CRMC File No. 2022-05-067

RI CRMC Federal Consistency Review of the New England Wind Project

Staff Recommendation for Concurrence

October 10, 2023

Table of Acronyms

AC	Alternating current
BOEM	Bureau of Ocean Energy Management
CRMC	Coastal Resources Management Council
CZMA	Coastal Zone Management Act
COP	Construction and Operation Plan
DEIS	Draft Environmental Impact Statement
EPA	Environmental Protection Agency
ESP	Electrical Service Platform
FAB	Fishermen’s Advisory Board
FAD	Fish aggregation device
FCP	Fisheries Communication Plan
GLD	Geographic Location Description
HAB	Habitat Advisory Board
HMS	Highly migratory species
IAC	Inter-array cable(s)
MW	Megawatt
NEWF	New England Wind Farm
NEPA	National Environmental Policy Act
NM	Nautical mile
NMFS	(NOAA) National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NYSERDA	New York State Energy Research and Development Authority
OCM	(NOAA) Office for Coastal Management
OCS	Outer Continental Shelf
OECC	Offshore Export Cable Corridor
PCW	Park City Wind LLC (Developer)
PDE	Project Design Envelope
RFMC	Regional Fishery Management Council
ROD	Record of Decision
SAMP	Special Area Management Plan
SCV	South Coast Variant (export cable corridor)
UXO	Unexploded Ordinance

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1 Policy Statement on OSAMP and OSW Development

The Coastal Resources Management Council (CRMC) recognizes the importance of offshore wind renewable energy sources to combat and reduce adverse climate change impacts, and to meet state, regional and national greenhouse gas reduction goals as detailed within the Ocean SAMP.[1] One of the CRMC's primary goals is to facilitate cooperative coexistence between the offshore renewable energy industry and existing stakeholders that benefits Rhode Island, while maintaining the integrity and health of the marine ecosystem, coastal resources, and coastal uses.[2] The development of offshore wind under the Ocean SAMP was envisioned as a controlled and scientifically supported process under the guidance of adaptive management with a regional view.[3] This process began with demonstration projects in both state and federal waters which led to scientific and technological advancements. As a result of this progress, several full-scale commercial projects have gone forward which CRMC has participated in through the Coastal Zone Management Act (CZMA) and the National Environmental Policy Act (NEPA) processes. Lessons learned include both scientific and stakeholder relations. This process allows for proactive planning based on scientific best practices.

2 Project Description

The CRMC has completed its CZMA federal consistency review of Park City Wind LLC's (PCW or Developer), a wholly owned subsidiary of Avangrid Renewables, LLC's, proposed New England Wind Farm (NEWF or the Project) offshore wind renewable energy project within Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0534.[4] PCW will be responsible for the construction, operation, and decommissioning of the NEWF. All power generated by the NEWF will be delivered to the ISO-New England electric grid.

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[1] *See* Ocean Special Area Management Plan Vol. I at 11.9.2(A). [hereinafter Ocean SAMP] http://www.crmc.ri.gov/samp_ocean/finalapproved/RI_Ocean_SAMP.pdf

[2] *See generally* Ocean SAMP Vol. I at 11.6; 11.9.

[3] *Id*. at 11.7.

[4] The NEWF lease area was originally a part of Lease Area OCS-A 0501 (Vineyard Wind, LLC). In June 2021, BOEM approved a partial assignment of the northernmost 65,296 acres to Vinyard Wind 1, LLC while Vineyard Wind, LLC retained the remaining 101,590 acres now designated as Lease Area OCS-A 0534. In December 2021, BOEM approved the assignment of Lease Area OCS-A 0534 from Vineyard Wind, LLC to Park City Wind LLC. Park City Wind LLC is the Proponent for the NEWF Project subject to this federal consistency review. https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

Figure 1: Offshore wind lease areas in relation to Rhode Island's 2011 (red) & 2018 (yellow) geographic location description (GLD) areas. New England Wind is located in the extreme eastern portion of the 2018 GLD.

2.1 The New England Wind Farm as a "Phased Development" project.

As stated in the NEWF Construction and Operation Plan (COP), the Project is a phased development under BOEM regulations pursuant to 30 C.F.R. § 585.238. The Project will consist of two phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind).[5] BOEM guidance states that developers "may use a [project design envelope] (PDE) to describe later development phases of their project" because the parameters of those later phases are less certain.[6] The

[5] *See* New England Wind COP Vol. 1 at S-1 [hereinafter NEW COP].

[6] *See* Draft Guidance Regarding the Use of a Project Design Envelope in a Construction and Operation Plan, U.S Dep't of the Interior, Bureau of Ocean Energy Mgmt. Jan. 12, 2018, at 6. https://www.boem.gov/sites/default/files/renewable-energy-program/Draft-Design-Envelope-Guidance.pdf

purpose of a phased development is to provide a developer with flexibility via a broad PDE so that "as the project progresses…the project [can] adapt to changes in technology and evolve."[7] At the same time, BOEM assesses each phase against the original PDE to determine what level of additional NEPA review is necessary and ensure a "robust environmental assessment process" is conducted.[8]

As shown in Figure 2 below, the final layout and footprint of each phase of the NEWF is dependent on the final footprint of the Vineyard Wind 1 project currently under construction to the north in neighboring Lease Area OCS-A 0501. The Vineyard Wind project includes up to 10 spare wind turbine generator (WTG) positions. These spare positions may be assigned to PCW and made part of the NEWF's Phase 1 buildout. Additionally, the assignment of spare positions to Phase 1 creates the potential for the footprint of Phase 2 to increase. In total, the NEWF project will occupy approximately 101,590-111,939 acres across both phases depending upon the final footprint of the Vineyard Wind 1 project.[9]

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[7] *See* Rowe, J., A. Payne, A. Williams, D. O'Sullivan, and A. Morandi. 2017. Phased Approaches to Offshore Wind Developments and Use of Project Design Envelope. Final Technical Report to the U.S. Dep't of the Interior, Bureau of Ocean Energy Mgmt., Office of Renewable Energy Programs. OCS Study BOEM 2017-057. 161 pp. 11-29. https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Phased-Approaches-to-Offshore-Wind-Developments-and-Use-of-Project-Design-Envelope.pdf

[8] *See* Information Guidelines for Renewable Energy Construction and Operations Plan (COP): Version 4.0, U.S Dep't of the Interior, Office of Ocean Energy Mgmt., Bureau of Ocean Energy Mgmt. May 27, 2020, at Section 4; Appendix F. https://www.boem.gov/sites/default/files/documents/about-boem/COP%20Guidelines_Technical_Corrections.pdf

[9] *See* NEW COP Vol. I at S-1.

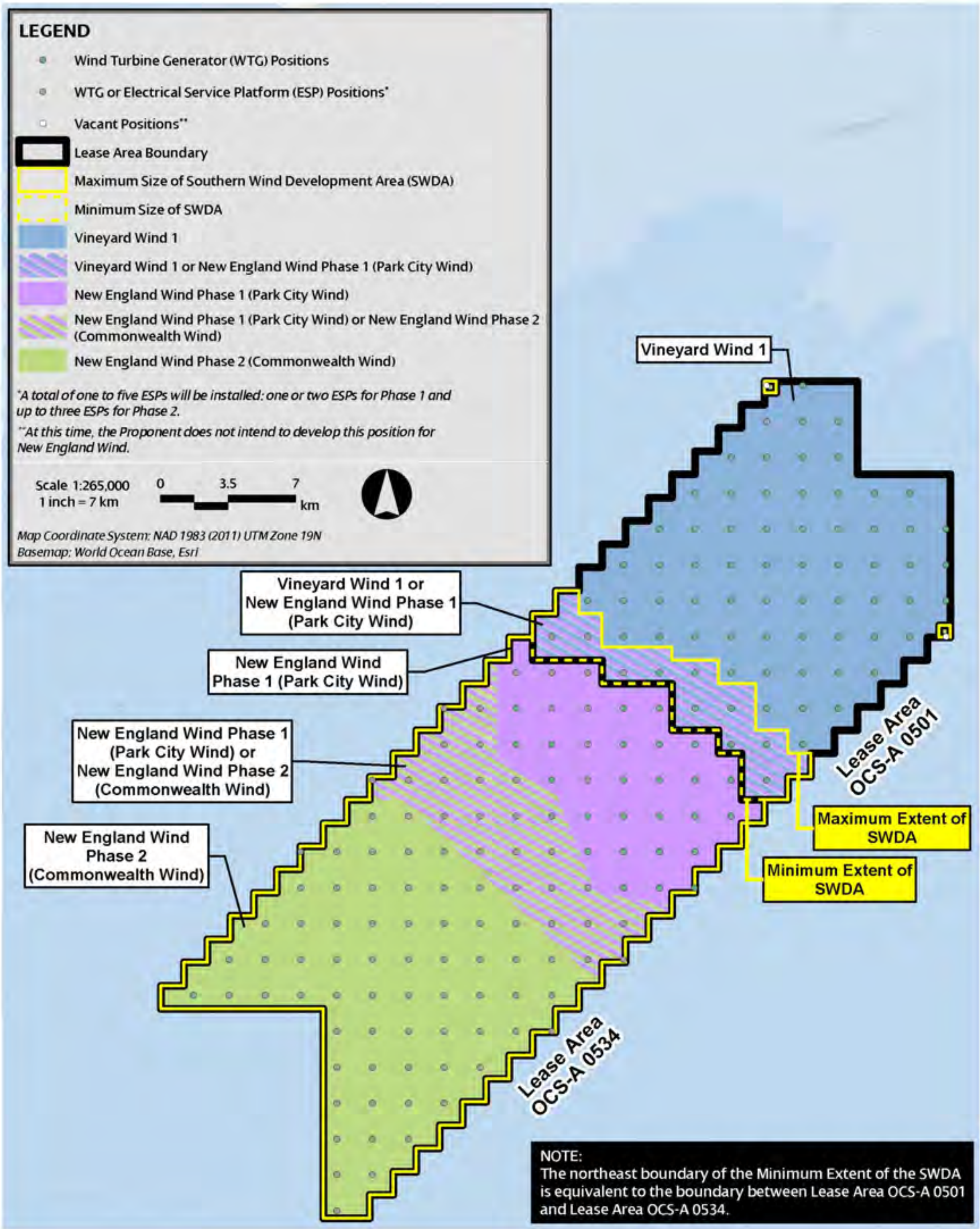

Figure 2: Potential footprint of Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind in relation to Vineyard Wind 1.

The NEWF will include a maximum of 130 WTGs and/or electrical service platforms (ESP). PCW has not selected a WTG supplier, but the PDE WTG design allows for a maximum blade tip height of 1,171 feet from the mean lower low water line (MLLW)[10], a maximum rotor diameter of 935 feet, and minimum of 89 feet of "tip clearance" between the lowest point of WTG blade and the MLLW.[11] The Phase 1 PDE allows for 41 to 62 WTGs and one or two ESPs, a maximum of 121 nautical miles (NM) of inter-array cables (IAC), and one inter-link cable up to 11 NM in length.[12] The Phase 1 IACs (66-132 kV) and inter-link cable (66-275 kV) will be buried between 5-8 ft beneath the seafloor.[13] The Phase 2 PDE allows for up to 88 WTGs and up to three ESPs, approximately 175 NM of IACs and approximately 32 NM of inter-link cables between ESPs.[14] All Phase 2 IACs will be 66-132 kV while the inter-link cables will be 66-345 kV. All cables will be buried at a target burial depth of 5-8 ft.

The Project may utilize up to three separate export cable routes for the installation of a maximum of five export cables across both phases of development.[15] The export cable routes include the Offshore Export Cable Corridor (OECC) which travels along the edge of Lease Area OCS-A 0501 (Vineyard Wind 1) and then northward through the eastern side of the Muskeget Channel –between Martha's Vineyard and Nantucket– interconnecting in the Town of Barnstable, the Western Muskeget Variant, and the South Coast Variant (SCV). The majority of the OECC and the entirety of the Western Muskeget Variant are located in Massachusetts state waters.[16] As shown in Figure 2 below, the SCV diverges from the OECC and travels west-northwest to the Massachusetts state water boundary. The SCV does not enter Rhode Island state waters but does travel through Rhode Island's 2011 and 2018 geographic location description (GLD) areas.

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[10] Mean Lower Low Water (MLLW) is the average height of the lowest tide recorded at a tide station each day during a recording period. Elevations relative to Mean Higher High Water (MHHW) are approximately 1 m (3ft) lower than those relative to MLLW.
[11] *See* NEW COP Vol. I Table 3.2-1 at 3-14; Figure 3.2-1 at 3-15.
[12] *Id.* Table S-1 at S-4.
[13] *Id*.
[14] *Id*. at 4-1 to 4-2.
[15] *See* Figure 2: Three NEWF export cables routes shown in relation to the NEWF and Vineyard Wind I lease areas.
[16] The portions of the OECC and Western Muskeget Variant in Massachusetts state waters are not subject to CRMC's federal consistency review and are not addressed in this report.

PCW intends to install all export cables in the OECC and includes the two cable route variants to provide commercial flexibility should certain issues arise.[17] Phase 1 will include two high voltage alternating current (HVAC) export cables installed in the OECC.[18] Phase 2 will include two to three additional HVAC export cables within the OECC. However, if issues arise and the installation of all Phase 2 cables within the OECC is not feasible, the Developer may "exercise the option to install one or two Phase 2 offshore export cables within the Western Muskeget Variant"[19] and/or up to three cables within the SCV.[20] The Vineyard Wind 1 project currently under construction is also installing its offshore export cables within the Muskeget Channel and will share the OECC with the NEWF.

Based on the analysis provided below in section 4 and pursuant to 15 C.F.R. § 930.62(d), the CRMC Staff is recommending a **concurrence** in this matter based on the mutually agreed upon conditions detailed herein.[21]

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[17] *See* NEW COP Addendum for the Phase 2 Offshore Export Cable Corridor South Coast Variant at 1-3 to 1-4 [hereinafter NEW COP Addendum] stating either export cable route variant could be used "should technical, logistical, grid interconnection, or other unforeseen issues arise during the COP review and engineering processes that preclude one or more Phase 2 export cables from interconnecting at the West Barnstable Substation."
[18] *See* Appendix 6.
[19] *See* NEW COP Vol. I at 4-13.
[20] *See* NEW COP Addendum at 1-3 to 1-4; *but see infra* pp 31 discussing scope of project impacts within the SCV and infeasibility of more than one cable within the SCV.
[21] *See* 15 C.F.R. § 930.62(d) stating the State agency and the applicant should attempt to agree to conditions, which, if met by the applicant, would permit State agency concurrence; *see also* 15 C.F.R. § 930.4.

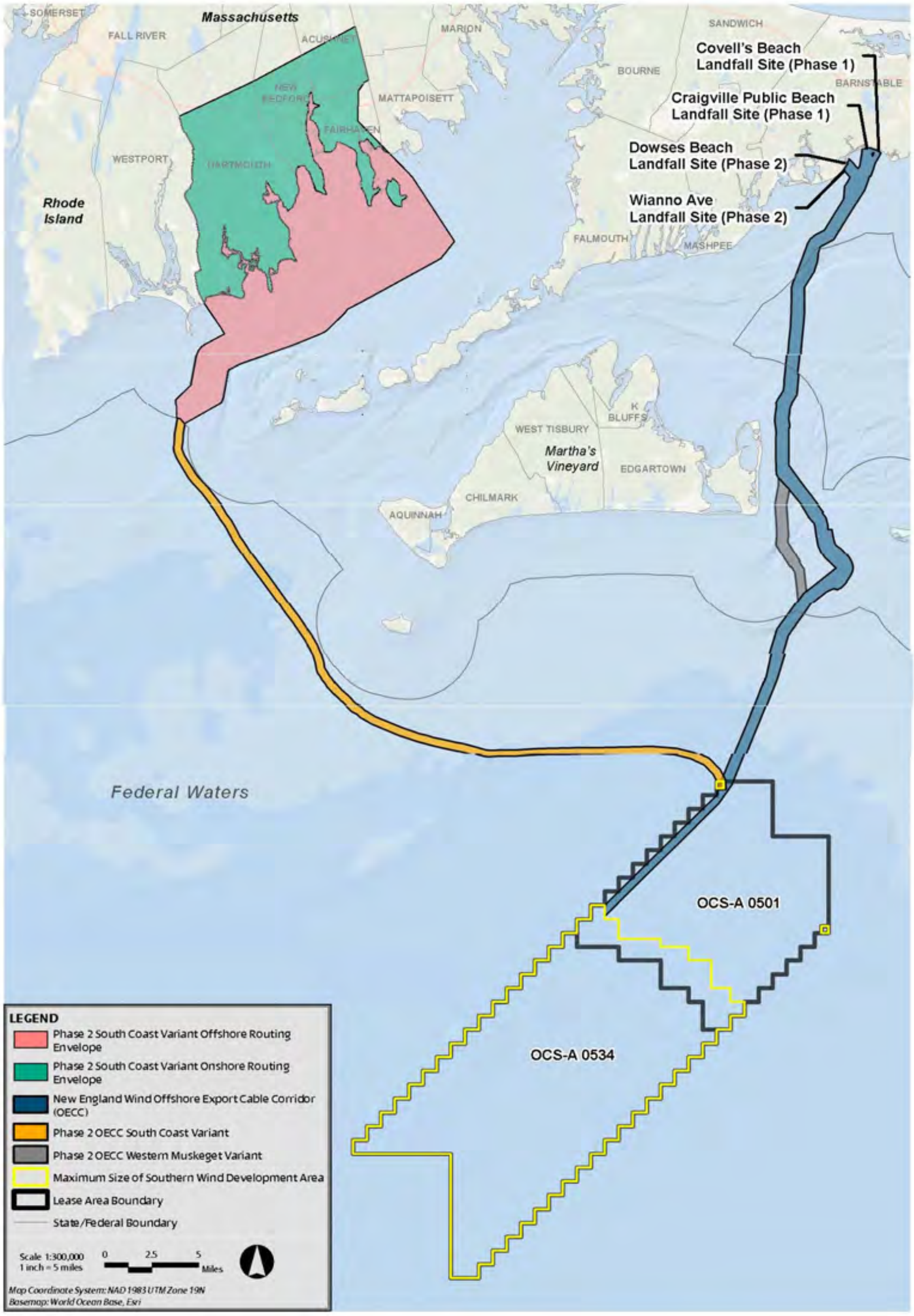

Figure 3: Three NEWF export cables routes shown in relation to the NEWF and Vineyard Wind I lease areas.

3 R.I. CRMC's Federal Consistency Review Authority

The proposed NEWF Project is subject to CRMC review authority pursuant to the federal CZMA, 16 USC § 1456(c)(3)(A) and the CZMA's implementing regulations at 15 CFR Part 930 Subpart D - Consistency for Activities Requiring a Federal License or Permit and Subpart E - Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities. In this matter, PCW is seeking a federal license/permit from BOEM, which is the lead federal agency for renewable energy projects on the OCS. CRMC's review authority extends into federal waters because the NEWF is a listed activity within the Ocean Special Area Management Plan (Ocean SAMP)[22] and is located within Rhode Island's 2011 and 2018 GLD[23] areas as approved by the National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management (OCM).

Accordingly, pursuant to 15 C.F.R. Part 930 subpart E, the CRMC as the State's authorized coastal zone management agency must make a determination and issue a written decision as to whether the proposed NEWF project is consistent with Rhode Island's federally approved enforceable policies[24] contained in the CRMC's Ocean SAMP codified in the Rhode Island Code of Regulations at 650-RICR-20-05-11. The CRMC's concurrence with PCW's consistency certification for the NEWF project is required before BOEM may approve, disapprove, or approve with conditions the NEWF COP pursuant to 30 C.F.R. § 585.682(f).

3.1 CZMA Procedural History

The CRMC's six-month federal consistency review period commenced on August 5, 2022,[25] upon PCW meeting its necessary data and information requirements with the CRMC pursuant to 15 C.F.R. §§ 930.57-930.58 and 930.76. Subsequently, on November 3, 2022, the CRMC issued its three-month notice[26], as required by 15 C.F.R. § 930.78(a), to PCW and

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[22] *See* 650-RICR-20-05-11.
[23] *See* 15 C.F.R. § 930.53(a)(1). GLDs encompass areas outside of the coastal zone where coastal effects from federal license or permit activities are reasonably foreseeable.
[24] *See* 15 C.F.R. § 930.11(h) defining "enforceable policy" as "State policies which are legally binding through constitutional provisions, laws, regulations land use plans, ordinances, or judicial or administrative decisions, by which a State exerts control over private and public land and water uses and natural resources in the coastal zone."
[25] *See* Appendix 3 – CRMC CZMA Review Commencement Letter. PCW filed its consistency certification with CRMC on May 17, 2022, and CRMC subsequently issued its 30-day letter informing PCW what additional information was needed for the CZMA 6-month review to start.
[26] *See* Appendix 4 – CRMC Three-Month CZMA Review Status Letter.

BOEM describing the status of the CRMC's ongoing federal consistency review. The three-month notice specified issues PCW needed to address in order to be consistent with the CRMC's enforceable policies and requested additional information necessary for CRMC's review. The specific information requested included a detailed graphic(s) that clearly delineates glacial moraine and complex bottom habitats as they relate to WTG positions, IACs, offshore ESPs, and the export cable corridors; economic exposure and impacts assessments that consider project impacts to the Rhode Island-based fishing sector within the lease area and export cable routes; avoidance, minimization, and mitigation measures intended to be taken; additional information regarding cable laying equipment/methods to be used; a Fisheries Monitoring Plan and Benthic Habitat Monitoring Plan; and access to a digital benthic mapping/geophysical tool. Over the course of the review period, the CRMC received the above stated information.

CRMC and PCW mutually agreed to **three (3)** separate stay agreements[27] over the course of CRMC's review period as follows:

- **1st** stay agreement began on September 14, 2022, with a CRMC decision date of August 15, 2023

- **2nd** stay agreement began on May 10, 2023, with a CRMC decision date of September 8, 2023.

- **3rd** stay agreement began on June 23, 2023, with a CRMC decision date of October 13, 2023.

Accordingly, the CRMC federal consistency decision is due no later than **October 13, 2023,** pursuant to 15 C.F.R. §§ 930.77 and 930.78. If the CRMC fails to issue a decision on or before October 13, 2023, a concurrence "*shall be conclusively presumed*" (emphasis added) and no mutually agreed upon conditions will be applicable to the project.[28]

To inform the federal consistency review, CRMC reviewed the NEWF COP, COP Addendum, BOEM Draft Environmental Impact Statement (DEIS) announced on December 23, 2022, and developed pursuant to the NEPA and the CZMA, the NEWF federal consistency certification, multiple Requests for Information (RFI) from CRMC, additional supplemental information provided by PCW throughout the review period. In addition, the CRMC also

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[27] *See* Appendix 7.
[28] *See* 15 C.F.R. § 930.78(b).

considered information from by the CRMC's Fishermen's Advisory Board (FAB) and Habitat Advisory Board (HAB).[29] In furtherance of CRMC's role as a designated cooperating agency in the NEPA review process, CRMC will continue to monitor the Project and review/comment on future BOEM submissions regarding the NEWF including the Final Environmental Impact Statement.

3.2 Concurrence with Conditions

Based on the Staff's review, the conditions below would permit the CRMC to issue a concurrence in this matter because the conditions are mutually agreed to and provide appropriate assurances that the NEWF project is consistent with Ocean SAMP enforceable policies. State agencies and applicants are encouraged "to develop conditions that, if agreed to during the State agency's consistency review period…would allow the State agency to concur with [activities requiring a federal permit or license]."[30] Conditions are premised on whether a consistency certification submitted by an applicant to the State agency adequately demonstrates how a proposed project will be consistent with a state's enforceable policies.[31]

PCW filed a consistency certification with CRMC on May 17, 2022, stating "the proposed activities…comply with Rhode Island's approved Coastal Management Program and will be conducted in a manner consistent with such program."[32] The consistency certification includes a response for each Ocean SAMP enforceable policy stating how the Project is consistent with said policies. Staff determined the consistency certification did not adequately demonstrate how the proposed NEWF project is consistent with Ocean SAMP enforceable policies. To resolve consistency issues, Staff and the Developer engaged in continued review of the consistency certification, provided additional information and information requests, and held weekly detailed consultations. As a result of these efforts, Staff and PCW have mutually agreed

[29] *See* Ocean SAMP §§ 11.10.1(D), (G), (H), (J); *see infra* pp. 27. The FAB resigned en mass following the issuance of the Council's federal consistency decision for the Sunrise Wind Farm project.
[30] *See* 15 C.F.R §§ 930.4(a); 930.62(d).
[31] *See* 15 C.F.R. §§ 930.57; 930.76(a)(2). Specified proposed activities within offshore waters that are subject to federal consistency review for federal licenses or permits must be consistent with enforceable policies of the approved state management program.
[32] *See* Appendix 1. The same statement was made for the Consistency Certification provided for the "Addendum for the Phase 2 Offshore Export Cable Corridor South Coast Variant."

to the following conditions which, if approved by the Council, would allow the NEWF project to be consistent with Ocean SAMP enforceable policies to permit a concurrence in this matter.

3.3 Conditions mutually agreed upon pursuant to 15 C.F.R. §§ 930.4 & 930.62.

1. Where practicable, turbine foundations, electric service platforms, and the associated inter-array and export cables, will be sited outside complex and sensitive benthic habitat areas and/or will be micro-sited to minimize adverse impacts to pertinent coastal uses and resources. Avoidance, minimization, and mitigation will reduce the reasonably foreseeable effects to Rhode Island coastal resources and uses, including effects to those resources and uses with the same characteristics, values, and resources as found in Rhode Island State Waters.

2. Park City Wind <u>shall conduct</u> the fisheries research and monitoring plan and the benthic habitat research and monitoring plan that receive final approval from the Bureau of Ocean Energy Management as part of the Record of Decision approving New England Wind's Construction and Operations Plan. Findings from each monitoring plan shall be supplied to the Rhode Island Coastal Resources Management Council on a quarterly basis once results are available to Avangrid. This information will facilitate the Coastal Resources Management Council's continued monitoring of activities described in the Outer Continental Shelf (OCS) plans to make certain that activities continue to conform to both federal and State requirements. *See* 15 C.F.R. 930.85.

3. Where applicable, and considering logistical constraints, technical feasibility, and safety, Park City Wind <u>shall make all reasonable efforts</u> to relocate boulders within the same area/environment and group boulders with nearby existing boulders. The relocation/grouping of boulders with existing boulders will further avoid, minimize, and mitigate impacts to resource habitats and minimize the creation of new hangs for the fishing industry to the extent practicable.

4 Review of State Enforceable Policies and Analysis

This section will analyze and discuss relevant Ocean SAMP enforceable policies, corresponding consistency certification statements, and the necessity of the conditions above. An enforceable policy is defined within the federal consistency regulations to mean "State policies which are legally binding through constitutional provisions, laws, regulations, land use plans, ordinances, or judicial or administrative decisions, by which a State exerts control over private and public land and water uses and natural resources in the coastal zone."[33] The regulation further states that an enforceable policy "shall contain standards of sufficient specificity to guide public and private uses."[34] The CRMC's enforceable policies for purposes of offshore renewable energy development as approved by NOAA OCM are contained within Ocean SAMP Chapter 11 and codified as 650-RICR-20-05-11. Specified proposed activities within offshore waters that are subject to federal consistency review for federal licenses or permits must be consistent with enforceable policies of the approved state management program.[35]

As required by 15 C.F.R. §§ 930.57 and 930.76(a)(2), PCW filed a consistency certification with CRMC on May 17, 2022, stating "the proposed activities…comply with Rhode Island's approved Coastal Management Program and will be conducted in a manner consistent with such program." In addition, PCW provided responses to each of the Ocean SAMP enforceable policies attached to this document as Appendix 1. The corresponding PCW response and the CRMC analysis are shown below for pertinent Ocean SAMP enforceable policy analysis and discussion as to whether the NEWF project meets the respective enforceable policy.

4.1 Enforceable Policy § 11.10.1(C):

Offshore developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone, as described in the Ocean SAMP. In making the evaluation of the effect on human uses, the Council will determine, for example, if there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss. Where the Council determines that impacts on the natural resources or human uses of the Rhode Island coastal zone through the pre-construction, construction, operation, or decommissioning phases of a project constitute significant adverse effects not previously evaluated, the Council shall, through its permitting and enforcement authorities in state waters and through any subsequent CZMA federal consistency reviews,

[33] *See* 15 C.F.R. § 930.11(h).
[34] *Id*.
[35] *See* 15 C.F.R. §§ 930.57(a); 930.76(c).

require that the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> Park City Wind "anticipat[es] that New England Wind will not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone." (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-2)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Park City Wind "anticipat[es] that the South Coast Variant will not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone." (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-3)

4.1.1 CRMC Analysis:

Enforceable policy § 11.10.1(C) requires Staff to conduct a two-part review. The first part requires the Council to determine whether "there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss." The second part requires the Council to determine whether the applicant has adequately modified the proposal to avoid and/or mitigate impacts. If the Council determines adequate modifications to avoid and/or mitigate impacts have not been made, the Council is obligated to deny the proposal. In the context of a federal consistency review, a denial by the Council would take the form of an objection to the NEWF project. Alternatively, the Council could propose additional conditions not previously agreed to by the Developer if the Council opines such conditions would further avoid, minimize, and/or mitigate impacts so that the Project is consistent with enforceable policies.

4.1.1.1 It is unclear whether there will be an overall net benefit to the Rhode Island marine economic sector from the Project or if there will be an overall net loss.

The first part of the enforceable policy requires that the Council determine whether "there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss." The NEWF project is anticipated to provide potential direct and indirect benefits to the Rhode Island marine sector. These benefits include but are not necessarily limited to economic, environmental, and energy diversification benefits.

4.1.1.2 Anticipated Benefits

Economic benefits are anticipated to be realized through the use of ports, job creation, and other economic activities. The Project includes the potential use of three ports in Rhode Island where Phase 1 and Phase 2 operation and maintenance activities may occur. These ports include the Port of Davisville, ProvPort, and South Quay Terminal.[36] Port facilities "are also expected to include pier space for crew transfer vessels and/or other larger support vessels."[37] Note that facilities in Connecticut and/or Massachusetts are likely to be utilized. Over the life of the Project, PCW "conservatively [estimates]…the potential for millions in new state and local tax revenues along with thousands of direct, indirect, and induced [full time equivalent] job years."[38] For example, ProvPort has generated approximately $211 million in economic output for the State of Rhode Island since 1994 and approximately $2.8 billion of indirect impacts over the same time.[39] Additional direct and indirect economic impacts would likely result if ProvPort, or any of the Rhode Island ports previously mentioned were to be used for the NEWF project. These impacts would further increase Providence County's, and the State's, Ocean Economy.[40]

One of the largest benefits from the NEWF project is the expected reduction in greenhouse gas emissions and other pollutants. Conservative estimates state the Project should

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[36] *See* NEW COP Vol. III Table 7.0-1 at 7-3 to 7-5.
[37] *Id*. at 7-2.
[38] *See* Appendix 6.
[39] *See* NEW COP Vol. III at 7-31 to 7-35 citing NOAA Office for Coastal Management's (2020) Economics: National Ocean Watch (ENOW); *see also* NEW COP Vol. III at 7-35 to 7-40 discussing the Ocean Economy of Washington County, Rhode Island in the context of the NEWF project.
[40] "Ocean Economy" is defined by the Organisation for Economic Co-operation and Development (OECD) as the sum of the economic activities of ocean-based industries, together with the assets, goods and services provided by marine ecosystems.

"reduce carbon dioxide equivalent [] emissions from the electric grid by approximately 3.93 million tons per year, or equivalent of taking 775,000 cars off the road."[41] Additionally, nitrogen oxide and sulfur dioxide emissions will be reduced by several thousand tons per year annually.[42] Project emission reductions is based on an avoided emissions analysis that conservatively assumes the Project will have a total capacity of 2,000 MW although the Developer states emission reduction benefits will likely exceed the analysis.[43] By contributing emission reductions, the NEWF will assist in the mitigation of adverse climate change impacts such as sea level rise, extreme weather events, and ocean acidification among others.

The presence of offshore wind infrastructure and the associated artificial reef effect may create new tourism and for-hire/recreational fishing opportunities. WTGs and ESPs could create sightseeing opportunities at sea, however, the NEWF would not likely be visible from Rhode Island. The introduction of new hard structures in the water column and on the seafloor will likely result in an artificial reef effect[44] and will act as fish aggregation devices (FADs). "structure oriented species would benefit" to some degree and may lead to larger fish communities and opportunistic feeding by larger predators.[45] As such, FADs have the potential to increase private and for-hire recreational fishing opportunities

4.1.1.3 Potential Adverse Impacts

Rhode Island-based commercial and recreational for-hire fishers may experience lost revenues from the development of the NEWF project. For commercial and for-hire recreational fishing sectors in general, BOEM estimates the overall impacts from the NEWF as minor beneficial and negligible to moderate.[46] BOEM's analysis states inter-array cable installation "may result in the loss of revenue if alternative fishing locations are not available."[47] However, these specific impacts are expected to be "localized, temporary, and minor."[48] Commercial and for-hire recreational fishing is historically low compared to surrounding areas as shown below in

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[41] *See* NEW COP Vol. III at 4-8.
[42] *Id*.
[43] *Id*.
[44] *Id.* at 6-206.
[45] *See* New England Wind Draft Environmental Impact Statement at 3.9-27 [hereinafter NEW DEIS].
[46] *See* NEW DEIS Table 2.4-1 (Summary and Comparison of Impacts Among Alternatives) at ES-16 to ES-18. Note CRMC is limited to considering impacts from the proposed Project only. Cumulative impacts accounting for other regional offshore wind development is not within the scope of a CZMA federal consistency review.
[47] *Id.* at 3.9-25.
[48] *Id*.

Figure 4. Additionally, the presence of structures (i.e., WTGs, ESPs, scour protection, and secondary cable protection) could create navigational hazards, gear loss/damage, space use conflicts, effort displacement, lost time, increased crew costs, increase fuel costs, and overall lost time. Assuming a full buildout of the Project occurs as planned, BOEM anticipates the presence of structures by themselves will have "moderate impacts…on commercial fisheries, and minor to moderate impacts…on for-hire recreational fisher[ies]."[49] Note that regardless of whether the NEWF is built in its entirety, BOEM anticipates impacts to commercial and recreational fishing sectors to be moderate to major given current regional trends and current and future environmental and societal activities.[50]

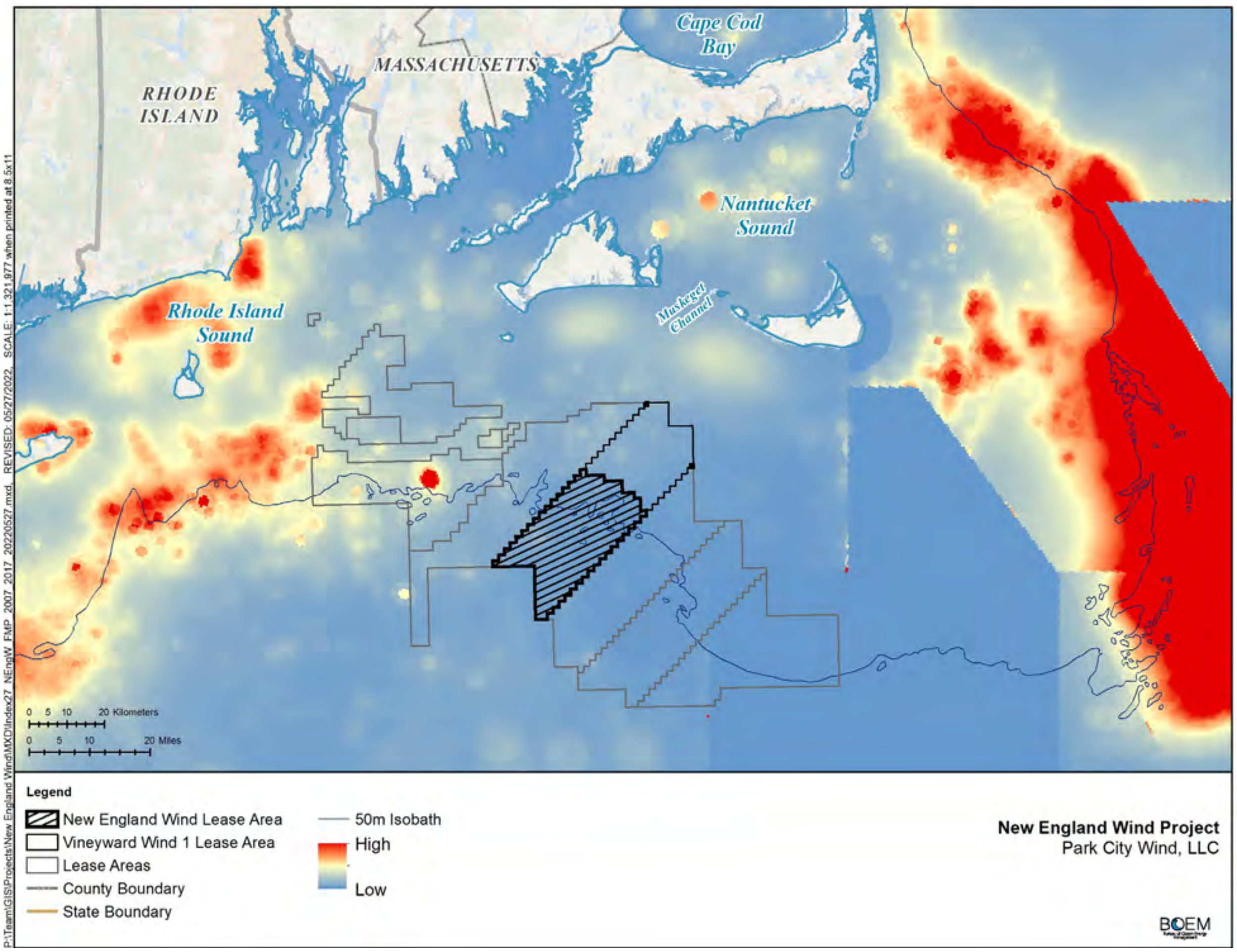

Figure 4: Fishing intensity based on average annual revenue for federally managed fisheries (2007-2017). *See* NEWF DEIS at 3.9-3.

[49] *Id*. at 3.9-28.
[50] *Id*. at 3.9-23.

The addition of structures in the water and the potential for any vessel to enter the area in inclement weather adds an additional risk of human mortality that currently does not exist. The potential also exists for an insurance company to evaluate the evolving risk and deny coverage in specific areas effectively precluding Rhode Island fishers from an area and exacerbating costs. At present, there is no way to predict how the insurance industry will respond until we have information regarding how fishers operate within wind farms. Furthermore, an independent National Academy of Sciences report funded by BOEM and the offshore wind industry indicates radar navigation risks but specifically fails to consider impacts to radar while working (i.e., commercial fishing) within an offshore wind array.[51] One could reasonably find there may be a net loss to existing Rhode Island based marine businesses due to the inability to operate safely during inclement weather.

Potential benefits from Project infrastructure creating an artificial reef effect may not be realized for various reasons. As previously discussed, new infrastructure may serve as FADs and attract structure-oriented species and opportunistic feeding by larger predators, including highly migratory species (HMS). However, the Developer acknowledges that FAD effects are localized and observations from European wind farms found "changes in benthic habitat and communities were recorded…but were not attributed to wind farm development."[52] Rather, the changes were not attributable due to "high environmental variability and insufficient evidence to link cause and effect."[53] Additionally, BOEM states while private and for-hire vessels may be more maneuverable than commercial vessels actively fishing in a wind farm, fishing for HMS will be much more challenging.[54] Persons fishing HMS may have to modify navigation and fishing practices in order to be successful. Furthermore, climate change is expected to have a larger impact on various commercial and recreationally targeted species than the presence of structures through "alterations in finfish migratory patterns, timing, availability of fisheries resources, and prey abundance and distribution."[55]

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[51] *See* National Academies of Sciences, Engineering, and Medicine. 2022. *Wind Turbine Generator Impacts to Marine Vessel Radar*. Washington, DC: The National Academies Press. https://doi.org/10.17226/26430. Concluding in-part that wind turbine generators have significant electromagnetic reflectivity, and therefore can interfere with radar systems operating nearby.
[52] *See* NEW COP Vol. III at 6-138 to 6-139.
[53] *Id*.
[54] *See* NEW DEIS at 3.9-26.
[55] *Id*. at 3.9-25; 3.9-30.

Effects to benthic resources are not expected to be as impactful as with previous projects due to the NEWF lease area's benthic conditions. As shown in Figure 5, NEWF lease area is characterized by homogenous sands and is "comprised entirely of unconsolidated substrate with predominantly sand and silt-sized material."[56] By way of comparison, the previously reviewed South Fork Wind, Revolution Wind, and Sunrise Wind projects are sited on vast expanses of glacial moraine (i.e., Cox Ledge) and characterized by dense and sporadic boulder fields. The NEWF lease area is "south of all previously mapped glacial moraines" and "there appears to be no moraine or moraine-like habitat within the [Project lease area]."[57] Therefore, no impacts to complex bottom habitats are anticipated and benthic recovery should be short-term within the lease area.

The SCV cable corridor is characterized by more varied and complex benthic conditions than the Project lease area. Most of the SCV "is composed of fine unconsolidated substrate of silt to medium sand, with gravel occurring…off Noman's Island."[58] Additionally, as shown in Figure 6, the northern and central portions of the cable route contain areas of dense surface and subsurface boulder fields and glacial moraine. Cable installation will require the use of a boulder plow or boulder grab tool and the relocation of many boulders which will permanently alter lengthy stretches of complex bottom habitat. Commercial and recreationally targeted fishery resources rely on these areas at various life stages and benthic recovery could be long term.

[56] *Id.* at 3.4-1; *see also* NEW COP Vol. III at 6-106.
[57] *See* Oakley. 2023. Review of Benthic Geologic Habitat Mapping for the Proposed New England Wind Energy Area and South Coast Variant. Oakley Geologic Consulting. Report prepared for the Rhode Island Coastal Resources Management Council. Aug. 3, 2023, at 2-5; *see also* King. 2023. Review of the Proposed New England Wind Energy Area and South Coast Variant Plan for benthic Geologic Habitat Mapping and EMF. J. King Consulting LLC. Report prepared for the Rhode Island Coastal Resources Management Council. Aug. 3, 2023, at 32. [hereinafter King & Oakley Report]
[58] *See* NEW COP Addendum at 2-3.

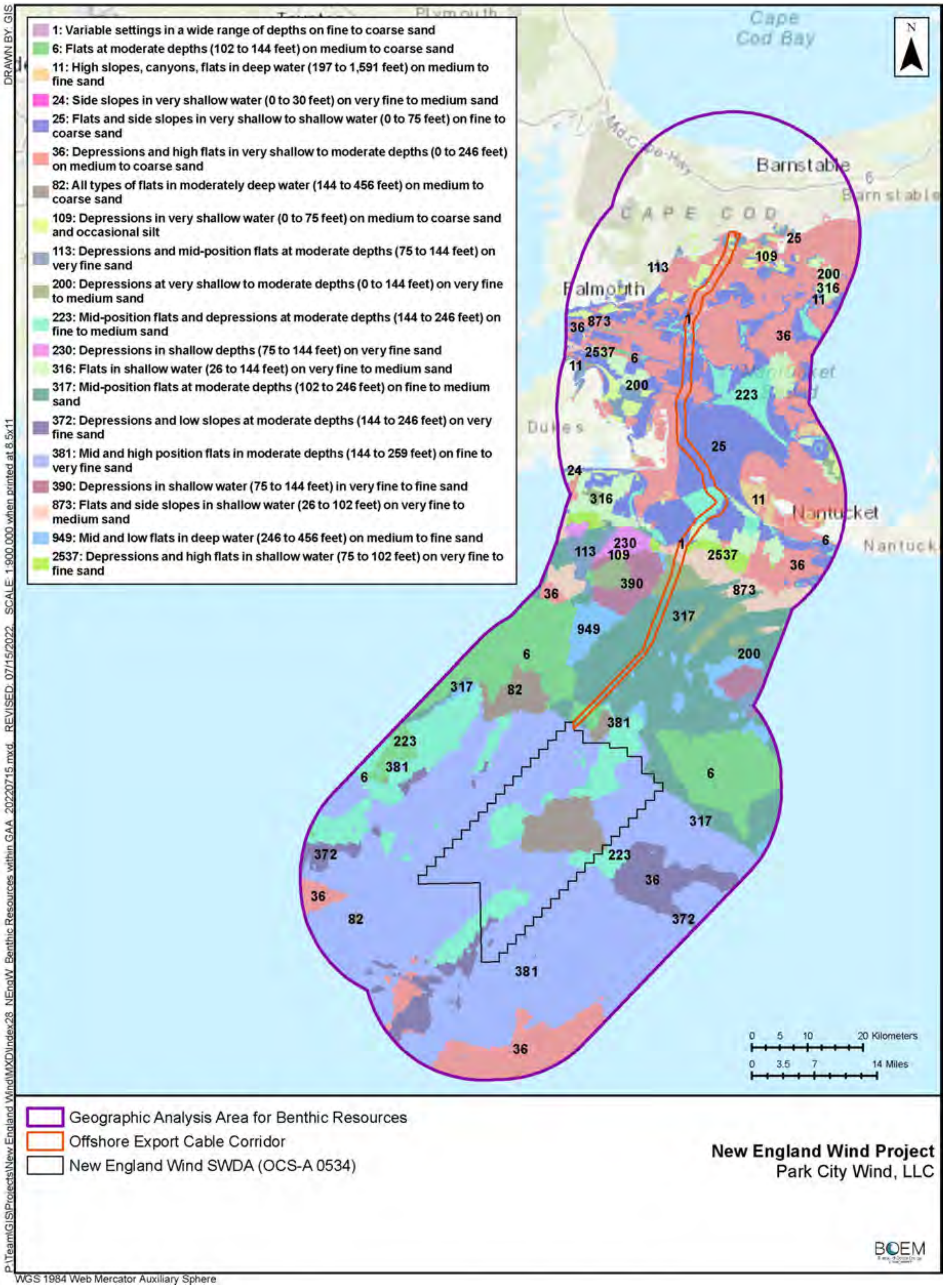

Figure 5: Benthic resources within the NEWF lease area and OECC export cable corridor. *See* NEWF DEIS at 3.4-3.

