject to natural fluctuations in abundance and spatial and temporal distribution due to outside factors, for example oceanographic conditions. As such, any proposals for monitoring should be statistically robust and Empire Wind advocates for technical experts to conduct statistical power analyses up front in the planning process before implementing future studies.

Empire Wind will collaborate with F-TWG and E-TWG and seek input from stakeholders on monitoring requirements and methods.

Empire Wind supports collaborative research and monitoring opportunities.

- Empire Wind is committed to exploring appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources as a direct result of the offshore wind energy development.
- Empire Wind is willing to explore collaborative fisheries research and monitoring initiatives, such as ROSA.

### **3.5 Assess potential changes to commercial and recreational fishing activities**

#### **3.5.1 Current and historical usage**

*This section should describe how the proposed Project area is used by commercial and recreational fisheries in the region, including current and historic usage as well as how associated transit routes will be determined.*

- Current and historical use of the Empire Wind Project Area by commercial and recreational fisheries has and will continue to be determined by the means described in section 2.3.

#### **3.5.2 Changes in usage**

*This section should describe how changes in commercial and recreational fishing patterns will be calculated postconstruction using statistically sound methods.*

- Monitoring changes in pre- and post-construction fishing effort due to the presence of an offshore wind energy development can be challenging. Many factors dictate fishing effort within a given area on a seasonal and year by year basis which make statistically detecting “change” difficult. For example, fishing effort may be influenced by factors independent of an offshore wind farm such as quota, presence of a mobile species, market prices, fuel prices, and fisheries closures. As such, due to the complexities and the need to design a methodology that has both industry and fisheries support, Empire Wind proposes that, if required, such studies be discussed as part of the F-TWG.
- Empire Wind has consulted and will consult on potential monitoring and research with the fishing industry.

- Empire Wind is committed to exploring alternative monitoring protocols, such as behavioral responses or changes in spatial and temporal distribution of biological resources or fishing practices.
- For NYS waters, Empire Wind has established a Fisheries Studies Working Group (“FSWG”) for input on pre- and post-construction fisheries studies designed to understand the pre-construction marine fish and invertebrate condition and identify any potential post-construction impacts. The Fisheries Studies will collect data on seasonal composition, abundance, migration patterns, and/or seasonality of fish stocks common to the area of submarine export cable route. Studies may focus on bait fish (e.g., Atlantic menhaden, sand lance, bay anchovy, Atlantic and blueback herring, alewife, mullet, and longfin squid), and certain other key species (e.g., winter flounder, striped bass, dogfish, skates, fluke, Atlantic cod, black sea bass and tautog. Studies specifically targeting Atlantic sturgeon may be conducted if deemed appropriate by the FSWG).
- No more than six (6) months after the completion of two (2) years of post-construction Fisheries Studies data collection, a report analyzing the Fisheries Studies data (“Fisheries Studies Report”) will be compiled by the SMEs, in consultation with the FSWG members. The FSWG shall meet to review the results of the Fisheries Studies Report and discuss potential mitigation measures. The Certificate Holder shall consider any mitigation measures proposed by the FSWG.
- If impacts are present, Empire Wind will consider several options, including:
  - exploring whether further mitigation can be applied to reduce impacts (e.g., improved access through technical solutions to fishing practices and/or navigation equipment);
  - using adaptive management by applying mitigation in the spatial planning and layouts of later phases of the Lease development; and
  - sharing the results so that they can be used in adaptive management on a wider scale, for development of future lease areas in the Northeast and Mid-Atlantic Ocean and wider offshore wind energy space.

### **3.6 Addressing data gaps**

*This section should describe how data gaps will be addressed.*

- Empire Wind works with stakeholders, including regulatory agencies, to identify data gaps to be addressed through surveys or permitting applications.
- Empire Wind is committed to working with F-TWG, regulators, and the fishing community to establish if fisheries data gaps exist, the potential data sources and/or studies that can better inform these gaps or impacts, and to agree on methodologies for conducting meaningful studies.

### **3.7 Data availability**

*This section should describe how fisheries data will be made available in accordance with Section 2.2.5 of the RFP.*

- Empire Wind will make non-proprietary environmental and fisheries data publicly available in a format and manner best suited for efficient distribution.

- The following studies and reports are available to the public as part of the COP on BOEM's website<sup>1</sup>:
  - Benthic Resources Characterization Reports
  - Essential Fish Habitat Assessment
  - Offshore Electric and Magnetic Field Assessment
  - Onshore Electric and Magnetic Field Assessment
  - Underwater Acoustic Assessment
  - Sediment Transport Analysis
  - USFWS Information for Planning and Consultation Report and NYSDEC Natural Heritage Response Letters
  - Conceptual Project Design Drawings
  - Oil Spill Response Plan
  - Coastal Zone Management Consistency Statements
  - Summary of Agency and Stakeholder Engagement
- Empire Wind's benthic survey reports are provided as part of the COP Appendix T, which is publicly available on BOEM's website<sup>2</sup>. This includes:
  - 2018 benthic survey report covering the SAP-related survey locations within Lease Area (benthic grab samples with grain size and macro fauna analysis, drop down video stills, habitat description). This report is also currently available on the Empire Wind webpage;
  - 2018 benthic survey report covering COP-related survey locations within Lease Area totaling 67 sample locations (benthic grab samples with grain size and macro fauna analysis, drop down video stills, habitat description);
  - 2019 benthic survey report covering COP-related survey locations within the proposed export cable corridors (SPI and PVI), benthic grab samples with grain size and macro fauna analysis, drop down video stills, habitat description);
  - 2020 benthic survey report covering COP-related survey locations within the proposed export cable corridors;
  - 2020 benthic survey report covering COP-related survey locations associated with the EW 2 Landfall;
  - 2020/2021 benthic survey report covering COP-related survey locations associated with the EW 2 export cable corridor.
- Additional data available to the public includes:
  - 2017 to 2018 digital aerial survey images, monthly, quarterly, and annual reports of avian species, marine mammals, sea turtles and data of large bony fish assemblages as observed from the monthly digital aerial surveys carried out from November 2017 to October 2018. These data and reports are all currently available on Normandeau

<sup>1</sup> <https://www.boem.gov/renewable-energy/state-activities/empire-wind-construction-and-operations-plan>

<sup>2</sup> [EOW COP Appendix T Benthic Resource Characterization Reports \(boem.gov\)](#)

Associates' ("Normandeau") Remote Marine and Onshore Technology ("ReMOTe") webpage;<sup>3</sup>

- 2018 to 2019 digital aerial survey images, monthly and quarterly reports of large bony fish assemblages as observed from the monthly digital aerial surveys carried out from November 2018 to October 2019; and
- Oceanographic data not deemed proprietary (*i.e.*, seawater temperature and salinity) from the Metocean Facilities deployed within the Lease Area.
- Prior to any disclosure, data made available by Empire Wind will undergo final quality assurance/quality control ("QA/QC") checks to be performed by Empire Wind.
- Empire Wind is open to exploring additional outlets for sharing information (*e.g.*, the F- TWG webpage or other data portals), however, version control will be important.