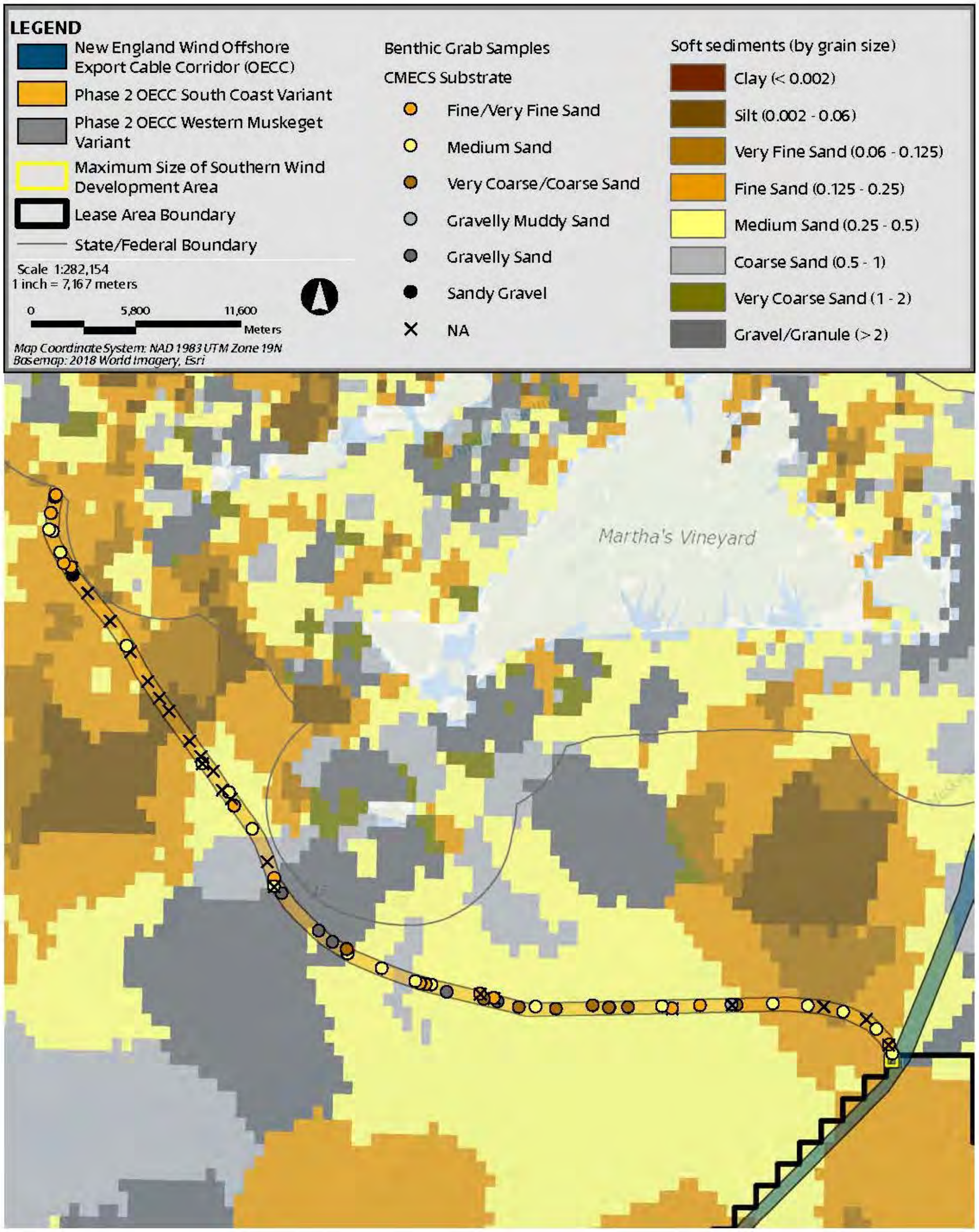

Figure 6: Benthic grab samples demonstrating a range of substrate types along the proposed South Coast Variant cable corridor.

As was stated in the Staff Recommendations for previous offshore wind projects, Rhode Island fishers possess irreplaceable generational territorial knowledge which factors into their ability to be successful in their trade. FAB members have described how they know the locations of certain "hangs" and boulders with such precision that they can fish within feet of a *known* obstacle.

Fishers will be provided with information regarding the location of relocated boulders and project infrastructure on a rolling basis. As Project components are installed and boulders relocated, the Developer will chart the locations. The Developer will then provide a notice to agencies within 30 days indicating relocated boulders that will protrude more than 6.5ft on the seafloor. These agency notifications will occur on a rolling basis in accordance with the 30-day limit. The Developer conservatively estimates construction will take approximately three years across both phases.[59] Notwithstanding navigational changes, displacement/user conflict, and temporary access restrictions, Rhode Island fishers will need to assume more operational and personal safety risk during all phases of construction and beyond.

For previous offshore wind projects, the FAB stated fishers will continue to experience economic hardship during the construction and operation phases due to Developer activities. There is expected to be an increased risk of gear entanglement due to wind farm construction vessels, foundations, and secondary cable protection. The FAB also have previously described how commercial fixed gear fishers (i.e., lobster pots and gillnets) will face a significant loss of gear sets by conforming to the one-by-one (1x1) nautical mile (NM) uniform grid wind turbine layout as compared to current operations.[60] Loss of gear sets may occur because fixed gear will mostly be set in between turbine foundations and only along the east-west rows of turbines so mobile gear fishers towing nets or dredges can operate in the clear lanes between the rows of turbines. The FAB explained that any offshore wind project will force fishers to alter how they operate as an industry and may be forced to modify costly gear, hire additional crew to assist with navigation, risk losing gear to entanglement with project infrastructure, or be forced out of the lease area all together among other things.

[59] Construction timeframes are approximate and may be shorter or longer depending on final time-of-year restrictions imposed by BOEM through COP approval and the Record of Decision.
[60] *But see infra* pp. 30. Discussing the 1x1 NM uniform grid as compared to a "non-orthogonal" wind array.

The historic fishing practices observed under the so-called “gentlemen’s agreement” will likely be disrupted by the introduction of the NEWF’s 130 WTGs and associated ESPs and cables. The gentlemen’s agreement establishes alternating fixed and mobile gear lanes of operation on a 0.5-0.6 NM east-west grid within Rhode Island Sound, allowing various gear types to operate cooperatively and minimize user conflicts. The addition of wind turbine infrastructure on a 1x1 NM uniform grid will reduce the available fishable area as stated above. The uniform grid will also increase the risk of allision and may require fishing operations to hire additional crew specifically for navigation within the wind farm.[61] Additionally, adverse weather conditions may require vessels to transit around the NEWF altogether. Absent significant modifications/upgrades to navigation equipment or adding additional crew for safe operations, Rhode Island commercial fishers may not be able to harvest within the NEWF lease area. Interference impacts of turbine foundations on vessel radar may increase the risk of both collision and allision within the wind farm. As stated previously, the presence of infrastructure could result in de facto exclusion if fishing vessel operations are not – or perceive that they are not – able to safely navigate within the area either for fishing or transiting to other fishing grounds.[62]

Impacts to the National Marine Fishery Service (NMFS) and the Regional Fishery Management Councils’ (RFMC) ability to conduct fishery stock assessment surveys may have a negative impact on the ability of the commercial fishers and businesses to remain viable.[63] Various emerging and system-level changes, including climate change and offshore wind energy development, are altering fisheries management which may need to adapt. However, the rate of adaptation is unknown because some data sets, like fishery dependent data, can be based in-part on how fishers are reacting/adapting to conditions at sea.[64] Impacts from offshore wind development on the ability of NMFS or a RFMC to collect appropriate data will increase the uncertainty in setting catch limits. As this uncertainty in the stock assessment increases, “catch limits are generally reduced, which have negative economic consequences for [Rhode Island]

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[61] “Allision” refers to an accident between a vessel and a stationary object. A “collision” refers to two vessels running into one another.
[62] *But see infra* pp. 30 discussing non-orthogonal offshore wind array layouts in comparison to the 1x1 NM grid.
[63] *See generally* NEW DEIS at 3.9-26.
[64] Hogan, Fiona, Hooker, Brian, Jensen, Brandon, Johnston, Land, Lipsky, Andrew, Methratta, Elizabeht, Silva, Angela, Hawkins, Anne. 2023. Fisheries and offshore wind interactions: synthesis of science. Northeast Fisheries Science Center, NOAA Technical Memorandum NMFS-NE-291. 175.

fishery participants and their communities."[65] A reduction in quotas would likely displace fishers from the NEWF lease area increasing fishing pressure on fishery resources outside of the lease area. Increased fishing pressure may result in resources and harvesting income being divided amongst more fishing vessels. This scenario would likely result in lower catch and revenue. This could cause a cascading effect that may point to a need for a reduction in the overall commercial fishing fleet to allow some commercial fishing businesses to remain solvent. Additionally, changes required in Federal and State sampling to assess the fishery stocks will result in a burden on Rhode Island taxpayers to fund the re-tooling of important fisheries management research.

Impacts from the decommissioning phase are speculative at this time because BOEM provides various options as to how an offshore wind farm can be decommissioned. Developers are required to submit a *conceptual decommissioning plan* (emphasis added) with their COP. Detailed decommissioning plans are submitted to BOEM at the time decommissioning is requested. Generally, decommissioning, as defined by BOEM, is "the removal of all facilities, installations, and other devices permanently or temporarily attached to the seabed on the OCS to a depth of 15 feet below the mudline."[66] BOEM also provides two alternatives to decommissioning: (1) facilities remain in place, or (2) facilities are converted to an artificial reef.[67]

Decommissioning as proposed in the NEWF COP may reverse potential beneficial effects. Project infrastructure is anticipated to have an artificial reef effect where various types of marine organisms would be attracted to colonize new structures. For example, studies at the BIWF documented an increase in the abundance of black sea bass, scup, bluefish, monkfish, winter flounder, and dogfish. The NEWF COP contemplates decommissioning as potentially consisting of the removal of all cables, foundations below the mudline, and all scour and cable protection.[68] Removal of project infrastructure would reverse the artificial reef effect and the fish community that formed around the reef effect would be dispersed. Disruption of the reef effect

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[65] *Id*. at 192-93.
[66] 30 C.F.R. §§ 585.433; 585.910.
[67] *See* Fernandez, Keith Jr., Middleton, Pamela, Salerno, Jennifer, Barnhart, Bethany. 2022. Supporting national environmental policy act documentation for offshore wind energy development related to decommissioning offshore wind facilities. BOEM Office of Renewable Energy Programs, BOEM 2022-010. at 6. Either option for decommissioning is made on a case-by-case basis and considers various factors including potential adverse impacts to the surrounding marine environment.
[68] *See* NEW DEIS at 2-20. Decommissioning is anticipated to be similar across both project phases.

would create another period of adjustment and uncertainty for fishers as they adjust to another series of changes to the marine and benthic ecosystems. PCW provides more details on proposed decommissioning methods in COP Vol. I page 3-120 including information regarding financial assurance for decommissioning.

Immediately post the Sunrise Wind Federal Consistency Decision, the members of the FAB as constituted resigned en masse, just as staff turned its entire focus towards the final review of the NEWF project. In so doing, Staff did not have direct access to FAB input on the Project's possible impacts to Rhode Island's coastal uses and resources at this late stage of review. Regardless, Staff provided each former FAB member as well as other interested parties from the fishing community individual access to all materials and meetings under review including mitigation and compensation proposals, with an open-door invitation to provide any input whatsoever that would be helpful to mitigating impacts from the NEWF project as well as addressing fair compensation.

During the course of the Staff's review, PCW provided a report assessing the economic exposure to Rhode Island based commercial and for-hire recreational fishers may face as result of Project activities in the NEWF lease area and export cable corridors. "Economic exposure" is based on historical commercial fishing revenues in the Lease Area and the OECC export cable corridor.[69] Annual average exposure of commercial fisheries in the Lease Area is based upon the annual average revenue from 2008 to 2021 and equals $622,863. Commercial fisheries exposure within the OECC and the SCV export cable corridors totaled $14,748 and $3,013 annually respectively over the same timeframe. For-hire recreational fishing economic exposure totaled $68,823 annually.[70] These Lease Area numbers have been adjusted upward to account for lobster and Jonah crab which are considered data poor/underreported fisheries.

The Developer's economic impact methodology includes several conservative assumptions. The methodology assumed a 100% revenue loss for commercial and for-hire recreational fisheries during the construction phase for the lease area and export cable corridors.

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[69] *See* Appendix 5. Note BOEM states that economic exposure refers to potential economic impacts, not predicted or expected economic impacts…and is a starting point to understanding potential economic impacts of future offshore wind development if a harvester opts to no longer fish in an area and cannot recapture that income by fishing elsewhere.
[70] *Id*.

Note fishers will not be precluded from the entire lease area or cable corridors during construction; they will only be temporarily excluded from areas of active construction. During the operation and maintenance phase (years one through thirty), the Developer is following BOEM's "*Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585*."[71] The guidance utilizes a "step down" approach to impacts in years one through five and then assumes a 5% revenue loss annually for years six through thirty. The use of the BOEM guidance had been requested by the FAB for previous offshore wind projects. For decommissioning the Developer again conservatively assumes a 100% revenue loss.

The final exposure to Rhode Island commercial fisheries (adjusted upward for lobster and Johah crab) is estimated at $1,865,215 and $247,059 for for-hire recreational fishers. A total of $2,112,274. The final economic impact amount adjusted upward to incorporate economic multipliers is $3,972,908 for commercial fisheries and $400,731 for for-hire recreational fisheries.

As a result of the above analysis, the total direct compensation offer made by PCW to the Rhode Island fishing industry is $4,373,638. In addition to the direct compensation offer, PCW has offered an additional $500,000 to support commercial and for-hire recreational fishing operations. This additional money may be used for purposes including but not limited to grants, training programs, research initiatives, or navigational/safety equipment support programs. In total, PCW has offered $4,873,638 (net present value) as its compensatory fisheries mitigation package.

The Rhode Island commercial and for-hire/leisure recreational fisheries have a significant impact on shoreside business. Patrons of for-hire fishing businesses and tourists often purchase seafood dockside from the commercial fishermen to round out their Rhode Island experience. While the proposed NEWF and SCV are located entirely in federal waters, some level of Rhode Island private and for-hire recreational is presumed to occur. Commercial and recreational fishing effort is essential to shoreside businesses and drives the shoreside supply chain. This

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[71] *See generally* U.S. Dept. of the Interior. Bureau of Ocean Energy Mgmt. Office of Renewable Energy Programs. Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585. June 23, 2022. https://www.boem.gov/sites/default/files/documents/renewable-energy/DRAFT%20Fisheries%20Mitigation%20Guidance%2006232022_0.pdf

includes but is not limited to fish markets, distribution, processing, recreational fishing licenses, bait and gear sales, boat repairs, hotels, restaurants, shoreside fish sales, fuel, travel, and taxes. These support industries need to be accounted for at a granular level because industries like hotels may survive a decline in fishing effort, but specialized companies like those that produce ice for commercial fishing orders may no longer be economically viable.

4.1.1.4 Notwithstanding unknown impacts, Park City Wind has adequately modified the project to avoid, minimize, and/or mitigate reasonably foreseeable impacts.

The second part the enforceable policy requires that "the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal." As previously stated, in the context of a federal consistency review, a denial by the Council would take the form of an objection to the project or the Council could propose additional conditions not agreed to by the Developer if the Council opines such conditions would further avoid/minimize/mitigate impacts so that the project is consistent with enforceable policies. As discussed below, PCW has taken extensive steps to avoid, minimize, and mitigate impacts associated with the Project.

4.1.1.5 Developer Mitigation Measures

PCW has incorporated appropriate avoidance, minimization, and mitigation measures for the construction and operation/maintenance phases of the Project. During construction, vessel transit will be limited to safety buffer zones around construction sites. These preclusion areas will be temporary in nature and vessels will not be restricted from the lease area all together. Additionally, PCW will continue to issue Offshore Wind Mariner Update Bulletins and coordinate with the U.S. Coast Guard to provide Notice to Mariners. Information provided in these bulletins and notices will allow recreational and commercial vessels to plan trips/routes accordingly so to avoid unnecessary loss of fishing effort.

PCW's Fisheries Communication Plan (FCP) will also serve as a vital impact avoidance, minimization, and mitigation tool. The FCP's purpose "is to define outreach and engagement to potentially affected fishing interest during design, development, construction, operation, and final decommissioning" of the Project.[72] Additionally, the FCP utilizes Fisheries Representatives who represent the interest of different fisheries and fishing communities to the Developer. The

[72] *See* NEW COP Vol. III at 7-220.

FCP and Fisheries Representative network are anticipated to facilitate the flow of information to and from fishing interests and the Developer allowing for some impacts to be avoided or minimized.

The Developer continues to improve its avoidance and mitigation strategies surrounding fishing gear loss by employing scout vessels and maintaining a commercial gear claims process. As discussed previously, commercial fishers face an increased risk of gear entanglement or loss as result of offshore wind activities in general. These risks are a result of gear interactions during survey work, snags or hangs created by project infrastructure, among others. To minimize the risk of gear loss, PCW employs scout vessels (local fishers) to keep lookout for any fishing gear that may be in the path of a wind farm vessel. Additionally, the commercial gear claims process is in place to compensate any commercial fishermen impacted by the PCW activities. For example, PCW's sole gear claim is a result of the Developer realizing they had snagged a fisher's gear. PCW sought out that fisher and successfully processed/compensated them for their loss. Although this is the only claim PCW has to date, the Developer has expressed its willingness to work with any fisher impacted to file a claim and improve the claims process.

The Project layout and design will likely further assist in mitigating effects to Rhode Island coastal resources and uses. The NEWF will maintain a 1x1 NM uniform grid turbine layout which is intended to allow for continued historical uses such as fishing and navigation. The 1x1 NM layout is preferred by CRMC staff from an environmental impact perspective over a "non-orthogonal array layout" which is common in Europe. A non-orthogonal array is built for efficiency to maximize energy production. These efficiencies significantly decrease the cost of energy production, but turbines could be spaced closer together precluding ocean users from accessing the area and potentially amplifying negative impacts on marine life/habitat. Final engineering and layout decisions are made after the Federal Consistency review process. CRMC does not have access to additional information regarding final design layouts and must make certain assumptions based on available information.

Micro-siting efforts will minimize and/or mitigate effects to marine life and habitats. Based on Staff's discussions with the Developer, turbine foundations, the ESPs, and the associated inter-array cables, will be sited outside of areas consisting of glacial moraine and boulders. As previously discussed, the lease area for Phase 1 and Phase 2 is characterized by homogenous sands and no complex bottom habitats exist with the lease area. Regardless, to the extent that sensitive habitats do exist, the Developer has agreed to site infrastructure to minimize impacts to the extent practicable.[73]

Micro-siting is essential in the proposed SCV export cable corridor to minimize impacts to complex benthic habitats including boulder fields and glacial moraine. The northern and central portions of the SCV are characterized by extremely complex bottom conditions which also serve as critical habitat for marine resources important to Rhode Island recreational and commercial fishers. The Developer has stated that despite the PDE contemplating up to three export cables in the SCV, it is not feasible because possible interconnection points are limited to accepting 400 MW of power.[74] Therefore, impacts will likely be limited to the installation of one cable within the SCV.[75]

Cable installation within the SCV will have minimal impacts because the installation corridor is relatively narrow. The "total width of the [SCV cable corridor is approximately [2,360 ft]."[76] If more than one cable is installed, they would be separated by a distance of 164 to 328 ft to allow for optimal flexibility, micro-siting, and room for maintenance or repairs. However, if the SCV is utilized only one cable is expected to be installed within the corridor with a 3.3 ft wide cable installation trench and up to a 10 ft wide temporary disturbance zone from installation equipment. Therefore, the cable would have minimal environmental impacts and could have a larger degree of micro-siting flexibility.

Target cable burial depth within the lease area and SCV cable corridor has been chosen to avoid and minimize gear and anchor strikes to a great extent. PCW will achieve a target cable burial depth of between 5 and 8 ft.[77] The PCW engineers have determined this depth "is more than twice the burial depth that is necessary to protect the cables [and fishers] from…fishing activities."[78] In the SCV corridor, trawl marks from hydraulic fishing operations were observed up to 3m wide and less than 10 cm deep. However, an independent analysis of geologic and

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73 *Supra* pp. 14.
74 *See* Appendix 6.
75 *See also supra* pp. 9. Stating PCW intends to put all cables within the OECC with a landfall site at the Town of Barnstable, Massachusetts.
76 *See* Appendix 6.
77 *See* Appendix 6.
78 *Id*.

benthic conditions with the SCV indicates the Developer's target burial depth "makes potential impacts on the cable…unlikely."[79] Furthermore, the target burial depth "provides a maximum of 1 in 100,000-year probability of anchor strike, which is considered negligible."[80] The cable installation contractor, Prysmian Group, has extensive experience with cable installation in the northeast and has installed submarine cables for Vineyard Wind 1, Empire Wind 1 and 2, HEEC cable replacement in Boston Harbor, SOO Green HVDC link, and the Neptune, Trans Bay Cable, and Hudson River Project.

The Developer understands there will be a need to remove/relocate boulders within the SCV corridor and has committed to modified boulder relocation operations where practicable. The SCV contains areas of dense boulder fields which will require the use of a boulder plow and potentially the subsequent use of a boulder grab tool. All boulders will remain within the surveyed cable corridor (approximately 2,360 ft wide) and where technically feasible, boulders will be co-located or placed in similar benthic conditions to avoid and minimize the creation of new hangs. Previously, boulders were to be moved perpendicular to the cable route and the new location charted/provided to stakeholders. The locations of relocated boulders will be reported in latitude and longitude degrees to the nearest 10 thousandths of a decimal degree. The modified boulder relocation plan will further avoid and minimize the creation of new hangs and reduce the learning curve commercial fishers will have in adjusting to altered hard bottom areas. The grouping and placing of boulders into similar nearby areas was a recommendation provided by the FAB for previous offshore wind federal consistency reviews.

The enforceable policy at § 11.10.1(C) requires an applicant "modify the proposal to avoid and/or mitigate the impacts." CRMC Staff has determined that the above modifications and mitigation measures allow the proposed NEWF project to be consistent with enforceable policy § 11.10.1(C).

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[79] *See* King & Oakley Report at 7, 33.
[80] *See* Appendix X – RFI 1 at 3-4.

4.2 Enforceable Policy § 11.10.1(E):

The Council shall prohibit any other uses or activities that would result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. Long-term impacts are defined as those that affect more than one or two seasons.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> New England Wind will not result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. New England Wind is not expected to result in significant long-term adverse impacts to benthic, finfish, and invertebrate species of commercial and recreational importance. Overall, localized impacts from the alteration of habitat in the [Southern Wind Development Area] and along the OECC are expected to be minimal and recovery of natural assemblages likely. (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-12)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> The South Coast Variant will not result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. The South Coast Variant is not expected to result in significant long-term adverse impacts to benthic, finfish, and invertebrate species of commercial and recreational importance. Overall, localized impacts from the alteration of habitat in the South Coast Variant are expected to be minimal and recovery of natural assemblages is expected. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-6)

4.2.1 CRMC Analysis:

Offshore foundation installation for Phase 1's 41-62 WTGs and ESPs is expected to occur at a rate of one to two monopiles per day.[81] The same installation rate is expected for

[81] *See* NEW COP Vol. III at 2-5.

Phase 2 WTGs and ESPs.[82] OECC installation is estimated to be approximately 9 months for Phase 1 and 13.5 months for Phase 2. These timeframes account for pre-installation activities, reasonably foreseeable weather delays, and simultaneous lay and bury methods. Inter-array cables for Phase 1 are estimated to take 5 months to install and approximately 10 months for Phase 2. Export cable installation can be done at approximately 200 meters/hour and inter-array cables at approximately 200-300 meters/hour. Overall, PCW has conservatively estimated the NEWF project will take three years to complete both Phase 1 and Phase 2.[83] The Project DEIS expects Phase 1 to be in service as early as 2025 and Phase 2 as early as 2027.[84] Although these are tentative timeframes and many of these activities will occur simultaneously, impacts from construction activity may persist beyond three-year mark and affect more than one or two seasons.

The general construction sequence begins with seabed preparation, then moves to installation of monopile foundations, followed by the installation of approximately 121 miles of Phase 1 IAC and 175 miles of Phase 2 IAC and any necessary cable protection. Considering the NOAA NMFS consultations have not been completed and BOEM’s ROD conditions are not yet known, there could be additional delays due to time-of-year restrictions or other factors. For example, current time-of-year restrictions for construction could range from January to April to account for North Atlantic Right Whale activity. Additionally, from CRMC Staff’s experiences with the Block Island Wind Farm, there were numerous construction delays that significantly extended the anticipated construction schedule. Given this information, it is possible that construction time periods could very well be exceeded beyond one or two seasons. Staff recommends the Council consider weight PCW’s conservative three-year construction time frame and other mitigation measures the Developer will employ.

The enforceable policy § 11.10.1(E) considers any negative impact to Rhode Island’s commercial and recreational fisheries that exceeds “one or two season” to be a significant long-term impact. As discussed above for enforceable policy § 11.10.1(C), absent mitigation in

[82] *Id*. at 2-11.
[83] Note the three-year estimate builds in additional conservativity. PCW original used a two-year, 10-month time frame but has opted for a more conservative approach. This approach is also used to inform PCW’s fisheries compensation mitigation package.
[84] *See* NEW DEIS Table ES-1 at ES-12 to ES-13.

accordance with enforceable policies §§ 11.10.1(F) and (G), there will likely be significant adverse, long-term effects to Rhode Island-based coastal resources and uses that occur within the NEWF lease area and export cable corridors. Therefore, we must consider PCW's mitigation measures in light of the proposed project timelines.

4.3 Enforceable Policy § 11.10.1(F):

The Council shall require that the potential adverse impacts of offshore developments and other uses on commercial or recreational fisheries be evaluated, considered and mitigated as described in § 11.10.1(G) of this Part.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> Park City Wind has fully analyzed the potential impacts of New England Wind on commercial and recreational fisheries and has considered, avoided, minimized, and mitigated those potential impacts. (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-12)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Park City Wind has fully analyzed the potential impacts of the South Coast Variant on commercial and recreational fisheries and has considered, avoided, minimized, and mitigated those potential impacts. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-6)

4.3.1 CRMC Analysis:

As shown above in the analyses for §§ 11.10.1(C) and (E), CRMC Staff has determined that there will likely be adverse impacts on commercial and/or recreational fisheries from a full buildout of the NEWF project. Therefore, Staff has considered mitigation measures proposed by PCW under this enforceable policy and in accordance with § 11.10.1(G).

4.4 Enforceable Policy § 11.10.1(G):

For the purposes of fisheries policies and standards as summarized in Ocean SAMP Chapter 5, Commercial and Recreational Fisheries, §§ 5.3.1 and 5.3.2 of this Subchapter, mitigation is *defined as a process to make whole those fisheries user groups, including related shore-side seafood processing facilities, that are adversely affected by offshore development proposals or projects. Mitigation measures shall be consistent with the purposes of duly adopted fisheries management plans, programs, strategies and regulations of the agencies and regulatory bodies with jurisdiction over commercial and recreational fisheries, including but not limited to those set forth above in § 11.9.4(B) of this Part. Mitigation shall not be designed or implemented in a manner that substantially diminishes the effectiveness of duly adopted fisheries management programs. Mitigation measures may include, but are not limited to, compensation, effort reduction, habitat preservation, restoration and construction, marketing, and infrastructure and commercial fishing fleet improvements. Where there are potential impacts associated with proposed projects, the need for mitigation shall be presumed (see § 11.10.1(F) of this Part). Mitigation shall be negotiated between the Council staff, the FAB, the project developer, and approved by the Council. The final mitigation will be the mitigation required by the CRMC and included in the CRMC's Assent for the project or included within the CRMC's federal consistency decision for a project's federal permit application.*

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> Park City Wind will take measures to mitigate impacts to benthic resources and fish species, including measures to mitigate the potential impacts of injury to fish from pile driving. Measures to mitigate impacts to commercial and recreational fisheries will also be taken. (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-20)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Park City Wind will take measures to mitigate impacts to benthic resources and fish species, including measures to mitigate the potential impacts of injury to fish from pile driving. Measures to mitigate impacts to commercial and recreational fisheries will also be taken. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-9)

4.4.1 CRMC Analysis:

Whether mitigation measures by the developer will "make whole those fisheries user groups…adversely affected by [an] offshore development project" in accordance with enforceable policy § 11.10.1(G) is unclear because some long-term impacts are unknown. As previously stated for enforceable policy § 11.10.1(C), there are large uncertainties regarding impacts from large-scale offshore wind developments according to BOEM, NOAA, and RODA.[85] Some of those uncertainties include how commercial and recreational fishers will adapt to fishing in and around wind farms, whether stock assessments can be conducted with enough accuracy to avoid negative economic consequences and impacts from artificial reef effect. However, the Project DEIS states BOEM generally estimates the overall impact from the NEWF as being minor benefit to negligible to moderate adverse when considered by itself and not with cumulative impacts from other planned offshore activities.[86]

The developer has made modifications to the Project that avoid, minimize, and/or mitigate impacts which align with the enforceable policy's description of mitigation measures. Enforceable policy § 11.10.1(G) states mitigation measures may include, but are not limited to, compensation, effort reduction, habitat preservation, restoration and construction, marketing, and infrastructure and commercial fishing fleet improvements. As presented under enforceable policy § 11.10.1(C), the NEWF project has committed to siting project infrastructure outside of complex and sensitive bottom habitat to the extent possible. Additionally, PCW will modify their boulder relocation plan in order to avoid, minimize, and mitigate the creation of new hangs and impacts to Rhode Island fishers. Furthermore, additional mitigation measures will be taken as discussed for enforceable policy § 11.10.1(C) and in the staff report appendices.

Considerable discussions have occurred over the past several months regarding Project modifications and mitigation measures between CRMC Staff and PCW. Both sides agree project modifications and mitigation are necessary to reach a consensus on what may constitute adequate mitigation measures. For several months, CRMC Staff and PCW held weekly meetings to discuss various mitigation measures including compensatory mitigation and project modifications. CRMC also provided multiple Requests for Information which PCW responded to

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[85] *See* Hogan et al., 2023 at 55.
[86] *See* NEW DEIS Table 2.4-1 at 2-41 to 2-45.

and discussed in detail. Despite the resignation of the FAB, CRMC staff assumes the FAB would stand by its prior assertions that a wind farm project does not meet any of the CRMC's Ocean SAMP enforceable policies.

A key part of these meetings were discussions analyzing the PCW "*Economic Exposure of Commercial Fisheries to the New England Wind Offshore Wind Energy Development*"[87] (Exposure Report). This report considers the potential effects of the construction, operations, and decommissioning of all Project phases on commercial and recreational for-hire fishing industries in Rhode Island. Discussions regarding the report ultimately led to a compensatory mitigation offer from PCW in the amount of $4,873,638 (net present value), with $3,972,908 accounting for commercial fisheries, $400,731 accounting for for-hire recreational fisheries and $500,000 to support commercial and for-hire charter fishing operations.[88]

The CRMC cannot require monetary compensation as part of its CZMA federal consistency review and decision. Therefore, the CRMC cannot object to the NEWF Consistency Certification solely for a failure to reach a compensatory mitigation agreement. The CRMC and an applicant can, however, mutually agree that a compensation amount is sufficient in-part to meet enforceable policies §§ 11.10.1(C), (G), and (H). CRMC Staff believe the Project could be deemed to be consistent with enforceable policy § 11.10.1(G) solely based on the developer's proposed mitigation measures as they amount to a "process to make whole those fisheries user groups…that are adversely affected by offshore development." Staff are also of the opinion that the Project could be deemed to be consistent with the enforceable policy if a compensatory mitigation agreement were agreed to.

In addition to discussing the compensatory mitigation component, Staff and PCW considered past FAB input on previous projects as their comments had been relatively consistent across project reviews. This previous input directly influenced the mutually agreed upon conditions, the multiple Requests for Information, and conversations regarding compensatory mitigation. Despite the FAB's resignation, their prior input has been crucial in the review of the NEWF project and the effort to meet enforceable policy § 11.10.1(G).

[87] *See* Appendix 5.
[88] *Id.*

4.5 Enforceable Policy § 11.10.1(H):

The Council recognizes that moraine edges, as illustrated in Figures 3 and 4 in § 11.10.2 of this Part, are important to commercial and recreational fishermen. In addition to these mapped areas, the FAB may identify other edge areas that are important to fisheries within a proposed project location. The Council shall consider the potential adverse impacts of future activities or projects on these areas to Rhode Island's commercial and recreational fisheries. Where it is determined that there is a significant adverse impact, the Council will modify or deny activities that would impact these areas. In addition, the Council will require assent holders for offshore developments to employ micro-siting techniques in order to minimize the potential impacts of such projects on these edge areas.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> Park City Wind anticipates that there will be no impacts to glacial moraine or moraine edges within the Project lease area or Offshore Export Cable Corridor. Comprehensive geophysical and geotechnical surveys show there are no known glacial moraines within the project area within the 2018 GLD area. (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-20 to 3-21)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Park City Wind installation of offshore export cables within the South Coast Variant are not expected to have a significant adverse impact to glacial moraines located within the cable corridor. Regardless, avoidance, minimization, and mitigation measures will be taken if the South Coast Variant is utilized. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-9 to 3-10)

4.5.1 CRMC Analysis:

The NEWF project was originally sited to avoid glacial moraine. The NEWF lease area is located much further south of previously reviewed offshore wind projects which are located either directly on Cox Ledge or in close proximity to Cox Ledge. Cox Ledge is dominated by dense boulder fields and complex glacial moraine bottom habitat. By comparison, the NEWF lease area "seafloor conditions within the [lease area] are entirely homogenous Soft Bottom habitat" and is devoid of complex hard bottom habitats.[89] The SCV cable corridor does contain areas of dense boulders and glacial moraine, but Staff believe Project mitigation measures and the mutually agreed upon conditions avoid, minimize, and mitigate impacts to these sensitive habitat areas. Prior projects identified cable burial as a concern, however, as previously stated under enforceable policy § 11.10.1(C), PCW's target burial depth has been designed to avoid fishing gear interaction and site conditions are conducive to achieving target burial depth.

4.6 Enforceable Policy § 11.10.1(I):

The finfish, shellfish, and crustacean species that are targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their life cycles. While all fish habitat is important, spawning and nursery areas are especially important in providing shelter for these species during the most vulnerable stages of their life cycles. The Council shall protect sensitive habitat areas where they have been identified through the Site Assessment Plan or Construction and Operation Plan review processes for offshore developments as described in § 11.10.5(C) of this Part.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> Most potential impacts to finfish, shellfish, and crustacean species are expected to be temporary, with some long-term direct habitat alteration from the installation of WTG/ESP foundations, scour protection, and potential cable protection. (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-21 to 3-22)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Most potential impacts to finfish, shellfish, and crustacean species are expected to be temporary. Permanent habitat alteration may occur from the potential installation of cable protection (if required), which alters habitat through the addition of hard substrate. (*See*

[89] *See* NEW COP Vol. III Appendix III-F (Essential Fish Habitat Assessment) at 6.

Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-10 to 3-11)

4.6.1 CRMC Analysis:

A number of economically and ecologically important species are found within the NEWF lease area and along the export cable routes. These species are listed in COP Appendix III-F – Essential Fish Habitat Assessment at 19. Portions of the lease area and export cable corridor are designated by NOAA as containing essential fish habitat (EFH) for a number of fish species, including eggs, larvae, juveniles and adults that are listed in the COP Appendix. Habitat Areas of Particular Concern (HAPC) are also identified with EFH areas. The Appendix further states that impact producing factors may result in direct or indirect impacts to EFH and in some cases conversion to hard bottom may create additional EFH.

Based in-part on anticipated impacts to sensitive habitat areas, the Developer has agreed to CRMC recommended conditions which aim to reduce impacts to those resource areas to the extent practicable. Under Condition 1, PCW has agreed to avoid siting infrastructure in complex and sensitive habitat areas to the extent possible. Under Condition 2, PCW will conduct its Fisheries Monitoring Plan and Benthic Habitat Monitoring Plan and provide the result to CRMC for consideration. Under Condition 3, PCW has agreed to make all reasonable efforts, considering logistical constraints, technical feasibility, and safety, to relocate boulders within the same environment. These conditions, along with other mitigation measures will reduce impacts from the NEWF and allow the Project to be consistent with enforceable policy § 11.10.1(I).

4.7 Enforceable Policy § 11.10.2(B):

The Council has designated the areas listed below in § 11.10.2(C) of this Part in state waters as Areas of Particular Concern [(APC)]. All large-scale, small-scale, or other offshore development, or any portion of a proposed project, shall be presumptively excluded from APCs. This exclusion is rebuttable if the applicant can demonstrate by clear and convincing evidence that there are no practicable alternatives that are less damaging in areas outside of the APC, or that the proposed project will not result in a significant alteration to the values and resources of the APC. When evaluating a project proposal, the Council shall not consider cost as a factor when determining whether practicable alternatives exist. Applicants which successfully *demonstrate that the presumptive exclusion does not apply to a proposed project because there are no practicable alternatives that are less damaging in areas outside of the APC* <u>*must*</u> *also demonstrate that all feasible efforts have been made to avoid damage to APC resources and values and that there will be no significant alteration of the APC resources or values. Applicants successfully demonstrating that the presumptive exclusion does not apply because the proposed project will not result in a significant alteration to the values and resources of the APC must also demonstrate that all feasible efforts have been made to avoid damage to the APC resources and values. The Council may require a successful applicant to provide a mitigation plan that protects the ecosystem. The Council will permit underwater cables, only in certain categories of Areas of Particular Concern, as determined by the Council in coordination with the Joint Agency Working Group. The maps listed below in § 11.10.2(C) of this Part depicting Areas of Particular Concern may be superseded by more detailed, site-specific maps created with finer resolution data.*

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> No physical structures of New England Wind are located within an APC designated in the Ocean SAMP under § 11.10.2(C). (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-25)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> The Proponent is conducting detailed surveys and resource assessments of the South Coast Variant to avoid and minimize impacts to APCs to the maximum extent practicable, including areas with associated risk and natural or assigned value. The Proponent has also proposed mitigation where avoidance is not possible. impacts to glacial moraines are expected to be temporary and minimal. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-14 to 3-15)

4.7.1 CRMC Analysis:

The enforceable policy's mechanism which presumptively excludes all large-scale, small-scale, or other offshore development, or any portion of a proposed project *is not applicable* in federal waters. States may review, not manage, federal actions under federal consistency in that a state can review a wind developer's consistency certification to determine if adequate management measures are included to make a project consistent with state enforceable policies.[90] An enforceable policy cannot on its face dictate what a developer can or cannot do. Despite the presumptive exclusion being rebuttable, the notion that a developer would be automatically excluded from placing infrastructure in a specific area equates to the State of Rhode Island taking regulatory action in federal jurisdiction. Therefore, the presumptive exclusion, APC designations, and Ocean SAMP maps indicating where APC are located cannot be used by the State to regulate outside of State Waters. For a federal consistency review, CRMC utilizes the policy rational contained in § 11.10.2(B) to review the NEWF project. The enforceable policy's intent is to protect and preserve glacial moraine habitat areas identified within the CRMC's NOAA approved 2011 and 2018 Geographic Location Description areas[91] that have the same characteristics, values, and resources as CRMC designated APC located within State Waters. CRMC can utilize any information submitted by a developer over the course of the review process to determine whether adequate mitigation measures have been taken.

Based on geophysical surveys conducted by PCW and after an independent analysis of those results, Staff were able to consider bottom habitats and site conditions in great detail. As previously stated, the lease area is characterized by homogenous sandy bottom. The lease area is devoid of glacial moraine habitats while the SCV cable corridor contains such areas. PCW has provided adequate information to demonstrate that reasonably mitigation measures will allow the Project to avoid, minimize, and mitigate much of the adverse impacts. As such, PCW has demonstrated that adequate mitigation measures will be taken to avoid damaging areas of glacial moraine and complex habitat.

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[90] *See* Coastal Zone Management Act Review for Offshore Renewable Energy Projects: Intergovernmental Renewable Energy Task Force for the Gulf of Mexico, June 15, 2021, slide 8. https://www.boem.gov/renewable-energy/state-activities/noaa-national-ocean-service-czma-david-kaiser

[91] *See* 15 C.F.R.§ 930.53(a)(1).

As noted above in enforceable policies §§ 11.10.1(C), (F), and (G), PCW has made appropriate modifications to the project plan and has agreed to conditions which will mitigate impacts to complex glacial moraine habitats. Under Condition 1, PCW has agreed to avoid siting infrastructure in complex and sensitive habitat areas to the extent possible. Under Condition 2, PCW will conduct its Fisheries Monitoring Plan and Benthic Habitat Monitoring Plan and provide the result to CRMC for consideration. Under Condition 3, PCW has agreed to make all reasonable efforts, considering logistical constraints, technical feasibility, and safety, to relocate boulders within the same environment. These conditions, along with other mitigation measures will reduce impacts from the NEWF and allow the project to be consistent with enforceable policy § 11.10.2(B).

4.8 Enforceable Policy § 11.10.2(C)(3):

Glacial moraines are important habitat areas for a diversity of fish and other marine plants and animals because of their relative structural permanence and structural complexity. Glacial moraines create a unique bottom topography that allows for habitat diversity and complexity, which allows for species diversity in these areas and creates environments that exhibit some of the highest biodiversity within the entire Ocean SAMP area. The Council also recognizes that because glacial moraines contain valuable habitats for fish and other marine life, they are also important to commercial and recreational fishermen. Accordingly, the Council shall designate glacial moraines as identified in Figures 3 and 4 in § 11.10.2 of this Part as Areas of Particular Concern.

New England Wind Consistency Certification Response:

With respect to the NEWF lease area and Offshore Export Cable Corridor, the Developer states:

> No physical structures of New England Wind are located within an APC designated in the Ocean SAMP under § 11.10.2(C). (*See* Appendix 1 – New England Wind Rhode Island CZMA Consistency Certification at 3-26)

With respect the NEWF South Coast Variant export cable corridor, the Developer states:

> Park City Wind installation of offshore export cables within the South Coast Variant are not expected to have a significant adverse impact to glacial moraines located within the

cable corridor. Regardless, avoidance, minimization, and mitigation measures will be taken if the South Coast Variant is utilized. (*See* Appendix 1 – New England Wind Rhode Island Phase 2 South Coast Variant CZMA Consistency Certification at 3-15 to 3-16 citing statement given for Ocean SAMP § 11.10.1(H))

4.8.1 CRMC Analysis:

For the reasons stated above under CRMC enforceable policy § 11.10.2(B), Staff finds that PCW has mitigated impacts to glacial moraine in the NEWF lease area and export cable corridor and recommends the Council find the Project to be consistent with Ocean SAMP enforceable policy § 11.10.2(C)(3).

5 Conclusion

Pursuant to 15 C.F.R. §§ 930.4 and 930.78, and for the reasons detailed herein, the CRMC Staff is of the opinion that based on the mutually agreed upon conditions and other mitigation efforts that will be employed by the Developer, the proposed NEWF offshore wind renewable energy project can be deemed to comply with the enforceable policies of the Rhode Island coastal management program. Based on Staff's review of the NEWF Project and its effects on Rhode Island coastal resources and uses, Staff recommend the Council issue a **concurrence with conditions** in this matter. Additionally, CRMC Staff has reviewed all other applicable enforceable policies of the Ocean SAMP at 650-RICR-20-05-11 not specifically identified above and has determined that the NEWF Project is consistent with those enforceable policies.

Appendix 1 – New England Wind CZMA Consistency Certifications

New England Wind

AVANGRID RENEWABLES

Construction and Operations Plan

Lease Area OCS-A 0534

Volume III Appendices

June 2022

Submitted by
Park City Wind LLC

Submitted to
Bureau of Ocean Energy Management
45600 Woodland Rd
Sterling, VA 20166

Prepared by
Epsilon Associates, Inc.

Epsilon ASSOCIATES INC.

New England Wind Rhode Island Coastal Zone Management Act Consistency Certification

Submitted to:

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45600 Woodland Rd
Sterling, VA 20166

RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL
Stedman Government Center, Suite 3
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Wakefield, RI 02879-1900

Prepared for:

Park City Wind LLC

Prepared by:

Epsilon Associates, Inc.

June 2022

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1.0 INTRODUCTION

New England Wind is the proposal to develop offshore renewable wind energy facilities in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0534 along with associated offshore and onshore cabling, onshore substations, and onshore O&M facilities. Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC, is the Proponent and will be responsible for the construction, operation, and decommissioning of New England Wind. Figure 1.0-1 provides and overview of New England Wind. The Proponent has prepared this Consistency Certification to demonstrate that New England Wind will comply with and will be conducted in a manner consistent with the enforceable policies of the Rhode Island Coastal Resources Management Program (RICRMP).

The Proponent filed its New England Wind Construction and Operations Plan (COP) with BOEM on July 2, 2020. New England Wind's offshore wind facilities within all of Lease Area OCS-A 0534 and the southwest portion of Lease Area OCS-A 0501, referred to as the Southern Wind Development Area (SWDA), and just under a third of the length of the underwater offshore export cables[1] are located within Rhode Island's 2018 Geographic Location Description (GLD) (see Figure 1.0-1).

Thus, the Proponent certifies to the Rhode Island Coastal Resources Management Council (CRMC) that:

> *The proposed activities described in detail in the New England Wind COP comply with Rhode Island's approved Coastal Resource Management Program and will be conducted in a manner consistent with such Program*.

This certification is made in accordance with the requirements of the Coastal Zone Management Act (16 U.S.C. 1451 et seq.) and implementing regulations at 15 CFR Part 930, Subpart E.

A summary of New England Wind's facilities and activities is provided in Section 2. Section 3 demonstrates how New England Wind, as described in Section 2 and more completely in the New England Wind COP, complies with each of the RICRMP's applicable enforceable policies.

[1] Approximately 32% of the Offshore Export Cable Corridor (OECC) is located within the 2018 GLD, about half of which is located in the Vineyard Wind 1 Wind Development Area.