## **4 Supporting Other Research**

### **4.1 Support of collaborative research**

*This section should describe how opportunities for developing or investing in collaborative research with the fishing industry to collect ecological and/or fishing data will be identified and undertaken. The description must account for the need to coordinate with members of the F-TWG during data gathering and assessment.*

- Empire Wind is committed to collaborate with the scientific community, F-TWG, relevant stakeholders, other offshore wind energy developers and third-party groups to conduct robust and relevant research studies that relate to fisheries and offshore wind energy developments. Studies may include fishing feasibility (by technique) within operational wind farms.
- Options for research can be discussed through the F-TWG or other fisheries related initiatives, such as ROSA and the fishing industry.
- Empire Wind is a board member of the ROSA and active member of the Advisory Council.
- Additionally, Empire Wind will:
  - Consider making existing wind farm related vessels, buoys, or structures available for research opportunities where this does not materially impact existing objectives of those resources. For example, Empire Wind will consider proposals for adding additional or third-party self-contained sensors on survey vessels, construction vessels, operations and maintenance ("O&M") vessels, wind farm structures, or wind farm related buoys and Metocean moorings.
  - Explore appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources as a direct result of the offshore wind energy development.
  - Consider requests to access existing Equinor's operating offshore wind energy developments in Europe.

<sup>3</sup> [https://remote.normandeau.com/ewind\\_overview.php](https://remote.normandeau.com/ewind_overview.php)

- Empire Wind advocates that technical experts conduct statistical power analyses up front in the planning process before implementing any future studies. In addition, F-TWG and/or E-TWG are appropriate forums in which to discuss the development of such analyses and should be part of this process.

#### **4.2 Handling/processing requests**

*This section should describe how requests for coordination with third-party supported scientists will be processed - including providing reasonably-requested Project data and access to the Project area for independent scientists examining environmental and fishery sensitivities and/or the impacts of offshore wind energy development on fish, invertebrates and fisheries for the purpose of publication in peer reviewed journals or other scientifically vigorous products.*

- Empire Wind will make an effort to meet with any interested parties when contacted to discuss prospective research.

#### **4.3 Proposed restrictions**

*This section should describe any restrictions on data provision or access that may be required to protect trade secrets or maintain site security.*

- Empire Wind shall seek to explain why identified data types are considered commercially sensitive.
- Additionally, Empire Wind will restrict access to commercially sensitive data (e.g., wind resource data and operational availability estimates, geological information, etc.).

#### **4.4 Financial commitment for third party research**

*This section should provide a level of financial commitment, if elected, that will be appropriated to leverage third-party environmental research funding related to fish, invertebrates and fisheries, including federal or State-supported research. Or, if elected, provide the level of commitment to a general fund for supporting third-party research into relevant fish and invertebrate communities and associated commercial and recreational fisheries and the effects of offshore wind energy development. These financial commitments are outside those identified in Section 2.2.7 of the RFP and beyond those identified to fulfill state and federal regulatory permitting requirements.*

- Empire Wind will support regional monitoring of wildlife and key commercial fish stocks equivalent to the specified value of \$10,000 per MWh offer capacity. Half of this will support regional monitoring of key commercial fish stocks to better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks; and the other half will support regional monitoring of wildlife to better understand how offshore wind energy development effects distribution and abundance of sensitive species. These monitoring efforts may be committed via regional monitoring organizations (e.g., ROSA, Regional Wildlife Science Collaborative (“RWSC”) or similar) or independently by Empire Wind. Additional studies and financial commitments are as follows:
- Empire Wind will commit to facilitating and/or conducting at least one research study into improving coexistence, for example studies that consider understanding and/or improving fishing access to operating offshore wind farms, and at least one study related to fisheries resources in relation to offshore wind farm development.

- Empire Wind will commit to a budget of \$250,000 over a 3-year period for fisheries coexistence research and \$250,000 over a 3-year period for fisheries resource research.
- Empire Wind will support regional monitoring of wildlife and key commercial fish stocks equivalent to the specified value of \$10,000 per megawatt. Half of this will support regional monitoring of key commercial fish stocks to better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks; and the other half will support regional monitoring of wildlife to better understand how offshore wind energy development effects distribution and abundance of sensitive species. These monitoring efforts may be committed via regional monitoring organizations (*e.g.*, ROSA, Regional Wildlife Science Entity, or similar) or independently by Empire Wind.
- Empire Wind is committed to continue participating in ROSA, where Scott Lundin (Head of Environment and Permitting) sits on the Board of Directors.
- Empire Wind is committed to continue participating in the Massachusetts Fisheries and Habitat Working Groups.
- Empire Wind's FL has served as a member of the NEFMC's Habitat Committee Advisory Panel. The Council's Habitat Committee is actively engaged in the development of offshore wind in the Northeast region, participating in various groups seeking to mitigate the effects of offshore wind on marine species and fisheries and helping to facilitate coordinated regional science and monitoring.
- Empire Wind has established the Empire Wind Fisheries Study Working Group to support with active monitoring in state waters along the export cable route. (This working group is in response to AVII requirements and of the Certificate of Environmental Compatibility and Public Need).