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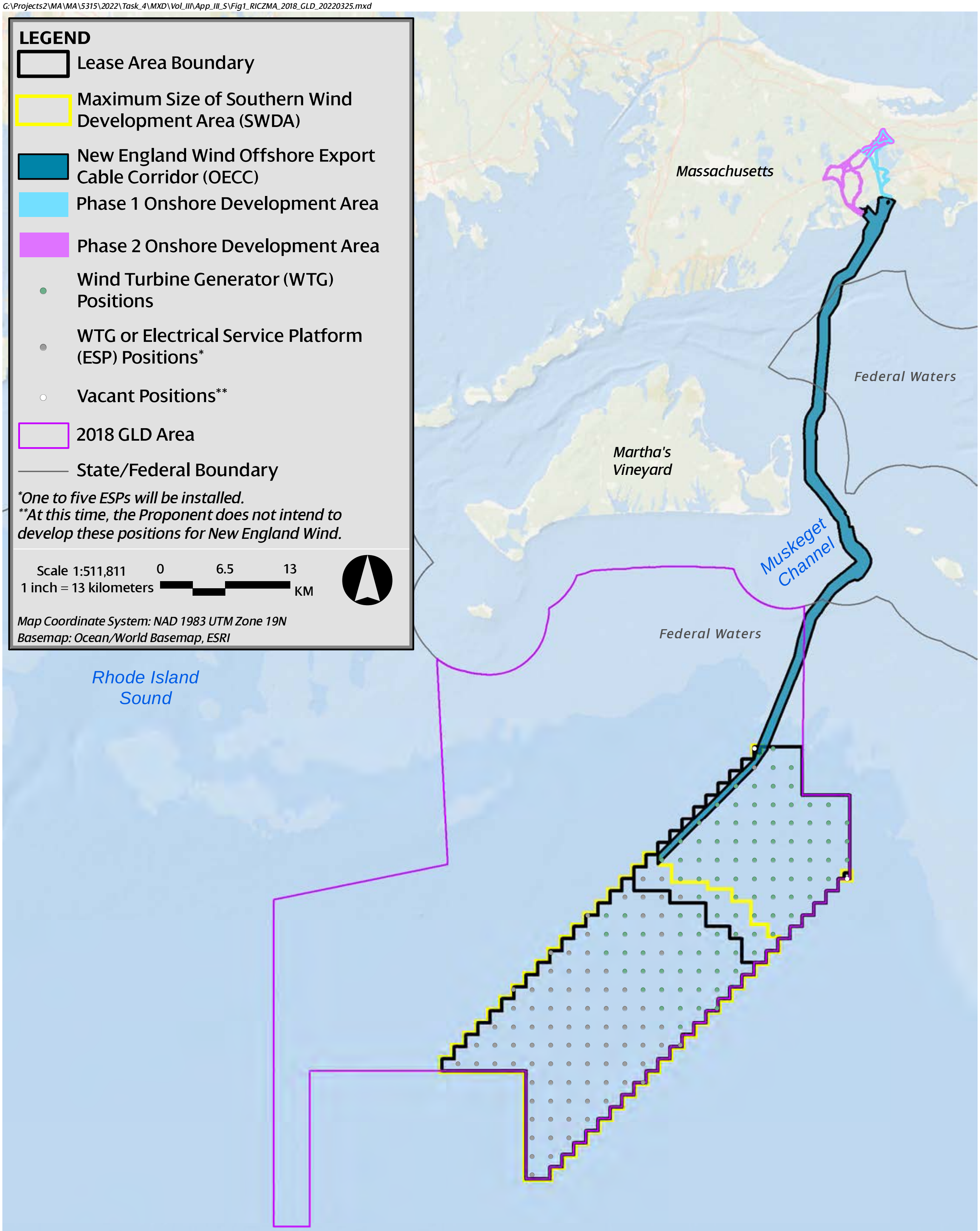

New England Wind
AVANGRID RENEWABLES

Figure 1.0-1

Location of New England Wind's Offshore Facilities within the 2018 GLD

2.0 SUMMARY OF NEW ENGLAND WIND FACILITIES AND ACTIVITIES

2.1 Overview

New England Wind is the proposal to develop offshore renewable wind energy facilities in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0534 along with associated offshore and onshore cabling, onshore substations, and onshore O&M facilities. Lease area OCS-A 0534 is within the Massachusetts Wind Energy Area (MA WEA) identified by BOEM, following a public process and environmental review, as suitable for wind energy development. Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC, is the Proponent of this Construction and Operations Plan (COP) and will be responsible for the construction, operation, and decommissioning of New England Wind.

New England Wind's offshore renewable wind energy facilities are located immediately southwest of Vineyard Wind 1, which is located in Lease Area OCS-A 0501. New England Wind will occupy all of Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501 in the event that Vineyard Wind 1 does not develop "spare" or extra positions included in Lease Area OCS-A 0501 and Vineyard Wind 1 assigns those positions to Lease Area OCS-A 0534. For the purposes of the COP, the Southern Wind Development Area (SWDA) is defined as all of Lease Area OCS-A 0534 and the southwest portion of Lease Area OCS-A 0501, as shown in Figure 1.0-1.

New England Wind will be developed in two Phases with a maximum of 130 wind turbine generator (WTG) and electrical service platform (ESP) positions. Phase 1, also known as Park City Wind, will be developed immediately southwest of Vineyard Wind 1. Phase 2, also known as Commonwealth Wind, will be located southwest of Phase 1 and will occupy the remainder of the SWDA. Each Phase of New England Wind will be developed and permitted using a Project Design Envelope (the "Envelope"). This allows the Proponent to properly define and bracket the characteristics of each Phase for the purposes of environmental review while maintaining a reasonable degree of flexibility with respect to the selection of key components (e.g. WTGs, foundations, submarine cables, and ESPs). To assess potential impacts and benefits to various resources, a "maximum design scenario," or the design scenario with the maximum impacts anticipated for that resource, is established (see Section 3 of COP Volume III).

The SWDA may be 411–453 square kilometers (km^2) (101,590–111,939 acres) in size depending upon the final footprint of the Vineyard Wind 1 project. At this time, the Proponent does not intend to develop the two positions in the separate aliquots located along the northeastern boundary of Lease Area OCS-A 0501 as part of New England Wind. The SWDA (excluding the two separate aliquots that are closer to shore) is just over 32 kilometers (km) (20 miles [mi]) from the southwest corner of Martha's Vineyard and approximately 38 km (24 mi) from Nantucket.[2] In accordance with US Coast Guard (USCG) recommendations, the WTGs and ESP(s) in the SWDA

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2 Within the SWDA, the closest WTG is approximately 34 km (21 mi) from Martha's Vineyard and 40 km (25 mi) from Nantucket.

will be oriented in fixed east-to-west rows and north-to-south columns with one nautical mile (1.85 km) spacing between positions. This uniform grid layout provides 1 NM wide corridors in the east-west and north-south directions as well as 0.7 NM (1.3 km) wide corridors in the northwest-southeast and northeast-southwest directions.

Four or five offshore export cables—two cables for Phase 1 and two or three cables for Phase 2—will transmit electricity from the SWDA to shore. Unless technical, logistical, grid interconnection, or other unforeseen issues arise, all New England Wind offshore export cables will be installed within a shared Offshore Export Cable Corridor (OECC) that will travel from the northwestern corner of the SWDA along the northwestern edge of Lease Area OCS-A 0501 (through Vineyard Wind 1) and then head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable (see Figure 2.3-1 of COP Volume I).[3] The OECC for New England Wind is largely the same OECC proposed in the approved Vineyard Wind 1 COP, but it has been widened to the west along the entire corridor and to the east in portions of Muskeget Channel. The two Vineyard Wind 1 offshore export cables will also be installed within the New England Wind OECC. To avoid cable crossings, the Phase 1 cables are expected to be located to the west of the Vineyard Wind 1 cables and, subsequently, the Phase 2 cables are expected to be installed to the west of the Phase 1 cables.

Each Phase of New England Wind will have a separate onshore transmission system located in the Town of Barnstable.[4] The Phase 1 onshore facilities will ultimately include one of two potential landfall sites, one of two potential Onshore Export Cable Routes, one new onshore substation, and one of two potential Grid Interconnection Routes, which are identified in Figure 2.4-1 of COP Volume I. Phase 2 will include one or two landfall sites, one or two Onshore Export Cable Routes, one or two onshore substation sites, and one or two Grid Interconnection Routes. The potential landfall sites, Onshore Export Cable Routes, and Grid Interconnection Routes are illustrated on Figure 2.4-1 of COP Volume I. The Phase 2 onshore substation site(s) will be located generally along the Phase 2 onshore routes identified in Figure 2.4-1 of COP Volume I.

New England Wind has significant environmental benefits. The electricity generated by the WTGs, which do not emit air pollutants, will displace electricity generated by fossil fuel power plants and significantly reduce emissions from the ISO New England (ISO-NE) electric grid over the lifespan of New England Wind. New England Wind is expected to reduce carbon dioxide equivalent (CO_2e) emissions from the ISO-NE electric grid by approximately 3.93 million tons per year (tpy), or the

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3 As described further in Section 4.1.3 of COP Volume I, the Proponent has identified two variations of the Phase 2 OECC in the event that technical, logistical, grid interconnection, or other unforeseen issues arise during the COP review and engineering processes that preclude one or more Phase 2 offshore export cables from being installed within all or a portion of the OECC.

4 One or more Phase 2 offshore export cables may deliver power to a second grid interconnection point if technical, logistical, grid interconnection, or other unforeseen issues arise. Under this scenario, Phase 2 could include one onshore transmission system in Barnstable and/or an onshore transmission system(s) in proximity to the second grid interconnection point (see Section 4.1.4 of COP Volume I).

equivalent of taking 775,000 cars off the road.[5] New England Wind will significantly decrease the region's reliance on fossil fuels and enhance the reliability and diversity of regional energy supply. In addition to these important environmental and energy reliability benefits, New England Wind is expected to result in significant long-term economic benefits and high-quality jobs.

2.2 Organization of the COP

The New England Wind COP describes all planned activities and facilities associated with the construction and operation of each Phase of New England Wind. The COP is comprised of three volumes:

- Volume I provides a detailed description of New England Wind's location, offshore and onshore facilities, and construction, O&M, and decommissioning activities. Phase 1 is described in Section 3 of COP Volume I and Phase 2 is described separately in Section 4.
- Volume II provides a comprehensive analysis of the data collected during geophysical and geotechnical surveys conducted for New England Wind.
- Volume III details the benefits and potential impacts of both Phases to physical, atmospheric, biological, economic, cultural, and historic resources based on the "maximum design scenario" for each resource.

The remainder of this section summarizes the facilities and activities for each Phase as described in COP Volume I. Potential environmental impacts and avoidance, minimization, and mitigation measures are summarized in Section 4 of COP Volume III.

2.3 Phase 1 of New England Wind

Phase 1 of New England Wind, also known as Park City Wind, will deliver power to one or more Northeastern states and/or to other offtake users, including but not limited to 804 MW of power to the ISO-NE electric grid to meet the Proponent's obligations under long-term contracts between the Proponent and Connecticut electric distribution companies. Assuming the necessary permits are issued and financial close is achieved, construction of Phase 1 would likely begin in late 2023 onshore and 2025 offshore. The Envelope for Phase 1 is summarized in Table 2.3-1 below.

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5 The avoided emissions analysis conservatively assumes a minimum total capacity for both Phases of New England Wind of approximately 2,000 MW; however, it is likely that benefits will be greater than those reported. The analysis is based on Northeast Power Coordinating Council (NPCC) New England 2018 emission rates. from EPA's Emissions & Generation Resource Integrated Database eGRID2018(v2) released in March 2020. See Section 5.1.2.2 of COP Volume III for additional details.

2.3.1 Phase 1 Construction and Installation

2.3.1.1 Wind Turbine Generators

Phase 1 will consist of 41–62 WTGs oriented in a 1 x 1 NM layout. The potential footprint of Phase 1 within the SWDA includes a portion of Lease Area OCS-A 0501 (see Figure 3.1-4 of COP Volume I), in the event that Vineyard Wind 1 does not develop some or all of its 10 spare positions and Vineyard Wind 1 assigns those positions to Lease Area OCS-A 0534. Similarly, the potential footprint of Phase 1 overlaps with the potential footprint of Phase 2 to account for the range in the number of WTGs that may be developed for Phase 1 (see Figure 3.1-4 of COP Volume I).

The WTG parameters for Phase 1 are provided in Table 2.3-1 and shown on Figure 3.2-1 of COP Volume I. The WTGs will be no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey in color; the Proponent anticipates that the WTGs will be painted off-white/light grey to reduce their visibility against the horizon. The WTGs will include one or two levels of red flashing aviation obstruction lights in accordance with Federal Aviation Administration (FAA) and/or BOEM requirements. The Proponent expects to use an Aircraft Detection Lighting System (ADLS) that automatically activates all aviation obstruction lights when aircraft approach the Phase 1 WTGs, subject to BOEM approval. Each WTG will be maintained as a Private Aid to Navigation (PATON) and will contain marine navigation lighting and marking in accordance with the USCG's PATON marking guidance for offshore wind facilities in First District-area waters.

The WTGs will be installed using jack-up vessels, anchored vessels, or dynamic positioning (DP) vessels along with necessary support vessels and supply vessels. The tower will first be erected followed by the nacelle and finally the hub, inclusive of the blades. Alternatively, the nacelle and hub could be installed in a single operation followed by installation of individual blades.

Table 2.3-1 Phase 1 of New England Wind Design Envelope Summary

Layout and Size of Phase 1	WTGs	WTG Foundations
• 41–62 wind turbine generators (WTGs) installed • One or two electrical service platforms (ESPs) installed • Windfarm layout in E-W & N-S grid pattern with 1 NM (1.85 km) spacing between WTG/ESP positions • Area of Phase 1 SWDA: 150–231 km^2 (37,066–57,081 acres)	• 41–62 WTGs • Maximum rotor diameter of 285 m (935 ft) • Maximum tip height of 357 m (1,171 ft) • Minimum tip clearance of 27 m (89 ft) • Installation with a jack-up vessel, anchored vessel, or dynamic positioning (DP) vessel and components likely supplied by feeder vessels	• Each WTG installed on a monopile or piled jacket foundation • Scour protection may be used around all foundations • Maximum pile driving energy of 6,000 kJ for monopiles and 3,500 kJ for jackets • Installation with a jack-up vessel, anchored vessel, or DP vessel and components potentially supplied by feeder vessels
ESPs (Topside and Foundation)	**Inter-Array & Inter-Link Cables**	**Offshore Export Cables**
• One or two ESP(s) • Each ESP installed on a monopile or jacket foundation (ESPs installed on monopiles may be co-located) • Maximum pile driving energy of 6,000 kJ for monopiles and 3,500 kJ for jackets • Scour protection may be installed around the foundations • Installation with a jack-up vessel, anchored vessel, or DP vessel	• 66–132 kV inter-array cables buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft) • Maximum total inter-array cable length of ~225 km (~121 NM) • Up to one 66–275 kV inter-link cable buried at a target depth of 1.5–2.5 m (5–8 ft) • Maximum total inter-link cable length of ~20 km (~11 NM) • Example layout identified, not finalized • Pre-lay grapnel run and pre-lay survey • Typical installation techniques include jetting (e.g. jet plow or jet trenching) and mechanical plow • Use of cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes [or similar]) on areas of minimal cable burial	• Two 220–275 kV offshore export cables buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft) • Maximum total offshore export cable length of ~202 km (~109 NM) • Cables installed in one Offshore Export Cable Corridor • Pre-lay grapnel run, pre-lay survey, and possibly boulder clearance • Typical installation techniques include jetting (e.g. jet plow or jet trenching) and mechanical plow, possibly with dredging in some locations to achieve burial depth • Use of cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes [or similar]) on areas of minimal cable burial

Note: Elevations are relative to Mean Lower Low Water (MLLW).

2.3.1.2 Wind Turbine Generator Foundations

At this time, the Proponent expects to use all monopiles for the Phase 1 WTG foundations. However, a combination of monopiles and/or piled jackets may be used, pending the outcome of a foundation feasibility analysis. The monopiles will have a maximum diameter of 12 m (39 ft) and will be driven into the seabed to a maximum penetration depth of 55 m (180 ft). The Envelope of dimensions for each Phase 1 WTG foundation type are shown on Figures 3.2-2 and 3.2-3 of COP Volume I. Scour protection consisting of rock material will be used for the larger diameter monopiles but may or may not be needed for the smaller diameter piles used for jacket foundations.

The foundations are expected to be installed by one or two DP, anchored, or jack-up vessels, along with necessary support vessels and supply vessels. Pile driving would begin with a “soft-start” (i.e., the hammer energy level will be gradually increased) to ensure the pile remains vertical and allow any motile marine life to leave the area before pile driving intensity is increased. It is anticipated that a maximum of two monopiles or one complete piled jacket (3–4 piles) can be driven into the seabed per day.

2.3.1.3 Electrical Service Platforms

One or two ESP(s) will serve as the common interconnection point(s) for the Phase 1 WTGs. The ESP(s) will be supported by either a monopile or piled jacket foundation (with 3–12 piles) that may be surrounded by scour protection, if needed. If two ESPs are used, they may be located at two separate positions or co-located at one of the potential ESP positions shown on Figure 3.1-4 of COP Volume I (co-located ESPs would be smaller structures installed on monopile foundations). The approximate size and design of the ESP topside and foundation are depicted in Figures 3.2-6 and 3.2-7 of COP Volume I. If necessary, the ESP(s) will include an aviation obstruction lighting system in compliance with FAA and/or BOEM requirements, which would be activated by ADLS, subject to BOEM approval. The ESP(s) will include marine navigation lighting and marking similar to the lighting and marking described for the WTGs. ESP foundation and topside installation may be performed by a DP, anchored, or jack-up vessel. ESP foundation installation is similar to WTG foundation installation described above. Following topside installation, the ESP(s) will be commissioned.

2.3.1.4 Offshore Export Cables

Phase 1 includes two offshore export cables, which will transmit electricity from the Phase 1 ESP(s) to the selected landfall site. Each offshore export cable is expected to be comprised of a three-core 220–275 kV high voltage alternating current (HVAC) cable and one or more fiber optic cables. Between the Phase 1 ESP(s) and the northwestern corner of the SWDA, the offshore export cables may be installed in any area of the SWDA. From the northwestern corner of the SWDA, the Phase 1 offshore export cables will be installed within the OECC to reach either the Craigville Public Beach Landfall Site or the Covell’s Beach Landfall Site (see Figure 3.1-6 of COP Volume I). The maximum length of offshore export cables (assuming two cables) is ~202 km (~109 NM).

Prior to cable laying, a pre-lay grapnel run and pre-lay survey will be performed to clear obstructions and inspect the route. Large boulders along the route may need to be relocated and some dredging of the upper portions of sand waves may be required prior to cable laying to achieve sufficient burial depth below the stable sea bottom. Each offshore export cable will be installed beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft). Offshore export cable laying is expected to be performed primarily via simultaneous lay and bury using jetting techniques or mechanical plow. However, other specialty techniques may be used in certain areas to ensure sufficient burial depth (see Section 3.3.1.3.6 of COP Volume I). To facilitate cable installation, anchored vessels may be used along the entire length of the offshore export cables. While the Proponent intends to avoid or minimize the need for cable protection to the greatest extent feasible, the Proponent conservatively estimates that approximately 6% of the offshore export cables within the OECC for both Phases could require cable protection (or up to 7% of the offshore export cables within the OECC for both Phases if the Western Muskeget Variant is used for one or two Phase 2 export cables).

2.3.1.5 Inter-Array and Inter-Link Cables

Strings of multiple WTGs will be connected to the Phase 1 ESP(s) via 66–132 kV inter-array cables. The maximum anticipated length of the Phase 1 inter-array cables is approximately 225 km (121 NM). In addition, if two ESPs are used, the ESPs may be connected together by an up to ~20 km (~11 NM) long 66–275 kV inter-link cable. The Phase 1 inter-array and inter-link cable layout will be designed and optimized during the final design of Phase 1.

The inter-array and inter-link cables will be buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft), likely using jetting techniques. However, in some cases, a mechanical plow may be better suited to certain site-specific conditions and other specialty techniques may be used more rarely. The Proponent conservatively estimates that up to 2% of the total length of the inter-array and inter-link cables could require cable protection.

2.3.1.6 Landfall Site and Onshore Export Cables

The offshore export cables will make landfall within paved parking areas at either the Craigville Public Beach Landfall Site or the Covell’s Beach Landfall Site in the Town of Barnstable. The ocean to land transition at either landfall sites will be made using horizontal directional drilling (HDD), which will avoid or minimize impacts to the beach, intertidal zone, and nearshore areas and achieve a burial significantly deeper than any expected erosion. From the landfall site, the onshore export cables would follow one of two approximately 6.5-10.5 km (4.0-6.5 mi) potential Onshore Export Cable Routes (with variants) in the Town of Barnstable to the new onshore substation (see Figure 3.2-11 of COP Volume I).

The onshore export cables will be primarily installed in an underground duct bank (i.e. an array of plastic conduits encased in concrete) along the selected Onshore Export Cable Route; the duct bank will typically be within public roadway layouts although portions of the duct bank may be within existing utility rights-of-way (ROWs).

2.3.1.7 Onshore Substation and Grid Interconnection

Phase 1 will require the construction of a new onshore substation on a 0.027 km^2 (6.7 acre) privately-owned parcel located at 8 Shootflying Hill Road. From the onshore substation, grid interconnection cables will be installed within an underground duct bank along one of two potential Grid Interconnection Routes (with variants) to the grid interconnection point at Eversource's existing West Barnstable Substation. The Proponent may construct an access road to the onshore substation site on 6 Shootflying Hill Road, which is adjacent the onshore substation site. The Proponent may also use an approximately 0.011 km^2 (2.8 acre) parcel of land, assessor map parcel #214-001 ("Parcel #214-001"), located immediately southeast of the West Barnstable Substation for a segment of the grid interconnection cables and/or to house some onshore substation equipment (see Figure 3.1-2 of COP Volume I).

2.3.1.8 Port Facilities

The Proponent has identified several port facilities in Massachusetts, Rhode Island, Connecticut, New York, and New Jersey that may be used for frequent crew transfer, offloading/loading shipments of components, storage, preparing components for installation, and potentially some component fabrication and assembly. In addition, some components, materials, and vessels could come from Canadian and European ports. See Section 3.2.2.5 of COP Volume I for a complete list of possible ports that may be used for major construction staging. It is not expected that all the ports identified would be used; it is more likely that only some ports would be used during construction depending upon final construction logistics planning.

2.3.2 Phase 1 Operations and Maintenance

The Phase 1 WTGs will be designed to operate without attendance by any operators. Continuous monitoring will be conducted remotely using a supervisory control and data acquisition (SCADA) system. Routine preventive maintenance and proactive inspections (e.g. multi-beam echosounder inspections, side scan sonar inspections, magnetometer inspections, depth of burial inspections, etc.) will be performed for all offshore facilities.

To execute daily O&M activities offshore, the Proponent expects to use a service operation vessel (SOV) to provide offshore accommodations and workspace for O&M workers. Daughter craft and/or crew transfer vessels (CTVs) would be used to transfer crew to and from shore. Although less likely, if an SOV is not used, several CTVs and helicopters would be used to frequently transport crew to and from the offshore facilities. In addition to the SOV, CTVs, and/or daughter craft, other larger support vessels (e.g. jack-up vessels) may be used infrequently to perform some routine maintenance and repairs (if needed).

The Proponent expects to use one or more facilities in support of Phase 1 O&M activities. For Phase 1, the Proponent will likely establish a long-term SOV O&M base in Bridgeport, Connecticut. Current plans anticipate that CTVs and/or the SOV's daughter craft would operate out of Vineyard

Haven and/or New Bedford Harbor. Although the Proponent plans to locate the Phase 1 O&M facilities in Bridgeport, New Bedford Harbor, and/or Vineyard Haven, the Proponent may use other ports listed in Table 3.2-8 of COP Volume I to support O&M activities.

2.3.3 Phase 1 Decommissioning

As currently envisioned, the decommissioning process for Phase 1 is essentially the reverse of the installation process. Decommissioning of the offshore facilities is broken down into several steps:

- Retirement in place (if authorized by BOEM) or removal of the offshore cable system (i.e. inter-array, inter-link, and offshore export cables) and any associated cable protection.
- Dismantling and removal of WTGs. Prior to dismantling the WTGs, they would be properly drained of all lubricating fluids and chemicals, which would be brought to port for proper disposal and/or recycling.
- Cutting and removal of foundations and removal of scour protection. In accordance with BOEM's removal standards (30 CFR § 585.910(a)), the foundations would likely be cut at least 4.5 m (15 ft) below the mudline; the portion below the cut will likely remain in place.
- Removal of ESP(s). The ESP(s) and their foundations will be disassembled in a similar manner as the WTGs. Before removing the ESP(s), the offshore export cables, inter-array cables, and inter-link cables would be disconnected.

The onshore facilities could be retired in place or retained for future use. The extent of onshore decommissioning is subject to discussions with the Town of Barnstable on the approach that best meets the Town's needs and has the fewest environmental impacts.

2.4 Phase 2 of New England Wind

Phase 2 of New England Wind, also known as Commonwealth Wind, will deliver power to one or more Northeastern states and/or to other offtake users, including 1,232 MW of power to the ISO-NE electric grid to meet the Proponent's obligations under long-term contracts with Massachusetts electric distribution companies. Phase 2 may be developed as one or more projects. The full build-out of Phase 2 development is largely dependent on market conditions and the advancement of WTG technology. It is likely that a portion of Phase 2 construction could begin immediately following Phase 1[6] with the remainder following by a number of years. The Envelope for Phase 2 of New England Wind is summarized in Table 2.4-1.

[6] In this scenario, each major construction activity would be sequential for the two Phases (e.g. Phase 2 foundation installation would immediately follow Phase 1 foundation installation). However, there could be some overlap of different offshore activities between Phase 1 and Phase 2 (e.g. Phase 2 foundation installation could occur at the same time as Phase 1 WTG installation). There will be no concurrent/simultaneous pile driving of foundations.

2.4.1 Phase 2 Construction and Installation

2.4.1.1 Wind Turbine Generators

Phase 2 will occupy the remainder of the SWDA that is not developed for Phase 1. As described in Section 2.3.1.1, the potential footprint of Phase 2 within the SWDA overlaps with the potential footprint of Phase 1 to account for the range in the number of WTGs that may be developed for Phase 1 (see Figure 4.1-4 of COP Volume I). Depending on the final footprint of Phase 1, the total number of WTG/ESP positions expected to be available for Phase 2 ranges from 64 to 88. Up to 88 of those positions may be used for WTGs. The Phase 2 WTGs will be oriented in a 1 x 1 NM layout. The WTG parameters for Phase 2 are provided in Table 2.4-1 and shown on Figure 4.2-1 of COP Volume I.

Table 2.4-1 Phase 2 of New England Wind Design Envelope Summary

Layout and Size of Phase 2	WTGs	WTG Foundations
• 64–88 total wind turbine generator (WTG) and electrical service platform (ESP) positions expected to be available o Up to 88 WTGs installed o Up to 3 ESPs installed • Windfarm layout in E-W & N-S grid pattern with 1 NM (1.85 km) spacing between positions • Area of Phase 2 SWDA: 222–303 km^2 (54,857–74,873 acres)	• Up to 88 WTGs • Maximum rotor diameter of 285 m (935 ft) • Maximum tip height of 357 m (1,171 ft) • Minimum tip clearance of 27 m (89 ft) • Installation likely with a jack-up vessel, anchored vessel, or dynamic positioning (DP) vessel and components potentially supplied by feeder vessels	• Each WTG installed on a monopile, jacket, or bottom-frame foundation • Scour protection may be used around all foundations • Maximum pile driving energy of 6,000 kJ for monopiles and 3,500 kJ for jackets and bottom-frames • Installation likely with a jack-up vessel, anchored vessel, or DP vessel and components potentially supplied by feeder vessels

ESP(s) (Topside and Foundation)	Inter-Array & Inter-Link Cables	Offshore Export Cables
• Up to 3 ESPs • Each ESP installed on a monopile or jacket foundation (ESPs installed on monopiles may be co-located) • Maximum pile driving energy of 6,000 kJ for monopiles and 3,500 kJ for jackets • Scour protection may be installed around the foundations • Installation likely with a jack-up vessel, anchored vessel, or DP vessel	• 66–132 kV inter-array cables buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft) • Maximum total inter-array cable length of ~325 km (~175 NM) • 66–345 kV inter-link cables buried at a target depth of 1.5–2.5 m (5–8 ft) • Maximum total inter-link cable length of ~60 km (~32 NM) • Example layout identified, not finalized • Pre-lay grapnel run and pre-lay survey • Typical installation techniques include jetting (e.g. jet plow or jet trenching) and mechanical plow • Use of cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes [or similar]) on areas of minimal cable burial	• Two or three 220–345 kV high voltage alternating current (HVAC) cables buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft) • Cables installed in an Offshore Export Cable Corridor (OECC) with potential variations • Maximum total offshore export cable length of ~356 km (~192 NM) • Pre-lay grapnel run, pre-lay survey, and possibly boulder clearance • Typical installation techniques include jetting (e.g. jet plow or jet trenching) and mechanical plow, possibly with dredging in some locations to achieve burial depth • Use of cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes [or similar]) on areas of minimal cable burial

Note: Elevations are relative to Mean Lower Low Water (MLLW).

Unless BOEM and FAA guidance is modified before Phase 2 proceeds, the WTGs will be no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey in color; the Proponent anticipates that the WTGs will be painted off-white/light grey to reduce their visibility against the horizon. Unless current guidance is modified by the FAA and BOEM, the WTGs will include one or two levels of red flashing aviation obstruction lights. The Proponent would expect to use the same or similar approaches used for Vineyard Wind 1 and/or Phase 1, including the use of an ADLS that is activated automatically by approaching aircraft. Each WTG will be maintained as a PATON and will contain marine navigation lighting and marking in accordance with the USCG's PATON marking guidance for offshore wind facilities in First District-area waters.

The WTGs are expected to be installed using jack-up vessels, anchored vessels, or DP vessels along with necessary support vessels and supply vessels. The tower will first be erected followed by the nacelle and finally the hub, inclusive of the blades. Alternatively, the nacelle and hub could be installed in a single operation followed by installation of individual blades.

2.4.1.2 Wind Turbine Generator Foundations

Commercial and technical considerations at the time Phase 2 is ready to proceed will determine the types of WTG foundations used for Phase 2. Monopiles, jackets (with piles or suction buckets), bottom-frame foundations (with piles or suction buckets), or a combination of those foundation types may be used for Phase 2 pending the outcome of a foundation feasibility analysis.

If used, monopiles would have a maximum diameter of 13 m (43 ft) and would be driven into the seabed to a maximum depth of 55 m (180 ft). The dimensions for each Phase 2 WTG foundation type are shown on Figures 4.2-2 through 4.2-6 of COP Volume I. Scour protection consisting of rock material may be placed around the foundations; it is anticipated that scour protection will be needed for the larger diameter monopiles and suction buckets but may or may not be needed for the smaller diameter piles used for jacket and bottom-frame foundations.

The foundations are expected to be installed by one or two DP, anchored, or jack-up vessels, along with necessary support vessels and supply vessels. Pile driving will begin with a "soft-start" to ensure the pile remains vertical and allow any motile marine life to leave the area before pile driving intensity is increased. It is anticipated that a maximum of two monopiles, one complete piled jacket (3–4 piles), or one complete piled bottom-frame (3 piles) can be driven into the seabed per day. If suction buckets are used, pumps attached to the top of each bucket would pump water and air out of the space between the suction buckets and seafloor, pushing the buckets down into the seafloor.

2.4.1.3 Electrical Service Platforms

Up to three ESP(s) will serve as the common interconnection point(s) for the Phase 2 WTGs. The ESP(s) would be supported by a monopile, piled jacket (with 3–12 piles), or suction bucket jacket foundation, which may be surrounded by scour protection, if needed. If two or three ESPs are used, they may be located at separate positions or two of the ESPs may be co-located at one of the potential ESP positions shown on Figure 4.1-4 of COP Volume I (co-located ESPs would be smaller structures installed on monopile foundations). The approximate size and design of the ESP(s) are depicted in Figures 4.2-10 through 4.2-12 of COP Volume I. The ESP(s) will include an aviation obstruction lighting system in compliance with FAA and/or BOEM requirements in effect at the time Phase 2 proceeds, if necessary. The aviation obstruction lights would be activated by ADLS (or similar), subject to BOEM approval. Marine navigation lighting and marking on each ESP will follow USCG and BOEM regulations and guidance in effect at the time Phase 2 proceeds.

ESP foundation and topside installation may be performed by a DP, anchored, or jack-up vessel. ESP foundation installation is similar to WTG foundation installation described above. Following topside installation, the ESP(s) will be commissioned. As an alternative to installing separate ESP(s) situated on their own foundation(s), the ESP(s) could potentially be integrated onto a WTG foundation, which entails placing ESP equipment on one or more expanded WTG foundation platforms (see Figure 4.2-9 of COP Volume I).

2.4.1.4 Offshore Export Cables

Two or three 220-345 kV HVAC offshore export cable(s) will transmit electricity from the Phase 2 ESP(s) to the selected landfall site(s).

Between the Phase 2 ESP(s) and the northwestern corner of the SWDA, the offshore export cables may be installed in any area of the SWDA. The Proponent intends to install all Phase 2 offshore export cables within the OECC that travels from the northwestern corner of the SWDA to the Dowses Beach Landfall Site and/or Wianno Avenue Landfall Site in the Town of Barnstable (see Figure 4.1-6 of COP Volume I). Under this scenario, the maximum length of Phase 2 offshore export cables (assuming three cables) is ~356 km (~192 NM). However, as described further in Section 4.1.3 of COP Volume I, the Proponent has also identified two variations of the Phase 2 OECC in the event that technical, logistical, grid interconnection, or other unforeseen issues arise during the COP review and engineering processes that preclude one or more Phase 2 offshore export cables from being installed within all or a portion of the OECC. As described in Section 4.1.3 of COP Volume I, these variants include the Western Muskeget Variant (located along the western side of Muskeget Channel) and the South Coast Variant (which travels west-northwest from Lease Area OCS-A 0501 to the Massachusetts state waters boundary near Buzzards Bay). The Proponent is reserving the option to install one or two Phase 2 export cables within the Western Muskeget Variant[7] and one or more Phase 2 export cables within the South Coast Variant (see Figure 2.4-1 and Section 4.1.3 of COP Volume I). The Proponent intends to provide additional information on the South Coast Variant in its February 2022 COP Addendum.

[7] The Western Muskeget Variant is the same exact corridor as the western Muskeget option included in the Vineyard Wind 1 COP and has already been thoroughly reviewed and approved by BOEM as part of that COP.

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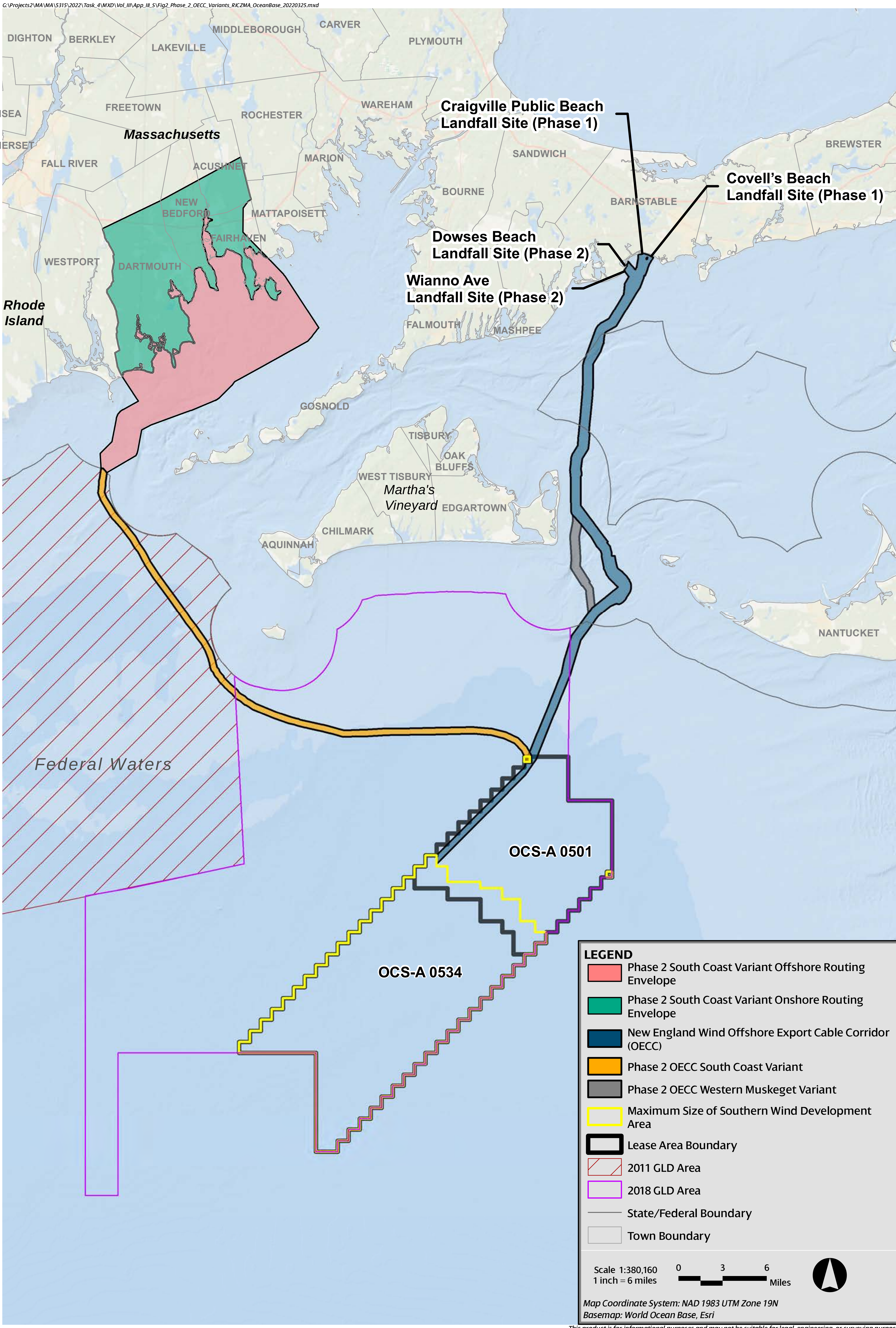

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New England Wind
AVANGRID RENEWABLES

Figure 2.4-1
Phase 2 Offshore Export Cable Corridor Variants

Prior to cable laying, a pre-lay grapnel run, and pre-lay survey are expected to be performed to clear obstructions and inspect the route. Large boulders along the route may need to be relocated and some dredging of the upper portions of sand waves may be required prior to cable laying to achieve sufficient burial depth below the stable sea bottom. Each offshore export cable will be installed beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft). Offshore export cable laying is expected to be performed primarily via simultaneous lay and bury using jetting techniques (e.g. jet plow or jet trenching) or mechanical plow. However, other specialty techniques may be used in certain areas to ensure sufficient burial depth (see Section 4.3.1.3.6 of COP Volume I). To facilitate cable installation, anchored vessels may be used along the entire length of the offshore export cables. While the Proponent intends to avoid or minimize the need for cable protection to the greatest extent feasible, the Proponent conservatively estimates that approximately 6% of the offshore export cables within the OECC could require cable protection (or up to 7% of the offshore export cables within the OECC for both Phases if the Western Muskeget Variant is used for one or two Phase 2 export cables).

2.4.1.5 Inter-Array and Inter-Link Cables

Strings of multiple WTGs will be connected to the Phase 2 ESP(s) via 66–132 kV inter-array cables. The maximum anticipated length of the Phase 2 inter-array cables is approximately 325 km (175 NM). In addition, the Phase 2 ESPs may be connected to each other (if two or three ESPs are used) or to a Phase 1 ESP by up to two 66–345 kV inter-link cables. The maximum total length of inter-link cables for Phase 2 is ~60 km (~32 NM). The Phase 2 inter-array and inter-link cable layout is highly dependent upon the final number of Phase 2 WTGs and the location and number of ESPs. The design and optimization of the inter-array and inter-link cable system will occur during the final design of Phase 2.

The inter-array and inter-link cables will be buried beneath the seafloor at a target depth of 1.5–2.5 m (5–8 ft). Based on currently available technologies, the inter-array and inter-link cables will likely be installed using jetting techniques. However, in some cases, a mechanical plow may be better suited to certain site-specific conditions and other specialty techniques may be used more rarely. The Proponent conservatively estimates that up to 2% of the total length of the inter-array and inter-link cables could require cable protection.

2.4.1.6 Landfall Site(s), Onshore Cable Route(s), Onshore Substation(s), and Grid Interconnection

The Phase 2 offshore export cables will come ashore within paved parking areas at the Dowses Beach Landfall Site and/or Wianno Avenue Landfall Site in Barnstable, unless unforeseen technical, logistical, or grid interconnection issues arise that preclude the Proponent from installing one or more Phase 2 offshore export cables within the OECC and a second grid interconnection point is needed (see Section 4.1.3.3 of COP Volume I). The ocean to land transition at the Dowses Beach Landfall Site will be made using HDD, which will avoid or minimize impacts to the beach, intertidal zone, and nearshore areas and achieve a burial significantly deeper than any expected erosion. HDD or open trenching may be used at the Wianno Avenue Landfall Site.

Upon making landfall, the onshore export cables would follow one or two Onshore Export Cable Routes to one or two new onshore substations. Grid interconnection cables installed along one or two Grid Interconnection Routes would connect the Phase 2 onshore substations to the grid interconnection point at Eversource's existing 345 kV West Barnstable Substation. The onshore export and grid interconnection cables are expected to be installed underground within public roadway layouts and utility ROWs. From each landfall site to the grid interconnection point, the maximum combined length of the Phase 2 Onshore Export Cable Route and Grid Interconnection Route is up to 17 km (10.6 mi). The properties needed for the Phase 2 onshore substation site(s) have not yet been secured, but the site(s) will be located generally along the potential onshore routes illustrated on Figure 4.1-2 of COP Volume I.

In the event that one or more Phase 2 HVAC offshore export cables deliver power to a second grid interconnection point, Phase 2 could include one onshore transmission system in Barnstable (using either the Dowses Beach Landfall Site or Wianno Avenue Landfall Site) and/or an onshore transmission system(s) in proximity to the alternative grid interconnection point. See Section 4.1.1 of COP Volume I for additional details.

2.4.1.7 Port Facilities

The Proponent has identified several port facilities in Massachusetts, Rhode Island, Connecticut, New York, and New Jersey that may be used for frequent crew transfer, offloading/loading shipments of components, storage, preparing components for installation, and potentially some component fabrication and assembly. In addition, some components, materials, and vessels could come from Canadian and European ports. See Section 4.2.2.5 of COP Volume I for a complete list of possible ports that may be used for major Phase 2 construction staging activities. It is not expected that all the ports identified would be used; it is more likely that only some ports would be used during construction depending upon final construction logistics planning.

2.4.2 Phase 2 Operations and Maintenance

The Phase 2 WTGs will be designed to operate without attendance by any operators. Continuous monitoring is typically conducted remotely using a SCADA system. Routine preventive maintenance and proactive inspections (e.g. multi-beam echosounder inspections, side scan sonar inspections, magnetometer inspections, depth of burial inspections, etc.) will be performed for all offshore facilities.

Once Phase 2 becomes operational, the Proponent expects to use a SOV to provide offshore accommodations and workspace for O&M workers. Under this scenario, daughter craft and/or CTVs would be used to transfer crew to and from shore. If an SOV or similar accommodation vessel is not used, several CTVs and helicopters could be used to frequently transport crew to and from the offshore facilities. In addition to the SOV, CTVs, and/or daughter craft, other larger support vessels (e.g. jack-up vessels) may be used infrequently to perform some routine maintenance and repairs (if needed).

In support of O&M activities for Phase 2, the Proponent will likely use O&M facilities in Bridgeport, Vineyard Haven, and/or New Bedford Harbor. The O&M facilities may include management and administrative team offices, a control room, office and training space for technicians and engineers, warehouse space for parts and tools, and/or pier space for vessels used during O&M. The Proponent may use any of the ports listed in Table 4.2-8 of COP Volume I to support O&M activities.

2.4.3 Phase 2 Decommissioning

As currently envisioned, the decommissioning process for Phase 2 is essentially the reverse of the installation process. Decommissioning of the offshore facilities is broken down into several steps:

- Retirement in place (if authorized by BOEM) or removal of the offshore cable system (i.e. inter-array, inter-link, and offshore export cables) and any associated cable protection.
- Dismantling and removal of WTGs. Prior to dismantling the WTGs, they would be properly drained of all lubricating fluids and chemicals, which would be brought to port for proper disposal and/or recycling.
- Cutting and removal of foundations and removal of scour protection. In accordance with BOEM's removal standards (30 CFR § 585.910(a)), the foundations would likely be cut at least 4.5 m (15 ft) below the mudline; the portion below the cut will likely remain in place. Suction buckets (if used) are anticipated to be removed by injecting water into the space between the suction bucket and seafloor to reduce the suction pressure that holds the foundation in place.
- Removal of ESP(s). The ESP(s), and their foundations, are expected to be disassembled in a similar manner as the WTGs. Before removing the ESP(s), the offshore export cables, inter-array cables, and inter-link cables would be disconnected.

The onshore facilities could be retired in place or retained for future use. The extent of onshore decommissioning is subject to discussions with the Town of Barnstable on the approach that best meets the Town's needs and has the fewest environmental impacts.

3.0 NEW ENGLAND WIND CONSISTENCY WITH RHODE ISLAND ENFORCEABLE POLICIES

3.1 Jurisdiction for Federal Consistency Certification

Section 307(c)(3)(B) of the Coastal Zone Management Act (CZMA), as amended, requires any applicant who submits an Outer Continental Shelf (OCS) plan[8] to the Department of the Interior to also provide a certification that each activity described in the OCS plan affecting any land or water use or natural resource of a state's coastal zone complies with the enforceable policies of that state's approved coastal management program and will be carried out in a manner consistent with such program (see 16 U.S.C. § 1456(c)(3)(B)). On July 2, 2020, the Proponent submitted an OCS plan— the New England Wind COP— to the Department of Interior's Bureau of Ocean Energy Management for approval. The proposed offshore wind facilities and portions of the underwater offshore export cables as described in the New England Wind COP are located within CRMC's 2018 GLD and are therefore subject to federal consistency review by CRMC under 15 CFR Part 930, Subpart E (see Figure 1.0-1).

The following sections demonstrate New England Wind's compliance with the applicable enforceable policies of the RICRMP contained in Chapter 11 of CRMC's Ocean Special Area Management Plan (Ocean SAMP) (650-RICR-20-05-11.10). The sections below rely on detailed information provided in the New England Wind COP. The New England Wind COP is being provided to CRMC following BOEM's completeness and sufficiency review and is incorporated by reference.

3.2 Overall Regulatory Standards (§ 11.10.1)

§ 11.10.1(A)

All offshore developments regardless of size, including energy projects, which are proposed for or located within state waters of the Ocean SAMP area, are subject to the policies and standards outlined in §§ 11.9 and 11.10 of this Part. The Council shall not use § 11.9 of this Part for CRMC concurrences or objections for CZMA federal consistency reviews.

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8 *OCS plan* means "any plan for the exploration or development of, or production from, any area which has been leased under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.), and the regulations under that Act, which is submitted to the Secretary of the Interior or designee following management program approval and which describes in detail federal license or permit activities." The New England Wind Construction and Operations Plan submitted to BOEM is an OCS plan.

As described in Section 3.1, New England Wind is subject to CZMA federal consistency review by CRMC; therefore, the enforceable policies of the RICRMP contained in Chapter 11 of CRMC's Ocean SAMP (650-RICR-20-05-11.10) are reviewed. New England Wind meets the definition of a "large-scale offshore development" pursuant to RICR-20-05-11.3(H)(1) and RICR-20-05-11.10.1(A)(1).

§ 11.10.1(B)

In assessing the natural resources and existing human uses present in state waters of the Ocean SAMP area, the Council finds that the most suitable area for offshore renewable energy development in the state waters of the Ocean SAMP area is the renewable energy zone depicted in Figure 1 in § 11.10.1(O) of this Part, below. The Council designates this area as Type 4E waters. In the Rhode Island Coastal Resources Management Program (Subchapter 00 Part 1 of this Chapter) these waters were previously designated as Type 4 (multipurpose) but are hereby modified to show that this is the preferred site for large scale renewable energy projects in state waters. The Council may approve offshore renewable energy development elsewhere in the Ocean SAMP area, within state waters, where it is determined to have no significant adverse impact on the natural resources or human uses of the Ocean SAMP area. Large-scale offshore developments shall avoid areas designated as Areas of Particular Concern consistent with § 11.10.2 of this Part. No large-scale offshore renewable energy development shall be allowed in Areas Designated for Preservation consistent with § 11.10.3 of this Part.