#### **4.5 Proposed or existing commitments/collaborations**

*This section should describe proposed or existing commitments and collaborations with third-party researchers in support of monitoring activities and assessing impacts.*

- Empire Wind has collaborated with Statue University of New York Stony Brook to attach four fish tag receiver gates to the Empire Wind 1 and 2 Metocean Facilities. The receiver gates, used primarily for detecting Atlantic sturgeon but also capable of detecting other tagged species, were part of a previously BOEM-funded study. Empire Wind has been coordinating with Stony Brook on opportunities to download and service the sensors during scheduled service for the sensors approximately every 6 months. Empire intends to explore continuing this collaboration.
- Empire Wind is collaborating with the Wildlife Conservation Society and Woods Hole Oceanographic Institute on real-time large whale detection and notification buoys in a minimum 3-year monitoring program. This includes an exhibit at the New York Aquarium concerning the program.
- Empire Wind has and will continue to contribute to ROSA.
- Empire Wind is a founding member of the RODA Task Force.

- Empire Wind is working with Inspire Environmental on the Empire Wind Fisheries and Benthic Monitoring Surveys and began conducting these surveys in which commenced in 2023. The Plan can be found online.<sup>4</sup>

## 5 Proposed Mitigation of Impacts to Benthic/Fisheries Resources

### 5.1 Potential impacts/risks and mitigation measures by project stage

The table below should list the potential impacts and risks to benthic/fisheries resources and proposed mitigation measures. To this end, a description of how the potential adverse impacts of infrastructure design elements (e.g., turbine spacing and layout, turbine foundation type, cable burial and protection methods, and cable crossing designs) on fishing in the proposed Project area will be considered in mitigating impacts should be included. The mitigation measures should also demonstrate that the Project area and proposed site design allows for reasonable flexibility in the site layout (e.g. orientation of turbine lines, distance between turbines, and navigation areas) to accommodate changes that may be needed in the future. The section should also describe the planned operational protocol to avoid, minimize, and mitigate impacts to fish, invertebrates and fisheries during Project construction and operation phases, such as vessel transit routes, designation and monitoring of safety zones, gear monitoring and retrieval, and communication with fishing vessels and resource managers.

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
Physical disturbance and habitat loss, including sensitive habitats	<ul style="list-style-type: none"> <li>• Avoid, to the extent possible, siting structures (e.g., offshore wind turbine foundations) in areas of sensitive benthic habitat.</li> <li>• Include NMFS in survey plan review in coordination with BOEM to address potential impacts to threatened or endangered species.</li> <li>• Avoid, to the extent possible, sensitive benthic habitats through the planning of routing export cable corridors.</li> <li>• Bury wind farm electrical cables to sufficient depth to minimize surface protection requirements that modify the existing conditions.</li> <li>• Apply real time measures to avoid intrusive sampling of sensitive habitats, using drop down cameras.</li> <li>• Appropriate and reasonable use of foundation scour protection where needed as identified in modelling.</li> <li>• Calculate extent of potential habitat loss as part of COP assessments and share results with F-TWG and other working groups</li> </ul>	X	X	X	X
Underwater noise	<ul style="list-style-type: none"> <li>• A “soft start” will be applied at the startup of piling during pile driving.</li> <li>• Use of noise reducing technologies during pile driving in accordance with noise mitigation procedures provided to BOEM and NMFS.</li> </ul>	X	X		
Increased suspended sediment concentration and deposition	<ul style="list-style-type: none"> <li>• Apply best management practices and timing during cable installation and decommissioning (if removal required) to minimize sediment suspension and dispersal during sensitive periods (e.g., certain spawning events).</li> <li>• Sediment transport modeling was completed to quantify sediment concentrations and affected areas for COP assessments, which has been shared with F-TWG.</li> </ul>		X	X	X

<sup>4</sup> <https://www.empirewind.com/environment-and-sustainability/mariners-and-fisheries/>

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<ul style="list-style-type: none"> <li>Use of scour protection around wind turbine foundations as appropriate to reduce sediment resuspension.</li> </ul>				
Exposure to accidental spills, pollution or trash from Project-related vessels and structures	<ul style="list-style-type: none"> <li>Apply best practices for vessel operations.</li> <li>Implement an Oil Spill Response Plan (“OSRP”).</li> </ul>	X	X	X	X
Potential exposure to Electromagnetic Fields (EMF)	<ul style="list-style-type: none"> <li>Cables will be armored.</li> <li>Cables will be buried to sufficient depths (for a variety of reasons), to the extent possible.</li> <li>If sufficient burial is not feasible, potential for further barriers through surface cable protection.</li> <li>EMF modeling and assessments were conducted.</li> <li>Post construction surveys will be conducted at an appropriate interval during operations to monitor for exposed cables.</li> </ul>			X	
Water Quality	<ul style="list-style-type: none"> <li>Export cable routing will, to the extent possible, avoid existing and historic dumping grounds to avoid resuspension of materials during construction.</li> </ul>		X		X
Micro-siting conflicts with habitats and fishery resources	<ul style="list-style-type: none"> <li>Empire Wind will seek input from regulatory authorities, the fishing industry, and maritime industry to locate foundations and cable routes in the least impactful manner that is practicable.</li> <li>Empire Wind will avoid, to the extent possible, siting structures (wind turbines, offshore substations, and submarine cables) in areas of sensitive habitat, where feasible.</li> <li>Empire Wind will consider the timing of construction activities, working with the fishing industry and fisheries agencies on sensitive spawning and fishing periods to actively avoid or reduce interaction with receptors, where feasible, and apply agency-required time of year restrictions for activities such as pile driving.</li> <li>Micro-siting of the export cable route to further reduce potential impacts on sensitive habitats and minimize areas where burial is more challenging.</li> </ul>	X			
Temporary, alteration of the seabed and localized increases in noise and turbidity	<ul style="list-style-type: none"> <li>Most construction vessels will maintain position using dynamic positioning, limiting the use of anchors and jack-up features, where feasible. Any anchors or jack-up features associated with turbine installation would be placed within the previously cleared and/or disturbed area around the foundations.</li> <li>Empire Wind will consider the use of appropriate measures and timing during cable installation activities to minimize sediment resuspension and dispersal in areas of known historically contaminated sediments.</li> <li>Empire Wind will seek to use commercially available and technically feasible noise reducing technologies, in accordance with associated authorizations.</li> </ul>	X	X	X	X
Long-term changes to seabed and habitat	<ul style="list-style-type: none"> <li>Empire Wind will, to the extent possible, avoid sensitive benthic habitats.</li> <li>Empire Wind will implement mitigation and avoidance measures to protect water quality, such as spill prevention. Specifically, Empire</li> </ul>	X	X	X	X

*Table 5-1 Potential Impacts to Benthic/Fishery Resources and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<p>Wind will use appropriate measures for vessel operation and implementing an OSRP, which includes measures to prevent, detect, and contain accidental release of oil and other hazardous materials. Project personnel will be trained in accordance with relevant laws, regulations, and Project policies, as described in the OSRP.</p> <ul style="list-style-type: none"> <li>• During construction and maintenance, Empire Wind will implement an agency-reviewed OSRP.</li> <li>• During construction, operations, and maintenance, Empire Wind will utilize sensitive lighting schemes to minimize exposure of light, as available.</li> <li>• Most construction vessels will maintain position using dynamic positioning, limiting the use of anchors and jack-up features, where feasible. Any anchors or jack-up features would be placed within the previously cleared and/or disturbed area around the foundations.</li> <li>• Empire Wind would implement appropriate measures during HDD activities to minimize potential release of HDD fluid. To minimize an inadvertent fluid return, an Inadvertent Returns Plan would be developed and implemented for HDDs.</li> </ul>				
EMF Impacts	<ul style="list-style-type: none"> <li>• Empire Wind will use proper shielding to reduce EMF impacts.</li> <li>• Empire Wind has conducted EMF modeling and assessments.</li> <li>• Electrical cables shall be sufficiently buried where feasible to reduce EMF effect.</li> </ul>		X	X	
Cable burial	<ul style="list-style-type: none"> <li>• Empire Wind shall bury export cables to an appropriate minimal depth to reduce exposure risk. If depth cannot be reached, Empire Wind will add protective materials over the cable.</li> </ul>		X	X	
Turbine Scour Protection	<ul style="list-style-type: none"> <li>• Empire Wind will minimize the footprint of scour protection measures at the WTG and OSS foundations and conduct periodic inspections of scour protection performance.</li> </ul>			X	
Additional proposed mitigations	<ul style="list-style-type: none"> <li>• Empire Wind will develop a monitoring program to address specific questions, identify key species of interest, and when possible, contribute to the understanding of long-term Project-specific impacts and large-scale efforts to understand cumulative impacts.</li> </ul>	X	X	X	X

*\*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission*

**5.2 Coordination with F-TWG and other stakeholders**

*This section should describe how the developer will engage with stakeholder groups such as the F-TWG and other regional fishermen that address stakeholder concerns related to benthic and fisheries resources. Specifically, describe the key types of information and design decisions where feedback will be solicited from stakeholders.*

- Empire Wind shall coordinate with the F-TWG stakeholders to address concerns and mitigate impacts to benthic/fisheries resources.
- Upon request the developer shall provide a detailed, step by step breakdown of the process used to create the Project layout.

- Empire Wind has and will continue to engage in discussion on the following topics with F-TWG, E-TWG, regulators and other stakeholder groups as appropriate to solicit feedback on studies and designs:
  - Spatial planning of export cable routing;
  - Sediment transport modeling;
  - EMF modeling and assessment;
  - Project Design Envelope;
  - Project Layouts; and
  - Benthic and fisheries resource data collected and assessed as part of the COP submission.

## 6 Proposed Mitigation of Impacts to the Recreational and Commercial Fishing Industry

### 6.1 Potential impacts/risks and mitigation measures by project stage

The table below should list the potential impacts and risks to recreational and commercial fisheries and proposed mitigation measures. To this end, this section should describe how the potential adverse impacts of infrastructure design elements (e.g., turbine spacing and layout, turbine foundation type, cable burial and protection methods, and cable crossing designs) on fishing in the proposed Project area will be considered in mitigating impacts. The mitigation measures should also demonstrate that the Project area and proposed site design allows for reasonable flexibility in the site layout (e.g. orientation of turbine lines, distance between turbines, and navigation areas) to accommodate changes that may be needed in the future. The section should also describe the planned operational protocol to avoid, minimize, and mitigate impacts to fisheries during Project construction and operation phases, such as vessel transit routes, designation and monitoring of safety zones, gear monitoring and retrieval, and communication with fishing vessels and resource managers.

<i>Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures</i>					
Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
Impacts to commercial fish species	<ul style="list-style-type: none"> <li>• See section 5.1</li> </ul>	X	X	X	X
Temporary displacement/loss of access to traditional fishing grounds during survey activities	<ul style="list-style-type: none"> <li>• Empire Wind is actively avoiding areas being fished during survey activities.</li> <li>• Pre-survey consultation with fishing industry to determine upcoming spatial and temporal use, which is avoided by survey vessels where feasible.</li> <li>• Planning of export cables routes that avoid heavily fished areas, for example static gear, prior to surveying.</li> <li>• Timing of offshore surveys to avoid seasonal fishing where feasible.</li> <li>• Dissemination of information related to offshore survey activities, with contact details for further information.</li> </ul>	X	X	X	X

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<ul style="list-style-type: none"> <li>• Real-time adaptive management and monitoring of fishing activity using OFLRs, real-time AIS and consultation with the fishing community to modify survey areas of coverage as appropriate.</li> <li>• Engagement with recreational fishermen in the field by the OFLR.</li> </ul>				
Temporary displacement/loss of access to traditional fishing grounds during construction phase	<ul style="list-style-type: none"> <li>• To the extent possible and reasonable, actively avoiding areas being fished during construction activities through pre-planning the timing and location of activities.</li> <li>• Dissemination of construction scheduling information as early as possible with fishers.</li> <li>• Use of real-time fisheries monitoring and adaptive management of construction timing and location, to the extent possible.</li> <li>• Potential for use of construction practices such as rolling construction safety zones in consultation with the appropriate regulators, F-TWG and fishing community, to minimize overall area of temporary closed areas.</li> </ul>		X		
Displacement/loss of access to traditional fishing grounds during operations phase activities	<ul style="list-style-type: none"> <li>• Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farm. To the extent that any restrictions are necessary, these may be limited to standard safety zones during the construction phase, and operational safety zones around manned or sensitive offshore platforms or access points.</li> <li>• Sufficient burial of inter-array and export cables to facilitate continued seabed penetrating fishing activity.</li> <li>• Thoughtful spatial planning and Project design, including the application of "Layout Rules" to ensure transparency of future layouts, with flexibility to modify layouts following consultation. Layout Rules to be finalized and consulted on with F-TWG, regulators and with wider fishing industry, and as part of development of the Navigation Safety Risk Assessment. The Layout Rules have been designed to facilitate continued access to fishing grounds, with orientation of turbine rows, alignments and spacing that are sympathetic to existing practices, based on data and feedback.</li> </ul>			X	
Navigational safety concerns and loss of fishing gear from construction activities and the presence of structures and cables and subsequent decommissioning	<ul style="list-style-type: none"> <li>• Potential use of rolling construction safety zones.</li> <li>• Dissemination of information to fishers on wind turbine and cable locations.</li> <li>• Provision of wind turbine locations for inclusion on navigational charts.</li> <li>• Intention to bury inter-array and export cables where feasible and based on Cable Burial Risk Assessment.</li> </ul>		X	X	X