The SWDA is located in federal waters within BOEM's designated MA WEA. The OECC is in federal waters and Massachusetts waters. Thus, New England Wind is not located in state waters of the Ocean SAMP area, including Areas of Particular Concern (APCs) and Areas Designated for Preservation in state waters. Therefore, this policy does not apply. See Sections 3.3 and 3.4 for further discussion of APCs and Areas Designated for Preservation.

§ 11.10.1(C)

Offshore developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone, as described in the Ocean SAMP. In making the evaluation of the effect on human uses, the Council will determine, for example, if there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss. Where the Council determines that impacts on the natural resources or human uses of the Rhode Island coastal zone through the pre-construction, construction, operation, or decommissioning phases of a project constitute significant adverse effects not previously evaluated, the Council shall, through its permitting and enforcement authorities in state waters and through any subsequent CZMA federal consistency reviews, require that the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal.

We understand from CRMC that the principal coastal effect of concern associated with the New England Wind development within the 2018 GLD is to Rhode Island-based commercial fishing interests (a coastal use). The sections of the New England Wind COP most relevant to these issues are located in Volume III and include Section 6.5 (Benthic Resources), Section 6.6 (Finfish and Invertebrates), Section 7.5 (Recreation and Tourism [Including Recreational Fishing]), Section 7.6 (Commercial Fisheries and For-Hire Recreational Fishing), Section 7.8 (Navigation and Vessel Traffic), Section 7.9 (Other Uses), Appendix III-E (Fisheries Communication Plan), Appendix III-F (Essential Fish Habitat), Appendix III-I (Navigation Safety Risk Assessment), and Appendix III-N (Economic Exposure of Commercial Fisheries).

As summarized in Section 4 and detailed in Sections 5 through 8 of COP Volume III, the Proponent is already implementing measures to avoid and minimize impacts to commercial fishing interests, including adopting the east-west 1 x 1 NM layout strongly recommended by CRMC, minimizing the potential need for cable protection in the SWDA, and conducting fisheries studies to obtain baseline data against which to measure potential short and long-term fisheries impacts. In addition, Appendix III-N of the COP contains a draft analysis of the value of commercial fishing harvest from New England Wind based on the most recent available data. Each of these measures is discussed in more detail below. Accordingly, it is anticipated that New England Wind will not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone.

WTG and ESP Siting

The SWDA is within the MA WEA. The original siting of the MA WEA by BOEM included a significant public engagement process. Through this process, and in response to stakeholder concerns, the MA WEA was extensively modified. BOEM excluded areas of high fisheries value from the MA WEA to reduce potential conflict with commercial and recreational fishing activities. This careful siting of MA WEA, which includes the SWDA, avoids many impacts to commercial fisheries.

WTG and ESP Layout

In direct response to input from commercial fishermen and comments from CRMC during review of the adjacent Vineyard Wind 1 project, the WTGs and ESPs in the SWDA will be oriented in fixed east-to-west rows and north-to-south columns with one nautical mile (1.85 km) spacing between positions. This uniform grid layout provides 1 NM wide corridors in the east-west and north-south directions as well as 0.7 NM (1.3 km) wide corridors in the northwest-southeast and northeast-southwest directions. As stated in CRMC's consistency concurrence for Vineyard Wind 1, a "layout of east-west orientation with minimum 1 nm spacing between turbines is a compromise by Rhode Island-based commercial fishermen that will require modification to their gear and operations, but would allow continued fishing for most commercial fishing operations within the New England Wind lease area and result in both the commercial fishing and offshore wind energy industries to coexist." Thus, the east-west 1 x 1 NM layout has been adopted in direct response to recommendations from CRMC.

It is important to note that offshore renewable wind energy facilities are typically designed to maximize the amount of energy that can be generated within a given area. In general, the most optimal WTG layout for wind energy production is a non-grid WTG layout with closer turbine spacing and a higher density of WTGs around the edges of the wind farm; such a design maximizes the number of WTGs per area while minimizing wake effects that impact the efficiency of downwind turbines. Thus, as required by the enforceable policy, the Proponent has modified the WTG/ESP layout from a more typical, optimized non-grid design to minimize adverse impacts to commercial fishing operations.

In addition to minimizing adverse impacts to commercial fisheries, the 1 x 1 NM WTG/ESP layout of New England Wind minimizes potential impacts to navigation within the SWDA. The 1 x 1 NM layout of New England Wind is consistent with the USCG's recommendations contained in the Massachusetts Rhode Island Port Access Route Study (MARIPARS) published in the Federal Register on May 27, 2020 (USCG-2019-0131). The final MARIPARS found that, "After considering all options and the vessel traffic patterns within the MA/RI WEA, a standard and uniform grid pattern with at least three lines of orientation throughout the MA/RI WEA would allow for safe navigation and continuity of USCG missions through seven adjacent wind farm lease areas over more than 1,400 square miles of ocean." More specifically, USCG recommended:

- "Lanes for vessel transit should be oriented in a northwest to southeast direction, 0.6 NM to 0.8 NM wide. This width will allow vessels the ability to maneuver in accordance with the COLREGS while transiting through the MA/RI WEA.
- Lanes for commercial fishing vessels actively engaged in fishing should be oriented in an east to west direction, 1 NM wide.
- Lanes for USCG SAR operations should be oriented in a north to south and east to west direction, 1 NM wide. This will ensure two lines of orientation for USCG helicopters to conduct SAR operations."

The USCG specifically recognized traditional commercial fishing patterns when making their recommendations on WTG layouts within the MA WEA and Rhode Island/Massachusetts Wind Energy Area (RI/MA WEA) (together the "WEAs"). As stated in MARIPARS:

> "Based on fishing vessel tracks, specifically squid, mackerel, and butterfish vessels, there is significant east to west fishing activity in the WEA, particularly in August and September, following the north to south migration of the fish. Based on comments received on this report, there is a 'gentlemen's agreement' between the fixed gear fishermen and the mobile gear fishermen to prevent gear entanglement. The fixed gear fishermen set their gear along traditional LORAN-C lines that are generally in an east to west direction. The mobile gear fishermen fish in functional lanes between the set fixed gear, in a general east to west direction."

Based on these findings and recommendations from the USCG, the proposed layout is expected to accommodate traditional fishing patterns, including the "gentlemen's agreement" regarding the placement of mobile and fixed gear within the WEAs. As noted previously, the 1 x 1 NM WTG/ESP layout is also consistent with the findings contained in CRMC's consistency concurrence for Vineyard Wind 1. The consistency concurrence emphasized that "Row orientation in an east-west direction with a minimum 1 nm spacing is critical to minimize impacts and to allow the continued operation, with adjustments and modifications to gear, of Rhode Island-based commercial fishing vessels within the WDA."

As described in Section 7.8.1 of COP Volume III and the Navigation Safety Risk Assessment, analyses of automatic identification system (AIS) data from 2016 to 2019 have indicated that historical vessel traffic levels within the SWDA are relatively low. From 2016 to 2019, the average number of annual AIS-equipped fishing vessel transits through the SWDA was 422 (see Appendix III-I). AIS data indicate that most of the vessels transiting the Offshore Development Region[9] currently choose to navigate outside of the WEAs even when no WTGs or ESPs are present (see Section 7.8.1.1 of COP Volume III; Baird 2019). Of those vessels transiting the WEAs, many travel just inside the edge of the WEAs. Overall, based on this historical low level of traffic in the SWDA, the risk of collision between vessels is relatively low (see Section 8.1 of COP Volume III and Appendix III-I).

Scour Protection and Cable Protection

Scour protection consisting of rock material may be placed around the base of each WTG and ESP foundation. It is anticipated that scour protection will be needed for the larger diameter monopiles and suction buckets, but may or may not be needed for the smaller diameter piles used for jacket and bottom-frame foundations. Scour protection will have a maximum height of 3 m (9.8 ft). Depending on the foundation type(s) selected, the maximum area of scour protection around each foundation ranges from 4,072–9,754 m^2 (1.0–2.4 acres) for the WTG foundations and 4,072–21,316 m^2 (1.0–5.3 acres) for up to five ESP foundations. Details of the specific area of scour protection for each foundation type are found in Sections 3.2.1.4 and 4.2.1.4 of COP Volume I. For WTG monopile foundations, which are expected to be used for Phase 1 () and may also be used for Phase 2, the maximum expected radius of scour protection is 36–39 m (118–128 ft) compared to the 1,852 m (1 NM) spacing between foundations. The total maximum area of scour protection for both Phases is 1.04 km^2 (258 acres), which is approximately 0.23% of the maximum size of the SWDA. Thus, scour protection will cover an extremely limited portion of the SWDA.

[9] With respect to navigation and vessel traffic, the Offshore Development Region is the broader offshore geographic region surrounding the SWDA, the OECC, and ports that could be affected by New England Wind-related activities. This includes Nantucket Sound, areas south of Martha's Vineyard and Nantucket, the MA WEA, the RI/MA WEA, and waters surrounding potential vessel routes to the ports identified for use by New England Wind.

The installation of submarine cables within the SWDA and along the OECC is not anticipated to adversely impact commercial fishing activities. The target burial depth for all inter-array, inter-link, and offshore export cables is 1.5–2.5 m (5–8 ft) below the seafloor, which New England Wind engineers have determined is more than twice the burial depth that is required to protect the cables from potential fishing activities and also provides a maximum of 1 in 100,000 year probability of anchor strike, which is considered a negligible risk. Except for limited areas where the sufficient cable burial is not achieved and placement of cable protection on the seafloor is required, the inter-array, export, and offshore cables are not anticipated to interfere with any typical fishing practices.

If sufficient burial depths cannot be achieved, the cables need to cross other infrastructure (e.g. existing cables, pipes, etc.), or a cable joint requires protection, cable protection may be necessary. Based on initial survey data for the SWDA, is the Proponent conservatively estimates that up to 2% of the total length of the inter-array and inter-link cables (~11 km [6 NM]) for both Phases may potentially require cable protection, with the majority of any needed cable protection likely located immediately adjacent to the foundation's scour protection. The offshore export cables are principally located outside of the 2018 GLD. The Proponent conservatively estimates that approximately 6% of the offshore export cables within the OECC for both Phases (or up to 7% of the offshore export cables within the OECC for both Phases if the Western Muskeget Variant is used for one or two Phase 2 export cables) and approximately 2% of the offshore export cables within the SWDA (~27 km [15 NM] total) could require cable protection, the majority of which, if any, would be within Massachusetts waters outside the 2018 GLD. The Proponent intends to avoid or minimize the need for cable protection to the greatest extent feasible through careful site assessment and thoughtful selection of the most appropriate cable installation tool to achieve sufficient burial; therefore, the estimates of cable protection are expected to be conservative. Given that little bottom trawling or dredging occurs along the OECC, the risk of bottom fishing gear snagging on cable protection in the OECC is low. The use of pots and traps, predominantly deployed along the OECC within Nantucket Sound in Massachusetts waters, is not expected to be impacted by New England Wind.

Fishermen have expressed concerns about fishing gear becoming entangled on scour protection and cable protection. Should cable protection be required in the SWDA and OECC, it will be designed to minimize impacts to fishing gear to the extent feasible, and fishermen will be informed of the areas where cable protection is used. Upon decommissioning, scour protection would be removed. Furthermore, the Proponent is developing and implementing procedures for handling compensation to fishermen for potential gear loss. See the Fisheries Communication Plan, which is included as Appendix III-E of the COPs for additional discussion of gear loss compensation.

The addition of foundations and scour protection, as well as cable protection in some areas, which may act as an artificial reef and provide rocky habitat previously absent from the area, could result in modest, positive impacts to recreational fisheries. In the event WTGs aggregate recreationally-targeted species, based on the intensity of recreational fishing within the SWDA and its geographic scale, neither congestion effects nor gear conflicts are expected.

Access to the SWDA and OECC

For each Phase of New England Wind, construction and installation activities will occur within very limited and well-defined areas of the SWDA and along the OECC. During construction, fishing vessels will not be precluded from operating in or transiting through the SWDA or the OECC other than where temporary safety buffer zones may be established in the immediate vicinity around construction and installation vessels. Accordingly, the majority of the SWDA and OECC will remain accessible to commercial fishing vessels throughout the construction of New England Wind.

During O&M, the SWDA will be open to marine traffic, and no permanent vessel restrictions are proposed within the SWDA or along the OECC. If in-water maintenance activities are required, there could be temporary safety buffer zones established around work areas in limited areas of the SWDA or along the OECC. However, it is expected that most maintenance activities will not require in-water work but will instead be based on the WTGs and ESP structures themselves.

Economic Exposure and Impacts to Rhode Island Commercial Fisheries

While the Proponent is implementing several key measures to minimize impacts to commercial fisheries (such as the adoption of a 1 x 1 NM WTG/ESP layout and efforts to minimize cable protection), New England Wind may lead to potential changes in commercial fishing practices in the SWDA and OECC. The economic exposure and potential economic impacts to commercial fisheries, including Rhode Island-based commercial fisheries, are analyzed in detail in Appendix III-N. This draft analysis considers the potential direct impacts to commercial fisheries, as well as fisheries-related indirect and induced shoreside economic impacts, which are characterized as either upstream (related to businesses that supply inputs used in fishing) or downstream (related to businesses that buy fish for processing or distribution). The analysis is based on the most current available revenue data, including the National Oceanic and Atmospheric Administration Fisheries' (NOAA Fisheries) "Socioeconomic Impacts of Atlantic Offshore Wind Development," which indicates that the SWDA does not include high-value commercial fishing grounds. It also shows that approximately 44.2% of the landings revenue from the SWDA is from Rhode Island.

Fishing congestion impacts could occur when a high concentration of vessels operating in a fishing area causes fishing vessels and gear to interfere with one another resulting in increases in fleetwide or vessel-specific fishing costs or reductions in fishing revenues, or both. As described in Appendix III-N, any modification of fishing in the SWDA and OECC or shifts in fishing effort from those areas to other areas would not be sufficient to cause fishing congestion impacts.

Commercial fishing activity in the SWDA and OECC is low to modest, and fishing trips that transect the SWDA and OECC already spend most of their time and generate most of their revenues in nearby fishing areas outside the SWDA and OECC.

Fisheries Studies

The Proponent is committed to fisheries science and research as it relates to offshore wind energy development. Working with the Massachusetts School for Marine Science and Technology (SMAST), the Proponent is developing and implementing fisheries studies. Specific to New England Wind, the Proponent is already collecting pre-construction fisheries data within the SWDA. The surveys are being conducted by SMAST scientists onboard commercial fishing vessels.

Pre-construction surveys began in spring 2019. The primary goal of the pre-construction surveys is to provide data on seasonal fish abundance, distribution, population structure and community composition for a future environmental assessment using a beyond Before-After-Control-Impact (BACI) framework as recommended by BOEM (BOEM 2013). The pre-construction surveys in the SWDA[10] include trawl surveys and drop camera surveys.

- Trawl surveys are planned to occur each season (spring, summer, winter, fall) within the SWDA until the start of New England Wind construction. A demersal otter trawl, further referred to as a trawl, is a net that is towed behind a vessel along the seafloor expanded horizontally by a pair of otter boards or trawl doors. Trawls tend to be relatively indiscriminate in the fish and invertebrates they collect; hence trawls are a general tool for assessing the biological communities along the seafloor and are widely used by institutions worldwide for ecological monitoring. The methodology for the trawl survey was adapted from the Atlantic States Marine Fisheries Commission's (ASMFC) Northeast Area Monitoring and Assessment Program (NEAMAP) nearshore trawl survey. Tow locations within the SWDA were selected using a systematic random sampling design. The study area (369 km^2) was sub-divided into 10 sub-areas (each ~36.9 km^2), and one trawl tow was made in each of the 10 sub-areas to ensure adequate spatial coverage throughout the survey area. As of August 2021, a total of eight trawl surveys have been conducted: spring 2019, summer 2019, fall 2019, winter 2020, summer 2020, fall 2020, winter 2021, and spring 2021.[11]

  Drop camera surveys are planned to occur twice per year in the SWDA until the start of New England Wind construction. The minimally invasive, image-based drop camera surveys allow for practical data collection of the epibenthic community without causing a disturbance to the seafloor. The SMAST drop camera surveys can be used to better

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[10] The geographic area studied for the New England Wind pre-construction fisheries studies is currently referred to as the "501 South Study Area."

[11] The spring 2020 trawl survey did not occur due to concerns regarding risk of exposure to COVID-19 onboard the planned vessel.

understand benthic macrofaunal community characteristics, substrate, and the spatial and temporal scales of potential impacts on these communities and habitats. Samples are taken at 13 stations placed 5.6 km apart following a grid design. As of August 2021, five drop camera surveys have been completed (in July 2019, October 2019, July 2020, October 2020, and May 2021).

In partnership with Vineyard Wind 1, the New England Aquarium's Anderson Cabot Center for Ocean Life studied highly migratory species presence across the Massachusetts Wind Energy Area (MA WEA) and Rhode Island/Massachusetts Wind Energy Area (RI/MA WEA) based on a desktop review and input from the pelagic recreational fleet. The study determined that recreational effort for highly migratory species is widespread throughout southern New England, with the highest levels of recreational fishing activity occurring to the west of the MA WEA and RI/MA WEA in the waters south and east of Montauk Point and Block Island (Kneebone and Capizzano 2020). The results of this effort are included in Sections 7.5 and 7.6 of Volume III of the COP. This study resulted in an additional funding proposal from INSPIRE Environmental in partnership with the New England Aquarium to the Massachusetts Clean Energy Center (MassCEC) to support a two-year acoustic tagging and tracking study of highly migratory species at recreational fishing hotspots in the MA WEA and RI/MA WEA that were identified in the initial study. The Proponent, in conjunction with other offshore wind developers, plans to further support this study effort by deploying additional receivers in their lease areas. For more information on the highly migratory species surveys and New England Wind fisheries surveys (as well as several seasons of survey reports), see https://www.parkcitywind.com/fisheries**Error! Hyperlink reference not valid.**.

The Proponent also plans to develop a framework for fisheries studies within the SWDA during and post-construction. In recognition of the regional nature of fisheries science, the Proponent expects that such during- and post-construction studies will involve coordination with other offshore wind energy developers in the MA WEA and RI/MA WEA, especially since there may be some offshore wind energy construction occurring concurrently in multiple lease areas. The Proponent is already engaging in collaboration with other developers, fishing industry representatives, and state and federal agencies through its participation in the Responsible Offshore Science Alliance (ROSA) and the Regional Wildlife Science Entity (RWSE).

The Proponent also expects the development of the fisheries studies will be undertaken in coordination with BOEM, federal and state agencies such as NOAA Fisheries, the Rhode Island Division of Marine Fisheries, and the Massachusetts Division of Marine Fisheries, fisheries stakeholders, academic institutions, and other stakeholders. The Proponent has collaborated and will continue to collaborate with federal and state agencies to design surveys that align with established survey methods so that the data generated can be compared to previous data and ongoing regional studies to support a regional, longer-term study program to monitor the regional impacts of offshore wind development.

In addition, the Proponent is committed to developing an appropriate benthic monitoring framework for New England Wind, should it be necessary, in consultation with BOEM and other agencies as appropriate (See Appendix III-U for the draft framework). The framework for New

England Wind will consider the draft Benthic Habitat Monitoring Plan for Vineyard Wind 1 in Lease Area OCS-A 0501. Due to the similarities in habitat across Lease Areas OCS-A 0501 and OCS-A 0534, the monitoring data collected during the Vineyard Wind 1 monitoring effort may also inform expected impacts to and recovery of benthic communities within the SWDA.

The survey and monitoring work conducted by the Proponent will generate a substantial body of environmental, fisheries, and other data, which will be available in the public domain in a manner consistent with other academic research. Much of the data is publicly available through the federal and state permitting process, as well as reports or academic publications that may come out of the survey or monitoring work. The Proponent also plans to make all fisheries monitoring data generated publicly available on its website. For other environmental and fisheries data, the Proponent will explore cost-effective and appropriate ways to store and make data publicly available and easy to access. Through ROSA and an RWSE, the Proponent will work with fishermen, regulators, stakeholders, and neighboring developers to find ways to streamline and standardize available data across all offshore efforts.

Avoidance, Minimization, and Mitigation Measures

As noted above, vessel restrictions are not generally proposed other than temporary safety buffer zones that are used to improve safety in the immediate vicinity of construction and installation vessels. Accordingly, the majority of the SWDA and OECC will remain accessible to commercial fishing vessels throughout the construction and O&M.

New England Wind's 1 x 1 NM WTG/ESP layout is the result of input from numerous stakeholders, including the USCG and fishermen who use or transit the SWDA, and is expected to accommodate traditional fishing patterns. To aid mariners navigating the SWDA, each WTG and ESP will be maintained as a PATON in accordance with USCG's PATON marking guidance for offshore wind facilities in First District-area waters. The Proponent will implement a uniform system of marine navigation lighting and marking for New England Wind's offshore facilities, which is currently expected to include yellow flashing lights on every WTG foundation and ESP unique alphanumeric identifiers on the WTGs, ESPs, and/or their foundations, and high-visibility yellow paint on each foundation. The lights and alphanumeric identifiers would be visible from all directions. Mariner Radio Activated Sound Signals (MRASS) and AIS transponders are included in the offshore facilities' design to enhance marine navigation safety.

To minimize hazards to navigation, all New England Wind vessels and equipment will display the required navigation lighting and day shapes. The Proponent will issue Offshore Wind Mariner Update Bulletins and coordinate with the USCG to provide Notices to Mariners (NTMs) to notify recreational and commercial vessels of their intended operations within the Offshore Development Area (i.e. where New England Wind's offshore facilities are physically located, which includes the SWDA and the OECC).

To further minimize impacts, the Proponent has developed a Fisheries Communication Plan (FCP) (included as Appendix III-E of the COP). The purpose of the FCP is to define outreach and engagement to potentially affected fishing interests during design, development, construction, operation, and final decommissioning of offshore wind projects. Fisheries communication is conducted through several roles, including Fisheries Liaisons (FLs) and Fisheries Representatives. FLs are employed by the Proponent and are responsible for the implementation of the FCP whereas FRs represent the interests of different fisheries and fishing communities to the Proponent. . The Proponent also employs a Marine Operations Liaison Officer, who is responsible for safe marine operations by the Proponent. In addition, in an effort to provide fishermen with the most accurate and precise information on work within the SWDA and along the OECC, the Proponent is currently providing and will continue to provide portable digital media with electronic charts depicting locations of New England Wind-related activities. Each WTG and ESP will also be clearly identified on NOAA charts. Finally, as stated above, the Proponent is developing and implementing procedures for handling compensation to fishermen for potential gear loss. Additional information is provided in Appendix III-E.

As described above, the Proponent is committed to fisheries science and research as it relates to offshore wind energy development. The Proponent is already collecting pre-construction fisheries data (via trawl and drop camera surveys) within the SWDA.

In summary, the Proponent is already implementing multiple measures to avoid and minimize impacts to commercial fisheries, most notably the adoption of an east-west 1 x 1 NM layout.

§ 11.10.1(D)

Any large-scale offshore development, as defined in § 11.3(H) of this Part, shall require a meeting between the Fisherman's Advisory Board (FAB), the applicant, and the Council staff to discuss potential fishery-related impacts, such as, but not limited to, project location, wind turbine configuration and spacing, construction schedules, alternative locations, project minimization and identification of high fishing activity or habitat edges. For any state permit process for a large-scale offshore development this meeting shall occur prior to submission of the state permit application. The Council cannot require a pre-application meeting for federal permit applications, but the Council strongly encourages applicants for any large-scale offshore development, as defined in § 11.3(H) of this Part, in federal waters to meet with the FAB and the Council staff prior to the submission of a federal application, lease, license, or authorization. These pre-application meetings, however, do not constitute a formal meeting to satisfy the necessary data and information required for federal consistency reviews, unless mutually agreed to between the CRMC and the applicant. However, for federal permit applicants, a meeting with the FAB as described within this section shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA 6-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2).

The Proponent met with CRMC staff on July 13, 2020 to provide an introductory overview of New England Wind. The Proponent will meet with the Fisherman's Advisory Board (FAB) and CRMC staff in accordance with § 11.10.1(D) to satisfy the necessary data and information requirement on a date and time provided by CRMC.

§ 11.10.1(E)

The Council shall prohibit any other uses or activities that would result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. Long-term impacts are defined as those that affect more than one or two seasons.

New England Wind will not result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. Please see the discussion under § 11.10.1(C) above in addition to Section 7.5 (Recreation and Tourism [Including Recreational Fishing]) and Section 7.6 (Commercial Fisheries and For-Hire Recreational Fishing) of COP Volume III.

As summarized under § 11.10.1(F) below and described in more detail in Section 6.5, Section 6.6, and Appendix III-F of COP Volume III, New England Wind is not expected to result in significant long-term adverse impacts to benthic, finfish, and invertebrate species of commercial and recreational importance. Overall, localized impacts from the alteration of habitat in the SWDA and along the OECC are expected to be minimal and recovery of natural assemblages likely.

§ 11.10.1(F)

The Council shall require that the potential adverse impacts of offshore developments and other uses on commercial or recreational fisheries be evaluated, considered and mitigated as described in § 11.10.1(G) of this Part.

The Proponent has fully analyzed the potential impacts of New England Wind on commercial and recreational fisheries and has considered, avoided, minimized, and mitigated those potential impacts. The resource areas related to commercial and recreational fisheries are discussed below.

Potential Impacts to Benthic Resources and Mitigation Measures

<u>Potential Impacts</u>

Section 6.5 (Benthic Resources) of COP Volume III and Appendix III-F (Essential Fish Habitat) provide a thorough analysis of New England Wind's potential impacts to benthic habitat, including commercially important species, as well as measures to mitigate those impacts. Impact producing factors considered include habitat alteration (including impacts from foundation installation, anchoring, jacking-up, cable protection, and scour protection), suspended sediments, sediment deposition, water withdrawals, electromagnetic fields (EMF), cable installation/maintenance, and underwater noise (including pile driving noise and operational noise of WTGs).

Within the SWDA, deployment of anchors (if/where used) and jack-up vessel legs would disturb the substrate and leave a temporary irregularity in the seafloor resulting in localized mortality of infauna. In addition, portions of the seafloor would be swept by an anchor cable/chain as the installation equipment moves along the cable route. If used, anchors will avoid sensitive seafloor habitats to the greatest extent practicable. It is estimated that up to 4.08 km^2 (1,008 acres) within the SWDA may be temporarily disturbed for both Phases 1 and 2, which is approximately 0.9% of the maximum size of the SWDA (see Appendix III-T). As discussed under § 11.10.1(C), seafloor disturbance within the SWDA may also occur from placement of scour protection and cable protection (if required). Cable protection and scour protection may disturb up to 1.17 km^2 (289 acres) within the SWDA for both Phases 1 and 2, which is 0.26% of the maximum size of the SWDA.

As described in Sections 3.3.1.3 and 4.3.1.3 of COP Volume I, activities within the OECC are expected to include cable installation, anchoring, the potential dredging of the tops of sand waves in certain locations, the potential use of cable protection (if required), and the limited use of jack-up vessels for cable splicing. The amount of habitat disturbance from cable installation, anchoring, the potential dredging of the tops of sand waves in certain locations, and the limited use of jack-up vessels for cable splicing would be approximately 2.48 km^2 (612 acres). Cable protection may disturb up to 0.22 km^2 (54 acres) in the OECC. However, only a fraction of this disturbance would occur within the portion of the OECC that is located within the 2018 GLD.

Overall, construction period impacts from the alteration of habitat in the SWDA and along the OECC are expected to be minimal and recovery of natural assemblages likely. Impacts to benthic resources due to introduction of structured habitat (WTG/ESP foundations, scour protection, and cable protection [if required]) will be direct, long-term (over the operational lifetime of New England Wind), and localized. It is possible that the foundations will support more taxa than the surrounding primarily homogenous sand habitats.

Since most of the SWDA is comprised of homogeneous fine sand and silt-sized sediments, the addition of the stone/rock scour protection (and any required cable protection) will alter the nature of the seabed thereby contributing to higher complexity in a three-dimensional (3-D) scale. Scour and/or cable protection has the potential to turn exposed, biodiversity-poor soft bottoms into species-rich ecosystems (Langhamer 2012). BOEM's Draft Environmental Impact Statement (DEIS) (2018) for Vineyard Wind 1 determined that effects from added scour and cable protection would possibly have long-term moderate benefit.

Impacts to most sessile and/or infaunal species from sound exposure related to proposed New England Wind construction actions are expected to be insignificant. Impacts to benthic resources from EMFs are expected to be unlikely and mitigated by cable burial.

Avoidance, Minimization, and Mitigation Measures

The SWDA is located in the MA WEA, which has been sited to avoid the most sensitive areas for benthic and other resources. The WTGs and ESPs are widely-spaced so that their foundations (and associated scour protection), along with cable protection for inter-array and inter-link cables, only occupy a minimal portion of the SWDA, leaving a huge portion of the SWDA undisturbed. The portion of the SWDA that will be disturbed is only 1.1% of the maximum size of the SWDA.

For each Phase, prior to the start of construction, contractors will be provided with a map of sensitive habitats to allow them to plan their mooring positions accordingly. Vessel anchors and legs will be required to avoid known eelgrass beds and will also be required to avoid other sensitive seafloor habitats (hard/complex bottom) as long as such avoidance does not compromise the vessel's safety or the cable's installation. Where it is considered impossible or impracticable to avoid a sensitive seafloor habitat when anchoring, use of mid-line anchor buoys will be considered, where feasible and considered safe, as a potential measure to reduce and minimize potential impacts from anchor line sweep. Such sensitive habitats are largely absent from the SWDA and are primarily located within portions of the OECC that are outside the 2018 GLD.

The Proponent is also committed to developing an appropriate benthic monitoring framework for New England Wind, should it be necessary, in consultation with BOEM and other agencies as appropriate (See Appendix III-U for the draft framework). The framework for New England Wind will consider the draft Benthic Habitat Monitoring Plan for Vineyard Wind 1 in the Lease Area OCS-A 0501. Due to the similarities in habitat across Lease Areas OCS-A 0501 and OCS-A 0534, the monitoring data collected during the Vineyard Wind 1 monitoring effort may also inform expected impacts to and recovery of benthic communities within the SWDA.

Potential Impacts to Finfish and Invertebrates and Mitigation Measures

Potential Impacts

Section 6.6 of COP Volume III (Finfish and Invertebrates) provides an in-depth analysis of New England Wind's potential impacts to fish species, including commercially important species, as well as measures to mitigate those impacts. Impact producing factors considered include habitat alteration (including impacts from anchoring, jacking-up, cable protection, and scour protection), suspended sediments, sediment deposition, water withdrawals, EMF, cable installation/maintenance, and underwater noise (including pile driving noise and operational noise of WTGs).

Overall, impacts to finfish and invertebrate species are expected to be short-term and localized during the construction and installation of New England Wind stemming from impacts from direct construction mortality, noise, sediment suspension and deposition, and water withdrawals. The high species richness in the SWDA may enhance recovery following any construction and installation related disturbances (MacArthur 1955). The MA WEA was selected by BOEM to exclude most sensitive fishes and invertebrate habitat and the Offshore Development Area is primarily composed of uniform sandy bottom habitat, which will likely begin recovering quickly after construction is completed relative to other habitat types. Previous research indicated that dynamic, sandy physical habitat begins to recover substantially within a few months of disturbance and can fully recover by measure of abundance within two years and recover by measure of biomass and diversity in two to four years (Dernie et al. 2003; Van Dalfsen and Essink 2001). Some alteration from unconsolidated fine habitat to structured habitat in the SWDA may change species assemblages in the SWDA and attract more structure-oriented species. Cable protection may also be used along the OECC and create hard-bottom habitat.

Construction of New England Wind would introduce underwater noise and may result in increased sound exposure of finfish and invertebrates. Underwater sounds would include repetitive, high-intensity (impulsive) sounds produced by pile driving, and continuous (non-impulsive), lower-frequency sounds produced by vessel propulsion and cable installation. The Proponent conducted acoustic modeling (see Appendix III-M) to estimate the noise propagation of pile driving assuming broadband noise attenuation levels of 6, 10, and 12 decibels (dB) in relation to thresholds of mortality and recoverable injury for fishes with different hearing structures (based on thresholds in Popper et al. 2014). Although the Proponent expects to implement noise attenuation mitigation technology to reduce sound levels by a target of approximately 12 dB or greater, impacts to marine species were conservatively assessed based on 10 dB of noise attenuation. In summary, with 10 dB attenuation, injury to fish from pile driving could extend out to a few kilometers (a few miles) with behavioral impacts up to 14 km (8 NM). However, impairment from pile driving noise is less likely to occur during construction because a soft-start technique will be employed, and mobile fishes and invertebrates will be able to leave the area before full strength pile driving occurs. Behavioral reaction in fish without a swim bladder and those with a swim bladder not involved in hearing may occur within the immediate proximity of other sound-producing construction activities such as vessels and cable installation. However, as stated in the BOEM Environmental Assessment and the Alternative Energy Programmatic Environmental Impact Statement that were prepared for the assessment and designation of wind energy areas by BOEM, regular vessel traffic occurs throughout this area; thus, implying that biological resources in the area are presumably habituated to this noise (BOEM 2007; BOEM 2014).

Mobile species will be able to avoid construction areas and are not expected to be substantially impacted by construction and installation. Impacts to mobile pelagic fishes and invertebrate species include localized and short-term avoidance behavior. These impacts can be minimized or offset through mitigation consisting of a “soft-start” pile driving regime, sound reduction technologies, and efficient construction practices.

Direct mortality may occur to immobile benthic organisms that are in the direct path of construction processes. Mortality of drifting pelagic egg and larval life stages in the Offshore Development Area may occur from water withdrawals by construction vessels. Although eggs and larvae may be entrained and will not survive, loss of many equivalent adults and population-scale impacts are not expected because most of these species produce millions of eggs each year and already have low adult survival rates. In addition, mortality of pelagic eggs due to increased suspended sediments is expected to be limited because sediment plumes are predicted to have low-concentrations and resettlement will occur quickly (less than six hours in the water column). Burial and mortality of some demersal eggs and sessile organisms are also expected during cable installation in the Offshore Development Area, at locations where sediment deposition is greater than 1 mm (0.04 in) (for the most sensitive demersal eggs) or 20 mm (0.8 in) (for shellfish). However, lethal deposition levels are only expected in small, localized areas adjacent to the cable routes and sediment discharge areas. Burrowing mollusks in the area, such as quahogs, will likely be able to avoid most lethal burial depths and are only expected to be slightly impacted and exhibit short-term avoidance/feeding behavior. Overall, demersal sessile (i.e. less mobile) benthic organisms will incur the brunt of construction impacts, but since the impacted area is only a small portion of the available habitat in the region, significant population-scale impacts are highly unlikely.

In summary, impacts to finfish and invertebrates during O&M of New England Wind are expected to be localized and population-scale impacts are unlikely. Little to no direct mortality would occur, other than potentially during cable repair, which is expected to be rare and localized. The addition of hard structure habitat will add complexity to the area that did not exist before and will likely attract species that prefer structured habitat. The foundations, scour protection, and potential cable protection (if required) may serve as fish aggregating structures and may also alter local food web dynamics and species distribution. Overall, current literature indicates noise generated from the operation of wind farms is minimal and only localized avoidance behaviors are expected; acclimation to the noise over time may occur. The addition of EMFs from submarine cables will likely not have an impact on elasmobranchs or other electro-sensitive fish species because cables will be buried in the substrate or covered with cable protection.

Avoidance, Minimization, and Mitigation Measures

To mitigate the potential impacts of injury to fish from pile driving, New England Wind will apply a soft-start procedure to the pile driving process, which delivers initial pile drives at a lower intensity, allowing fish to move out of the activity area before the full-power pile driving begins. In addition, the Proponent expects to implement noise attenuation mitigation technology to reduce sound levels by a target of approximately 12 dB or greater and adhere to an anticipated time of year restriction on pile driving between January 1 and April 30 to protect North Atlantic right whales (see Section 6.7.4), which may also confer protection to fish that occur within the SWDA during that timeframe. In particular, while there have been no recorded catches of Atlantic sturgeon within the SWDA, this species is known to move offshore into water depths of 20-50 m (66–164 ft) during the winter and early spring (December to March); therefore, the anticipated time of year restriction may also benefit Atlantic sturgeon in the unlikely event that any are present within the SWDA during the winter and early spring months. The WTGs, and ESPs, will also be widely spaced, leaving a large portion of the SWDA undisturbed by WTG and ESP installation.

Offshore export cable installation will avoid important habitats such as eelgrass beds and hard bottom sediments where feasible. Impacts may be minimized using mid-line buoys that are designed to minimize seabed impacts from cable sweep, if feasible and safe, and installation equipment that further minimizes installation impacts on the seabed. In nearshore areas where sensitive resources are located near the potential landfall sites, HDD may be used to minimize disturbance of coastal habitats by drilling underneath them instead of through them.

As discussed under § 11.10.1(C), the Proponent is already working with SMAST to collect pre-construction fisheries data (via trawl and drop camera surveys) within the SWDA. These ongoing surveys have already covered all four calendar seasons of the year prior to any offshore construction activity taking within the SWDA. The Proponent also plans to develop a framework for fisheries studies within the SWDA during and post-construction. In recognition of the regional nature of fisheries science, the Proponent expects that such during- and post-construction studies will involve coordination with other offshore wind energy developers in the MA WEA and RI/MA WEA as well as BOEM, federal and state agencies, fisheries stakeholders, academic institutions, and other stakeholders. The Proponent is already engaging in collaboration with other developers, fishing industry representatives, and state and federal agencies through its participation in ROSA and an RWSE. See the discussion under § 11.10.1(C) for additional details.

Potential Impacts to Recreational Fishing and Mitigation Measures

Potential Impacts

Section 7.5 (Recreation and Tourism [Including Recreational Fishing]) and Section 7.6 (Commercial Fisheries and For-Hire Recreational Fishing) of COP Volume III provide a thorough analysis of New England Wind's potential impact to recreational fisheries, including for-hire reactional fishing, and measures to mitigate those impacts. Impact producing factors evaluated include habitat alteration, vessel traffic, cable installation/maintenance (including impacts from cable protection), navigation hazard, and fish aggregation.

During construction of New England Wind, the construction vessels operating in the SWDA and along the OECC may temporarily preclude recreational boating and fishing activities in the immediate vicinity of construction vessels or cause recreational fishermen to slightly alter their navigation routes (see the discussion under § 11.10.1(C)). As described above, construction activities may affect recreational fishing activities by impacting recreationally-important species.

While the SWDA is targeted by recreational fishermen, other areas within and outside the MA WEA and RI/MA WEA have higher concentrations of recreational fishing activity (Kneebone and Capizzano 2020). The proximity of the SWDA and OECC to numerous productive recreational fishing areas suggests that the highly localized impacts of construction and installation activities will result in only minimal impacts to recreational species.

During O&M, recreational fisheries may be impacted by fish aggregation and potential navigation hazards due to the presence of structures in the Offshore Development Area. As noted under §11.10.1(C), the 1 x 1 NM WTG/ESP layout will facilitate safe navigation through the SWDA. Given the typically smaller size of recreational vessels, navigation impacts through the SWDA are not anticipated.

In fact, New England Wind could result in modest, positive impacts to recreational fisheries. The addition of foundations and scour protection, as well as cable protection in some areas, may act as an artificial reef and provide rocky habitat previously absent from the area. Increases in biodiversity and abundance of fish have been observed around WTG foundations due to attraction of fish species to new structured habitat (Riefolo et al. 2016; Raoux et al. 2017). In the event WTGs aggregate recreationally targeted species, based on the intensity of recreational fishing within the SWDA and its geographic scale, neither congestion effects nor gear conflicts are expected. Anglers' interest in visiting the SWDA may also lead to an increased number of fishing trips out of nearby ports which could support an increase in angler expenditures at local bait shops, gas stations, and other shoreside dependents (Kirkpatrick et al. 2017).

Avoidance, Minimization, and Mitigation Measures

As discussed under § 11.10.1(C), the Proponent will implement measures to avoid, minimize, and mitigate potential impacts to recreational fisheries, including:

- Adopting a 1 x 1 NM WTG/ESP layout to facilitate vessel navigation through the SWDA.
- Maintaining all WTGs/ESPs as PATONs in accordance with USCG guidance.
- Equipping all New England Wind-related vessels and equipment with the required marine navigation lighting and day shapes.
- Using temporary safety buffer zones to improve safety in the vicinity of active work areas.
- Issuing Offshore Wind Mariner Update Bulletins and coordinating with the USCG to provide NTMs.
- Implementing an FCP to facilitate regular and productive communication with fishermen, including recreational fishermen (see Appendix III-E).

Potential Impacts to Commercial Fishing and Mitigation Measures

Potential Impacts

Section 7.6 of COP Volume III (Commercial Fisheries and For-Hire Recreational Fishing) provides a thorough analysis of New England Wind's potential impacts to commercial fisheries and measures to mitigate those impacts. Impact producing factors evaluated include habitat alteration, vessel traffic, cable installation/maintenance (including impacts from cable protection), navigation hazard, and fish aggregation. Appendix III-I presents the Navigation Safety Risk Assessment, which analyzes existing fishing vessel use within the Offshore Development Area and presents measures to mitigate impacts to navigation within the Offshore Development Area during construction and operations. Appendix III-N provides draft estimates of economic exposure to commercial fisheries resulting from New England Wind.

As described above, impacts to finfish and invertebrates within the SWDA and along the OECC from construction of each Phase of New England Wind, including those species targeted by commercial fishermen, are expected to be short-term and localized. Only a small portion of available habitat in the area will be impacted by construction activities within the SWDA and along the OECC and recovery is expected. While there may be temporary impacts to some commercially important species, availability of these species in nearby waters outside the SWDA suggest that increased fishing effort outside the SWDA could offset any such impacts inside the SWDA.

Additional potential impacts related to Rhode Island-based commercial fisheries are discussed under the response to § 11.10.1(C) above. As described under § 11.10.1(C), a number of factors suggest that any economic impact from New England Wind will be only a small percentage of the estimated economic exposure (i.e. a measure of fishing that occurs within the SWDA). Commercial fishing vessels will continue to have access to the SWDA and OECC as currently permitted by regulation and the east-west 1 x 1 NM layout is expected to accommodate traditional fishing patterns, including the "gentlemen's agreement" regarding the placement of mobile and fixed gear within the WEA. In addition, alternative fishing grounds with a demonstrated higher fishery revenue density are available nearby and may be fished at little to no additional cost. Appendix III-N provides a detailed description of potential economic exposure, potential fishing congestion impacts, and shoreside impacts.

Potential impacts from decommissioning activities would be similar to those associated with construction. Removal of the scour protection and any cable protection from the SWDA may result in a shift in the local finfish and invertebrate species assemblages to pre-construction, non-structure communities. Additionally, once offshore components are removed, there will be no more WTGs, ESPs, foundations, or scour protection within the SWDA and commercial fishing may occur in any orientation, though the WTGs and ESPs will no longer serve as aids to navigation.

Avoidance, Minimization, and Mitigation Measures

The measures that the Proponent will implement to avoid, minimize, and mitigate potential impacts to commercial fisheries are described in detail under § 11.10.1(C). Most notably, the Proponent is proposing an east-west 1 x 1 NM WTG/ESP layout to facilitate ongoing transit and fishing activities by commercial fishermen and to accommodate traditional fishing patterns.

§ 11.10.1(G)

For the purposes of fisheries policies and standards as summarized in Ocean SAMP Chapter 5, Commercial and Recreational Fisheries, §§ 5.3.1 and 5.3.2 of this Subchapter, mitigation is defined as a process to make whole those fisheries user groups, including related shore-side seafood processing facilities, that are adversely affected by offshore development proposals or projects. Mitigation measures shall be consistent with the purposes of duly adopted fisheries management plans, programs, strategies and regulations of the agencies and regulatory bodies with jurisdiction over commercial and recreational fisheries, including but not limited to those set forth above in § 11.9.4(B) of this Part. Mitigation shall not be designed or implemented in a manner that substantially diminishes the effectiveness of duly adopted fisheries management programs. Mitigation measures may include, but are not limited to, compensation, effort reduction, habitat preservation, restoration and construction, marketing, and infrastructure and commercial fishing fleet improvements. Where there are potential impacts associated with proposed projects, the need for mitigation shall be presumed (see § 11.10.1(F) of this Part). Mitigation shall be negotiated between the Council staff, the FAB, the project developer, and approved by the Council. The final mitigation will be the mitigation required by the CRMC and included in the CRMC's Assent for the project or included within the CRMC's federal consistency decision for a project's federal permit application.

Measures to mitigate impacts to benthic resources and fish species, including measures to mitigate the potential impacts of injury to fish from pile driving, are summarized under § 11.10.1(F) above and described in detail in Sections 6.5.2 and 6.6.2 of COP Volume III as well as Section 5 of Appendix III-F.

Measures to mitigate impacts to commercial and recreational fisheries are described in Sections 7.5.2, 7.6.3, and 7.6.4 of COP Volume III and summarized under § 11.10.1(C) and § 11.10.1(F) above. As stated under § 11.10.1(C), in direct response to recommendations from CRMC, the New England Wind WTGs and ESPs will be oriented in fixed east-to-west rows and north-to-south columns with one nautical mile (1.85 km) spacing between WTG/ESP positions. The Proponent has developed an assessment of the economic exposure of Rhode Island commercial fisheries to New England Wind (see Appendix III-N).

§ 11.10.1(H)

The Council recognizes that moraine edges, as illustrated in Figures 3 and 4 in § 11.10.2 of this Part, are important to commercial and recreational fishermen. In addition to these mapped areas, the FAB may identify other edge areas that are important to fisheries within a proposed project location. The Council shall consider the potential adverse impacts of future activities or projects on these areas to Rhode Island's commercial and recreational fisheries. Where it is determined that there is a significant adverse impact, the Council will modify or deny activities that would impact these areas. In addition, the Council will require assent holders for offshore developments to employ micro-siting techniques in order to minimize the potential impacts of such projects on these edge areas.

COP Volume II provides a comprehensive analysis of the data collected during geophysical and geotechnical surveys conducted for New England Wind. COP Volume II confirms there are no known glacial moraines within the SWDA and portions of the OECC located within the 2018 GLD (see Section 2.1 of COP Volume II-A, particularly Figure 2.1-2). In addition, Section 6.5 of COP Volume III and Appendix III-F contain a detailed description of benthic habitats and Essential Fish Habitat, respectively, within the Offshore Development Area. Popular and other important areas to commercial and recreational fisheries are discussed in Sections 7.5 and 7.6 of COP Volume III.

§ 11.10.1(I)

The finfish, shellfish, and crustacean species that are targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their life cycles. While all fish habitat is important, spawning and nursery areas are especially important in providing shelter for these species during the most vulnerable stages of their life cycles. The Council shall protect sensitive habitat areas where they have been identified through the Site Assessment Plan or Construction and Operation Plan review processes for offshore developments as described in § 11.10.5(C) of this Part.

Section 6.5 of COP Volume III contains a detailed description of benthic habitats within the Offshore Development Area. Section 6.6 of COP Volume III contains an extensive discussion of fish and invertebrate species within the Offshore Development Area. Essential Fish Habitats are discussed in Appendix III-F. These sections specifically address the life histories of fishes found in the Offshore Development Area, including species targeted by commercial and recreational fishermen, and their habitats. For example, Section 6.6 describes the distribution and temporal persistence of longfin squid (*Doryteuthis pealeii*) egg mops throughout the Offshore Development Area. Essential Fish Habitat for the different life stages of longfin squid is discussed in Section 4 of Appendix III-F.

As described in Section 6.5 of COP Volume III, seafloor conditions within the SWDA are generally homogenous and dominated by sand and silt-sized sediments. No state-managed artificial reefs have been documented within the SWDA. Other types of potentially sensitive or unique benthic habitat types, such as live bottom, are also not present based on the Shallow Hazards Assessment discussed in Section 3 of COP Volume II. Similarly, no observations of living bottom have been made within the SWDA based on data available on the NOAA Deep-Sea Coral Data Portal (NOAA 2019).

The Proponent has conducted surveys of epifauna and infauna along the OECC using underwater video transects and sediment grab samples, respectively. Soft Bottom habitats are the most common along the OECC and make up approximately 59% of the entire corridor. These areas typically contain a sandy surficial layer that is either highly mobile and comprised of migrating bedforms or flat and stable, mostly void of active sediment transport features. Several locations within Massachusetts waters outside the 2018 GLD (i.e. within Muskeget Channel) contained coarse deposits and hard bottom habitats consisting of pebble-cobble habitat with sulfur sponge (*Cliona celata*) communities.

Impacts to finfish, shellfish, and crustacean species (as described in Sections 6.5 and 6.6 of COP Volume III) are summarized above under § 11.10.1(F). Most potential impacts to finfish, shellfish, and crustacean species are expected to be temporary, with some long-term direct habitat alteration from the installation of WTG/ESP foundations, scour protection, and potential cable protection. However, this habitat alteration for both Phases would only impact approximately 1.17 km^2 (289 acres) of the 453 km^2 (111,939 acres) SWDA, which is 0.26% of the SWDA.

§ 11.10.1(J)

Any large-scale offshore development, as defined in this Part, shall require a meeting between the HAB, the applicant, and the Council staff to discuss potential marine resource and habitat-related issues such as, but not limited to, impacts to marine resource and habitats during construction and operation, project location, construction schedules, alternative locations, project minimization, measures to mitigate the potential impacts of proposed projects on habitats and marine resources, and the identification of important marine resource and habitat areas. For any state permit process for a large-scale offshore development, this meeting shall occur prior to submission of the state permit application. The Council cannot require a pre-application meeting for federal permit applications, but the Council strongly encourages applicants for any large-scale offshore development, as defined in this Part, in federal waters to meet with the HAB and the Council staff prior to the submission of a federal application, lease, license, or authorization. However, for federal permit applicants, a meeting with the HAB shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA six-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2).

As noted under § 11.10.1(D), the Proponent met with CRMC staff on July 13, 2020 to provide an introductory overview of New England Wind. The Proponent will meet with the Habitat Advisory Board (HAB) and the CRMC staff to discuss potential marine resource and habitat-related issues associated with New England Wind, including ongoing and planned fisheries studies, on a date and time provided by CRMC.

The COP includes detailed information on the potential impacts to marine resource and habitats during construction and operation, project location, construction schedules, alternative locations, project minimization, measures to mitigate the potential impacts of proposed projects on habitats and marine resources, and the identification of important marine resource and habitat areas. See Section 2 (New England Wind location) and Sections 3.1.1.3, 3.3.1.1, 4.1.1.3, and 4.3.1.1 (construction schedule) of COP Volume I. See also Section 6.5 (benthic resources), Section 6.6 (finfish and invertebrates), Section 6.7 (marine mammals), Section 6.8 (sea turtles), and Appendix III-F (Essential Fish Habitat) of COP Volume III.

§ 11.10.1(K)

The potential impacts of a proposed project on cultural and historic resources will be evaluated in accordance with the National Historic Preservation Act and Antiquities Act, and the Rhode Island Historical Preservation Act and Antiquities Act as applicable. Depending on the project and the lead federal agency, the projects that may impact marine historical or archaeological resources identified through the joint agency review process may require a marine archaeology assessment that documents actual or potential impacts the completed project will have on submerged cultural and historic resources.

As described in Section 7.3 of COP Volume III, the marine archaeological resources assessment report for New England Wind was prepared from the 2020 geophysical and geological field surveys, which were processed and analyzed by a Qualified Marine Archaeologist in accordance with BOEM guidelines (i.e. the lead federal agency responsible for reviewing New England Wind). As listed in Table 1.4-1 of COP Volume I, the complete report is included as COP Volume II-D.

Avoidance, minimization, and mitigation measures for submarine historical and archaeological resources will be determined in consultation with BOEM, Massachusetts Historical Commission (MHC), and other relevant consulting parties through the National Historic Preservation Act (NHPA) Section 106 process (36 CFR § 800.3 – 800.13).

§ 11.10.1(L)

Guidelines for marine archaeology assessment in the Ocean SAMP area can be obtained through the RIHPHC in their document, "Performance Standards and Guidelines for Archaeological Projects: Standards for Archaeological Survey" (RIHPHC 2007), or the lead federal agency responsible for reviewing the proposed development.

As described under § 11.10.1(K), the marine archaeological resources assessment will be prepared in accordance with the requirements of the federal agency responsible for reviewing New England Wind (i.e. BOEM).

§ 11.10.1(M)

The potential non-physical impacts of a proposed project on cultural and historic resources shall be evaluated in accordance with 36 C.F.R. § 800.5, assessment of adverse effects, including the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features. Depending on the project and the lead federal agency, the Ocean SAMP Interagency Working Group may require that a project undergo a visual impact assessment that evaluates the visual impact a completed project will have on onshore cultural and historic resources.

Rhode Island (including Block Island) falls beyond the maximum theoretical area of expected visibility of New England Wind due to the Earth's curvature.

§ 11.10.1(N)

A visual impact assessment may require the development of detailed visual simulations illustrating the completed project's visual relationship to onshore properties that are designated National Historic Landmarks, listed on the National Register of Historic Places, or determined to be eligible for listing on the National Register of Historic Places. Assessment of impacts to specific views from selected properties of interest may be required by relevant state and federal agencies to properly evaluate the impacts and determination of adverse effect of the project on onshore cultural or historical resources.

There are no areas along the Rhode Island coast from which New England Wind is visible.

§ 11.10.1(O)

A visual impact assessment may require description and images illustrating the potential impacts of the proposed project.

There are no areas along the Rhode Island coast from which New England Wind is visible.

3.3 Areas of Particular Concern § 11.10.2

§ 11.10.2(A)

Areas of Particular Concern (APCs) have been designated in state waters through the Ocean SAMP process with the goal of protecting areas that have high conservation value, cultural and historic value, or human use value from large-scale offshore development. These areas may be limited in their use by a particular regulatory agency (e.g., shipping lanes), or have inherent risk associated with them (e.g., unexploded ordnance locations), or have inherent natural value or value assigned by human interest (e.g., glacial moraines, historic shipwreck sites). Areas of Particular Concern have been designated by reviewing habitat data, cultural and historic features data, and human use data that has been developed and analyzed through the Ocean SAMP process. Currently designated Areas of Particular Concern are based on current knowledge and available datasets; additional Areas of Particular Concern may be identified by the Council in the future as new datasets are made available. Areas of Particular Concern may be elevated to Areas Designated for Preservation in the future if future studies show that Areas of Particular Concern cannot risk even low levels of large-scale offshore development within these areas. Areas of Particular Concern include:

1. *Areas with unique or fragile physical features, or important natural habitats;*
2. *Areas of high natural productivity;*
3. *Areas with features of historical significance or cultural value;*
4. *Areas of substantial recreational value;*
5. *Areas important for navigation, transportation, military, and other human uses; and*
6. *Areas of high fishing activity.*

Please see the response to § 11.10.1(B). No physical structures of New England Wind are located within an APC in Rhode Island state waters designated in the Ocean SAMP. The SWDA is located within federal waters in BOEM's designated MA WEA and the OECC is within federal waters and Massachusetts state waters.

§ 11.10.2(B)

The Council has designated the areas listed below in § 11.10.2(C) of this Part in state waters as Areas of Particular Concern. All large-scale, small-scale, or other offshore development, or any portion of a proposed project, shall be presumptively excluded from APCs. This exclusion is rebuttable if the applicant can demonstrate by clear and convincing evidence that there are no practicable alternatives that are less damaging in areas outside of the APC, or that the proposed project will not result in a significant alteration to the values and resources of the APC. When evaluating a project proposal, the Council shall not consider cost as a factor when determining whether practicable alternatives exist. Applicants which successfully demonstrate that the presumptive exclusion does not apply to a proposed project because there are no practicable alternatives that are less damaging in areas outside of the APC must also demonstrate that all feasible efforts have been made to avoid damage to APC resources and values and that there will be no significant alteration of the APC resources or values. Applicants successfully demonstrating that the presumptive exclusion does not apply because the proposed project will not result in a significant alteration to the values and resources of the APC must also demonstrate that all feasible efforts have been made to avoid damage to the APC resources and values. The Council may require a successful applicant to provide a mitigation plan that protects the ecosystem. The Council will permit underwater cables, only in certain categories of Areas of Particular Concern, as determined by the Council in coordination with the Joint Agency Working Group. The maps listed below in § 11.10.2(C) of this Part depicting Areas of Particular Concern may be superseded by more detailed, site-specific maps created with finer resolution data.

Please see the response to § 11.10.2(A). No physical structures of New England Wind are located within an APC designated in the Ocean SAMP under § 11.10.2(C).

§ 11.10.2(C)

Areas of particular concern that have been identified in the Ocean SAMP area in state waters are described as follows:

1. *Historic shipwrecks, archeological or historical sites and their buffers as described in Ocean SAMP Chapter 4, Cultural and Historic Resources, Sections 440.1.1 through 440.1.4, are Areas of Particular Concern. For the latest list of these sites and their locations please refer to the Rhode Island State Historic Preservation and Heritage Commission.*

2. *Offshore dive sites within the Ocean SAMP area, as shown in Figure 2 in § 11.10.2 of this Part, are designated Areas of Particular Concern. The Council recognizes that offshore dive sites, most of which are shipwrecks, are valuable recreational and cultural ocean assets and are important to sustaining Rhode Island's recreation and tourism economy.*

3. *Glacial moraines are important habitat areas for a diversity of fish and other marine plants and animals because of their relative structural permanence and structural complexity. Glacial moraines create a unique bottom topography that allows for habitat diversity and complexity, which allows for species diversity in these areas and creates environments that exhibit some of the highest biodiversity within the entire Ocean SAMP area. The Council also recognizes that because glacial moraines contain valuable habitats for fish and other marine life, they are also important to commercial and recreational fishermen. Accordingly, the Council shall designate glacial moraines as identified in Figures 3 and 4 in § 11.10.2 of this Part as Areas of Particular Concern.*

4. *Navigation, military, and infrastructure areas including: designated shipping lanes, precautionary areas, recommended vessel routes, ferry routes, dredge disposal sites, military testing areas, unexploded ordnance, pilot boarding areas, anchorages, and a coastal buffer of 1 km as depicted in Figure 5 in § 11.10.2 of this Part are designated as Areas of Particular Concern. The Council recognizes the importance of these areas to marine transportation, navigation and other activities in the Ocean SAMP area.*

5. *Areas of high fishing activity as identified during the pre-application process by the Fishermen's Advisory Board, as defined in § 11.3(E) of this Part, may be designated by the Council as Areas of Particular Concern.*

6. *Several heavily-used recreational boating and sailboat racing areas, as shown in Figure 6 in § 11.10.2 of this Part, are designated as Areas of Particular Concern. The Council recognizes that organized recreational boating and sailboat racing activities are concentrated in these particular areas, which are therefore important to sustaining Rhode Island's recreation and tourism economy.*

7. *Naval fleet submarine transit lanes, as described in Ocean SAMP Chapter 7, Marine Transportation, Navigation, and Infrastructure Section 720.7, are designated as Areas of Particular Concern.*

8. *Other Areas of Particular Concern may be identified during the pre-application review by state and federal agencies as areas of importance.*

No physical structures of New England Wind are located within an APC designated in the Ocean SAMP under § 11.10.2(C).

§ 11.10.2(D)

Developers proposing projects for within the renewable energy zone as described in § 11.10.1(B) of this Part shall adhere to the requirements outlined in § 11.10.2 of this Part regarding Areas of Particular Concern in state waters, including any Areas of Particular Concern that overlap the renewable energy zone (see Figure 7 in § 11.10.2 of this Part).

New England Wind is not proposed within the Renewable Energy Zone or any APCs located within Rhode Island state waters.

3.4 Prohibitions and Areas Designated for Preservation (§ 11.10.3)

§ 11.10.3(A)

Areas Designated for Preservation are designated in the Ocean SAMP area in state waters for the purpose of preserving them for their ecological value. Areas Designated for Preservation were identified by reviewing habitat and other ecological data and findings that have resulted from the Ocean SAMP process. Areas Designated for Preservation are afforded additional protection than Areas of Particular Concern (see § 11.10.2 of this Part) because of scientific evidence indicating that large-scale offshore development in these areas may result in significant habitat loss. The areas described in § 11.10.3 of this Part are designated as Areas Designated for Preservation. The Council shall prohibit any large-scale offshore development, mining and extraction of minerals, or other development that has been found to be in conflict with the intent and purpose of an Area Designated for Preservation. Underwater cables are exempt from this prohibition. Areas Designated for Preservation include:

1. *Ocean SAMP sea duck foraging habitat in water depths less than or equal to 20 meters [65.6 feet] (as shown in Figure 8 in § 11.10.3 of this Part) are designated as Areas Designated for Preservation due to their ecological value and the significant role these foraging habitats play to avian species, and existing evidence suggesting the potential for permanent habitat loss as a result of offshore wind energy development. The current research regarding sea duck foraging areas indicates that this habitat is depth limited and generally contained within the 20 meter depth contour. It is likely there are discreet areas within this region that are prime feeding areas, however at present there is no long-term data set that would allow this determination. Thus, the entire area within the 20 meter contour is being protected as an Area Designated for Preservation until further research allows the Council and other agencies to make a more refined determination.*

2. *The mining and extraction of minerals, including sand and gravel, from tidal waters and salt ponds is prohibited. This prohibition does not apply to dredging for navigation purposes, channel maintenance, habitat restoration, or beach replenishment for public purposes.*

3. *The Council shall prohibit any offshore development in areas identified as Critical Habitat under the Endangered Species Act.*

4. *Dredged material disposal, as defined and regulated in § 1.3.1(I) of this Chapter, is further limited in the Ocean SAMP area by the prohibition of dredged material disposal in the following Areas of Particular Concern as defined in § 11.10.2 of this Part: historic shipwrecks, archaeological, or historic sites; offshore dive sites; navigation, military, and infrastructure areas; and moraines. Beneficial reuse may be allowed in Areas Designated for Preservation, whereas all other dredged material disposal is prohibited in those areas. All disposal of dredged material will be conducted in accordance with the U.S. EPA and U.S. Army Corps of Engineers' manual, Evaluation of Dredged Material Proposed for Ocean Disposal.*

New England Wind is not located within an area designated in the Ocean SAMP as an Area Designated for Preservation in state waters.

3.5 Other Areas (§ 11.10.4)

§ 11.10.4(A)

Large-scale projects or other development which is found to be a hazard to commercial navigation shall avoid areas of high intensity commercial marine traffic in state waters. Avoidance shall be the primary goal of these areas. Areas of high intensity commercial marine traffic are defined as having 50 or more vessel counts within a 1 km by 1 km grid, as shown in Figure 9 in § 11.10.4(B) of this Part.

No physical structures of New England Wind that would pose a hazard to commercial navigation are located within Rhode Island state waters.

Section 7.8 of COP Volume III and the Navigation Safety Risk Assessment provided as Appendix III-I discuss existing levels of commercial marine traffic in the Offshore Development Region, the potential impacts of New England Wind on vessel traffic and navigation, and measures to avoid, minimize, and mitigate those impacts. The findings contained in Section 7.8 and Appendix III-I are summarized below.

Temporary Impacts to Navigation and Vessel Traffic During Construction

Construction of New England Wind will require the use of construction and support vessels that will transit within the SWDA, along the OECC, and along vessel routes between the SWDA, OECC, and one or more ports. The Proponent has identified several port facilities in Massachusetts, Rhode Island, Connecticut, New York, and New Jersey that may be used for major construction staging activities, which may require vessel transits through Rhode Island state waters (see Sections 3.2.2.5 and 4.2.2.5 of COP Volume I).

Specific to Rhode Island, New England Wind may use the Port of Davisville, the Port of Providence (ProvPort), and/or South Quay Terminal for major construction staging activities. The Proponent may use one or more of these ports for frequent crew transfer and to offload/load shipments of components, store components, prepare them for installation, and then load components onto jack-up vessels or other suitable vessels for delivery to the SWDA for installation. Some component fabrication and assembly may occur at these ports as well. Activities such as refueling, restocking supplies, sourcing parts for repairs, vessel repairs, vessel mobilization/demobilization, some crew transfer, and other construction staging activities may occur out of other Rhode Island ports. These activities would occur at industrial ports suitable for such uses and would be well within the realm of normal port activities.

At the early planning stages of New England Wind, it is challenging to precisely quantify the number of vessels and vessel trips associated with the construction of New England Wind. As indicated in Table 7.8-3 of COP Volume III, it is estimated that, on average, there could be six vessel trips per day to the Port of Davisville and South Quay Terminal and three trips per day to ProvPort. During the peak construction period, there could be as many as 13 trips per day to the Port of Davisville and South Quay Terminal and six trips per day to ProvPort. However, these estimates are highly dependent on the final construction schedule for each Phase, the number of WTGs and ESPs installed, the final design of the offshore facilities, the ports ultimately used, and the logistics solution used to achieve compliance with the Jones Act. For these reasons, the estimate of vessel counts, and vessel trips provided in Section 7.8.2 of COP Volume III are likely conservative and subject to change.

Vessel traffic associated with the construction of each Phase of New England Wind is not anticipated to represent a significant increase over the current levels of vessel traffic throughout the Offshore Development Region. The highest density of vessel traffic in the Offshore Development Region occurs outside the MA WEA and RI/MA WEA and primarily within traffic separation schemes, fairways, precautionary areas, and recommended routes. Thus, New England Wind avoids areas with the highest intensity commercial marine traffic. As described Appendix III-I, because the SWDA is not heavily trafficked, construction and installation activities are not anticipated to significantly affect the limited vessel traffic within the SWDA. The Proponent will continue to work with ferry operators, harbor pilots, and other vessel operators to ensure any impacts to commercial vessel traffic are minimized to the greatest extent practicable.

During Phases 1 and 2, the construction and installation vessels operating in the SWDA or along the OECC may temporarily preclude other vessels from transiting in the immediate vicinity of construction vessels or cause vessels to make adjustments to planned routes or transit times to avoid the construction area. Temporary safety buffer zones may be established around work areas during construction of each Phase (see the response to § 11.10.1(C)). Near ports and adjacent waterways, New England Wind vessels may require other vessels transiting within navigation channels, in close proximity to obstructions, or within other areas of confined navigation to adjust course, where possible, or adjust their departure/arrival times to avoid navigational conflicts. However, navigational conflicts are not anticipated to be a common occurrence.

The Proponent will provide Offshore Wind Mariner Update Bulletins and coordinate with the USCG to issue NTMs advising other vessel operators of construction and installation activities. The Proponent will also coordinate with state and local law enforcement, marine patrol, port authorities, and commercial operators. With the mitigation measures described in the response to § 11.10.1(C) and Section 7.8.2.1.5 of COP Volume III, the increased vessel traffic is not anticipated to result in significant disruption of vessel traffic in and around the Rhode Island ports.

Impacts to Navigation and Vessel Traffic During Operations

As described Appendix III-I, because the SWDA is not heavily trafficked, vessel activities during O&M are not anticipated to significantly affect the limited vessel traffic occurring within the SWDA. O&M vessels will operate at the OECC infrequently, primarily to conduct inspections of the offshore export cables on a scheduled maintenance timetable (see Sections 3.3.2 and 4.3.2 of COP Volume I). Few impacts to existing vessel traffic, including passenger vessel traffic, are anticipated from O&M activities along the OECC.

Regarding port usage during O&M, New England Wind vessels will primarily travel between the O&M facilities (likely located in Bridgeport, Vineyard Haven, and/or New Bedford Harbor) and the SWDA. While the Proponent does not plan to establish O&M facilities in Rhode Island, the Proponent may use ports in Rhode Island to support O&M activities, as necessary (see Sections 3.2.2.6 and 4.2.2.6 of COP Volume I). Because an average of fewer than two O&M vessels will transit to and/or from the O&M facilities on any given day, vessel activities during O&M are not expected to adversely affect other commercial or recreational vessel traffic.

As described in the response to § 11.10.1(C), the SWDA will be open to marine traffic, and no permanent vessel restrictions are proposed within the SWDA or along the OECC during O&M for either Phase. Increased risks to safe navigation may result from the presence of WTGs and ESPs in the SWDA where only open ocean previously existed. However, New England Wind's 1 x 1 NM WTG/ESP layout described under § 11.10.1(C) is consistent with USCG's recommendations that WTG layouts within the WEAs should be developed along a standard and uniform grid pattern with at least three lines of orientation and standard spacing. In general, the USCG found that a standard grid array with multiple lines of orientation would: 1) improve safe navigation by increasing the number of directional options for vessels to transit through the WEAs; and 2) alleviate concerns about funneling vessel traffic into a navigation safety corridor by providing sufficient spacing and multiple options to transit safely through the WEAs. As stated in the USCG's (2020) MARIPARS, "A standard and uniform grid pattern for offshore structures with multiple straight orientations throughout the MA/RI WEA would maximize safe navigation within the MA/RI WEA." See Section 7.8 of COP Volume III and the Navigation Safety Risk Assessment in Appendix III-I for additional discussion regarding potential impacts to vessel traffic and navigation within the SWDA.

Finally, as described under § 11.10.1(C), the submarine cables within the SWDA and along the OECC are not anticipated to adversely impact vessel activities. The target burial depth for all inter-array, inter-link, and offshore export cables is 1.5 to 2.5 m (5 to 8 ft) below the seafloor, which is more than twice the burial depth that is required to protect the cables from fishing activities (e.g. the use of bottom trawl gear) and also provides a maximum of 1 in 100,000 year probability of anchor strike, which is considered a negligible risk.

3.6 Application Requirements (§ 11.10.5)

§ 11.10.5(A)

For the purposes of this document, the phrase "'necessary data and information'" shall refer to the necessary data and information required for federal consistency reviews for purposes of starting the Coastal Zone Management Act (CZMA) six-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2). Any necessary data and information shall be provided before the six-month CZMA review period begins for a proposed project or at the time the applicant provides the consistency certification. It should be noted that other federal and state agencies may require other types of data or information as part of their review processes.

The Proponent will provide any necessary data and information before the six-month CZMA review period for New England Wind begins. The remaining provisions of § 11.10.5 are specific to the application requirements for projects occurring in state waters. The New England Wind COP has been submitted in accordance with BOEM's regulations governing COP submissions. Table 1.4-1 of COP Volume I lists BOEM's COP regulations and where the corresponding information can be found throughout the New England Wind COP.

3.7 Monitoring Requirements (§ 11.10.6)

§ 11.10.6(A)

The Council in coordination with the Joint Agency Working Group, as described in § 11.9.7(I) of this Part, shall determine requirements for monitoring as specified in § 11.9.9 of this Part. For CZMA federal consistency purposes the Council must identify any baseline assessments and construction monitoring activities during its CZMA six-month review of the COP.

New England Wind will be carefully monitored during construction, operation, and decommissioning. The Proponent has already conducted numerous surveys to characterize the Offshore Development Area including, but not limited to, boat-based offshore avian surveys, fisheries surveys, and benthic habitat surveys. The Proponent's pre-, during-, and post-construction surveys and monitoring will generate a substantial body of environmental, fisheries, and other data, further augmenting scientific understanding of the Offshore Development Area. The Proponent has collaborated and will continue to collaborate with federal and state agencies to design surveys that align with established survey methods so that the data generated can be compared to previous data and ongoing regional studies to support a regional, longer-term study program to monitor the regional impacts of offshore wind development.

Resource-specific baseline assessments and construction monitoring plans are discussed throughout Volume III of the COP. Specific examples of such monitoring plans include but are not limited to:

- **Fisheries Studies:** As described in the responses to § 11.10.1(C) and § 11.10.1(F) as well as Sections 4.1, 6.6, and 7.6 of COP Volume III, the Proponent is committed to fisheries science and research as it relates to offshore wind energy development. The Proponent is already working with SMAST to collect pre-construction fisheries data (via trawl and drop camera surveys) within the SWDA. The Proponent plans to develop a framework for fisheries studies within the SWDA during and post-construction. The Proponent expects the development of the fisheries studies will be undertaken in coordination with other offshore wind energy developers, BOEM, federal and state agencies, fisheries stakeholders, academic institutions, and other stakeholders. The Proponent is already engaging in collaboration with other developers, fishing industry representatives, and state and federal agencies through its participation in ROSA and an RWSE. The survey and monitoring work the Proponent will conduct will generate a substantial body of environmental, fisheries, and other data, all of which will be available in the public domain in a manner consistent with other academic research.

- **Benthic Habitat Monitoring**: As described under § 11.10.1(F), the Proponent is committed to developing an appropriate benthic monitoring framework for New England Wind, should it be necessary, in consultation with BOEM and other agencies as appropriate (See Appendix III-U for the draft framework). The framework for New England Wind will consider the draft Benthic Habitat Monitoring Plan for Vineyard Wind 1 in Lease Area OCS-A 0501.

It is expected that New England Wind's monitoring plans will continue to be refined through the federal review and approval process.

4.0 CONCLUSION

The Proponent has demonstrated that the proposed action described herein and in the New England Wind COP complies with the applicable enforceable policies of Rhode Island's approved Coastal Resource Management Program and will be conducted in a manner consistent with such Program.

5.0 REFERENCES AND INCORPORATION BY REFERENCE

[BOEM] Bureau of Ocean Energy Management. 2007. Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf. Final Environmental Impacts Statement. OCS EIS/EA MMS 2007-046. A https://www.boem.gov/Guide-To-EIS/

[BOEM] Bureau of Ocean Energy Management. 2013. Guidelines for Providing Information on Fisheries for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585.

[BOEM] Bureau of Ocean Energy Management. 2014. Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore Massachusetts: Revised Environmental Assessment. OCS EIS/EA BOEM 2014-603. US Department of the Interior, Bureau of Ocean Energy Management, Herndon, VA. 674 pp. http://www.boem.gov/Revised-MA-EA-2014/

[BOEM] Bureau of Ocean Energy Management. 2018. Vineyard Wind offshore energy project Draft Environmental Impact Statement (DEIS). [accessed 2019 July]. https://www.boem.gov/Vineyard-Wind-EIS/

[NOAA] National Oceanic and Atmospheric Administration [Internet]. NOAA Deep-Sea Coral Data Portal. NOAA's Deep Sea Coral Research and Technology Program (DSCRTP). 2019. https://deepseacoraldata.noaa.gov/website/AGSViewers/DeepSeaCorals/mapSites.htm

[NOAA] National Oceanic and Atmospheric Administration. 2021. Socioeconomic impacts of Atlantic offshore wind development. [updated 2021 March 11; accessed 2021 May 10]. https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development

[USCG] United States Coast Guard. 2020. The areas offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS). USCG-2019-0131. [accessed 2020 May 27]. https://www.regulations.gov/document?D=USCG-2019-0131-0101

Baird. 2019. Vessel navigation through the Proposed Rhode Island/Massachusetts and Massachusetts Wind Energy Areas. 13057.301.R1.RevD. Letter to USCG Proposed layout from RI-MA Leaseholders. (USCG-2019-0131-0046). https://www.regulations.gov/document?D=USCG-2019-0131-0046

Dernie KM, Kaiser MJ, Warwick RM. 2003. Recovery rates of benthic communities following physical disturbance. J Anim Ecol. 72(6):1043-1056.

Glasby TM, Connell SD, Holloway MG, Hewitt CL. 2007. Nonindigenous biota on artificial structures: could habitat creation facilitate biological invasions? Marine Biology. 151: 887–895.

Hille Ris Lambers R, ter Hofstede R. 2009. Refugium effects of the MEP NSW Windpark on fish: progress report 2007. s.l.: in interim report demersal fish: IMARES Institute for Marine Resources & Ecosystem Studies.

Kirkpatrick AJ, Benjamin S, DePiper G, Murphy T, Steinbeck S, Demarest C. 2017. Socio-Economic impact of outer continental shelf wind energy development on fisheries in the U.S. Atlantic. OCS Study BOEM 2017-012. Prepared under BOEM Interagency Agreement No: M12PG00028 by National Oceanic and Atmospheric Administration National Marine Fisheries Service Northeast https://espis.boem.gov/final%20reports/5580.pdf

Kneebone J, Cappizzano C. 2020. A multifaceted assessment of baseline recreational fishing effort for highly migratory species in southern New England and the associated wind energy areas.

Langhamer O. 2012. Artificial reef effect in relation to offshore renewable energy conversion: state of the art. Sci World J. (2012):8 p. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3541568/pdf/TSWJ2012-386713.pdf.

Linnane A, Ball B, Mercer JP, Van der Meeren G, Bannister C, Mazzoni D, Munday B, Ringvold H. 1999. Understanding the factors that influence European lobster recruitment, a Trans-European study of cobble fauna. J. Shellfish Res. 18(2): 719–720.

Løkkeborg S, Humborstad OB, Jørgensen T, Soldal AV. 2002. Spatio-temporal variations in gillnet catch rates in the vicinity of North Sea oil platforms. ICES Journal of Marine Science. 59: 294-299.

MacArthur R. 1955. Fluctuations of animal populations and a measure of community stability. Ecology. 36: 533–536.

Popper AN, Hawkins AD, Fay RR, Mann DA, Barto lS, Carlson TJ, Coombs S, Ellison WT, Gentry RL, Halvorsen MB et al. Sound exposure guidelines for fishes and sea turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI. Cham, Switzerland: Springer International Publishing; 2014.

Raoux A, Tecchio S, Pezy JP, Lassalle G, Degraer S, Wilhelmsson D, Cachera M, Ernande B, Le Guen C, Haraldsson M, Grangeré K. 2017. Benthic and fish aggregation inside an offshore wind farm: Which effects on the trophic web functioning? Ecological Indicators, 72, pp.33-46.

Reubens J, Degraer S, Vincx M. 2013. Offshore wind farms significantly alter fish community structure - Aggregation of Atlantic cod and pouting. Environmental impacts of offshore wind farms in the Belgian part of the North Sea: learning from the past to optimise future monitoring programmes. Royal Belgian Institute of Natural Sciences (RBINS). pp. 115-121.

Riefolo L, Lanfredi C, Azzellino A, Tomasicchio GR, Felice DA, Penchev V, Vicinanza D. Offshore wind turbines: An overview of the effects on the marine environment. Presented at: 26th International Ocean and Polar Engineering Conference 2016. International Society of Offshore and Polar Engineers. 2016 June; Rhodes, Greece.

Stenberg C, Støttrup J, Deurs MV, Berg CW, Dinesen GE, Mosegaard H, Grome T, Leonhard SB. 2015. Long-term effects of an offshore wind farm in the North Sea on fish communities. Mar Ecol Prog Ser. 528: 257-265.

Van Dalfsen JA, Essink K. 2001. Benthic community response to sand dredging and shoreface nourishment in Dutch coastal waters. *Senckenbergiana marit*. 31(2):329-332

Draft Construction and Operations Plan Addendum for the Phase 2 Offshore Export Cable Corridor South Coast Variant

Appendices

April 2022

Submitted by
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Submitted to
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Prepared by
Epsilon Associates, Inc.

Draft New England Wind Phase 2 Offshore Export Cable Corridor South Coast Variant

Rhode Island Coastal Zone Management Act Consistency Certification

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45600 WOODLAND RD
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RHODE ISLAND COASTAL
RESOURCES MANAGEMENT COUNCIL
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April 2022

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1.0 INTRODUCTION

New England Wind is the proposal to develop offshore renewable wind energy facilities in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0534 along with associated offshore and onshore cabling, onshore substations, and onshore operations and maintenance (O&M) facilities. New England Wind will be developed in two Phases: Phase 1 (also known as Park City Wind) and Phase 2 (also known as Commonwealth Wind). Four or five offshore export cables (two for Phase 1 and two or three for Phase 2) will transmit electricity generated by the wind turbine generators (WTGs) to onshore transmission systems (see Figure 1.0-1). Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC, is the Proponent and will be responsible for the construction, operation, and decommissioning of New England Wind.

The Proponent has identified an Offshore Export Cable Corridor (OECC) for the installation of the offshore export cables (see Figure 1.0-1). The OECC travels north from Lease Area OCS-A 0534 along the eastern side of Muskeget Channel towards landfall sites in the Town of Barnstable, Massachusetts. The expected grid interconnection point for both Phases of New England Wind is the West Barnstable Substation. While the Proponent intends to install all Phase 2 offshore export cables within this OECC, the Proponent has identified two variations of the OECC that may be employed for Phase 2: the Western Muskeget Variant (which passes along the western side of Muskeget Channel) and the South Coast Variant (which connects to a potential second grid interconnection point) (see Figure 1.0-1). These variations are necessary to provide the Proponent with commercial flexibility should technical, logistical, grid interconnection, or other unforeseen issues arise during the Construction and Operations Plan (COP) review and engineering processes.

The Proponent has submitted a draft New England Wind COP that describes the OECC and both potential Phase 2 OECC variants, with accompanying data and analysis for the OECC and the Western Muskeget Variant. The purpose of this COP Addendum is to provide relevant data and analysis supporting the South Coast Variant in federal waters for New England Wind. This COP Addendum incorporates by reference the analyses in the COP (including the appendices) and is focused on describing impacts that are unique to the South Coast Variant. Accordingly, descriptions of impacts that are associated with the OECC or its variants more generally and that are not specific to the South Coast Variant are not repeated in this COP Consistency Certification.

The Proponent has prepared this Consistency Certification to demonstrate that the South Coast Variant, if used, will comply with, and will be conducted in a manner consistent with, the enforceable policies of the Rhode Island Coastal Resources Management Program (RICRMP). The South Coast Variant is located entirely within federal waters and Massachusetts state waters. The South Coast Variant is also within Rhode Island's 2011 and the northern edge of the 2018 Geographic Location Description (GLD) (see Figure 1.0-1).

Thus, the Proponent certifies to the Rhode Island Coastal Resources Management Council (CRMC) that:

> *The proposed activities described in detail in the New England Wind COP Addendum comply with Rhode Island's approved Coastal Resource Management Program and will be conducted in a manner consistent with such Program*.

This certification is made in accordance with the requirements of the Coastal Zone Management Act (16 U.S.C. 1451 et seq.) and implementing regulations at 15 CFR Part 930, Subpart E.

A summary of the South Coast Variant is provided in Section 2. Section 3 demonstrates how the South Coast Variant, as described in Section 2 and more completely in the New England Wind COP and COP Addendum, complies with each of the RICRMP's applicable enforceable policies.

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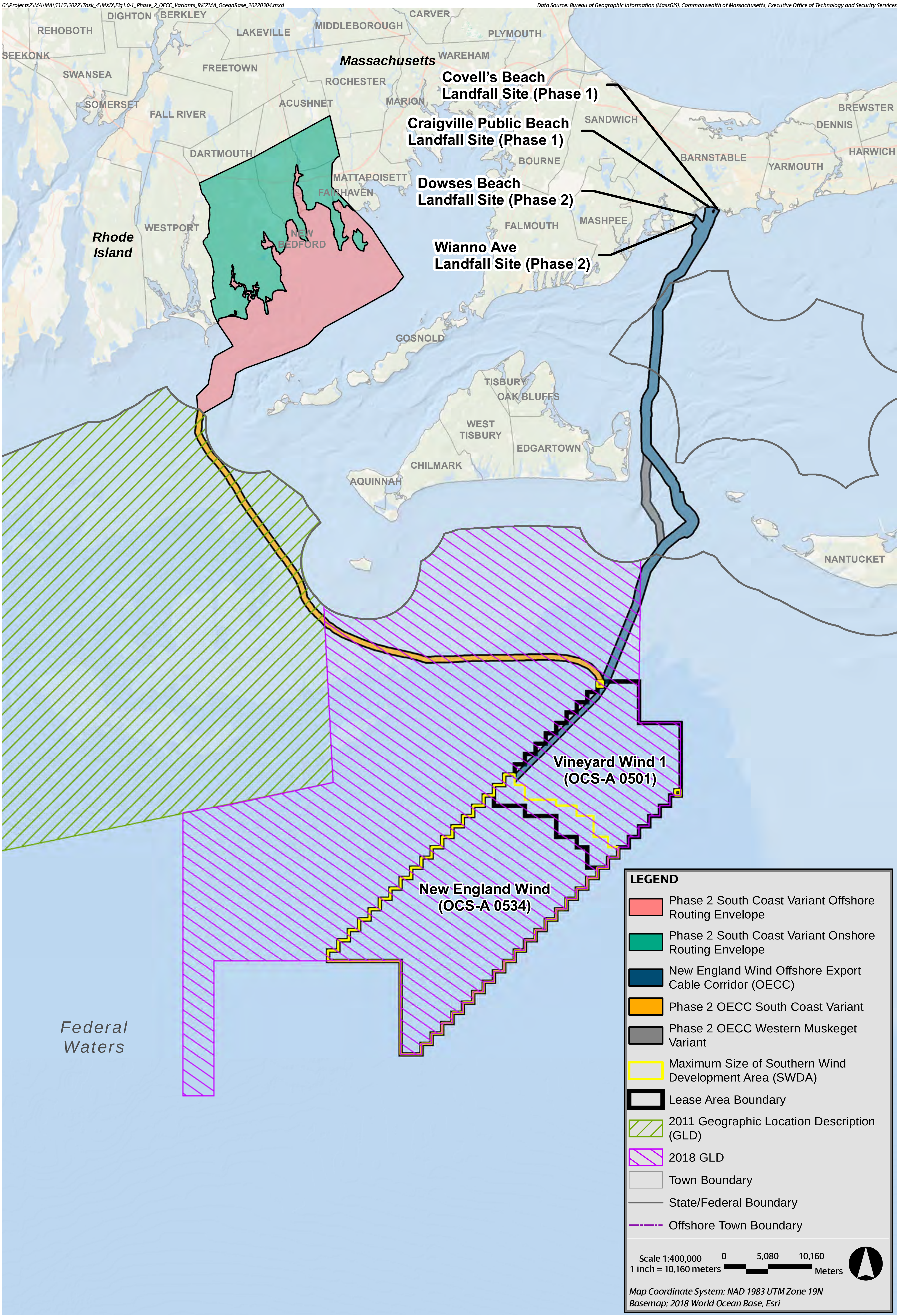
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
AVANGRID RENEWABLES

Figure 1.0-1

Location of New England Wind's Offshore Facilities Within the 2011 and 2018 GLD

2.0 SUMMARY OF THE NEW ENGLAND WIND PHASE 2 OECC SOUTH COAST VARIANT

2.1 Overview

The South Coast Variant is included in the COP to provide the Proponent with the commercial flexibility required should technical, logistical, grid interconnection, or other unforeseen issues arise during the COP review and detailed engineering that preclude one or more Phase 2 export cables from interconnecting at the West Barnstable Substation. If it becomes necessary to employ the South Coast Variant and a second grid interconnection point is secured, the Proponent understands that BOEM would conduct supplemental review of the South Coast Variant within state waters and the corresponding onshore route(s) to the second grid interconnection point.

The South Coast Variant would only be employed if one or more Phase 2 offshore export cables need to interconnect at a second grid interconnection point. Unexpected scenarios that could potentially necessitate the use of the South Coast Variant include, but are not limited to:

- further detailed engineering identifies technical issues with landing one or more Phase 2 offshore export cables at potential landfall sites in Barnstable;
- additional detailed engineering identifies technical issues with installing one or more Phase 2 cables within roadway layouts and utility rights-of-way (ROWs) to reach the West Barnstable Substation; and/or
- grid interconnection issues at the West Barnstable Substation arise that are beyond the Proponent's control.

As shown in Figure 1.0-1, the South Coast Variant diverges from the OECC at the northern boundary of Lease Area OCS-A 0501 and travels west-northwest through federal waters to the Massachusetts state waters boundary near Buzzards Bay. At the Massachusetts state waters boundary, the South Coast Variant broadens to a "Phase 2 South Coast Variant Offshore Routing Envelope" that indicates a region within Buzzards Bay where the Phase 2 offshore export cable(s) may be installed before making landfall along the southwest coast of Massachusetts within the Offshore Routing Envelope. The South Coast Variant does not enter Rhode Island state waters.

If the South Coast Variant is used for Phase 2, the following scenarios are proposed. While none of these scenarios are currently likely, Scenario 1 is considered the most likely of the three: (1) one export cable installed in the South Coast Variant and two export cables installed in the OECC, (2) two export cables installed in the South Coast Variant and one export cable installed in the OECC, or (3) three export cables installed in the South Coast Variant.[1]

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[1] Scenarios 2 and 3 are both very unlikely. Scenarios 2 and 3 would both require significant capacity upgrades to the electrical grid by ISO New England to receive the Phase 2 capacity and are unlikely to be delivered on the

As shown in Figure 1.0-1, the South Coast Variant diverges from the OECC at the northern boundary of Lease Area OCS-A 0501 and travels west-northwest to the state waters boundary near Buzzards Bay. From the Southern Wind Development Area (SWDA)[2] boundary (excluding the two separate aliquots that are closer to shore) through federal waters to the state waters boundary, the South Coast Variant is approximately 79 km (42 NM) in length and approximately 720 m (2,360 ft) in width. To allow additional cable length for turns and micro-siting of the cable within the corridor, the maximum length of each cable within this variation of the OECC (from the SWDA boundary to the Massachusetts state waters boundary) is ~84 km (~45 NM).[3] An additional length of offshore export cable within the SWDA (up to ~34–42 km [~18–23 NM] per cable) will be needed to reach the Phase 2 ESP(s). Thus, the maximum length of each Phase 2 offshore export cable that employs the South Coast Variant is 118–126 km (64–68 NM) between the state waters boundary and the ESP(s). If three Phase 2 offshore export cables use the South Coast Variant, the maximum total length of the Phase 2 offshore export cables within federal waters (assuming three cables) is ~362 km (~196 NM). The maximum total area of seafloor disturbance during construction associated with the use of the South Coast Variant is presented in Table 1.2-1 of the New England Wind COP Addendum.

If used, the South Coast Variant will make landfall along the southwest coast of Massachusetts within the Phase 2 South Coast Variant Offshore Routing Envelope.

Operations and Maintenance and decommissioning activities associated with the South Coast Variant are expected to be similar to those discussed in Sections 4.3.2 and 4.3.3 of COP Volume I and Appendix III-S of COP Volume III.

The location of the South Coast Variant was developed based upon careful consideration of multiple technical, environmental, and commercial factors. In particular, the location of the South Coast Variant was chosen in order to consolidate infrastructure with other commercial wind developments (i.e., for much of its length, the South Coast Variant parallels the proposed Mayflower Wind offshore export cable corridor), which helps to minimize environmental impacts. The identified cable corridor was also chosen to avoid impacts to the Vineyard Sound and

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construction timeline contemplated in the COP. These scenarios are only included as potential options in the event that Phase 2 is significantly delayed due to technical, logistical, or other unforeseen issues arise with interconnecting at the West Barnstable substation.

2 New England Wind will occupy all of Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501 in the event that Vineyard Wind 1 does not develop "spare" or extra positions included in Lease Area OCS-A 0501 and Vineyard Wind 1 assigns those positions to Lease Area OCS-A 0534. For the purposes of the COP, the SWDA is defined as all of Lease Area OCS-A 0534 and the southwest portion of Lease Area OCS-A 0501, as shown in Figure 1.0-1.

3 The offshore export cable length includes a 15% allowance for micro-siting within Lease Areas OCS-A 0534 and OCS-A 0501 and a 5% allowance for micro-siting within the OECC and South Coast Variant outside the lease areas.

Moshup's Bridge Traditional Cultural Property (TCP), which is located just north of the South Coast Variant in Vineyard Sound and encompasses portions of Martha's Vineyard and the Elizabeth Islands.

The Proponent is obtaining survey data and undertaking significant engineering processes to develop specific cable route alignments and to select appropriate installation tools. The entire South Coast Variant is surveyed; however, only a portion of this corridor is needed to install one to three offshore export cables.

3.0 NEW ENGLAND WIND CONSISTENCY WITH RHODE ISLAND ENFORCEABLE POLICIES

3.1 Jurisdiction for Federal Consistency Certification

Section 307(c)(3)(B) of the Coastal Zone Management Act (CZMA), as amended, requires any applicant who submits an Outer Continental Shelf (OCS) plan[4] to the Department of the Interior to also provide a certification that each activity described in the OCS plan affecting any land or water use or natural resource of a state's coastal zone complies with the enforceable policies of that state's approved coastal management program and will be carried out in a manner consistent with such program (see 16 U.S.C. § 1456(c)(3)(B)). On July 2, 2020, the Proponent initially submitted an OCS plan— the draft New England Wind COP— to the Department of Interior's Bureau of Ocean Energy Management (BOEM) for approval. The COP was last updated on December 17, 2021, and identified two variations of the Phase 2 OECC, including the Phase 2 OECC Western Muskeget Variant and the Phase 2 OECC South Coast Variant. The Phase 2 OECC South Coast Variant, as described in the New England Wind COP Addendum, is located within CRMC's 2011 and 2018 GLD and; therefore, is subject to federal consistency review by CRMC under 15 CFR Part 930, Subpart E (see Figure 1.0-1).

The following sections demonstrate compliance with the applicable enforceable policies of the RICRMP contained in Chapter 11 of CRMC's Ocean Special Area Management Plan (Ocean SAMP) (650-RICR-20-05-11.10). The sections below provide relevant data and analysis supporting the South Coast Variant in federal waters for New England Wind and incorporate by reference detailed information in the New England Wind COP, Appendix III-S of COP Volume III, and the New England Wind COP Addendum. Accordingly, descriptions of impacts that are associated with the OECC or its variants more generally and that are not specific to the South Coast Variant are not repeated in this appendix.

3.2 Overall Regulatory Standards (§ 11.10.1)

§ 11.10.1(A)

All offshore developments regardless of size, including energy projects, which are proposed for or located within state waters of the Ocean SAMP area, are subject to the policies and standards outlined in §§ 11.9 and 11.10 of this Part. The Council shall not use § 11.9 of this Part for CRMC concurrences or objections for CZMA federal consistency reviews.

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4 *OCS plan* means "any plan for the exploration or development of, or production from, any area which has been leased under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.), and the regulations under that Act, which is submitted to the Secretary of the Interior or designee following management program approval and which describes in detail federal license or permit activities." The New England Wind Construction and Operations Plan submitted to BOEM is an OCS plan.