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<ul style="list-style-type: none"> <li>• Periodical post installation cable surveys as appropriate, with sharing of information on identified navigational risks as appropriate.</li> </ul>				
Navigational safety concerns due to increased Project-related vessel traffic	<ul style="list-style-type: none"> <li>• Dissemination of information of planned construction vessel activities, timing, location, routes, vessel details, etc.</li> <li>• Notification to fishing community of any unscheduled O&amp;M activities.</li> <li>• Communications plan with emergency contacts and procedures.</li> <li>• Prescribed transit routes for offshore wind energy development construction and support vessels between ports and the offshore site.</li> <li>• Project-related construction and support vessels to follow best practice guidance, including Convention on the International Regulations for Preventing Collisions at Sea ("COLREGS").</li> <li>• Project-related vessels to be made aware of final FMP and mitigation measures.</li> <li>• Where appropriate and feasible, an OFLR on at least one Project-related construction and support vessel in the field during construction to aid communications.</li> <li>• FLO for contact by fishermen during construction, operations and decommissioning activities.</li> <li>• Real-time monitoring of fishing vessel activity to apply adaptive management to Project-related vessel movements.</li> </ul>		X	X	X
Fishing gear loss	<ul style="list-style-type: none"> <li>• Empire Wind will seek consultation with regulatory authorities and fisheries stakeholders for the development and use of a Gear Loss Prevention and Claim Procedure.</li> <li>• Use scout vessels to identify fixed gear in advance of Project-specific activities.</li> <li>• Continue implementation of a FMP throughout the construction process to alert local fishing industries to relevant construction activities through the use of in-person communications, social media, website communications, and LNMs.</li> <li>• Undertake cable route planning to avoid areas of high fishing activity.</li> <li>• Where feasible, plan the location and timing of construction activities to minimize overlap with areas or times of high activity.</li> <li>• Continue active engagement with the fishing industry on the timing and location of construction so that they can, where possible, elect to fish in other areas and plan accordingly.</li> </ul>	X	X	X	X

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<ul style="list-style-type: none"> <li>• Continue to use offshore OFLRs to facilitate communications with the fishing community.</li> <li>• Continue communications between FLO and fisheries on the areas of temporary construction closures, when they are re-opened, updates on schedules through email serves, flyers, websites.</li> <li>• Utilize a cable burial risk assessment (“CBRA”) to determine sufficient burial depth along the export cable route and, where target burial depth cannot be reached, secondary protection shall be considered.</li> <li>• Utilize a guard vessel to alert mariners to Safety Zones and/or active construction areas where appropriate.</li> <li>• In the event of maintenance within the offshore environment, alert the fishing industry to the occurrence of these activities. Communication methods will include the use of FLOs, social media, website communications, and LNM.</li> <li>• Utilize the Layout Rules to achieve wind farm layouts, wind turbine spacing, and lines of orientation within the array that facilitate continued access to traditional fishing grounds.</li> <li>• Bury export and interarray cables to a target burial depth of 6 ft (1.8 m) in order to minimize the risk of snagging.</li> <li>• Following installation of the export and interarray cables, conduct cable burial surveys at appropriate intervals to assess if target burial depth is being maintained.</li> <li>• To minimize risk of anchors and fishing gear snagging the submarine export cable, route the export cable route to target areas where chances of burial are improved.</li> <li>• Minimize the use of concrete mattresses as surface cable protection, to the extent practicable.</li> <li>• Provide all submarine export cable, interarray cable, wind turbine, and offshore substation locations to NOAA for updates to nautical charts.</li> <li>• To the extent practicable and in consultation with the fishing industry, mark turbine locations and cable routes on the most common types of software used by fishermen for navigation and fishing.</li> </ul>				
Navigation safety concerns	<ul style="list-style-type: none"> <li>• Empire Wind will seek consultation with appropriate regulators, F-TWG and fishing community, to minimize the overall area of temporary closed areas.</li> <li>• Highly visible marking and lighting of active construction sites.</li> <li>• Compliance by vessels associated with the Project with international and flag state regulations including the</li> </ul>	X	X		

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<p>COLREGs and the International Convention for the Safety of Life at Sea.</p> <ul style="list-style-type: none"> <li>• Utilization of existing Traffic Separation Schemes, maintained channels, and transit lanes by vessels associated with the Project to comply with existing uses and management of the surrounding waterway, to the extent practicable.</li> <li>• Marine coordination for vessels associated with the Project (<i>i.e.</i>, a central coordination hub from which all Project vessel movements will be managed, and third-party traffic will be monitored).</li> <li>• Minimum advisory safe passing distances for cable laying vessels (where feasible).</li> <li>• Monitoring of third-party vessel traffic by AIS.</li> <li>• The implementation of up to a 1,640-ft (500-m) dynamic safety zone around active construction sites (including partially installed wind turbines) pending agreement with USCG.</li> <li>• Implementation of the Layout Rules.</li> <li>• Regular updates, including the positions of installed and partially installed structures, to the local marine community through social media, the USCG LNM, and active engagement with Maritime Association of the Port of New York and New Jersey Harbor Safety, Navigation, and Operations Committee.</li> <li>• The potential use of buoys and/or support vessels to mark temporary working areas or potential hazards (<i>e.g.</i>, partially installed structures).</li> </ul>				
Displacement/loss of access to traditional fishing grounds during survey and construction activities	<ul style="list-style-type: none"> <li>• Empire Wind will coordinate with fishing stakeholders to determine spatial and temporal use.</li> <li>• Empire Wind will, to the extent practicable, avoid heavily fished areas.</li> <li>• Empire Wind is actively avoiding areas being fished during survey activities.</li> <li>• Pre-survey consultation with fishing industry to</li> <li>• determine upcoming spatial and temporal use, which is avoided by survey vessels where feasible.</li> <li>• Planning of export cables routes that avoid heavily fished areas, for example static gear, prior to surveying as practicable.</li> <li>• Timing of offshore surveys to avoid seasonal fishing where feasible.</li> <li>• Dissemination of information related to offshore survey activities, with contact details for further information.</li> <li>• Real-time adaptive management and monitoring of fishing activity, using OFLRs, real-time AIS, and</li> </ul>	X	X	X	X