As described in Section 3.1, the South Coast Variant is subject to CZMA federal consistency review by CRMC; therefore, the enforceable policies of the RICRMP contained in Chapter 11 of CRMC's Ocean SAMP (650-RICR-20-05-11.10) are reviewed. New England Wind, including the South Coast Variant, meets the definition of a "large-scale offshore development" pursuant to RICR-20-05-11.3(H)(1) and RICR-20-05-11.10.1(A)(1).

§ 11.10.1(B)

In assessing the natural resources and existing human uses present in state waters of the Ocean SAMP area, the Council finds that the most suitable area for offshore renewable energy development in the state waters of the Ocean SAMP area is the renewable energy zone depicted in Figure 1 in § 11.10.1(O) of this Part, below. The Council designates this area as Type 4E waters. In the Rhode Island Coastal Resources Management Program (Subchapter 00 Part 1 of this Chapter) these waters were previously designated as Type 4 (multipurpose) but are hereby modified to show that this is the preferred site for large scale renewable energy projects in state waters. The Council may approve offshore renewable energy development elsewhere in the Ocean SAMP area, within state waters, where it is determined to have no significant adverse impact on the natural resources or human uses of the Ocean SAMP area. Large-scale offshore developments shall avoid areas designated as Areas of Particular Concern consistent with § 11.10.2 of this Part. No large-scale offshore renewable energy development shall be allowed in Areas Designated for Preservation consistent with § 11.10.3 of this Part.

As mentioned in Section 2.1, the location of the South Coast Variant was developed based upon careful consideration of multiple technical, environmental, and commercial factors. The South Coast Variant evaluated in this COP Addendum is located in federal waters (with a Phase 2 South Coast Variant Offshore Routing Envelope identified in Massachusetts state waters) and thus is not located in Rhode Island state waters identified within the Ocean SAMP area; however, the South Coast Variant crosses through CRMC's 2011 GLD and along the northern edge of the 2018 GLD within federal waters to make landfall at a location within the Phase 2 South Coast Variant Offshore Routing Envelope.

No significant adverse impact on the natural resources or human uses of the Ocean SAMP area is expected through the pre-construction, construction, operation, or decommissioning phases of the South Coast Variant. See Sections 3.3 and 3.4 for further discussion of Areas of Particular Concern (APC) and Areas Designated for Preservation.

The South Coast Variant crosses through a small portion of the northern edge of glacial moraines identified within the Ocean SAMP as APC. Although a wider corridor is shown for the potential offshore export cable(s), seafloor disturbance from cable installation only results in a 1 m (3.3 ft) wide cable installation trench and a 3 m (10 ft) wide temporary disturbance zone from the tracks or skids (see Section 4.3.1.3.6 of COP Volume I). The temporary impacts associated with the unlikely maximum scenario of three cables installed within the South Coast Variant only results in impacts to approximately 0.002% of the total mapped end moraine area within the APC.

Additionally, the offshore export cable length includes a 5% allowance for micro-siting within the South Coast Variant for avoidance to sensitive habitat areas, or other environmental or technical reasons.

§ 11.10.1(C)

Offshore developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone, as described in the Ocean SAMP. In making the evaluation of the effect on human uses, the Council will determine, for example, if there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss. Where the Council determines that impacts on the natural resources or human uses of the Rhode Island coastal zone through the pre-construction, construction, operation, or decommissioning phases of a project constitute significant adverse effects not previously evaluated, the Council shall, through its permitting and enforcement authorities in state waters and through any subsequent CZMA federal consistency reviews, require that the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal.

We understand from CRMC that the principal coastal effects of concern associated with the South Coast Variant within the 2011 GLD and 2018 GLD is to glacial moraines. The sections of the New England Wind COP Addendum most relevant to this issue are included in Section 2.5, Section 2.6, Appendix A, Appendix C, and Appendix I.

As summarized in Section 4 of COP Volume III, the Proponent is already implementing measures to avoid and minimize impacts associated with New England Wind, particularly to commercial fishing interests. Appendix F of the New England Wind COP Addendum contains an analysis of the value of commercial fishing harvest from the South Coast Variant based on the most recent available data. Accordingly, it is anticipated that the South Coast Variant will not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone.

Cable Protection

The installation of submarine cables along the South Coast Variant will be planned and implemented in a manner to avoid or minimize impacts to commercial fishing activities. The offshore export cables will have a target burial depth of 1.5 to 2.5 m (5 to 8 ft) below the seafloor, which the Proponent's engineers have determined is more than twice the burial depth required to protect the cables and prevent them from interfering with commercial fishing operations. While the Proponent will make every effort to achieve that target burial depth, it is conservatively estimated that bottom conditions may prevent achieving proper cable burial depth along up to approximately 8% of the South Coast Variant (from the SWDA boundary to the state waters boundary), which may require cable protection to be installed on the seafloor. For additional information on cable protection, including avoidance and minimization measures, see Appendix III-S of COP Volume III.

Access to the South Coast Variant

Construction and installation activities will occur within very limited and well-defined areas of the South Coast Variant. During construction, fishing vessels will not be precluded from operating in or transiting through the South Coast Variant other than where temporary safety buffer zones may be established in the immediate vicinity around construction and installation vessels. Accordingly, the majority of the South Coast Variant will remain accessible to commercial fishing vessels throughout the construction of New England Wind.

During O&M, the South Coast Variant will be open to marine traffic, and no permanent vessel restrictions are proposed. If in-water maintenance activities are required, there could be temporary safety buffer zones established around work areas in limited areas of the South Coast Variant.

Economic Exposure and Impacts to Rhode Island Commercial Fisheries

As summarized in Section 4 of COP Volume III, the Proponent is implementing several key measures to minimize impacts to commercial fisheries (e.g., establishing a gear loss/damage protocol). An overview of potential impacts to commercial fisheries from construction and installation, operations and maintenance, and decommissioning of the OECC and its variants, including the South Coast Variant is provide in Section 7.6.3 of COP Volume III.

The economic exposure and potential economic impacts to commercial fisheries, including Rhode Island-based commercial fisheries, are analyzed in detail in Appendix F of the New England Wind COP Addendum. This analysis considers the potential direct impacts to commercial fisheries, as well as potential indirect sources of economic impacts on commercial fishing and on fishery-dependent shoreside businesses. The analysis is based on four main sources of fishing revenue data that are available to estimate expected fishing revenues in the South Coast Variant, which indicate that the South Coast Variant does not include high-value commercial fishing grounds (Appendix F of COP Addendum).

Overall, commercial fishing activity in the South Coast Variant is low to modest. Fishing trips that transect the South Coast Variant spend most of their time and generate most of their revenues in nearby fishing areas outside the South Coast Variant.

Fisheries Studies

The Proponent is committed to fisheries science and research as it relates to offshore wind energy development. Fisheries studies, research, and collaborations proposed by the Proponent for New England Wind are outlined in Appendix III-E and Appendix III-S of COP Volume III.

In addition, the Proponent has developed a benthic habitat monitoring plan framework for the South Coast Variant, should it be necessary, included as Appendix I of the New England Wind COP Addendum. The monitoring data collected during these efforts may also inform expected impacts to and recovery of benthic communities within the South Coast Variant.

Avoidance, Minimization, and Mitigation Measures

Avoidance, minimization, and mitigation measures are summarized in Section 4 and Appendix III-S of COP Volume III. Additionally, the Fisheries Communication Plan (FCP) is included as Appendix III-E of COP Volume III.

As noted above, vessel restrictions are not generally proposed other than temporary safety buffer zones that are used to improve safety in the immediate vicinity of construction and installation vessels. Accordingly, the majority of the South Coast Variant will remain accessible to commercial fishing vessels throughout the construction and O&M.

§ 11.10.1(D)

Any large-scale offshore development, as defined in § 11.3(H) of this Part, shall require a meeting between the Fisherman's Advisory Board (FAB), the applicant, and the Council staff to discuss potential fishery-related impacts, such as, but not limited to, project location, wind turbine configuration and spacing, construction schedules, alternative locations, project minimization and identification of high fishing activity or habitat edges. For any state permit process for a large-scale offshore development this meeting shall occur prior to submission of the state permit application. The Council cannot require a pre-application meeting for federal permit applications, but the Council strongly encourages applicants for any large-scale offshore development, as defined in § 11.3(H) of this Part, in federal waters to meet with the FAB and the Council staff prior to the submission of a federal application, lease, license, or authorization. These pre-application meetings, however, do not constitute a formal meeting to satisfy the necessary data and information required for federal consistency reviews, unless mutually agreed to between the CRMC and the applicant. However, for federal permit applicants, a meeting with the FAB as described within this section shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA 6-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2).

The Proponent met with CRMC staff on July 13, 2020 to provide an introductory overview of New England Wind. The Proponent will meet with the Fisherman's Advisory Board (FAB) and CRMC staff in accordance with § 11.10.1(D) to satisfy the necessary data and information requirement on a date and time provided by CRMC.

§ 11.10.1(E)

The Council shall prohibit any other uses or activities that would result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. Long-term impacts are defined as those that affect more than one or two seasons.

The South Coast Variant will not result in significant long-term negative impacts to Rhode Island's commercial or recreational fisheries. Please see the discussion under § 11.10.1(C) above in addition to Section 2.8 and Appendix F of the New England Wind COP Addendum and Sections 7.5 and 7.6 of COP Volume III.

As summarized under § 11.10.1(F) below and described in more detail in Section 2.5, 2.6, and Appendix C in the New England Wind COP Addendum, the South Coast Variant is not expected to result in significant long-term adverse impacts to benthic, finfish, and invertebrate species of commercial and recreational importance. Overall, localized impacts from the alteration of habitat in the South Coast Variant are expected to be minimal and recovery of natural assemblages is expected.

§ 11.10.1(F)

The Council shall require that the potential adverse impacts of offshore developments and other uses on commercial or recreational fisheries be evaluated, considered and mitigated as described in § 11.10.1(G) of this Part.

The Proponent has fully analyzed the potential impacts of the South Coast Variant on commercial and recreational fisheries and has considered, avoided, minimized, and mitigated those potential impacts. The resource areas related to commercial and recreational fisheries are discussed below.

Potential Impacts to Benthic Resources and Mitigation Measures

Potential Impacts

Section 2.5, 2.6, and Appendix C of the New England Wind COP Addendum, in combination with Section 6.5 of COP Volume III provide an analysis of the South Coast Variant's potential impacts to benthic habitat, including commercially important species, as well as measures to mitigate those impacts. Impact producing factors considered include habitat alteration (including impacts from anchoring, jacking-up, and cable protection), suspended sediments, sediment deposition, water withdrawals, electromagnetic fields (EMF), cable installation/maintenance, and underwater noise.

As described in Section 4.3.1.3 of COP Volume I and the New England Wind COP Addendum, activities within the South Coast Variant OECC are expected to include cable installation, anchoring, the potential dredging of the tops of sand waves in certain locations, the potential use of cable protection (if required), and the limited use of jack-up vessels for cable splicing. The amount of habitat disturbance from cable installation, anchoring, the potential dredging of the tops of sand waves in certain locations, and the limited use of jack-up vessels for cable splicing is outlined in Table 1.2-1 of the New England Wind COP Addendum.

Overall, construction period impacts from the alteration of habitat in the South Coast Variant are expected to be minimal and recovery of natural assemblages is expected. Permanent habitat alteration may occur in a small area of the South Coast Variant (see Table 1.2-1) from the potential installation of cable protection (if required), which alters habitat through the addition of hard substrate. The Proponent is working to minimize the amount of cable protection needed. Should cable protection be required, it will be designed to minimize impacts to fishing gear to the extent feasible, and fishermen will be informed of the areas where protection is used.

Avoidance, Minimization, and Mitigation Measures

Section 2.5 of the New England Wind COP Addendum includes several mitigation measures that will be employed to avoid and minimize potential impacts to benthic resources within the South Coast Variant. Offshore export cable installation will avoid important habitats such as eelgrass beds and hard bottom sediments where feasible, although it is recognized that it may not be possible to avoid all hard bottom sediments where they are widespread. Where feasible and considered safe, mid-line buoys on anchor lines will be used to minimize impacts from anchor line sweep. The Proponent is also committed to developing an appropriate benthic habitat monitoring plan framework for New England Wind that includes the South Coast Variant, should it be necessary, in consultation with BOEM and other agencies as appropriate (see Appendix I of the New England Wind COP Addendum). Section 4.0 of COP Volume III includes a summary of potential benefits, impacts, and mitigation measures.

Potential Impacts to Finfish and Invertebrates and Mitigation Measures

Potential Impacts

A list of the major fish and invertebrates that may be found in the New England Wind offshore development area is provided in Table 6.6-1 of COP Volume III. The same species are assumed to be found along the South Coast Variant with the addition of 22 species identified within 5 miles of the South Coast Variant (see Table 2.6-1 of the New England Wind COP Addendum).

Section 2.6 of the New England Wind COP Addendum addresses the potential unique impacts of the South Coast Variant development on finfish and invertebrates, which include habitat alteration, suspended sediments, sediment deposition, and water withdrawals. Descriptions of impacts that are associated with the OECC or its Variants more generally and that are not specific to the South Coast Variant, including increased sound exposure, electromagnetic fields, cable maintenance, additional O&M impacts, and decommissioning, are included in Section 6.6 of COP Volume III. In brief, habitat disturbance is expected to temporary and short-term, suspended sediments due to cable installation will settle out in two to three hours, and sediment deposition impacts will be limited (deposition of 1 mm (0.04 in) or greater (i.e., the threshold of concern for demersal eggs) was constrained to within 200 m (656 ft) from the route centerline).

Avoidance, Minimization, and Mitigation Measures

Avoidance, minimization, and mitigation measures are discussed in Section 2.6 of the New England Wind COP Addendum. Additionally, Section 4.0 of COP Volume III includes a summary of potential benefits, impacts, and mitigation measures.

Potential Impacts to Recreational Fishing and Mitigation Measures

Potential Impacts

Section 7.5 and Section 7.6 and Appendix III-S of COP Volume III provide a thorough analysis of New England Wind's potential impact to recreational fisheries, including for-hire reactional fishing, and measures to mitigate those impacts.

Avoidance, Minimization, and Mitigation Measures

As discussed under § 11.10.1(C), Section 7.5, Section 7.6, Appendix III-E and Appendix III-S of COP Volume III, the Proponent will implement measures to avoid, minimize, and mitigate potential impacts to recreational fisheries. Additionally, Section 4.0 of COP Volume III includes a summary of potential benefits, impacts, and mitigation measures.

Potential Impacts to Commercial Fishing and Mitigation Measures

Potential Impacts

Section 2.8 of the New England Wind COP Addendum provides an analysis of the potential impacts from the South Coast Variant to commercial fisheries. Impacts associated with the South Coast Variant are expected to be similar to those of the OECC (including the Western Muskeget Variant) assessed in Section 7.6 and Appendix III-N of COP Volume III. See Section 7.6.4 of COP Volume III for a description of for-hire recreational fishing in the Offshore Development Region and potential impacts that are associated with the OECC and its variants.

Impacts to finfish and invertebrates along the OECC, including those species targeted by commercial fishermen, are expected to be short-term and localized. Only a small portion of available habitat in the area will be impacted by construction activities along the South Coast Variant and recovery is expected.

Commercial fishing vessels will continue to have access to the South Coast Variant throughout operations. Appendix F of the COP Addendum provides a detailed description of potential economic exposure, potential fishing congestion impacts, and shoreside impacts. Potential impacts from decommissioning activities would be similar to those associated with construction.

Avoidance, Minimization, and Mitigation Measures

The measures that the Proponent will implement to avoid, minimize, and mitigate potential impacts to commercial fisheries are described under § 11.10.1(C). Section 4.0 of COP Volume III includes a summary of potential benefits, impacts, and mitigation measures.

§ 11.10.1(G)

For the purposes of fisheries policies and standards as summarized in Ocean SAMP Chapter 5, Commercial and Recreational Fisheries, §§ 5.3.1 and 5.3.2 of this Subchapter, mitigation is defined as a process to make whole those fisheries user groups, including related shore-side seafood processing facilities, that are adversely affected by offshore development proposals or projects. Mitigation measures shall be consistent with the purposes of duly adopted fisheries management plans, programs, strategies and regulations of the agencies and regulatory bodies with jurisdiction over commercial and recreational fisheries, including but not limited to those set forth above in § 11.9.4(B) of this Part. Mitigation shall not be designed or implemented in a manner that substantially diminishes the effectiveness of duly adopted fisheries management programs. Mitigation measures may include, but are not limited to, compensation, effort reduction, habitat preservation, restoration and construction, marketing, and infrastructure and commercial fishing fleet improvements. Where there are potential impacts associated with proposed projects, the need for mitigation shall be presumed (see § 11.10.1(F) of this Part). Mitigation shall be negotiated between the Council staff, the FAB, the project developer, and approved by the Council. The final mitigation will be the mitigation required by the CRMC and included in the CRMC's Assent for the project or included within the CRMC's federal consistency decision for a project's federal permit application.

Measures to mitigate impacts to benthic resources and fish species are summarized under § 11.10.1(F) above and described in detail in Sections 6.5.2 and 6.6.2 of COP Volume III and Sections 2.5, 2.6, and Appendix C of the New England Wind COP Addendum.

Measures to mitigate impacts to commercial and recreational fisheries are described in Sections 7.5.2, 7.6.3, and 7.6.4 of COP Volume III, and summarized under § 11.10.1(C) and § 11.10.1(F) above. The Proponent has developed an assessment of the economic exposure of commercial fisheries to the South Coast Variant (see Appendix F of the New England Wind COP Addendum).

§ 11.10.1(H)

The Council recognizes that moraine edges, as illustrated in Figures 3 and 4 in § 11.10.2 of this Part, are important to commercial and recreational fishermen. In addition to these mapped areas, the FAB may identify other edge areas that are important to fisheries within a proposed project location. The Council shall consider the potential adverse impacts of future activities or projects on these areas to Rhode Island's commercial and recreational fisheries. Where it is determined that there is a significant adverse impact, the Council will modify or deny activities that would impact these areas. In addition, the Council will require assent holders for offshore developments to employ micro-siting techniques in order to minimize the potential impacts of such projects on these edge areas.

A marine site investigation was conducted for the South Coast Variant. Appendix A of the New England Wind COP Addendum provides the geophysical, geotechnical, and biological data collected for the South Coast Variant.

As described in § 11.10.1(B), the installation of offshore export cables within the South Coast Variant are not expected to have a significant adverse impact to the moraines. Although a wider corridor is shown for the potential offshore export cable(s), seafloor disturbance from cable installation only results in a 1 m (3.3 ft) wide cable installation trench and a 3 m (10 ft) wide temporary disturbance zone from the tracks or skids (see COP Volume I Section 4.3.1.3.6). The temporary impacts associated with the unlikely maximum scenario of three cables only results in impacts to approximately 0.002 % of the total mapped end moraine area within the RI SAMP. Additionally, the offshore export cable length includes a 5% allowance for micro-siting within the South Coast Variant for avoidance to sensitive habitat areas, or other environmental or technical reasons.

The location of the South Coast Variant was developed based upon careful consideration of multiple technical, environmental, and commercial factors. Measures to mitigate impacts to benthic resources and fish species are summarized under § 11.10.1(F) above and described in detail in Sections 6.5.2 and 6.6.2 of COP Volume III, Sections 2.5 and 2.6 and Appendix C of the New England Wind COP Addendum.

Measures to mitigate impacts to commercial and recreational fisheries are described in Sections 7.5.2, 7.6.3, and 7.6.4 of COP Volume III, and summarized under § 11.10.1(C) and § 11.10.1(F) above. The Proponent has developed an assessment of the economic exposure of commercial fisheries to the South Coast Variant (see Appendix F of the New England Wind COP Addendum).

§ 11.10.1(I)

The finfish, shellfish, and crustacean species that are targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their life cycles. While all fish habitat is important, spawning and nursery areas are especially important in providing shelter for these species during the most vulnerable stages of their life cycles. The Council shall protect sensitive habitat areas where they have been identified through the Site Assessment Plan or Construction and Operation Plan review processes for offshore developments as described in § 11.10.5(C) of this Part.

Section 2.5 of the New England Wind COP Addendum contains a description of benthic habitats within the South Coast Variant. Section 2.6 of the New England Wind COP Addendum contains a discussion of fish and invertebrate species within the South Coast Variant. Essential Fish Habitat is discussed in Appendix C of the New England Wind COP Addendum. These sections specifically address the life histories of fish found in the South Coast Variant, including species targeted by commercial and recreational fishermen, and their habitats.

As described in Appendix III-C of the New England Wind COP Addendum, Soft Bottom habitats are the most common along the South Coast Variant and make up approximately 84% of the entire corridor. These areas typically contain a sandy surficial layer that is either highly mobile and comprised of migrating bedforms or flat and stable, mostly void of active sediment transport features.

Complex Habitat, defined as hard bottom substrates, hard bottom with epifauna or macroalgae cover, and vegetated habitats, was identified along approximately 7% of the South Coast Variant, primarily in one patch in the middle of the South Coast Variant near Southwest Shoal located southwest of Nomans Island (see Figure 2.0-2 in Appendix C of the New England Wind COP Addendum).

Impacts to finfish, shellfish, and crustacean species (as described in Sections 6.5 and 6.6 of COP Volume III and Section 2.6 and 2.6 of the New England Wind COP Addendum) are summarized above under § 11.10.1(F). Most potential impacts to finfish, shellfish, and crustacean species are expected to be temporary. Permanent habitat alteration may occur from the potential installation of cable protection (if required), which alters habitat through the addition of hard substrate.

§ 11.10.1(J)

Any large-scale offshore development, as defined in this Part, shall require a meeting between the HAB, the applicant, and the Council staff to discuss potential marine resource and habitat-related issues such as, but not limited to, impacts to marine resource and habitats during construction and operation, project location, construction schedules, alternative locations, project minimization, measures to mitigate the potential impacts of proposed projects on habitats and marine resources, and the identification of important marine resource and habitat areas. For any state permit process for a large-scale offshore development, this meeting shall occur prior to submission of the state permit application. The Council cannot require a pre-application meeting for federal permit applications, but the Council strongly encourages applicants for any large-scale offshore development, as defined in this Part, in federal waters to meet with the HAB and the Council staff prior to the submission of a federal application, lease, license, or authorization. However, for federal permit applicants, a meeting with the HAB shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA six-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2).

As noted under § 11.10.1(D), the Proponent met with CRMC staff on July 13, 2020 to provide an introductory overview of the New England Wind project. The Proponent will meet with the Habitat Advisory Board (HAB) and the CRMC staff to discuss potential marine resource and habitat-related issues associated with New England Wind, including ongoing and planned fisheries studies, on a date and time provided by CRMC.

The New England Wind COP and COP Addendum include detailed information on project location, construction schedules, alternative locations, the identification of important marine resource and habitat areas, the potential impacts to marine resource and habitats during construction and operation, and project mitigation measures for unavoidable potential impacts on habitats and marine resources. See Sections 3.1.1.3, 3.3.1.1, 4.1.1.3, and 4.3.1.1 (construction schedule) of COP Volume I and Section 6.7 and Section 6.8 of COP Volume III. See also Section 2.5, Section 2.6, and Appendix C of the New England Wind COP Addendum and.

§ 11.10.1(K)

The potential impacts of a proposed project on cultural and historic resources will be evaluated in accordance with the National Historic Preservation Act and Antiquities Act, and the Rhode Island Historical Preservation Act and Antiquities Act as applicable. Depending on the project and the lead federal agency, the projects that may impact marine historical or archaeological resources identified through the joint agency review process may require a marine archaeology assessment that documents actual or potential impacts the completed project will have on submerged cultural and historic resources.

A marine archaeological resources assessment (MARA) was conducted for the South Coast Variant and is included as Appendix E. Gradiometer, side-scan sonar, bathymetry, seismic, sub-bottom profiler, and vibracore data were reviewed to assess the presence or absence of potential submerged cultural resources within the preliminary area of potential effects (PAPE).

Potential mitigation measures for unavoidable impacts are provided in Appendix O of the MARA for the OECC included in Volume II-D of the COP. Avoidance, minimization, and mitigation measures for submarine historical and archaeological resources are determined in consultation with BOEM, Massachusetts Historical Commission (MHC), and other relevant consulting parties through the NEPA and National Historic Preservation Act (NHPA) Section 106 processes (36 CFR § 800.3 – 800.13).

§ 11.10.1(L)

Guidelines for marine archaeology assessment in the Ocean SAMP area can be obtained through the RIHPHC in their document, "Performance Standards and Guidelines for Archaeological Projects: Standards for Archaeological Survey" (RIHPHC 2007), or the lead federal agency responsible for reviewing the proposed development.

As described under § 11.10.1(K), the marine archaeological resources assessment has been prepared in accordance with the requirements of the federal agency responsible for reviewing New England Wind (i.e., BOEM).

§ 11.10.1(M)

The potential non-physical impacts of a proposed project on cultural and historic resources shall be evaluated in accordance with 36 C.F.R. § 800.5, assessment of adverse effects, including the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features. Depending on the project and the lead federal agency, the Ocean SAMP Interagency Working Group may require that a project undergo a visual impact assessment that evaluates the visual impact a completed project will have on onshore cultural and historic resources.

Rhode Island (including Block Island) falls beyond the maximum theoretical area of expected visibility of New England Wind due to the Earth's curvature.

Export cables within the South Coast Variant will not result in any long-term visual impacts. If it becomes necessary to employ the South Coast Variant and a second grid interconnection point is secured, the Proponent will assess the visual impacts of the onshore elements.

§ 11.10.1(N)

A visual impact assessment may require the development of detailed visual simulations illustrating the completed project's visual relationship to onshore properties that are designated National Historic Landmarks, listed on the National Register of Historic Places, or determined to be eligible for listing on the National Register of Historic Places. Assessment of impacts to specific views from selected properties of interest may be required by relevant state and federal agencies to properly evaluate the impacts and determination of adverse effect of the project on onshore cultural or historical resources.

Currently, there are no areas along the Rhode Island coast from which New England Wind is visible.

See response to § 11.10.1(M).

§ 11.10.1(O)

A visual impact assessment may require description and images illustrating the potential impacts of the proposed project.

Currently, there are no areas along the Rhode Island coast from which New England Wind is visible.

See response to § 11.10.1(M).

3.3 Areas of Particular Concern § 11.10.2

§ 11.10.2(A)

Areas of Particular Concern (APCs) have been designated in state waters through the Ocean SAMP process with the goal of protecting areas that have high conservation value, cultural and historic value, or human use value from large-scale offshore development. These areas may be limited in their use by a particular regulatory agency (e.g., shipping lanes), or have inherent risk associated with them (e.g., unexploded ordnance locations), or have inherent natural value or value assigned by human interest (e.g., glacial moraines, historic shipwreck sites). Areas of Particular Concern have been designated by reviewing habitat data, cultural and historic features data, and human use data that has been developed and analyzed through the Ocean SAMP process. Currently designated Areas of Particular Concern are based on current knowledge and available datasets;

additional Areas of Particular Concern may be identified by the Council in the future as new datasets are made available. Areas of Particular Concern may be elevated to Areas Designated for Preservation in the future if future studies show that Areas of Particular Concern cannot risk even low levels of large-scale offshore development within these areas. Areas of Particular Concern include:

1. *Areas with unique or fragile physical features, or important natural habitats;*
2. *Areas of high natural productivity;*
3. *Areas with features of historical significance or cultural value;*
4. *Areas of substantial recreational value;*
5. *Areas important for navigation, transportation, military, and other human uses; and*
6. *Areas of high fishing activity.*

The Proponent is conducting detailed surveys and resource assessments of the South Coast Variant to avoid and minimize impacts to APCs to the maximum extent practicable, including areas with associated risk and natural or assigned value. Detailed resource assessments are included in the COP Addendum and described, herein. The Proponent has also proposed mitigation where avoidance is not possible. The South Coast Variant evaluated in this COP Addendum is located within federal waters and is not within Rhode Island state waters. We understand from CRMC that the principal coastal effects of concern associated with the South Coast Variant development is to glacial moraines. As described in § 11.10.1(B) and § 11.10.1(H), impacts to glacial moraines are expected to be temporary and minimal.

§ 11.10.2(B)

The Council has designated the areas listed below in § 11.10.2(C) of this Part in state waters as Areas of Particular Concern. All large-scale, small-scale, or other offshore development, or any portion of a proposed project, shall be presumptively excluded from APCs. This exclusion is rebuttable if the applicant can demonstrate by clear and convincing evidence that there are no practicable alternatives that are less damaging in areas outside of the APC, or that the proposed project will not result in a significant alteration to the values and resources of the APC. When evaluating a project proposal, the Council shall not consider cost as a factor when determining whether practicable alternatives exist. Applicants which successfully demonstrate that the presumptive exclusion does not apply to a proposed project because there are no practicable alternatives that are less damaging in areas outside of the APC must also demonstrate that all feasible efforts have been made to avoid damage to APC resources and values and that there will be no significant alteration of the APC resources or values. Applicants successfully demonstrating that the presumptive exclusion does not apply because the proposed project will not result in a significant alteration to the values and resources of the APC must also demonstrate that all feasible efforts have been made to avoid damage to the APC resources and values. The Council may require a successful applicant to provide a mitigation plan that protects the ecosystem. The Council will permit underwater cables, only in certain categories of Areas of Particular Concern, as *determined by the Council in coordination with the Joint Agency Working Group. The maps listed below in § 11.10.2(C) of this Part depicting Areas of Particular Concern may be superseded by more detailed, site-specific maps created with finer resolution data.*

The Proponent is conducting detailed surveys and resource assessments of the South Coast Variant to avoid and minimize impacts to APCs to the maximum extent practicable, including areas with associated risk and natural or assigned value. Detailed resource assessments are included in the COP Addendum and described, herein. The Proponent has also proposed mitigation where avoidance is not possible. The South Coast Variant is within federal waters and is not within Rhode Island state waters. We understand from CRMC that the principal coastal effects of concern associated with the South Coast Variant development is to glacial moraines. As described in § 11.10.1(B) and § 11.10.1(H), impacts to glacial moraines are expected to be temporary and minimal.

§ 11.10.2(C)

Areas of particular concern that have been identified in the Ocean SAMP area in state waters are described as follows:

1. *Historic shipwrecks, archeological or historical sites and their buffers as described in Ocean SAMP Chapter 4, Cultural and Historic Resources, Sections 440.1.1 through 440.1.4, are Areas of Particular Concern. For the latest list of these sites and their locations please refer to the Rhode Island State Historic Preservation and Heritage Commission.*

   See response to § 11.10.1(K). Additionally, there are no offshore dive sites (most of which are shipwrecks) identified in Figure 11.2 in the Ocean SAMP designated as APCs within the South Coast Variant.

2. *Offshore dive sites within the Ocean SAMP area, as shown in Figure 2 in § 11.10.2 of this Part, are designated Areas of Particular Concern. The Council recognizes that offshore dive sites, most of which are shipwrecks, are valuable recreational and cultural ocean assets and are important to sustaining Rhode Island's recreation and tourism economy.*

   There are no offshore dive sites designated as APCs within the South Coast Variant.

3. *Glacial moraines are important habitat areas for a diversity of fish and other marine plants and animals because of their relative structural permanence and structural complexity. Glacial moraines create a unique bottom topography that allows for habitat diversity and complexity, which allows for species diversity in these areas and creates environments that exhibit some of the highest biodiversity within the entire Ocean SAMP area. The Council also recognizes that because glacial moraines contain valuable habitats for fish and other marine life, they are also important to commercial and recreational fishermen. Accordingly, the Council shall designate glacial moraines as identified in Figures 3 and 4 in § 11.10.2 of this Part as Areas of Particular Concern.*

See responses to § 11.10.1(B) and § 11.10.1(H).

4. *Navigation, military, and infrastructure areas including: designated shipping lanes, precautionary areas, recommended vessel routes, ferry routes, dredge disposal sites, military testing areas, unexploded ordnance, pilot boarding areas, anchorages, and a coastal buffer of 1 km as depicted in Figure 5 in § 11.10.2 of this Part are designated as Areas of Particular Concern. The Council recognizes the importance of these areas to marine transportation, navigation and other activities in the Ocean SAMP area.*

   The South Coast Variant avoids navigation, military, and infrastructure areas to the maximum extent practicable. Existing vessel traffic along the South Coast Variant is described in the Vessel Crossing Analysis provided as Appendix G in the New England Wind COP Addendum. See Section 7.8 of COP Volume III for a description of New England Wind activities that may affect navigation and vessel traffic within the Offshore Development Region, including the South Coast Variant, and a detailed Navigation Safety Risk Assessment is provided as Appendix III-I of COP Volume III.

5. *Areas of high fishing activity as identified during the pre-application process by the Fishermen's Advisory Board, as defined in § 11.3(E) of this Part, may be designated by the Council as Areas of Particular Concern.*

   During construction, it is expected that commercial fishing will be restricted only in the 3.14 km^2 temporary safety buffer zone established around where cable installation activities are taking place. For additional information on fisheries studies and proposed avoidance, minimization, and mitigation efforts, see § 11.10.1(C) and § 11.10.1(F).

6. *Several heavily-used recreational boating and sailboat racing areas, as shown in Figure 6 in § 11.10.2 of this Part, are designated as Areas of Particular Concern. The Council recognizes that organized recreational boating and sailboat racing activities are concentrated in these particular areas, which are therefore important to sustaining Rhode Island's recreation and tourism economy.*

   There are no recreational boating areas designated as APCs within the South Coast Variant OECC.

7. *Naval fleet submarine transit lanes, as described in Ocean SAMP Chapter 7, Marine Transportation, Navigation, and Infrastructure Section 720.7, are designated as Areas of Particular Concern.*

   Existing vessel traffic along the South Coast Variant is described in the Vessel Crossing Analysis provided in Appendix G. See Section 7.8 of COP Volume III for a description of New England Wind activities that may affect navigation and vessel traffic within the Offshore Development Region, including the South Coast Variant, and a detailed Navigation Safety Risk Assessment is provided as Appendix III-I of COP Volume III.

8. *Other Areas of Particular Concern may be identified during the pre-application review by state and federal agencies as areas of importance.*

§ 11.10.2(D)

Developers proposing projects for within the renewable energy zone as described in § 11.10.1(B) of this Part shall adhere to the requirements outlined in § 11.10.2 of this Part regarding Areas of Particular Concern in state waters, including any Areas of Particular Concern that overlap the renewable energy zone (see Figure 7 in § 11.10.2 of this Part).

The South Coast Variant is not proposed within the Renewable Energy Zone, or any APCs located within Rhode Island state waters.

3.4 Prohibitions and Areas Designated for Preservation (§ 11.10.3)

§ 11.10.3(A)

Areas Designated for Preservation are designated in the Ocean SAMP area in state waters for the purpose of preserving them for their ecological value. Areas Designated for Preservation were identified by reviewing habitat and other ecological data and findings that have resulted from the Ocean SAMP process. Areas Designated for Preservation are afforded additional protection than Areas of Particular Concern (see § 11.10.2 of this Part) because of scientific evidence indicating that large-scale offshore development in these areas may result in significant habitat loss. The areas described in § 11.10.3 of this Part are designated as Areas Designated for Preservation. The Council shall prohibit any large-scale offshore development, mining and extraction of minerals, or other development that has been found to be in conflict with the intent and purpose of an Area Designated for Preservation. Underwater cables are exempt from this prohibition…

The South Coast Variant is not located within RI state waters and will not affect any Areas Designated for Protection.

3.5 Other Areas (§ 11.10.4)

§ 11.10.4(A)

Large-scale projects or other development which is found to be a hazard to commercial navigation shall avoid areas of high intensity commercial marine traffic in state waters. Avoidance shall be the primary goal of these areas. Areas of high intensity commercial marine traffic are defined as having 50 or more vessel counts within a 1 km by 1 km grid, as shown in Figure 9 in § 11.10.4(B) of this Part.

No physical structures of New England Wind that would pose a hazard to commercial navigation are located within Rhode Island state waters.

Existing vessel traffic along the South Coast Variant is described in the Vessel Crossing Analysis provided as Appendix G. See Section 7.8 of COP Volume III for a description of New England Wind activities that may affect navigation and vessel traffic within the Offshore Development Region, including the South Coast Variant, and a detailed Navigation Safety Risk Assessment is provided as Appendix III-I of COP Volume III. The findings are summarized below.

Temporary Impacts to Navigation and Vessel Traffic During Construction

Construction of New England Wind will require the use of construction and support vessels that will transit along the OECC, and along vessel routes between the OECC and one or more ports. The Proponent has identified several port facilities in Massachusetts, Rhode Island, Connecticut, New York, and New Jersey that may be used for major construction staging activities, which may require vessel transits through Rhode Island state waters (see Sections 3.2.2.5 and 4.2.2.5 of COP Volume I). For a more detailed discussion on navigation and vessel traffic, see Appendix III-I in COP Volume I, Appendix III-S of COP Volume III, and Appendix G in the New England Wind COP Addendum.

Overall, vessel traffic density along the South Coast Variant is relatively low, with the highest concentration of traffic as one approaches the continental mainland. The Proponent will continue to work with ferry operators, harbor pilots, and other vessel operators to ensure any impacts to commercial vessel traffic are minimized to the greatest extent practicable.

Navigational conflicts are not anticipated to be a common occurrence see the response to § 11.10.1(C) and Appendix G of the New England Wind COP Addendum. Increased vessel traffic is not anticipated to result in significant disruption of vessel traffic in and around the Rhode Island ports. Mitigation measures are described in the response to § 11.10.1(C), Section 7.8.2.1.5 of COP Volume III, and Appendix G of the New England Wind COP Addendum.

Impacts to Navigation and Vessel Traffic During Operations

O&M vessels will operate in the OECC infrequently, primarily to conduct inspections of the offshore export cables on a scheduled maintenance timetable (see Sections 3.3.2 and 4.3.2 of COP Volume I). Few impacts to existing vessel traffic, including passenger vessel traffic, are anticipated from O&M activities along the OECC (see also Appendix III-S of COP Volume III and Appendix G of the New England Wind COP Addendum).

3.6 Application Requirements (§ 11.10.5)

§ 11.10.5(A)

For the purposes of this document, the phrase "'necessary data and information'" shall refer to the necessary data and information required for federal consistency reviews for purposes of starting the Coastal Zone Management Act (CZMA) six-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2). Any necessary data and information shall be *provided before the six-month CZMA review period begins for a proposed project or at the time the applicant provides the consistency certification. It should be noted that other federal and state agencies may require other types of data or information as part of their review processes.*

The New England Wind COP Addendum has been submitted in accordance with BOEM's regulations governing COP submissions. Table 1.4-1 of COP Volume I lists BOEM's COP regulations and where the corresponding information can be found throughout the New England Wind COP. Additional information is included in the New England Wind COP Addendum. The Proponent will provide any necessary data and information required for the CZMA review.

3.7 Monitoring Requirements (§ 11.10.6)

§ 11.10.6(A)

The Council in coordination with the Joint Agency Working Group, as described in § 11.9.7(I) of this Part, shall determine requirements for monitoring as specified in § 11.9.9 of this Part. For CZMA federal consistency purposes the Council must identify any baseline assessments and construction monitoring activities during its CZMA six-month review of the COP.

The South Coast Variant, if used, will be carefully monitored during construction, operation, and decommissioning. The Proponent has already conducted numerous resource assessments and surveys to characterize the South Coast Variant including, but not limited to, marine archaeological resources assessments, essential fish habitat assessments, and benthic habitat surveys. The Proponent's pre-, during-, and post-construction surveys and monitoring will generate a substantial body of environmental, fisheries, and other data, further augmenting scientific understanding of the Offshore Development Area. The Proponent has collaborated and will continue to collaborate with federal and state agencies to design surveys that align with established survey methods so that the data generated can be compared to previous data and ongoing regional studies to support a regional, longer-term study program to monitor the regional impacts of offshore wind development.

Resource-specific baseline assessments and construction monitoring plans are discussed throughout Volume III of the COP and the New England Wind COP Addendum and appendices. Specific examples of such monitoring plans include but are not limited to:

- **Fisheries Studies:** See responses the responses to § 11.10.1(C) and § 11.10.1(F) as well as Sections 4.1, 6.6, and 7.6 of COP Volume III for details.

- **Benthic Habitat Monitoring**: As described under § 11.10.1(F) and in Appendix I of the New England Wind COP Addendum, the Proponent is committed to developing an appropriate benthic monitoring framework for the South Coast Variant, should it be necessary, in consultation with BOEM and other agencies as appropriate.

It is expected that New England Wind's monitoring plans will continue to be refined through the federal review and approval process.

4.0 CONCLUSION

The Proponent has demonstrated that the proposed action described herein and in the New England Wind COP and COP Addendum complies with the applicable enforceable policies of Rhode Island's approved Coastal Resource Management Program and will be conducted in a manner consistent with such Program.

Appendix 2 – CRMC New England Wind 30-day Letter

State of Rhode Island
Coastal Resources Management Council
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June 15, 2022

Megan Higgins
Avangrid Renewables
399 Boylston St., 12th Floor
Boston, MA 02116

Michelle Morin
Chief, Environment Branch for Renewable Energy
U.S. Department of the Interior
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166

Subject: Rhode Island CZMA Federal Consistency review 30-day letter for the New England Wind project; Docket No. BOEM–2021–0047
CRMC File No.: 2022-05-067

Dear Ms. Higgins and Ms. Morin,

The Rhode Island Coastal Resources Management Council (CRMC) is in receipt of the New England Wind project Consistency Certification that was filed by Park City Wind, LLC (Park City Wind) and received by the CRMC on **May 17, 2022**, as required by 15 C.F.R. §§ 930.58 and 930.76.[1] The Bureau of Ocean Energy Management (BOEM) issued its Notice of Intent on June 30, 2021 to prepare an Environmental Impact Statement for Park City Wind's proposed wind energy facility offshore Rhode Island and located within BOEM Lease Area OCS-A 0534. The New England Wind project will be developed in two Phases: Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind). The approximately one-year delay between BOEM's Notice of Intent to prepare an Environmental Impact Statement and Park City Wind's filing of the Consistency Certification with CRMC was due in part to BOEM's approval of the partial reassignment of Lease Area OCS-A 0501 on June 28, 2021, which created Lease Area OCS-A 0534[2], restructuring of lease ownership, and project updates filed by New England Wind with BOEM in October and December 2021.

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[1] Park City Wind, LLC is a wholly owned subsidiary of Avangrid Renewables, LLC. Park City Wind, LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

[2] OCS-A 0501 was partially assigned from Vineyard Wind, LLC to Vineyard Wind 1, LLC on June 28, 2021. Vineyard Wind, LLC took assignment of the newly established OCS-A 0534 and subsequently assigned it to Park City Wind, LLC on December 14, 2021. For a detailed history of BOEM Lease Areas OCS-A 0501 and OCS-A 0534 see: https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

The New England Wind Consistency Certification filing with the CRMC is specific to Park City Wind's proposed offshore wind facilities in the Southern Wind Development Area (SWDA), which is wholly located within the Rhode Island 2011 and 2018 Geographic Location Descriptions (GLD). The project includes the South Coast Variant (SCV) offshore export cable corridor (OECC) located within federal waters and Massachusetts state waters, with a substantial portion located within the Rhode Island 2011 and 2018 GLD. Offshore wind facilities and undersea cables within the GLD are listed activities in the CRMC's Federal Consistency Manual and as part of its federally approved Coastal Resources Management Program.

The CRMC is providing the following comments concerning necessary data and information (NDI) pursuant to 15 C.F.R. §§ 930.60(a)(2) and 930.77. The CRMC's enforceable policies for offshore wind projects are contained within § 11.10 of the CRMC's Ocean Special Area Management Plan found at: https://rules.sos.ri.gov/regulations/part/650-20-05-11.

The enforceable policies at §§ 11.10.1(D) and (J) require that a meeting to review the offshore wind project with the Fishermen's Advisory Board (FAB) and the Habitat Advisory Board (HAB), respectively, "shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA 6-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2)." In addition, the CRMC's enforceable policies at §§ 11.10.1(D)(1) and 11.10.1(J)(1) specify that "the CZMA six-month review period shall not begin until the day after" the FAB and HAB meetings, respectively. Accordingly, a meeting with the FAB and HAB are necessary data and information and the CZMA 6-month review period will not commence until such meeting with the FAB and HAB has been completed. The CRMC will endeavor to schedule a combined meeting of the FAB and HAB within approximately 30-days following the issuance of this letter so that the meeting will occur in a timely manner to ensure that the CZMA process is not delayed.

The CRMC requires a fisheries monitoring plan that will provide a baseline biological assessment of commercially and recreationally targeted fishery species as specified in Ocean SAMP §§ 11.10.6 and 11.9.9(E). The biological assessment of commercially and recreationally targeted species must be performed at least four times to include a minimum of two (2) complete years before offshore construction and installation activities begin, for each year of construction (if construction extends beyond one year) and three (3) complete years following completion of construction and installation activities and during the operational phase of the project. There is no fisheries monitoring plan included in the New England Wind COP, COP Addendum, or appendices. However, the Consistency Certification addresses CRMC enforceable policy § 11.10.6. Park City Wind does state that seasonal tow trawl and drop camera surveys were conducted by the Massachusetts School for Marine Science and Technology (SMAST) from 2019 through spring 2021 within the SWDA. *See* COP Vol. III Section 6.6.1 at 6-158. Park City Wind states in its May 17, 2022 Consistency Certification that it "plan[s] to develop a framework for fisheries studies within the SWDA during and post-construction" (emphasis added). *See* Consistency Certification for SWDA at 3-9. Additionally, Park City Wind plans to coordinate and collaborate with federal, state, and local agencies and stakeholders to develop fisheries studies. *Id.* Proponent identified several sections of COP Vol III where "resource-specific baseline assessments and construction monitoring plans are discussed." *See* COP Vol III Sections 6.5; 6.6; 7.5; 7.6. Furthermore, it is presumed Park City Wind intends to develop similar fisheries studies and monitoring frameworks for activities in the SCV OECC during and post-construction and potentially a benthic habitat monitoring plan. *See* Consistency Certification for SCV at 3-9 citing COP Vol III Section 4.1.3 at 4-9; COP Addendum Appendix I.

Proponent will need to provide to the CRMC a fully developed fisheries monitoring plan as a specific document that provides for the baseline assessments of commercially and recreationally targeted fishery species during the CRMC's CZMA review period in order to demonstrate compliance with enforceable policy Ocean SAMP § 11.10.6. The CRMC anticipates that Park City Wind should be able to conduct the required 2-year pre-construction baseline assessments in a timely manner given that the commencement of planned offshore construction activity for both Phases 1 and 2 is projected for Q2 2025 (3 years from now) at the earliest, as shown in Figures 3.1-3 and 4.1-3 of COP Volume 1 (May 2022).

Notwithstanding the absence of a baseline biological assessment for commercially and recreationally targeted fishery species, the CRMC's six-month CZMA review period will not commence until the day after a meeting between the Park City Wind, CRMC staff and the FAB and HAB has been completed to discuss potential fishery-related impacts, such as, but not limited to, project location, wind turbine configuration and spacing, construction schedules, alternative locations, project minimization and identification of high fishing activity or habitat edges, which is necessary data and information, pursuant to the CRMC's enforceable policies and 15 C.F.R. §§ 930.60(a) and 930.77.

Please contact me at jwillis@crmc.ri.gov or James Boyd, CRMC Deputy Director at jboyd@crmc.ri.gov or call 401-783-3370 should you have any questions concerning this matter.

Sincerely,

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

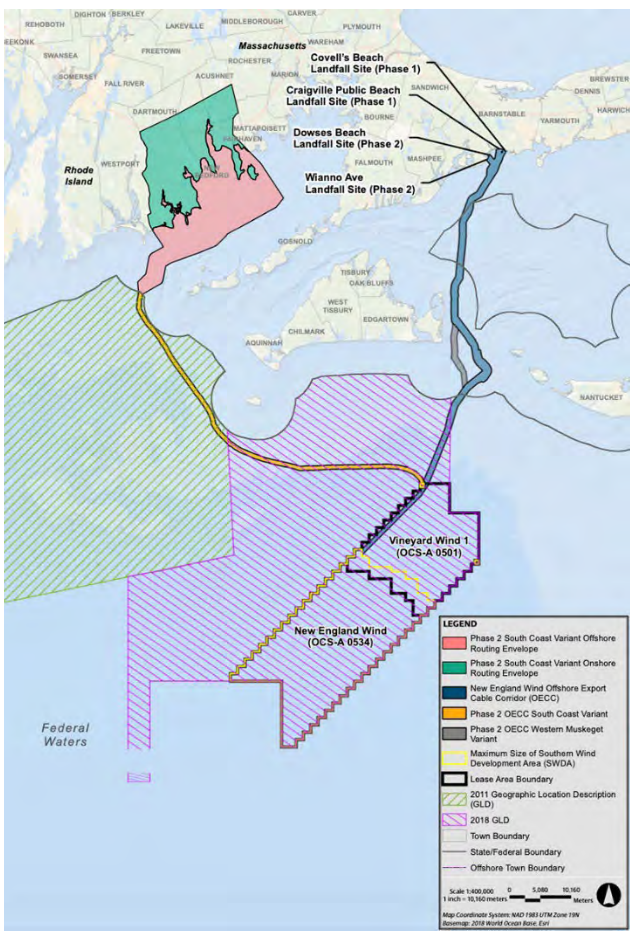
/lat

cc: Council members
Anthony DeSisto CRMC Legal Counsel
David Kaiser, NOAA (via email)
Kerry Kehoe, NOAA (via email)

STATE OF RHODE ISLAND
COASTAL RESOURCES MANAGEMENT COUNCIL

PUBLIC NOTICE
CRMC File 2022-05-067

The Rhode Island Coastal Resources Management Council (“CRMC”) is in receipt of a federal consistency certification filed on May 17, 2022, by Park City Wind, LLC (“Park City Wind”), proponent of the New England Wind project, for the proposed construction and operation of an offshore wind energy project. If approved by the Federal Bureau of Ocean Energy Management (“BOEM”), Park City Wind would be permitted to construct and operate offshore wind energy facilities on the Outer Continental Shelf (“OCS”). The New England Wind project would occupy Lease Areas OCS-A 0534 and potentially a portion of OCS-A 0501 and would be constructed in two phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind). Phase 1 will be developed immediately southwest of Vineyard Wind 1 and Phase 2 will be located southwest of Phase 1 and occupy the remainder of Lease Area OCS-A 0534. Across both Phases, the New England Wind project would include up to 130 wind turbines and electrical service platforms, inter-array cables, and up to five offshore export cables. All export cables are proposed to be installed within a shared offshore export cable corridor that will pass through the Muskeget Channel making landfall in the Town of Barnstable, Massachusetts. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate Phase 2 export cable route. The SCV would travel west-northwest through federal waters and into Buzzards Bay. No portion of the New England Wind project enters Rhode Island State Waters.



Park City Wind filed its Construction and Operations Plan (“COP”) with BOEM on July 2, 2020, seeking a federal license to construct and operate the proposed project. The COP was subsequently updated in Fall 2021 and Spring 2022. On June 30, 2021, BOEM published a Notice of Intent to prepare an Environmental Impact State (“EIS”) pursuant to the National Environmental Policy Act (40 C.F.R. § 1500 et seq.) for the proposed New England Wind project. BOEM published a Notice of Availability for the Draft EIS on December 23, 2022. Park City Wind’s COP, COP Addendum, Appendices, Draft EIS and other documents are available on the BOEM website at: https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

Lease Area OCS-A 0534 and the SCV cable corridor are subject to federal consistency review by the CRMC. Both Phase 1 and Phase 2 occur within Rhode Island's 2011 and 2018 Geographic Location Description ("GLD") areas except for the portion of the export cable making landfall in the Town of Barnstable. Federal consistency review is being conducted by the CRMC pursuant to the federal Coastal Zone Management Act ("CZMA"), 15 U.S.C. § 1451 *et seq*., and the CZMA's implementing regulations at 15 C.F.R. Part 930, Subpart D – Consistency for Activities Requiring a Federal License or Permit and Subpart E – Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities.

The CRMC, as the State's authorized coastal zone management agency must issue a federal consistency decision as to whether the New England Wind project is consistent with the State's federally approved enforceable policies located in the Ocean Special Area Management Plan (650-RICR-20-05-11). The State's federal consistency decision is required before BOEM may approve the Park City Wind COP pursuant to 30 C.F.R. § 585.628(f).

Park City Wind's federal consistency certification request, which is the subject of this public notice, has been assigned **CRMC File Number 2022-05-67**. The consistency certification is available online at CRMC's project page (http://www.crmc.ri.gov/windenergy/newengland.html).

The CRMC is providing this public notice concerning the federal consistency certification for the portion of the New England Wind project **located within the Rhode Island GLD areas in federal waters only** in accordance with 15 C.F.R. § 930.61. All interested parties are invited to submit written comments concerning the proposed project on or before July 23, 2023. Comments should be specifically directed as to the issue of whether the proposed New England Wind project is consistent with the enforceable policies of the Rhode Island Coastal Resources Management Program. The CRMC will hold a public meeting on this federal consistency matter **at a date and place to be announced at a later time.**

Mailing Address for Public Comment Submissions:

Coastal Resources Management Council
Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879
Attn. Jeffrey Willis, CRMC Executive Director

Written comments may be emailed to the CRMC at: cstaff1@crmc.ri.gov

Signed this May 24, 2023.

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

Appendix 3 – CRMC New England Wind CZMA Commencement Letter

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

August 15, 2022

Megan Higgins
Avangrid Renewables
125 High Street, 6th Floor
Boston, MA 02110

Michelle Morin
Chief, Environment Branch for Renewable Energy
U.S. Department of the Interior
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166

Subject: CRMC File No.: 2022-05-067 -- CRMC Coastal Zone Management Act (CZMA) Federal Consistency review commencement for the New England Wind project; Docket No. BOEM–2021–0047

Dear Ms. Higgins and Ms. Morin,

Park City Wind, LLC ("Park City Wind") filed a consistency certification for the New England Wind project with the Rhode Island Coastal Resources Management Council ("CRMC") on **May 17, 2022**, as required by 15 C.F.R. §§ 930.58 and 930.76. The CRMC subsequently issued a 30-day letter to Park City Wind pursuant to 15 C.F.R. § 930.60(a)(2) on June 15, 2022 notifying the applicant that it did not submit all necessary data and information ("NDI") as required by the CRMC's enforceable polices of the Ocean SAMP §§ 650-RICR-20-05-11.10.1(D) and (J). These enforceable policies specifically require that a meeting with the CRMC's Fishermen's Advisory Board ("FAB") and Habitat Advisory Board ("HAB"), respectively, "shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA 6-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2)." In addition, the CRMC's enforceable policies at §§ 11.10.1(D)(1) and 11.10.1(J)(1) specify that "the CZMA six-month review period shall not begin until the day after" the FAB and HAB meetings, respectively.

Park City Wind initially prepared a consistency certification for the entire New England Wind development in Lease Area OCS-A 0534 and the offshore export cable corridors ("OECC") other than the South Coast Variant OECC in December 2021. In April 2022, Park City Wind prepared a consistency certification for the South Coast Variant OECC. Park City Wind subsequently filed both consistency certifications with the CRMC on May 17, 2022. Additionally, Park City Wind stated in its

May email filing that updates to the December 2021 consistency certification Project Description were forthcoming and that those changes did not affect the analysis in the consistency certification. Based on this information, the CRMC issued its 30-day letter as stated above. The CRMC received the updated consistency certification for the entire New England Wind development in Lease Area OCS-A 0534 and the offshore export cable corridors ("OECC") other than the South Coast Variant OECC on July 5, 2022. Park City Wind and the CRMC agree the May 17, 2022 consistency certification filing date is the date from which the 30-day completeness letter and the CZMA sixth-month review start period have been determined. Furthermore, Park City Wind and the CRMC agree the July 2022 updated consistency certification was not intended to start the filing process over.

The Federal Consistency regulations at 15 C.F.R. § 930.60(a) state that a "State agency's six-month review period (see § 930.62(a)) of an applicant's consistency certification begins on the date the State agency receives the consistency certification required by § 930.57 and all the necessary data and information required by § 930.58(a)." (Emphasis added). Additionally, necessary data and information are described in the Federal consistency regulations as "Information specifically identified in the management program as required necessary data and information for an applicant's consistency certification." *Id.* at § 930.58(a)(2). In this matter, as explained above, a meeting with the FAB/HAB is necessary data and information identified in the CRMC's federally approved management program.

A combined meeting of the CRMC's FAB and HAB for an overview of the New England Wind project was held on **August 4, 2022**. Thus, in accordance with the afore noted State enforceable policies and the Federal Consistency regulations, the CRMC's CZMA six-month review period for the New England Wind project commenced on **August 5, 2022**.

We are writing to inform you of our position regarding the commencement of the CRMC's CZMA review period for the New England Wind project and request that you concur with our position via email or written letter at your earliest convenience and no later than ten (10) days from the date of this letter. Thank you.

Please contact me at jwillis@crmc.ri.gov or Kevin Sloan, CRMC Coastal Policy Analyst at ksloan@crmc.ri.gov or call 401-783-7365 should you have any questions concerning this matter.

Sincerely,

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

cc: Anthony DeSisto CRMC Legal Counsel
David Kaiser, NOAA (via email)
Kerry Kehoe, NOAA (via email)

Enc. CRMC 30-day letter (June 15, 2022)
FAB/HAB August 4, 2022 meeting agenda

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
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June 15, 2022

Megan Higgins
Avangrid Renewables
399 Boylston St., 12th Floor
Boston, MA 02116

Michelle Morin
Chief, Environment Branch for Renewable Energy
U.S. Department of the Interior
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166

Subject: Rhode Island CZMA Federal Consistency review 30-day letter for the New England Wind project; Docket No. BOEM–2021–0047
CRMC File No.: 2022-05-067

Dear Ms. Higgins and Ms. Morin,

The Rhode Island Coastal Resources Management Council (CRMC) is in receipt of the New England Wind project Consistency Certification that was filed by Park City Wind, LLC (Park City Wind) and received by the CRMC on **May 17, 2022**, as required by 15 C.F.R. §§ 930.58 and 930.76.[1] The Bureau of Ocean Energy Management (BOEM) issued its Notice of Intent on June 30, 2021 to prepare an Environmental Impact Statement for Park City Wind's proposed wind energy facility offshore Rhode Island and located within BOEM Lease Area OCS-A 0534. The New England Wind project will be developed in two Phases: Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind). The approximately one-year delay between BOEM's Notice of Intent to prepare an Environmental Impact Statement and Park City Wind's filing of the Consistency Certification with CRMC was due in part to BOEM's approval of the partial reassignment of Lease Area OCS-A 0501 on June 28, 2021, which created Lease Area OCS-A 0534[2], restructuring of lease ownership, and project updates filed by New England Wind with BOEM in October and December 2021.

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[1] Park City Wind, LLC is a wholly owned subsidiary of Avangrid Renewables, LLC. Park City Wind, LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

[2] OCS-A 0501 was partially assigned from Vineyard Wind, LLC to Vineyard Wind 1, LLC on June 28, 2021. Vineyard Wind, LLC took assignment of the newly established OCS-A 0534 and subsequently assigned it to Park City Wind, LLC on December 14, 2021. For a detailed history of BOEM Lease Areas OCS-A 0501 and OCS-A 0534 see: https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

The New England Wind Consistency Certification filing with the CRMC is specific to Park City Wind's proposed offshore wind facilities in the Southern Wind Development Area (SWDA), which is wholly located within the Rhode Island 2011 and 2018 Geographic Location Descriptions (GLD). The project includes the South Coast Variant (SCV) offshore export cable corridor (OECC) located within federal waters and Massachusetts state waters, with a substantial portion located within the Rhode Island 2011 and 2018 GLD. Offshore wind facilities and undersea cables within the GLD are listed activities in the CRMC's Federal Consistency Manual and as part of its federally approved Coastal Resources Management Program.

The CRMC is providing the following comments concerning necessary data and information (NDI) pursuant to 15 C.F.R. §§ 930.60(a)(2) and 930.77. The CRMC's enforceable policies for offshore wind projects are contained within § 11.10 of the CRMC's Ocean Special Area Management Plan found at: https://rules.sos.ri.gov/regulations/part/650-20-05-11.

The enforceable policies at §§ 11.10.1(D) and (J) require that a meeting to review the offshore wind project with the Fishermen's Advisory Board (FAB) and the Habitat Advisory Board (HAB), respectively, "shall be necessary data and information required for federal consistency reviews for purposes of starting the CZMA 6-month review period for federal license or permit activities under 15 C.F.R. Part 930, Subpart D, and OCS Plans under 15 C.F.R. Part 930, Subpart E, pursuant to 15 C.F.R. § 930.58(a)(2)." In addition, the CRMC's enforceable policies at §§ 11.10.1(D)(1) and 11.10.1(J)(1) specify that "the CZMA six-month review period shall not begin until the day after" the FAB and HAB meetings, respectively. Accordingly, a meeting with the FAB and HAB are necessary data and information and the CZMA 6-month review period will not commence until such meeting with the FAB and HAB has been completed. The CRMC will endeavor to schedule a combined meeting of the FAB and HAB within approximately 30-days following the issuance of this letter so that the meeting will occur in a timely manner to ensure that the CZMA process is not delayed.

The CRMC requires a fisheries monitoring plan that will provide a baseline biological assessment of commercially and recreationally targeted fishery species as specified in Ocean SAMP §§ 11.10.6 and 11.9.9(E). The biological assessment of commercially and recreationally targeted species must be performed at least four times to include a minimum of two (2) complete years before offshore construction and installation activities begin, for each year of construction (if construction extends beyond one year) and three (3) complete years following completion of construction and installation activities and during the operational phase of the project. There is no fisheries monitoring plan included in the New England Wind COP, COP Addendum, or appendices. However, the Consistency Certification addresses CRMC enforceable policy § 11.10.6. Park City Wind does state that seasonal tow trawl and drop camera surveys were conducted by the Massachusetts School for Marine Science and Technology (SMAST) from 2019 through spring 2021 within the SWDA. *See* COP Vol. III Section 6.6.1 at 6-158. Park City Wind states in its May 17, 2022 Consistency Certification that it "plan[s] to develop a framework for fisheries studies within the SWDA during and post-construction" (emphasis added). *See* Consistency Certification for SWDA at 3-9. Additionally, Park City Wind plans to coordinate and collaborate with federal, state, and local agencies and stakeholders to develop fisheries studies. *Id.* Proponent identified several sections of COP Vol III where "resource-specific baseline assessments and construction monitoring plans are discussed." *See* COP Vol III Sections 6.5; 6.6; 7.5; 7.6. Furthermore, it is presumed Park City Wind intends to develop similar fisheries studies and monitoring frameworks for activities in the SCV OECC during and post-construction and potentially a benthic habitat monitoring plan. *See* Consistency Certification for SCV at 3-9 citing COP Vol III Section 4.1.3 at 4-9; COP Addendum Appendix I.

Proponent will need to provide to the CRMC a fully developed fisheries monitoring plan as a specific document that provides for the baseline assessments of commercially and recreationally targeted fishery species during the CRMC's CZMA review period in order to demonstrate compliance with enforceable policy Ocean SAMP § 11.10.6. The CRMC anticipates that Park City Wind should be able to conduct the required 2-year pre-construction baseline assessments in a timely manner given that the commencement of planned offshore construction activity for both Phases 1 and 2 is projected for Q2 2025 (3 years from now) at the earliest, as shown in Figures 3.1-3 and 4.1-3 of COP Volume 1 (May 2022).

Notwithstanding the absence of a baseline biological assessment for commercially and recreationally targeted fishery species, the CRMC's six-month CZMA review period will not commence until the day after a meeting between the Park City Wind, CRMC staff and the FAB and HAB has been completed to discuss potential fishery-related impacts, such as, but not limited to, project location, wind turbine configuration and spacing, construction schedules, alternative locations, project minimization and identification of high fishing activity or habitat edges, which is necessary data and information, pursuant to the CRMC's enforceable policies and 15 C.F.R. §§ 930.60(a) and 930.77.

Please contact me at jwillis@crmc.ri.gov or James Boyd, CRMC Deputy Director at jboyd@crmc.ri.gov or call 401-783-3370 should you have any questions concerning this matter.

Sincerely,

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

/lat

cc: Council members
Anthony DeSisto CRMC Legal Counsel
David Kaiser, NOAA (via email)
Kerry Kehoe, NOAA (via email)

Coastal Resources Management Council
Meeting Agenda
Combined Meeting of the CRMC Fishermen's Advisory Board (FAB) and Habitat Advisory Board (HAB)
New England Wind

Thursday, August 4, 2022

5:00-7:00 p.m.

Join Zoom Meeting

https://us02web.zoom.us/j/89227386338

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1. Welcome Jeff Willis, CRMC Executive Director (5 min)
2. New England Wind project presentation New England Wind Team (30 min)
3. Discussion and questions Fishermen's and Habitat Advisory Boards (70 Min)
4. Concluding remarks and next steps Jeff Willis (5 min)

Meeting Purpose: To discuss potential fishery-related impacts and potential marine resource and habitat-related issues, such as, but not limited to, project location, wind turbine configuration and spacing, construction schedules, alternative locations, project minimization, impacts to marine resource and habitats during construction and operation, measures to mitigate the potential impacts on habitats and marine resources, identification of high fishing activity or habitat edges and identification of important marine resource and habitat areas as required by Ocean SAMP §§ 11.10.1(D) and (J).

See the **BOEM New England Wind** webpage here https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south for more information and details.

Appendix 4 – CRMC New England Wind CZMA 3-month Letter

State of Rhode Island
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November 3, 2022

Megan Higgins
Avangrid Renewables
399 Boylston St., 12th Floor
Boston, MA 02116

Michelle Morin
Chief, Environment Branch for Renewable Energy
U.S. Department of the Interior
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166

Subject: Rhode Island CZMA Federal Consistency review three (3) month letter for the New England Wind project; Docket No. BOEM–2021–0047
CRMC File No.: 2022-05-067

Dear Ms. Higgins and Ms. Morin,

The purpose of this letter is to provide a status update on the Rhode Island Coastal Resources Management Council's (CRMC) federal consistency review of the proposed New England Wind Farm (NEWF) project in accordance with 15 CFR § 930.78(a). Accordingly, this letter details some additional information necessary for the CRMC to make a consistency certification determination by August 15, 2023[1] concerning the enforceable policies of the State's federally approved coastal resources management program, specifically 650-RICR-20-05-11 (CRMC's Ocean Special Area Management Plan (Ocean SAMP)).

I. Procedural background & project overview

Park City Wind, LLC (PCW) filed its Consistency Certification with the Rhode Island CRMC on May 17, 2022 as required by 15 C.F.R. §§ 930.58 and 930.76.[2] The CRMC subsequently issued a 30-day letter to PCW pursuant to 15 C.F.R. § 930.60(a)(2) on June 15, 2022 notifying the applicant that it did not submit all necessary data and information (NDI) as required by the CRMC's

[1] A mutually agreed upon stay of the CRMC's six-month review period pursuant to 15 CFR § 930.60 was executed by the CRMC and Park City Wind, LLC on October 12, 2022, making the CRMC's federal consistency decision due on or before August 15, 2023.

[2] Park City Wind, LLC is a wholly owned subsidiary of Avangrid Renewables, LLC. Park City Wind, LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

enforceable polices of the Ocean SAMP §§ 650-RICR-20-05-11.10.1(D) and (J). PCW satisfied its NDI requirements when a combined Fisherman's Advisory Board (FAB) and Habitat Advisory Board (HAB) meeting was held on August 4, 2022. Per the CRMC's enforceable policies at §§ 11.10.1(D)(1) and 11.10.1(J)(1) which specify that "the CZMA six-month review period shall not begin until the day after" the FAB and HAB meetings are held, the CRMC's CZMA sixth-month review period for the NEWF project commenced on August 5, 2022.

The Bureau of Ocean Energy Management (BOEM) issued its Notice of Intent on June 30, 2021 to prepare an Environmental Impact Statement for PCW's proposed wind energy facilities offshore Rhode Island and located within BOEM Lease Area OCS-A 0534. The approximately one-year delay between BOEM's Notice of Intent to prepare an Environmental Impact Statement and PCW's filing of the Consistency Certification with CRMC was due in part to BOEM's approval of the partial reassignment of Lease Area OCS-A 0501 on June 28, 2021, which created Lease Area OCS-A 0534[3], restructuring of lease ownership, and project updates filed by New England Wind with BOEM in October and December 2021.

The NEWF project will be developed in two Phases: Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind). Phase 1 has an 804-megawatt (MW) Purchase Power Agreement (PPA) with the State of Connecticut, and Phase 2 will have the capacity to produce 1,200-1,500 MW of offshore renewable wind energy. The full buildout of the NEWF project across both Phases will consist of 130 wind turbine generators (WTGs) and electrical service platform (ESP) positions along with the necessary inter array cables (IACs) and four to five offshore export cables (OECs). The OEC routes will extend from the lease area, through the Muskeget Channel, and will make landfall in the Town of Barnstable, Massachusetts. Each project Phase intends to land its respective OECs at separate onshore transmission systems located in the Town of Barnstable. PCW has proposed the "South Coast Variant" (SCV) as an alternate export cable route to be used for Phase 2 should technical, logistical, grid interconnection, or other unforeseen issues arise during COP review and engineering process that would preclude one or more Phase 2 export cables from interconnecting at the West Barnstable substation. Up to three export cables could be sited within the SCV. The SCV would travel from the Offshore Export Cable Corridor (OECC) at the northern boundary of Lease Area OCS-A 0501 and travel west-northwest through Rhode Island's 2011 and 2018 Geographic Location Descriptions (GLDs) to the state waters boundary near Buzzards Bay and enter Massachusetts state waters. The SCV does not enter Rhode Island state waters.

II. CRMC CZMA review authority

Lease Area OCS-A 0534, a portion of the OECC, and the proposed SCV OEC alternative route are located within one, or both, of the CRMC's GLDs and are subject to CRMC federal consistency authority pursuant to the Federal Coastal Zone Management Act (CZMA) at 16 USC § 1456(c)(3)(A) and the CZMA's implementing regulations at 15 CFR Part 930, Subpart D -

[3] OCS-A 0501 was partially assigned from Vineyard Wind, LLC to Vineyard Wind 1, LLC on June 28, 2021. Vineyard Wind, LLC took assignment of the newly established OCS-A 0534 and subsequently assigned it to Park City Wind, LLC on December 14, 2021. For a detailed history of BOEM Lease Areas OCS-A 0501 and OCS-A 0534 see: https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

Consistency for Activities Requiring a Federal License or Permit and Subpart E - Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities. The NEWF project meets the definition of a "large-scale offshore development" as specified in Ocean SAMP § 11.10.1(A)(3).[4]

III. Supplemental information required to address Rhode Island's enforceable policies

The regulatory standards contained within 650-RICR-20-05-11 are the enforceable policies for purposes of the CZMA federal consistency provisions, specifically Part 11.10. These standards, in addition to other applicable federally approved Rhode Island Coastal Resources Management Program (CRMP) enforceable policies, are the basis for the CRMC's CZMA federal consistency certification concurrence or objection.

§ 11.10.1(C): *Offshore Developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone, as described in the Ocean SAMP. In making the evaluation of the effect on human uses, the Council will determine, for example, if there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss. Where the Council determines that impacts on the natural resources or human uses of the Rhode Island coastal zone through the pre-construction, construction, operation, or decommissioning phases of a project constitute significant adverse effects not previously evaluated, the Council shall, through its permitting and enforcement authorities in state waters and through any subsequent CZMA federal consistency reviews, require that the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal.*

PCW has provided various analyses regarding the extent of impacts resulting from the NEWF project to Rhode Island coastal resources and marine users throughout its COP, COP Addendum, and Consistency Certifications. At present, the CRMC is of the opinion that the NEWF project will have "significant adverse effects" on those resources and users. For example, Appendix III-N (Draft Economic Exposure of Commercial Fisheries) states that commercial fishing will be able to continue throughout the lease area and cable corridors except for the safety buffer zone around construction vessels. However, CRMC's Fisherman's Advisory Board members have in the past stated that construction activity drives fish away from an area and they can be slow to return. This displaces fishermen to adjacent areas and creates user conflicts. Additionally, the presence of WTGs, offshore cables, and scour/cable protection may significantly alter benthic and hard bottom habitats, create new hangs which present navigational hazards, and may force fishermen to alter gear and fishing practices. The presence of additional and new hangs will create a significant risk for fishermen who utilize mobile bottom gear. Based on these and other impacts discussed throughout the NEWF project documents, additional consultation between the CRMC, FAB, and PCW is needed to address the economic and environmental impacts from the NEWF project.

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[4] The enforceable policies of the Rhode Island coastal management program applicable to the NWF project are contained in the CRMC's Ocean Special Area Management Plan, which is codified in the Rhode Island Code of Regulations as 650-RICR-20-05-11. For purposes of federal consistency, enforceable policies are defined at 15 CFR § 930.11(h).

Given a positive outcome with these and other issues, the CRMC could then likely conclude that the NEWF project has been modified to avoid unnecessary impacts and meets its burden of proof under enforceable policy § 11.10.1(C).

§ 11.10.1(F): *The Council shall require that the potential adverse impacts of offshore developments and other uses on commercial or recreational fisheries be evaluated, considered and mitigated as described in § 11.10.1(G) of this Part.*

§ 11.10.1(G): *For the purposes of fisheries policies and standards as summarized in Ocean SAMP Chapter 5, Commercial and Recreational Fisheries, §§ 5.3.1 and 5.3.2 of this Subchapter, mitigation is defined as a process to make whole those fisheries user groups, including related shore-side seafood processing facilities, that are adversely affected by offshore development proposals or projects. Mitigation measures shall be consistent with the purposes of duly adopted fisheries management plans, programs strategies and regulations of the agencies and regulatory bodies with jurisdiction over commercial and recreational fisheries, including but not limited to, those set forth above in § 11.9.4(B) of this Part. Mitigation shall not be designed or implemented in a manner that substantially diminishes the effectiveness of duly adopted fisheries management programs. Mitigation measures may include, but are not limited to, compensation, effort reduction, habitat preservation, marketing, and infrastructure and commercial fishing fleet improvements. Where there are potential impacts associated with proposed projects, the need for mitigation shall be presumed (see § 11.10.1(F) of this Part). Mitigation shall be negotiated between the Council staff, the FAB, the project developer, and approved by the Council. The final mitigation will be the required by the CRMC and included in the CRMC's Assent for the project or included within the CRMC's federal consistency decision for a projects' federal permit application.*

CRMC has concerns with proposed measures to mitigate impacts to commercial and recreational fisheries resulting from construction and operation of both Phases of the NEWF project. Namely, concerns stem from impacts from WTG foundations and scour and secondary cable protection. Finfish, shellfish, and crustacean species targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their life cycles. Generally, PCW's consistency certification and COP describes seafloor and habitat disturbances from the placement of scour and cable protection as a percentage of the maximum size of the lease area. Regardless of the total area impacted, the location of scour and cable protection in relation to benthic habitats is important to understanding the extent of impacts to both resources and marine users. Even where scour/cable protection does not directly impact the quality of complex benthic habitat, proximity of scour/cable protection to such habitat will likely require fishermen to modify gear and fishing practices. In some instances, areas may become inaccessible due to the presence of scour/cable protection. The location of complex bottom habitat and sensitive habitat locations in relation to foundation positions, IACs, and export cables is information CRMC requires. This information will allow CRMC to more effectively analyze the NEWF project's impacts to commercial and recreational fisheries.

New hangs will be created where cable protection is needed and where boulders are relocated as part of seabed preparation efforts for cable laying operations. For Phase 1, 121 Nautical Mile (NM) of IAC will be required with up to 2 percent requiring cable protection. For Phase 2, 175 NM of IAC will be required with up to 2 percent requiring cable protection. *See* COP Vol. I at S-7, S-13. Thus, for both Phases of the NEWF project, up to 5.92 NM of secondary cable protection could be needed for the IACs. The SCV cable corridor may potentially include up to three export cables along the 42 NM route with a maximum of up to 19.6 NM of cable being used. *See* COP Addendum for SCV, April 2022 at 2-1 to 2-2. The COP Addendum for the SCV consistency certification states that up to 8 percent of the cables in the SCV will require cable protection due to "bottom conditions that may prevent achieving proper cable burial depth" of 5 feet to 8 feet. *Id*. at 3-3. This would result in an additional 15.68 NM of cable protection totaling 21.6 NM of across the lease area and SCV cable corridor. Furthermore, the COP states that "Phase 2 inter-array and inter link cable layout is highly dependent upon the final number of Phase 2 WTGs and the location and number ESPs" meaning locations where cable protection will be needed are not yet known. *See* COP Vol. I at S-13. Additionally, "individual boulders, boulder fields, and subsurface boulders [are] numerous and [occur] in the northern and central part of the [SCV]." *Id*. at 2-3. CRMC anticipates boulders will be moved during seabed preparation operations and will create additional hangs for fishermen along the SCV cable corridor. Regardless of charting new seafloor obstructions created by the NEWF project, fishermen may find themselves unable to fish a previously fishable area without risking the safety of their vessel, crew, and gear. As such, additional information regarding scour/cable protection and boulder relocation is needed to allow the CRMC to adequately assess impacts to commercial and recreational fisheries from activities in the lease area and along the SCV and portion of the OECC in within the 2018 GLD.

Therefore, the CRMC presently does not agree that the NEWF project, including the SCV, is consistent with the enforceable policies of §§ 11.10.1(F) and 11.10.1(G) as stated within the Consistency Certification for lease area activities, dated June 2022, and the Consistency Certification for the SCV, dated April 2022.

§ 11.10.1(H): *The Council recognizes that moraine edges, as illustrated in Figures 3 and 4 in § 11.10.2 of this Part, are important to commercial and recreational fishermen. In addition to these mapped areas, the FAB may identify other edge areas that are important to fisheries within a proposed project location. The Council shall consider the potential adverse impacts of future activities or projects on these areas to Rhode Island's commercial and recreational fisheries. Where it is determined that there is a significant adverse impact, the Council will modify or deny activities that would impact these areas. In addition, the Council will require assent holders for offshore developments to employ micro-siting techniques in order to minimize the potential impacts of such projects on these edge areas.*

§ 11.10.1(I): *The finfish, shellfish, and crustacean species that are targeted by commercial and recreational fishermen rely on appropriate habitat at all stages of their life cycles. While all fish habitat is important, spawning and nursery areas are especially important in providing shelter for these species during the most vulnerable stages of their life cycles. The Council shall protect sensitive* *habitat areas where they have been identified through the Site Assessment Plan or Construction and Operation Plan review processes for offshore developments as described in § 11.10.5(C) of this Part.*

§ 11.10.2(A): *Areas of Particular Concern (APCs) have been designated in state waters through the Ocean SAMP process with the goal of protecting areas that have high conservation value, cultural and historic value, or human use value from large-scale offshore development. These areas may be limited in their use by a particular regulatory agency (e.g., shipping lanes), or have inherent risk associated with them (e.g., unexploded ordnance locations), or have inherent natural value or value assigned by human interest (e.g., glacial moraines, historic shipwreck sites). Areas of Particular Concern have been designated by reviewing habitat data, cultural and historic features data, and human use data that has been developed and analyzed through the Ocean SAMP process. Currently designated Areas of Particular Concern are based on current knowledge and available datasets; additional Areas of Particular Concern may be identified by the Council in the future as new datasets are made available. Areas of Particular Concern may be elevated to Areas Designated for Preservation in the future if future studies show that Areas of Particular Concern cannot risk even low levels of large-scale offshore development within these areas. Areas of Particular Concern include:*

1. *Areas with unique or fragile physical features, or important natural habitats;*
2. *Areas of high natural productivity;*
3. *Areas with features of historical significance or cultural value;*
4. *Areas of substantial recreational value;*
5. *Areas important for navigation, transportation, military and other human uses; and*
6. *Areas of high fishing activity.*

Glacial moraines of a cobble and boulder nature represent areas of high biodiversity and important fish habitat. Impacts to these areas could result in long-term or permanent impacts to fish populations that are dependent on these habitat types and thus impact the Rhode Island fishery in the area. The CRMC is obligated through § 11.10.1(I) to protect sensitive habitat areas where they have been identified through the Site Assessment Plan or Construction and Operation Plan review processes. The Ocean SAMP has identified specific glacial moraines as areas of particular concern (APC) as shown in §§ 11.10.2(F) and (G), Figures 3 and 4 respectively, and seeks to protect glacial moraine in federal waters which have the same characteristics, values and functions as those APC designated in state waters. The CRMC may identify additional glacial moraine or resource areas with the same characteristics, values and functions as those APC designated in state waters as new datasets are made available, as provided by § 11.10.2(A). The FAB may also identify other moraine edge areas that are important to fisheries within a proposed project location as provided by § 11.10.1(H).

PCW's COP, COP Addendum, and Consistency Certifications indicate that portions of the SCV cable corridor will pass through identified glacial moraine in the northern portion of the SCV approaching Massachusetts state waters. *See* COP Addendum RI Consistency Certification April 2022 at 3-2. Appendix A of the April 2022 COP Addendum also identifies areas of glacial moraine off Nomans Land, Massachusetts, the extent of which may not be fully reflected by the Ocean SAMP. The same appendix includes various figures and tables indicating that large portions of the SCV contains boulder fields and subsurface boulders. These boulder fields, subsurface boulders and hard bottom conditions are "present in high concentrations…in the northern and central sections of the corridor" and the Summary of Geohazards Assessment considers these conditions to have a "minor to high impact" on the SCV stating "burial may not be feasible in short sections." *See* COP Addendum April 2022, App. A at Table 2.1-2, 3.2-1; see also *Id*. at Figure 2.1-4, 3.2-5, 3.5-5, 3.2-7. PCW further states it is "*conducting* detailed surveys and resources assessments of the [SCV] to avoid and minimize impacts to APCs to the maximum extent practicable." (Emphasis added.) *See* COP Addendum RI Consistency Certification April 2022 at 3-14. As stated previously, boulder fields and other complex habitat support high biodiversity and important fish habitat. Boulder removal operations, cable burial, and any cable protection will have adverse impacts which will likely affect the Rhode Island fishery in the area. Because of the potential range of impacts from the SCV, information from ongoing detailed survey's will be important to CRMC's analysis of the SCV.[5] More information is needed regarding PCW's cable burial process and procedures, including but not limited to, cable burial contractor information, burial tool selection, and secondary cable protection. Additionally, access to an online benthic habitat/geophysical mapping tool, if available, would further allow CRMC to assess benthic conditions in the SCV.

Accordingly, absent additional information and consideration by the FAB and the CRMC pursuant to §§ 11.10.1(H), 11.10.1(I), and 11.10.2(A), the CRMC at this time cannot conclude that SCV is not located within, or will impact, glacial moraine outside of those identified in the Ocean SAMP or sensitive habitat areas. Therefore, the CRMC presently does not agree that the NEWF project is consistent with the enforceable policies of §§ 11.10.1(H), 11.10.1(I) and 11.10.2(A) as stated within the COP Addendum Consistency Certification for the SCV dated April 2022 and COP Consistency Certification dated June 2022.

§ 11.10.6: *The Council in coordination with the Joint Agency Working Group, as described in § 11.9.7(I) of this Part, shall determine requirements for monitoring as specified in § 11.9.9 of this Part. For CZMA federal consistency purposes the Council must identify any baseline assessments and construction monitoring activities during its CZMA six-month review of the COP.*

§ 11.9.9(E): *Assessment standards – applicants shall provide the following biological assessments necessary to establish the baseline conditions of the fishery resource conditions during the project phases detailed below so that any analysis of comparison between project phases can be completed to assess whether project construction, installation and operation has resulted in significant adverse impacts to the commercial and recreational fishery resources.*

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[5] The maximum scenario of three cables installed in the SCV is in a similar area to the Mayflower Wind export cable. The shared location increases the potential for long-term impacts to identified glacial moraine and Rhode Island marine users. CRMC recommends PCW and Mayflower Wind coordinate closely if the SCV becomes a viable option.

1. *Pre-construction baseline biological assessments of commercial and recreational targeted fishery species as specified in § 11.9.9(C) of this Part for a minimum of two (2) complete years before offshore construction and installation activities begin;*

2. *During Construction biological assessments of commercial and recreational targeted fishery species as specified in § 11.9.9(C) for each year (if construction extends beyond a single year) of construction and installation; and*

3. *Post-construction biological assessments of commercial and recreational targeted fishery species as specified in § 11.9.9(C) of this Part for three (3) complete years following completion of construction and installation activities and during the operational phase of the project.*

The CRMC stated in its June 15, 2022 30-day letter that PCW would be required to submit a Fisheries Monitoring Plan (FMP). The FMP must provide a baseline biological assessment of commercially and recreationally targeted fishery species as specified in the Ocean SAMP §§ 11.10.6. There is no FMP included in the NEWF project COP, COP Addendum, or appendices, and the Consistency Certification. PCW, however, has notified CRMC, and other state and federal agencies, that an FMP and a Benthic Habitat Monitoring Plan (BHMP) are being developed. PCW scheduled a meeting with CRMC for November 2, 2022 to present elements of the FMP and BHMP with the intent to incorporate comments/feedback into the final versions of the respective plans.[6]

CRMC is aware that offshore wind developers have encountered issues obtaining certain federal permits that may delay their ability to conduct timely baseline biological assessment surveys. These federal permits generally provide incidental take coverage for protected species that may be encountered. CRMC requests an update as to whether PCW has encountered this issue.

PCW will need to provide to the CRMC a fully developed fisheries monitoring plan that provides for the baseline assessments of commercially and recreationally targeted fishery species during the CRMC's CZMA review period in order to demonstrate compliance with enforceable policy Ocean SAMP § 11.10.6. Accordingly, the CRMC presently does not agree that the NEWF project, including the SCV, is consistent with the enforceable policy § 11.10.6.

IV. Conclusion

Pursuant to the enforceable policies of the Ocean SAMP, offshore developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone. Where the CRMC determines that there are significant adverse effects on Rhode Island coastal resources or uses, it can require that the applicant modify the proposal to avoid and/or mitigate the impacts or the CRMC shall deny the proposal. *See* Ocean SAMP § 11.10.1(C). As

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[6] An additional meeting between PCW and other state/federal agencies was held on November 1, 2022 to present the FMP and BHMP. CRMC was unable to attend due to a scheduling conflict.

detailed above, there is additional information necessary for PCW to file with the CRMC to properly evaluate potential coastal effects to the Rhode Island-based commercial and recreational fishing operations.

CRMC is requesting that PCW provide the following data and information to demonstrate that the NEWF project is consistent with the enforceable policies of the Ocean SAMP at § 11.10. Absent this information within the CRMC's review period, presently scheduled to end on August 15, 2023, the CRMC would be unable to conclude that the NEWF project is consistent with the Rhode Island coastal management program. Thus, the CRMC would then have to object to PCW's consistency certifications pursuant to 15 CFR §§ 930.63(c) and 930.78.

<u>Additional data and information necessary for CRMC review</u>

1. Confirmation as to what specific trenching equipment, hydraulic or mechanical, will be used and under what conditions, and to limit the use of hydro-jet plow trenching only to sea bed areas that are suitable for such equipment (e.g., predominantly sands) to ensure achievement of proper cable burial depth and minimize the use of cable protection (concrete mats or rock) to avoid adverse impacts to the commercial fishing sector. PCW should identify specific areas of seabed where specific trenching techniques will likely be used. Information concerning PCW's cable burial process and procedures.
2. A Fisheries Monitoring Plan that details the specifics as to what commercial and recreational species will be monitored, what survey methods will be used and when the surveying will be conducted to meet the requirement of a biological assessment of the relative abundance, distribution, and different life stages of these species at all four seasons of the year. The assessment must comprise a series of surveys, using survey equipment and methods appropriate for sampling finfish, shellfish, and crustacean species at the project's proposed location. The assessment must be performed at least four times: pre-construction (to assess baseline conditions); during construction; and at two different intervals during operation (i.e. one (1) year after construction and then post-construction) and must capture all four seasons of the year.
3. Access to a benthic mapping/geophysical tool, if available, to allow CRMC to better understand bottom conditions along the SCV and within the lease area.

A final decision by the CRMC for concurrence, conditional concurrence, or objection to PCW's consistency certifications must be issued by August 15, 2023, pursuant to 15 CFR §§ 930.62, 930.63 and 930.78. Should PCW require additional time to prepare and file the requested information or determine that additional time for the CRMC to review the NEWF project would be in PCW's best interests, the CRMC would be amenable to entering into an additional stay agreement with PCW as provided for under 15 CFR § 930.60(b) to stay the CRMC federal consistency review period for a reasonable period of time and extend the deadline for a final determination on PCW's consistency certification filing.

The CRMC will file a copy of this consistency review status with the Director of the Bureau of Ocean Energy Management as required pursuant to 15 CFR §§ 930.62(b) and 930.78.

Please Contact me at jwillis@crmc.ri.gov or Kevin Sloan, CRMC Coastal Policy Analyst at ksloan@crmc.ri.gov or 401-783-3370 should you have any questions.