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<p>consultation with the fishing community to modify survey areas of coverage as appropriate.</p> <ul style="list-style-type: none"> <li>• Engagement with recreational fishermen in the field by the OFLR.</li> <li>• To the extent possible and reasonable, actively avoiding areas being fished during construction activities through pre-planning the timing and location of activities.</li> <li>• Dissemination of construction scheduling information as early as possible with fishermen.</li> <li>• Use of real-time fisheries monitoring and adaptive management of construction timing and location, to the extent possible.</li> <li>• Potential for use of construction practices such as rolling construction safety zones in consultation with the appropriate regulators, F-TWG and fishing community, to minimize overall area of temporary closed areas.</li> </ul>				
EMF Impacts	<ul style="list-style-type: none"> <li>• Empire Wind will use proper shielding to reduce EMF impacts.</li> <li>• Empire Wind has conducted EMF modeling and assessments.</li> <li>• Electrical cables will be armored and sufficiently buried where feasible to reduce EMF effects.</li> <li>•</li> </ul>	X	X	X	X
Cable Burial	<ul style="list-style-type: none"> <li>• Empire Wind will bury export cables to an appropriate minimal depth to reduce risk. If depth cannot be reached, Empire Wind shall add protective materials over cable which allows fishing activity to occur.</li> <li>• Sufficient burial of inter-array and export cables to facilitate continued seabed penetrating fishing activity.</li> <li>• Dissemination of information to fishers on cable locations including inclusion on navigational charts.</li> <li>• Intention to bury inter-array and export cables based on Cable Burial Risk Assessment</li> <li>• Periodical post installation cable surveys as appropriate, with sharing of information on identified navigational risks as appropriate.</li> <li>• Completion of a Cable Installation Plan, detailing how cable installation will be managed.</li> </ul>	X	X	X	X
Impacts to Sensitive areas	<ul style="list-style-type: none"> <li>• Empire Wind will collaborate with state regulatory authorities and key stakeholders to collect data and avoid sensitive areas to the extent that is reasonably practicable.</li> <li>• Empire Wind will, to the extent possible, avoid sensitive benthic habitats.</li> <li>• Empire Wind will implement mitigation and avoidance measures to protect water quality, such as spill prevention. Specifically, Empire Wind will use</li> </ul>	X	X	X	

*Table 6-1 Potential Impacts and Risks to Recreation and Commercial Fishing and Proposed Mitigation Measures*

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	<p>appropriate measures for vessel operation and implementing an OSRP, which includes measures to prevent, detect, and contain accidental release of oil and other hazardous materials. Project personnel will be trained in accordance with relevant laws, regulations, and Project policies, as described in the OSRP.</p> <ul style="list-style-type: none"> <li>• During construction and maintenance, Empire Wind will implement an agency-reviewed OSRP.</li> <li>• During construction, operations, and maintenance, Empire Wind will utilize sensitive lighting schemes to minimize exposure of light, as available.</li> <li>• Most construction vessels will maintain position using dynamic positioning, limiting the use of anchors and jack-up features, where feasible. Any anchors or jack-up features would be placed within the previously cleared and/or disturbed area around the foundations.</li> </ul>				
Turbine Scour Protection	<ul style="list-style-type: none"> <li>• Empire Wind will seek collaboration with state and federal regulatory authorities and key stakeholders to assess the use of ecological enhancements for turbine scour protection to provide offsets from potential adverse impacts</li> </ul>	X	X	X	-

*\*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission*

**6.1.1 General approach to avoiding and mitigating fishing gear loss**

*This section should describe how potential loss of fishing gear due to snags on turbine structures, associated cables or cable mattresses, or related structures installed or deployed as a result of offshore wind energy development, will be minimized.*

- Empire Wind will endeavor to bury export cables to sufficient to minimize exposure risk. If the “appropriate depth” cannot be reached, the developer will add protective materials over the cable which to the extent practicable also allows for fishing to occur.
- Additionally, Mitigation measures include:
  - Use of scout vessels to identify fixed gear in advance of Project-specific activities;
  - Marking & lighting of partially built structures following Private Aids to Navigations;
  - Dissemination of charted locations of partially built and installed structures to the fishing community;
  - Provision of locations of partially built structures and installed structures in digital formats that can be uploaded to typical navigation equipment, for example navigation plotters;
  - USCG LNMs;
  - Provision of locations of partially built structures and installed structures for updating NOAA Nautical Charts, as well as USCG LNM at greater frequency (*i.e.*, weekly);

- Consultation with the fishing community with the potential to establish temporary safety exclusion zones around partially installed wind farm electrical cables;
- Provision of safety vessels around high-risk structures;
- Prescribed transit routes for Project-related vessels;
- Real-time monitoring and notifications to fishing vessels;
- Bury cables to depths below fishing gear penetration where feasible and making the position of cables available for the fishing community; Where burial is not feasible, use of cable protection where appropriate to findings of the CBRA and consultation; and
- Avoidance of use of concrete mattresses in areas of snagging risk, where feasible.

### **6.1.2 Processing claims for lost fishing gear**

*This section should describe how the developer will approach claims of lost gear in the event of a snag that provides for a fair and timely review and appeals of the claim and appropriate compensation of impacted parties.*

Per NYSERDA:

- Empire Wind shall work with F-TWG and fishing community to establish the appropriate procedures in advance of the start of construction activities. When practical, the procedures shall be standardized across projects, fisheries, gear types, and geographic regions.
- Additionally, Empire Wind will work with F-TWG and fishing community to establish the appropriate procedures in advance of the start of construction activities.

### **6.2 Coordination with F-TWG and other stakeholders**

*This section should describe how the developer will engage with stakeholder groups such as the F-TWG and other regional fishermen and shipping and navigation to determine Project layouts that address stakeholder concerns. Specifically, describe the key types of information and design decisions where feedback will be solicited from stakeholders. These financial commitments are outside those identified in Section 2.2.7 of the RFP and beyond those identified to fulfill state and federal regulatory permitting requirements.*

- Empire Wind will coordinate with the F-TWG (in accordance with Section 12.04 of the Purchase and Sale Agreement) and stakeholders to address concerns and mitigate impacts to the fishing industry.
- Empire Wind will engage with the F-TWG, regional fishermen, and other maritime stakeholders such as maritime experts, consultants, and marine safety committees to refine Project layouts that aim to minimize impacts on existing fishing practices and facilitate ongoing access to traditional fishing grounds.
- Empire Wind will work with fisherman and other stakeholders through the developer's dedicated fisheries staff to help address key concerns such as navigation, vessel access, and safety.
- Additionally,

- Fisheries data and consultation feedback from the fishing industry and maritime community has resulted in the Empire Wind 1 and 2 Projects establishing Layout Rules that aim to minimize impacts on existing fishing practices and facilitate ongoing access to traditional fishing grounds. The Layout Rules also consider existing and future maritime navigation trends and Search and Rescue capabilities.
- Empire Wind has and will continue to consult with the fishing industry on the Project's Layout Rules and indicative layouts via F-TWG, RODA and fishing organizations.
- Empire Wind presented the Project's Layout Rules and some indicative layouts to facilitate feedback in a "Layouts Brochure". Empire Wind distributed the layouts brochure directly to fisheries contacts and made the brochure publicly available on the Empire Wind webpage.<sup>5</sup>
- Feedback from the Layouts consultations has been used to develop a potential layout for Empire Wind

## **7 Considerations for Subsea Cables**

### **7.1 Mitigation strategies for subsea and overland cables**

*This section should describe any additional fish and fisheries mitigation strategies for proposed subsea cable routes that support the offshore wind project.*

- Proposed subsea and overland cable routes are described in the Empire Wind COP, the Article VII Certificate, and EM&CP Parts 1 and 2. These documents also contain the full list of reference materials and mitigation measures. Some of these are summarized below.
- Empire Wind onshore facilities have been sited in a manner that avoids natural habitat. Almost all of the onshore portions of the Project Area consist of impervious surfaces in a developed industrial urban environment that does not include any aquatic habitats. Offshore, the project will microsite to avoid sensitive benthic habitats and will submit a micro siting plan to BOEM and BSEE prior to seabed disturbing activities. Empire will also submit an anchoring plan, a boulder relocation plan, and a prelay grapnel run plan that will detail how the Empire will avoid or minimize impacts to sensitive benthic habitats.
- Empire Wind will adhere to time of year restrictions for Atlantic sturgeon and shortnose sturgeon, as detailed in Article VII Certificate Condition I2, including conducting no in-water seabed disturbing work between March 1 and June 30 and between October 1 to November 30, except as allowed in this condition.
- Empire Wind is developing a Net Conservation Benefit Plan for Atlantic and shortnose sturgeon, in consultation with NYSDEC, to establish avoidance, minimization, and mitigation measures for potential sturgeon take.
- Empire Wind has developed an Atlantic and Shortnose Sturgeon Avoidance, Monitoring, and Impact Minimization Plan for inclusion in EM&CP Part 2 that details the measures to be taken to avoid and minimize impacts to sturgeon during construction.

<sup>5</sup> <http://www.empirewind.com/fisheries>

- Empire Wind will not construct in waters less than 20 feet in depth between December 15 and May 31 in order to avoid winter flounder spawning and overwintering.
- Empire Wind will conduct an AC Magnetic Field Study during the first six months of operation to assess potential impacts to marine species.
- Empire Wind will conduct cable monitoring throughout the life of the project, as specified in the Cable Monitoring and Management Plan, and in the ROD, to ensure that any cable exposure is identified and repaired, and appropriate notice is given to mariners and fishermen.
- Empire Wind has established a Fisheries Studies Working Group (“FSWG”) for input on pre- and post-construction fisheries studies designed to understand the pre-construction marine fish and invertebrate condition and identify any potential post-construction impacts. The Fisheries Studies will collect data on seasonal composition, abundance, migration patterns, and/or seasonality of fish stocks common to the area of submarine export cable route. Studies may focus on bait fish (*e.g.*, Atlantic menhaden, sand lance, bay anchovy, Atlantic and blueback herring, alewife, mullet, and longfin squid), and certain other key species (*e.g.*, winter flounder, striped bass, dogfish, skates, fluke, Atlantic cod, black sea bass and tautog. Studies specifically targeting Atlantic sturgeon may be conducted if deemed appropriate by the FSWG).
- No more than six (6) months after the completion of two (2) years of post-construction Fisheries Studies data collection, a report analyzing the Fisheries Studies data (“Fisheries Studies Report”) will be compiled by the SMEs, in consultation with the FSWG members. The FSWG shall meet to review the results of the Fisheries Studies Report and discuss potential mitigation measures. The Certificate Holder shall consider any mitigation measures proposed by the FSWG.
- Empire Wind has prepared a Fisheries Compensation Plan as part of the Fisheries Management Plan in EM&CP Part 2. This plan contains an overview of the claim process from commercial fisheries gear losses during all phases of the project and a reimbursement process.
- Empire Wind is conducting fisheries and benthic monitoring according to the Empire Wind to assess fisheries and benthic habitat status in the Project area pre-, during, and post-construction.
- Empire Wind will monitor indirect impacts associated with charter and recreational fishing gear lost from expected increases in fishing around WTG foundations by annually surveying at least 10 of the WTGs located closest to shore in the Lease Area.
- Empire Wind maintains a fisheries gear loss claims procedure. The fisheries gear loss claims procedure is available to all fishermen impacted by Project activities or infrastructure.
- Empire Wind will establish a Navigation Enhancement Training Program for New York State commercial and for-hire fishermen in an amount equivalent of up to \$13,000 per commercial vessel or inspected charter/party vessel and up to \$8,000 per uninspected charter/party vessel.
- The project plans to avoid the use of boomers and sparkers in HRG surveys.
- Avoidance, minimization, and mitigation measures proposed to be implemented during conceptual decommissioning are expected to be similar to those experienced during construction and operations. A full decommissioning plan will be approved by BOEM prior to any decommissioning activities, and avoidance, minimization, and mitigation measures for decommissioning activities will be proposed at that time.

## **8 Project Decommissioning**

### **8.1 Potential impacts based on available information and experience**

*This section should describe potential impacts to benthic/fisheries and the fishing industry from decommissioning the project, based on available information and relevant experience (if any).*

- Empire Wind’s waste handling processes during decommissioning shall focus on re-use or recycling, with disposal as the last option.
- Empire Wind will collaborate with regulatory authorities and key fisheries stakeholder groups to better understand the effects and potential impacts associated with decommissioning.
- Additionally,
  - At this early stage it is not possible to accurately predict impacts and appropriate mitigation from decommissioning. It can be reasonably judged that impacts from decommissioning are not expected to exceed impacts from construction.
  - Potential impacts and mitigation options will become clearer post construction and during operations, facilitated by monitoring.
  - Empire Wind will consult regulators and fisheries stakeholders to study the potential impacts of decommissioning.

### **8.2 Approach for developing plan and coordination with stakeholders**

*This section should describe how a decommissioning plan will be developed to identify and mitigate potential impacts, including coordination with fisheries stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage.*

- Empire Wind is developing decommissioning plans for work within NYS waters as part of the EM&CP. EM&CP Part 2 contains the draft Decommissioning Plan for submarine aspects of the project.
- As part of decommissioning within NYS waters, the Certificate Holder shall survey and use best efforts to remove installed cable protection measures that are within 2 feet of the seabed surface.
- Empire Wind will decommission the Project in accordance with all necessary laws and regulations and generate a detailed Project-specific decommissioning plan.
- Empire Wind will seek input on the detailed Project-specific decommissioning plan from regulatory agencies, fisheries and marine stakeholders, and local communities.
- Empire Wind will use “lessons learned” from the construction and operation activities and apply them when appropriate to the decommissioning plan.
- Additionally,
  - The process for development of a decommissioning plan will be discussed further with E-TWG and F-TWG and relevant regulators and stakeholders.
  - Lessons learned from the construction and operations activities will be applied to the decommissioning plan at the appropriate time.

- Empire Wind will consult with the fishing industry on the Empire Wind decommissioning plans at the appropriate time, closer to the decommissioning activities.

## **9 Fisheries Compensation Plan**

### **9.1 Consideration of compensation plan**

*This section should describe how it will determine instances where all reasonable attempts to avoid and minimize Project impacts, or restoration to predevelopment conditions are not feasible and some type of fisheries compensation plan is warranted.*

- Empire Wind considers that the primary focus should be on understanding the full extent of potential impacts and what avoidance measures or effective mitigation can be applied to address them from the outset.
- In addition to avoidance, minimization, and mitigation measures otherwise specified in New York State Department of State's ("NYS DOS") decision letters for the Project, Empire has agreed to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishermen for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Project.
- Since June 2021, NYSERDA has been working on a multi-state compensatory mitigation initiative that includes the States of New Jersey, New York, Massachusetts, Connecticut, Rhode Island, New Hampshire, Maine, Delaware, Maryland, Virginia, and North Carolina and has solicited comments from the states on a framework for a Regional Fisheries Compensatory Mitigation Fund. The states, in turn, have encouraged and assisted BOEM in developing a standardized fisheries mitigation guidance that will encourage developers to compensate fishermen who incur damages from unavoidable impacts of offshore wind projects as a mitigation measure for their projects. Notably, BOEM's Guidance on this is near final.
- Empire Wind supports these regional efforts and will continue to participate and cooperate fully with BOEM, NYSERDA, and the 11 coastal states initiative. In contributing to the Compensatory Mitigation Fund, Empire Wind has agreed to utilize and contribute to the Regional Fund outlined above for fisheries mitigation claims once it is established.
- If the Fund fails to be established, Empire agrees to utilize and contribute to a compensatory mitigation fund acceptable to NYSDOS, through which impacted New York State fishermen are eligible to submit compensation claims to offset demonstrated impacts from the Projects.

### **9.2 Approach to developing compensation plan**

#### **9.2.1 Coordination with stakeholders**

*This section should describe how a fisheries compensation plan was, or will be developed; how the developer will coordinate with the F-TWG and other entities in the design or review of the fisheries compensation plan.*

- As per section 9.1.

### **9.2.2 Third-party administration**

*This section should describe how the compensation plan will be administered by an nongovernmental third-party to provide reasonable and fair compensation for impacts that cannot be sufficiently addressed through other means.*

- Noting that the principles around compensation need to be addressed, Empire Wind supports a process for identifying recipients and values that is open to third-party scrutiny and may be managed by an independent third-party (under confidential agreements where sensitive information exists).

## **10 Additional Considerations**

### **10.1 Additional mitigation strategies and FMP refinement**

*This section should describe any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on the fishing community. In addition, describe how the FMP will be updated and refined based on additional information and stakeholder feedback.*

- Empire Wind will engage with the F-TWG and fisheries organizations and use feedback in these discussions to evolve the FMP.
- Empire Wind will support collaborative research on potential mitigation strategies, with other developers, agencies and stakeholders.
- Additionally,
  - Empire Wind will continuously evaluate and evolve this FMP, including addressing additional guidance and information, so it remains complete and sufficient.
  - Empire Wind will engage with the F-TWG and fisheries organizations and use feedback in these discussions to evolve the FMP.

### **10.2 Process for updating the FMP**

*This section should describe how feedback from fisheries stakeholders, F-TWG, and other agencies and working groups will be incorporated and updated in the FMP.*

- The developer shall update the FMP to reflect the results of iterative exchanges with members of the F-TWG and other relevant stakeholders.
- Additionally:
  - Currently Empire Wind is working with the F-TWG to establish a process for updating the Empire Wind FMP, where formal updates will likely occur after major Project milestones (e.g., a Project Notice of Intent).
  - Empire Wind will continuously evaluate and evolve this FMP so that all the components of the FMP are complete and sufficient.
  - Empire Wind expects that additional guidance and information will become available throughout the planning and regulatory process and as such will continue to consider its relevance to the FMP at the appropriate intervals.