Sincerely,

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

cc Council members
Anthony DeSisto CRMC Legal Counsel
David Kaiser, NOAA (via email)
Kerry Kehoe, NOAA (via email)
Allison Castellan, NOAA (via email)

Appendix 5 – New England Wind Fisheries Exposure Report
&
Compensatory Mitigation Offer

Avangrid A member of the Iberdrola Group

New England Wind

Lease Area OCS -A 0534 Commercial and For -Hire Fisheries Assessment and Proposed Mitigation

September 2023

Agenda

01 Introductions & Project Overview

02 Assessment & Economic Exposure of Commercial Fisheries

03 Assessment & Economic Exposure of For-Hire Recreational Fisheries

04 Avoidance, Minimization, and Mitigation

05 Economic Impact Methodology and Proposed Mitigation

06 Discussion and Q&A

Project Overview

Project Overview

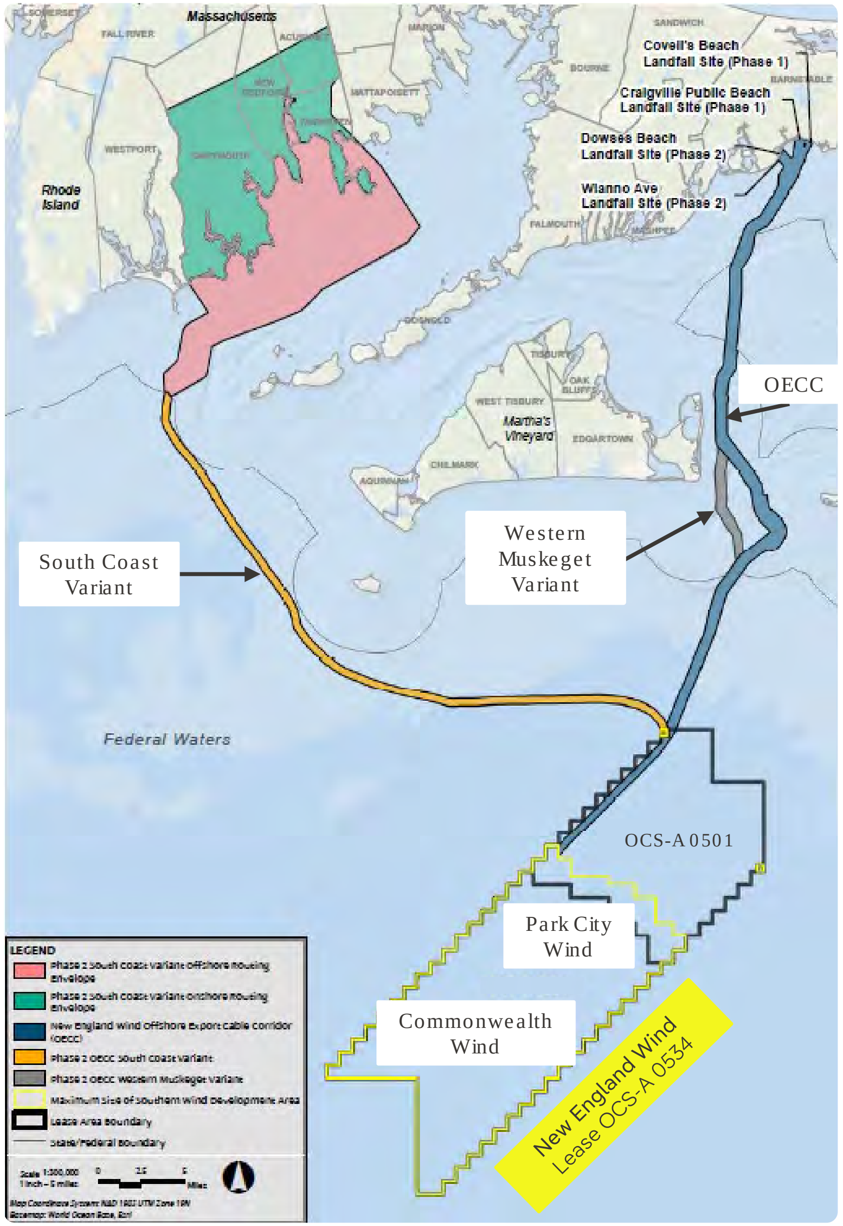
New England Wind includes offshore renewable wind energy facilities in Lease Area OCS-A 0534, along with associated offshore and onshore cabling and onshore substations

Two phases with a total maximum of 130 wind turbine generator (WTG) and electrical service platform (ESP) positions in the Lease Area

- **Phase 1** includes Park City Wind
- **Phase 2** includes Commonwealth Wind

Five offshore export cables within the Offshore Export Cable Corridor (OECC)

- Phase 2 includes two OECC variants



Assessment & Economic Exposure of Commercial Fisheries

Commercial and For -Hire Fisheries Assessment Overview

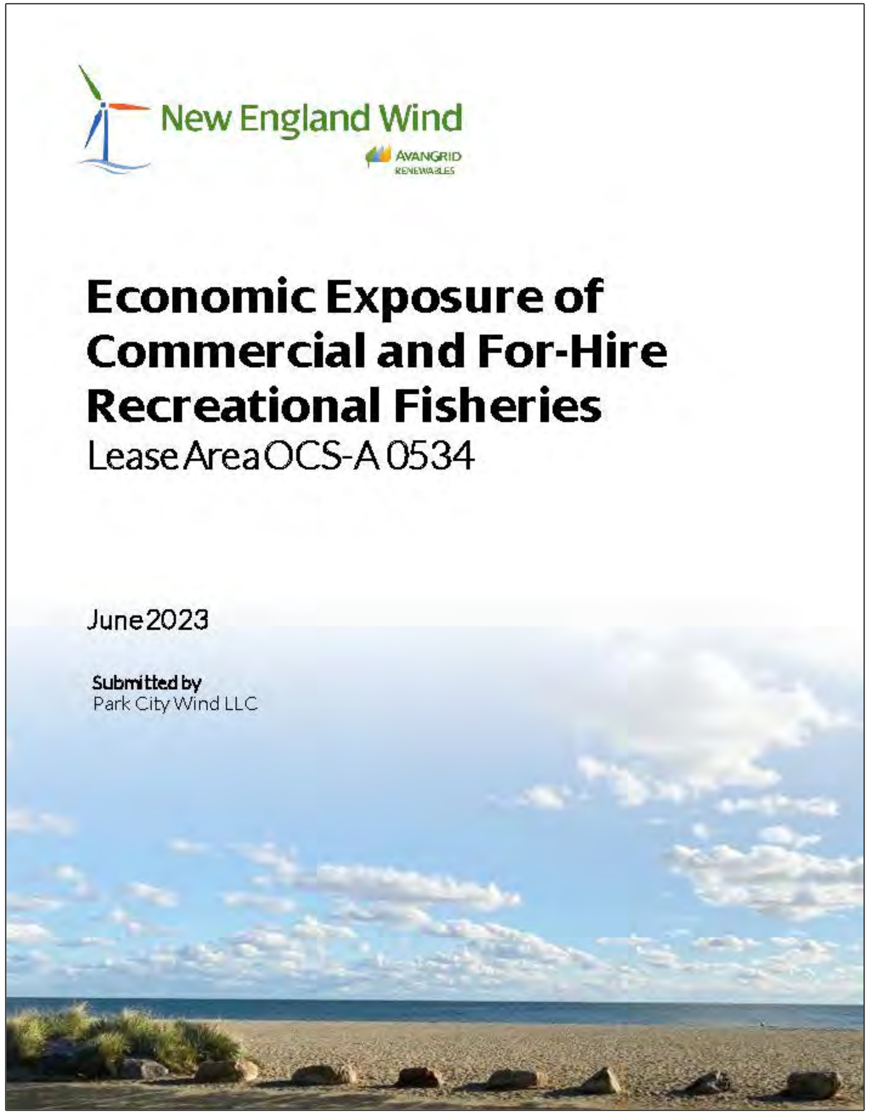
Data sources:

- NMFS Socioeconomic Impacts of Atlantic Offshore Wind Development database (2008-2021landings and revenue data)
- WHOI's 2022 charter captain survey for Revolution Wind

Economic Exposure of Commercial and For -Hire Recreational Fisheries to the New England Offshore Wind Energy Development (Appendix III-N of COP)

Sources of potential fishery-related economic exposure include:

- Construction, operation, and decommissioning of WTGs and ESPs in the Lease Area
- Installation, use, and decommissioning of offshore export cables within the OECC


New England Wind
AVANGRID RENEWABLES

Economic Exposure of Commercial and For-Hire Recreational Fisheries
Lease Area OCS-A 0534

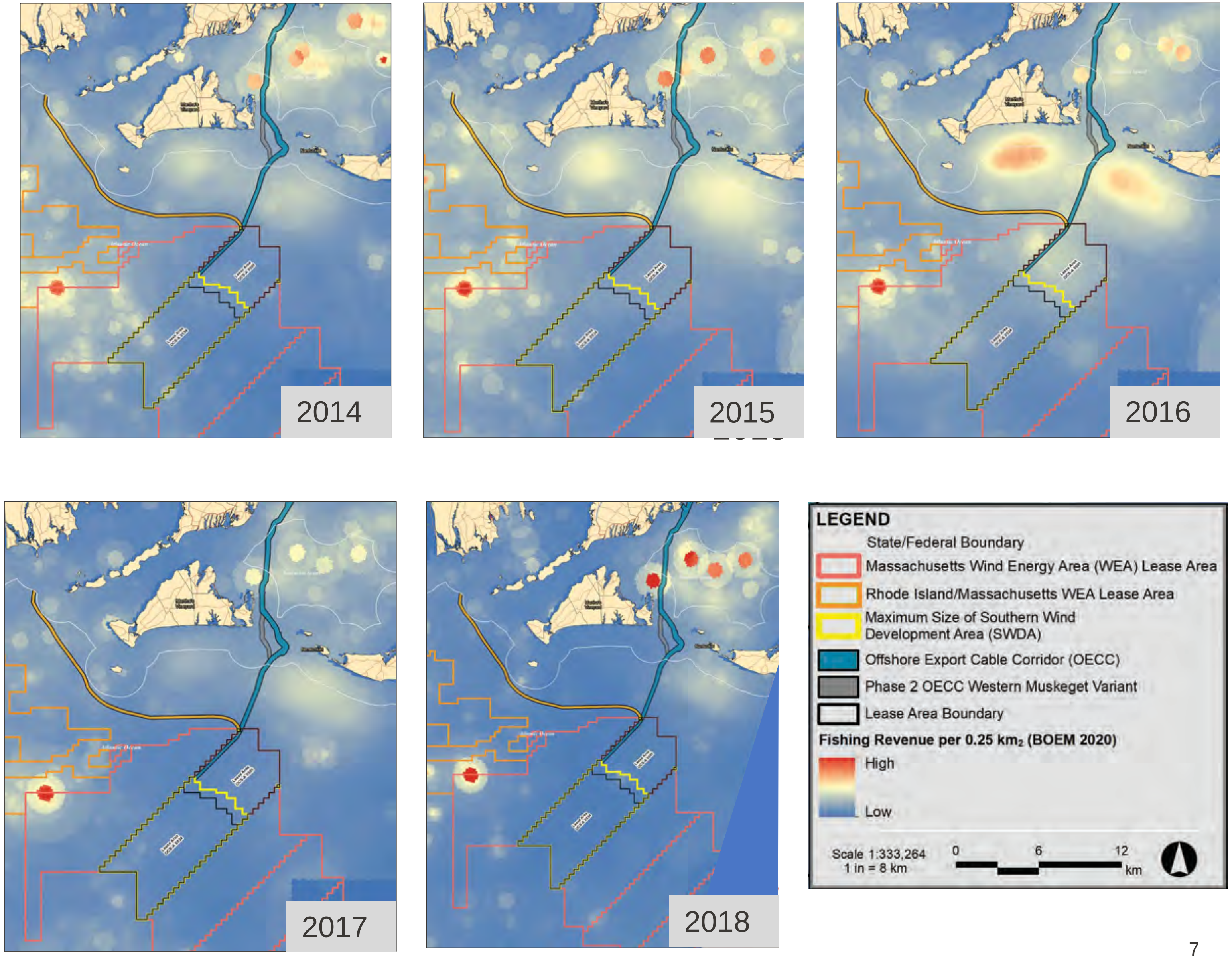
June 2023

Submitted by
Park City Wind LLC

Fishing Revenue Density

MA/RI Lease Areas	Annual Average Revenue per km^2 (2008 -2021; 2021\$)
Lowest Value	$534
New England Wind	$1,301
Average Value	$2,123
Highest Value	$4,700

New England Wind	Baseline Annual Average Landing (2008 -2021; pounds)	Baseline Annual Average Revenue (2008 -2021; 2021$)
Lease Area	530,444	$534,602
OECC	133,394	$209,331



Baseline Commercial Fisheries Revenue in the Lease Area

Unadjusted for Lobster and Jonah Crab (2008 -2021; 2021$)

Total Fishing Revenues (2008 -2021)	Annual Average Revenues	Annual Average Fishing Revenues per km^2
$7,484,427	$534,602	$1,301

Adjusted for Lobster and Jonah Crab

Total Fishing Revenues (2008 -2021)	Annual Average Revenues	Annual Average Fishing Revenues per km^2
$8,720,081	$622,863	$1,515

Estimates of Commercial Fisheries Revenue in the Lease Area by State (2008 -2021) Adjusted for Lobster and Jonah Crab

Most valuable species landed in the Lease Area include:

- Squid
- Silver hake
- Monkfish
- Jonah crab
- Skates

Most common gear types:

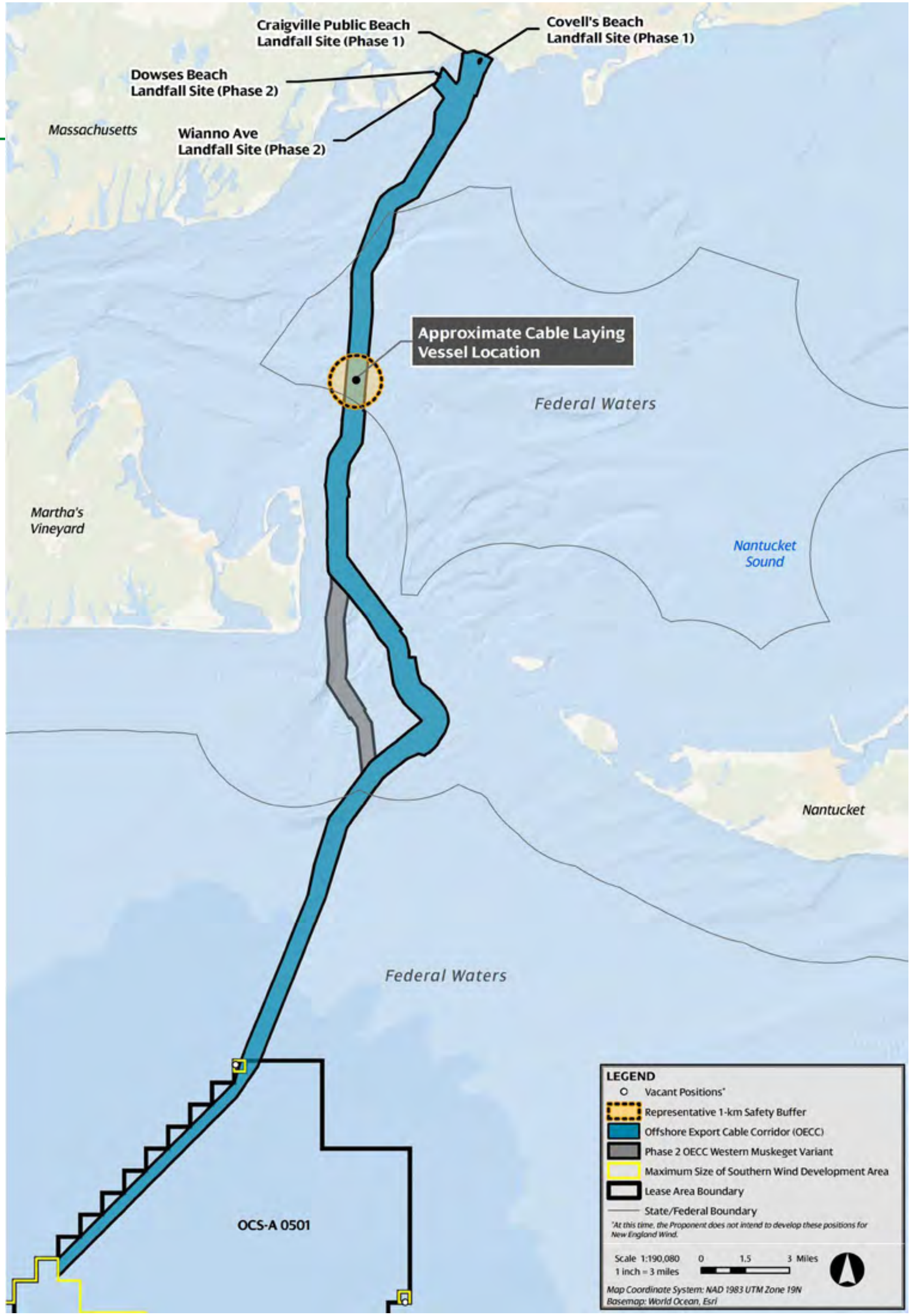
- Bottom trawls
- Lobster pots
- Gillnets (sink)

State	Average Annual Value (2021$)	Percentage of Annual Average Lease Area Value
Massachusetts	$274,557	44%
Rhode Island	$262,510	42%
New York	$39,784	6%
Connecticut	$19,941	3%
Virginia	$10,350	2%
North Carolina	$9,814	2%
New Jersey	$5,356	1%
All Others	$550	0.1%

Estimates of Commercial Fisheries Economic Exposure in OECC

Economic exposure estimate:

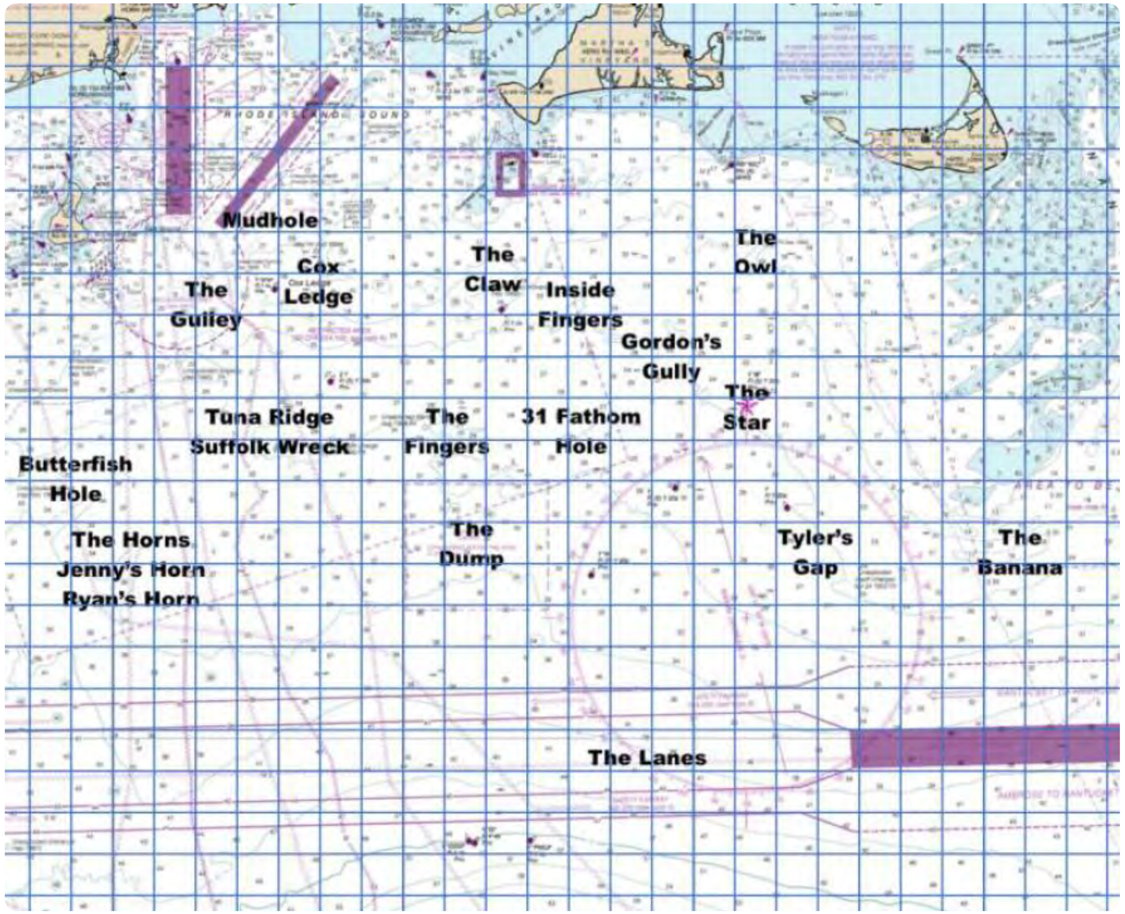
- Annual average fishing revenue per km^2 in OECC = $2,505
- Fishing preclusion area of 1km around cable installation activities results in fishing preclusion area of 3.14 km^2
- Total duration of cable installation activities for 5 cables (during both phases) = 1.875 years
- Expected economic exposure during cable installation = $2,505 x 3.14 km^2 x 1.875 years = **$14,748**
- Similar estimate of economic exposure for the Phase 2 OECC Western Muskeget Variant
- South Coast Variant: expected economic exposure during cable installation = $2,559 x 3.14 km^2 x 0.375 year = **$3,013**
- *Note:* the portion of the OECC within the RI GLD was used to calculate economic exposure of RI commercial fisheries



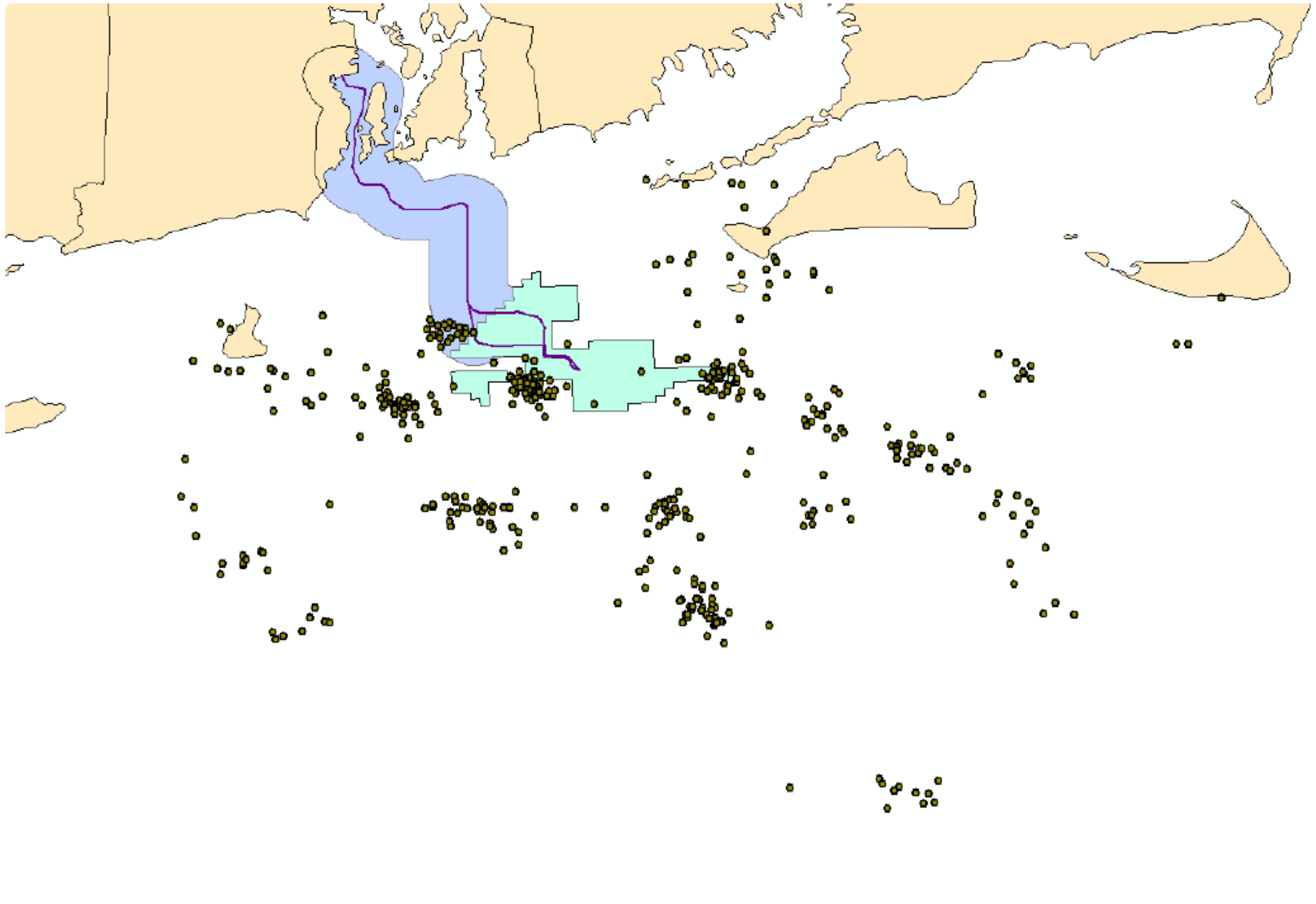
Assessment & Economic Exposure of For -Hire Recreational Fisheries

For-Hire Recreational Fisheries Assessment Approach

WHOI 2022 survey of MA- and RI-based charter vessel operators conducted for the for-hire fisheries assessment for Revolution Wind



WHOI 2022 MA- and RI-based charter captain survey – survey area

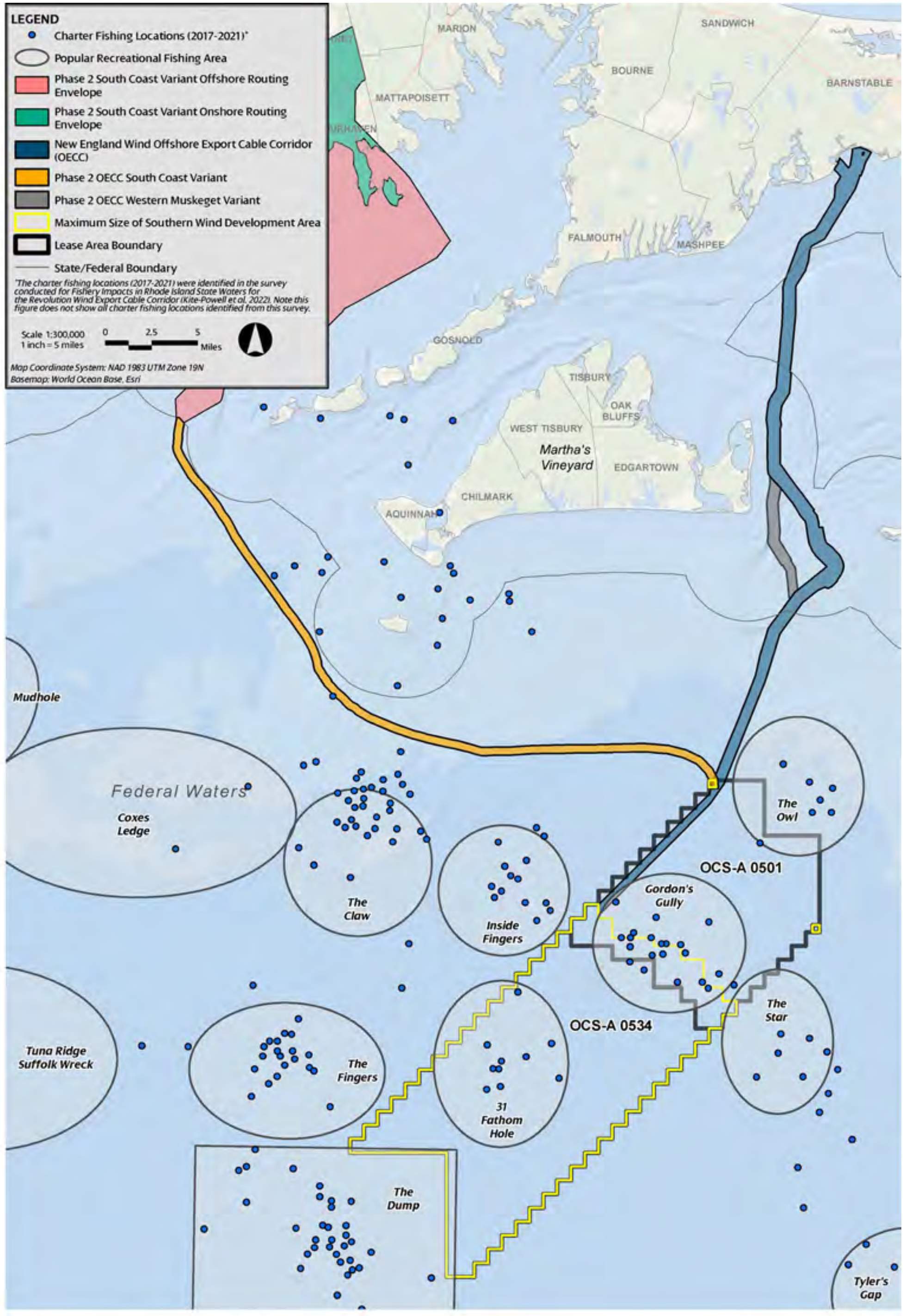


Charter fishing locations (2017-2021) identified in WHOI survey responses

For-Hire Recreational Fisheries Assessment Approach

Economic exposure estimate for RI for -hire fisheries based on an extrapolation of data from 2023 WHOI report:

- Percent of charter fishing locations from 2022 WHOI survey in Lease Area = 3.7%
- Annual economic exposure of RI-based for-hire fishing vessels in the Lease Area = $68,823



Avoidance, Minimization, and Mitigation

Avoidance, Minimization, and Mitigation

Biological Impacts

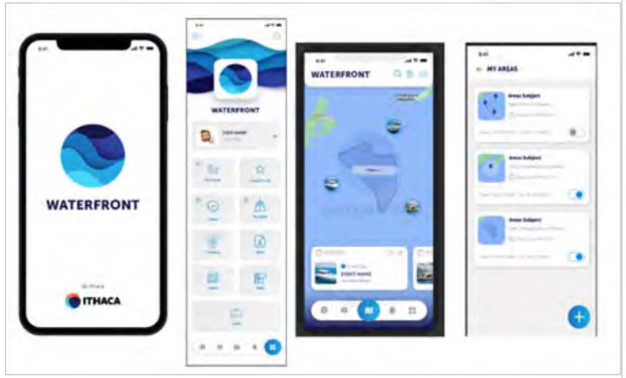
Constrained Access/Navigation

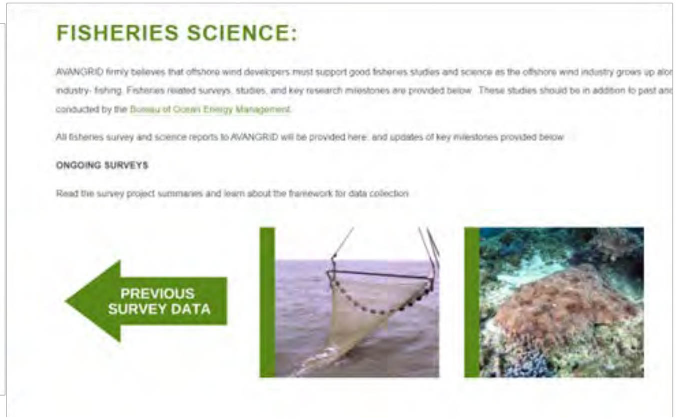
Avoid

Minimize

Mitigate

Residual Impact





Economic Impact Methodology and Proposed Mitigation

New England Wind Economic Impact Methodology

Project Phase	Project Area	Assumptions/Effects	Duration
Construction	Lease Area	All (100%) commercial and for-hire charter revenue lost	3 years
	OECC (within RI GLD)	All (100%) commercial revenue lost from 3.14 km^2 fishing preclusion area around cable installation activities	2 years
O&M	Lease Area	Draft BOEM guidance: • Yr 1: all (100%) commercial revenue lost • Yr 2: 80% of commercial revenue lost • Yr 3: 70% of commercial revenue lost • Yr 4: 60% of commercial revenue lost • Yr 5: 50% of commercial revenue lost Plus: • Yrs 6-30: 5% of commercial revenue lost	30 years
	OECC (within RI GLD)	None	n/a
Decommissioning	Lease Area	All (100%) commercial and for-hire charter revenue lost	3 years
	OECC (within RI GLD)	All (100%) commercial revenue lost from 3.14 km^2 fishing preclusion area around cable decommissioning activities	2 years

New England Wind Economic Exposure – Rhode Island

Project Phase	Project Area	Impacted Rhode Island Fishing Revenues
Construction	Lease Area	$782,665
	OECC (within RI GLD)	$2,086
O&M	Lease Area	$923,613
	OECC (within RI GLD)	$0
Decommissioning	Lease Area	$156,433
	OECC (within RI GLD)	$417
Commercial Fisheries Economic Exposure		$1,865,215
For-hire Recreational Fisheries Economic Exposure		$247,059
Total Rhode Island Fisheries Economic Exposure		$2,112,274

Notes:

Dollar values are fixed in 2023 dollars (GDP Implicit Price Deflator values were applied up to July 1, 2023).

Present value of estimated annual revenue losses over 36 years is discounted using a 5% discount rate.

Rhode Island fisheries revenue in the OECC includes the potential of one export cable being installed in the Phase 2 OECC South Coast Variant.

New England Wind Economic Impact – Rhode Island

Fishery	Rhode Island Fisheries Economic Impacts Including Multipliers
Commercial Fisheries	$3,972,908
For-hire Recreational Fisheries	$400,731
Total	$4,373,638

Notes:

The multiplier for RI commercial fisheries is 2.13, which includes an upstream multiplier of 1.73 and a downstream multiplier of 0.41 (NMFS Fisheries Economics of the US 2020 Report); the multiplier for RI-based for-hire recreational fisheries is 1.622 (Lovell et al. 2020).

Dollar values are fixed in 2023 dollars (GDP Implicit Price Deflator values were applied up to July 1, 2023).

Present value of estimated annual revenue losses over 36 years is discounted using a 5% discount rate.

Proposed Fisheries Mitigation Package – Rhode Island

Direct Compensation: $4,373,638 (net present value)

- Disbursement of funds will be tied to financial close of each Phase of New England Wind
- Funds will be paid into the Rhode Island Fishermen's Future Viability Trust

Additional Funding to Support Commercial and For-Hire Charter Fishing Operations: $500,000 (net present value)

- Purpose to include, but would not be limited to, grants, training programs, research initiatives, or a navigational/safety equipment support program
- Disbursement of funds will be tied to financial close of each Phase of New England Wind
- Funds will be paid into the Rhode Island Fishermen's Future Viability Trust

Total Mitigation: $4,873,638

Discussion and Q&A

Avangrid

A member of the
Iberdrola Group

Attachment A: Economic Exposure of Commercial Fisheries to the New England Wind Offshore Energy Development

Construction and Operations Plan

Lease Area OCS-A 0534

Volume III Appendices

August 2023

Submitted by
Park City Wind LLC

Submitted to
Bureau of Ocean Energy Management
45600 Woodland Rd
Sterling, VA 20166

Prepared by
Epsilon Associates, Inc.

Economic Exposure of Commercial Fisheries to the New England Wind Offshore Wind Energy Development

Prepared for:

Park City Wind LLC

Prepared by:

Dennis M. King, Ph.D.
KING AND ASSOCIATES, LLC
24 Trillium Rise
Plymouth, MA 02360

August 2023

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List of Acronyms

AIS	automatic identification system
BEA	U.S. Bureau of Economic Analysis
BOEM	Bureau of Ocean Energy Management
CFSI	Commercial Fishing & Seafood Industry
COP	Construction and Operations Plan
CZMA	Coastal Zone Management Act
EE	economic exposure
EI	economic impacts
ESP	electrical service platform
FAD	fish aggregation device
FE	fishing effort
FRD	fishing revenue density
ft	feet
GDP	gross domestic product
km	kilometers
kts	knots
LMA	Lobster Management Area
m	meters
MA/RI WEA	Massachusetts/Rhode Island Wind Energy Area
MARIPARS	Massachusetts and Rhode Island Port Access Route Study
NM	nautical miles
NOAA	National Oceanic Atmospheric Administration
O&M	operations and maintenance
OCS	Outer Continental Shelf
OECC	offshore export cable corridor
SWDA	Southern Wind Development Area
US	United States
USCG	United States Coast Guard
VMS	vessel monitoring system
VTR	vessel trip report
WEA	Wind Energy Area
WTG	wind turbine generator

EXECUTIVE SUMMARY

Context

New England Wind is the proposed offshore renewable wind energy development in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0534 (Lease Area) along with associated offshore and onshore cabling, onshore substations, and onshore operations and maintenance (O&M) facilities. New England Wind will be developed in two Phases with a maximum of 130 wind turbine generator (WTG) and electrical service platform (ESP) positions, and five offshore export cables installed within an Offshore Export Cable Corridor (OECC) that will transmit electricity generated by the WTGs to onshore transmission systems in the Town of Barnstable, Massachusetts (see Figure 1-1).

This report addresses the "economic exposure" of commercial fisheries to New England Wind based on historical commercial fishing revenues in the Lease Area and the OECC. BOEM states that "economic exposure refers to potential economic impacts, not predicted or expected economic impacts" (Kirkpatrick et al. 2017) and is "a starting point to understanding potential economic impacts of future offshore wind project development if a harvester opts to no longer fish in the area and cannot recapture that income in a different location" (BOEM 2021a). This report focuses on "economic exposure" and does not address potential "economic impacts". Expected economic impacts are likely to be significantly lower than full "economic exposure" because that fishing effort temporarily precluded in the Lease Area and OECC is likely to be diverted to other areas where it will continue generating at least some of the fishing revenues lost in the Lease Area and OECC. Direct sources of economic exposure involve commercial fishing disruptions in the Lease Area and OECC of New England Wind, potential indirect sources of economic exposure include: (1) potential "fishing congestion impacts" outside the Lease Area and OECC caused by fishing effort shifting from the Lease Area or OECC to those other areas; and (2) increased fishing vessel transit times and costs associated with vessels being forced to steam around or alter routes through the Southern Wind Development Area (SWDA).[1]

Additionally, fishing vessels will not be restricted from operating in or transiting through the Lease Area or OECC (including the Western Muskeget Variant) other than where temporary safety zones are established around construction vessels engaged in ongoing construction and/or cable laying activity.

Within the Lease Area some fishing tracks and vessel transit routes will need to be modified to account for the presence of WTGs and ESPs. Within the OECC the target burial depth for offshore export cables will be 1.5 to 2.5 meters (m) (5 to 8 feet [ft]) below the seafloor which the cable burial risk assessment determined is more than twice the burial depth required to prevent cables from interfering with fishing activity or fishing vessel transits. While every effort will be made to achieve sufficient cable burial depth,

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1 New England Wind will occupy all of Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501 in the event that Vineyard Wind 1 does not develop "spare" or extra positions included in Lease Area OCS-A 0501 and Vineyard Wind 1 assigns those positions to Lease Area OCS-A 0534. For the purposes of the COP, the SWDA is defined as all of Lease Area OCS-A 0534 and the southwest portion of Lease Area OCS-A 0501, as shown in Figure 1-1.

if a sufficient burial depth cannot be achieved, cable protection will be designed and installed to minimize interfering with bottom fishing gear to the maximum extent practicable and fishermen will be informed of exactly where cable protection exists. After cable installation there will remain a limited possibility that mobile bottom fishing gear could snag on cable protection resulting in gear damage, lost fishing time, and associated economic losses. This is the only potential source of economic exposure in the OECC during the O&M phase of New England Wind. The Proponent is in the process of developing a program that will compensate commercial fishermen for economic losses associated with damaged gear.

Findings

Estimates of Economic Exposure

Economic Exposure in the Lease Area

Based on National Oceanic Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) data, annual commercial fishing revenues in the Lease Area during 2008–2021, adjusted upward to fully account for unreported lobster and Jonah crab revenues, averaged $622,863 (2021 dollars; NOAA Fisheries 2022). This estimate of annual fishing revenues from the Lease Area provides an estimate of full economic exposure, that is lost commercial fishing revenues if all commercial fishing ceased in the entire Lease Area for a full year with none of the resulting losses in fishing revenues recouped as a result of fishing effort being diverted from the Lease Area to other fishing areas.

Economic Exposure in the OECC

Based on NOAA Fisheries data, annual fishing revenue in the OECC during 2008–2021 averaged $2,505 per km^2 (2021 dollars; NOAA Fisheries 2023). This provides a baseline value for estimating economic exposure in parts of the OECC where commercial fishing will be temporarily precluded during cable installation.

Based on USCG guidance, a safety buffer with a radius of 500 m should be established around where cable installation activities are taking place. However, a safety radius of twice that distance, 1 km, is used for the purposes of this economic analysis to account for vessel activity supporting cable installation. This results in the assumption that commercial fishing will be precluded in the OECC in a safety buffer area of approximately 3.14 sq km^2 (776 acres) around where pre-installation and cable installation activities are underway. It is not expected that commercial fishing will be precluded or impaired in other parts of the OECC where cable installation is either planned or has been completed.

Based on the expected duration of cable installation activities in the OECC (1.87 years for Phase 1 and Phase 2), economic exposure in the OECC during both Phases of cable installation is estimated to be $14,748-$16,532. Use of the West Muskeget Variant would result in a very small increase in overall economic exposure estimated for the OECC.

Indirect Sources of Potential Economic Exposure

As described above, New England Wind has potential to generate two indirect types of economic exposure related to commercial fisheries, including:

(1) Potential "fishing congestion" impacts outside the SWDA and OECC

(2) Potential increases in fishing vessel transit times in and around the SWDA and OECC

Lease Area

During construction and decommissioning, commercial fishing will be precluded only in segments of the Lease Area defined by safety buffers around where WTGs and ESPs are being installed or decommissioned. As described in Section 3.1, there is a low level of fishing effort in the SWDA (average of 146 fishing trips annually based on automatic identification system [AIS] data) and most fishing time on fishing tracks that intersect the SWDA is spent outside of the SWDA. These two factors indicate there is no risk that restricting those parts of fishing trips that transect the SWDA will result in enough new fishing effort being generated in other fishing areas to result in fishing congestion impacts outside the SWDA.

Within the Lease Area, WTGs and ESPs will be oriented in fixed east-to-west rows and north-to-south columns with 1 nautical mile (NM) (1.85 km) spacing between WTG/ESP positions. The recent United States Coast Guard (USCG) Massachusetts and Rhode Island Port Access Route Study (MARIPARS) finds that this will allow multiple straight-line options for fishing vessels to transit safely through the SWDA (USCG 2020). As described in Section 3.2, if unusually severe weather causes some fishing vessel operators to decide to reroute around the Lease Area when transiting between fishing ports and fishing areas, the resulting increases in steaming time and costs would also not be significant.

OECC

The analysis described in Section 2.2 indicates that the small areas and limited durations of commercial fishing impacts during cable installation in the OECC, along with the absence of any significant impacts of OECC operations on commercial fishing after cable installation, make additional indirect economic exposure in the OECC highly unlikely.

Potential Impacts on the Abundance and Distribution of Fish

As described in Section 6.6 of COP Volume III, studies related to other proposed wind farms in U.S. waters (and studies of established offshore wind energy farms in Europe) indicate that impacts of offshore wind farms on fish population dynamics are primarily local and short-term. The potential impacts of New England Wind on fish population dynamics is not a source of economic exposure in commercial fisheries.

Concern has also been expressed that WTG and ESP foundations may function as fish aggregation devices (FADs) that will attract fish to locations in the Lease Area where they will become less accessible to some types of commercial fishing. While these FADs may provide advantages and disadvantages to different types of fishing methods, the available studies indicate that they could have overall positive economic impacts on commercial fisheries (Wilhelmsson, et al. 2006; Riefolo et al. 2016; Raoux et al. 2017; Wilber, et.al, 2022).

Conclusions

As shown in Table 2-2, potential annual economic exposure in the Lease Area is estimated to be $622,863; and as shown in Tables 2-4 and 2-6, economic exposure during cable installation of the OECC is estimated to be $14,748-$16,532. These are estimates of full economic exposure based on the assumption that none of the annual fishing revenues lost in the Lease Area and in impacted segments of the OECC will be recouped as a result of fishing effort being diverted to other fishing areas.

Economic impact estimates based on estimates of economic exposure presented in this report will be determined based on updated BOEM guidance and consultations with the states through the Coastal Zone Management Act (CZMA) review processes.

1 INTRODUCTION

1.1 New England Wind Overview

New England Wind is the offshore renewable wind energy development proposed for BOEM Lease Area OCS-A 0534 along with associated offshore and onshore cabling, onshore substations, and onshore O&M facilities. New England Wind will be developed in two Phases with a maximum of 130 WTG and ESP positions located in the 453 sq km (175 sq mi) of the SWDA (See Figure 1-1). Five offshore export cables installed along the OECC will transmit electricity generated by the WTGs to onshore transmission systems in the Town of Barnstable, Massachusetts. The OECC is the corridor identified for routing both the Phase 1 and Phase 2 offshore export cables between the SWDA and the landfall sites. Each Phase of New England Wind will be developed using a Project Design Envelope that defines and brackets the characteristics of the facilities and activities for purposes of environmental review while maintaining a reasonable degree of flexibility with respect to the selection of key components, such as the WTGs, foundations, offshore cables, and ESPs.

New England Wind's offshore renewable wind energy facilities are located immediately southwest of Vineyard Wind 1, which is located in Lease Area OCS-A 0501. New England Wind will occupy all of Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501 in the event that Vineyard Wind 1 does not develop "spare" or extra positions included in Lease Area OCS-A 0501 and Vineyard Wind 1 assigns those positions to Lease Area OCS-A 0534. For the purposes of the COP, the SWDA is defined as all of Lease Area OCS-A 0534 and the southwest portion of Lease Area OCS-A 0501, as shown in Figure 1-1. The SWDA may be approximately 411–453 sq km (101,590– 111,939 acres) in size depending upon the final footprint of Vineyard Wind 1. At this time, the Proponent does not intend to develop the two positions in the separate aliquots located along the northeastern boundary of Lease Area OCS-A 0501 as part of New England Wind (see Figure 1-1). The SWDA (excluding the two separate aliquots that are closer to shore) is just over 32 km (20 mi) from the southwest corner of Martha's Vineyard and approximately 38 km (24 mi) from Nantucket. The WTGs and ESPs in the SWDA will be oriented in an east-west, north-south grid pattern with one NM (1.85 km) spacing between positions.

While the Proponent intends to install all five New England Wind offshore export cables within the OECC that travels from the SWDA northward through the eastern side of Muskeget Channel towards landfall sites in the Town of Barnstable, the Proponent is reserving the fallback option to install one or two Phase 2 cables along the western side of Muskeget Channel, referred to as the Phase 2 OECC Western Muskeget Variant (see Section 4.1.3.2 of COP Volume I).[2] Throughout this section, unless the Western Muskeget Variant is specified, "the OECC" refers to the OECC that travels along the eastern side of Muskeget Channel. Commercial fishing vessels using fixed and

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[2] While the project design envelope allows for one or two offshore export cables to be installed within the Western Muskeget Variant, it is highly unlikely that more than one cable could be installed within the Western Muskeget Variant due to multiple technical reasons related to challenging site conditions.

mobile gear operate in and around the SWDA and OECC, and travel through these areas as they transit between fishing ports and fishing grounds (see Figure 3-1). Fishing vessels will not be precluded from operating in or transiting through the SWDA or the OECC other than where temporary safety buffer zones are established around where construction and installation vessels are operating.

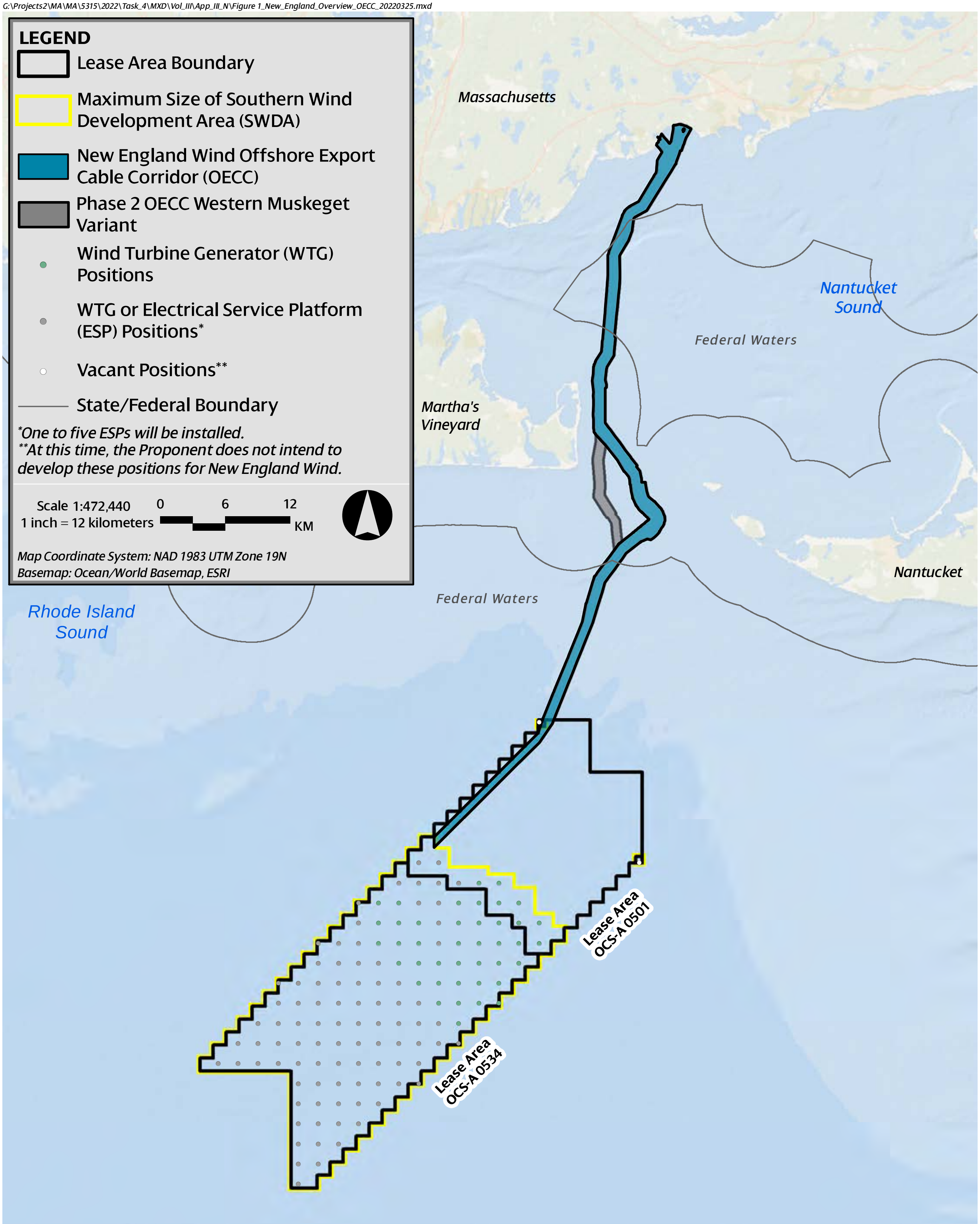
1.2 Focus

This report develops estimates of the "economic exposure" of commercial fisheries to the New England Wind Lease Area and OECC.[3] BOEM states that "economic exposure refers to potential economic impacts, not predicted or expected economic impacts" and refers to it as "a starting point to understanding potential economic impacts of future offshore wind project development if a harvester opts to no longer fish in the area and cannot recapture that income in a different location" (Kirkpatrick et al. 2017). BOEM emphasizes that "if alternative fishing grounds are available nearby and may be fished at no additional cost, the economic impact will be lower than estimated economic exposure" (BOEM 2018).

Following BOEM guidance, estimates of economic exposure are developed in this report based on the assumption that New England Wind will result in the cessation of all fishing activity in the Lease Area and in areas of active construction along the OECC, with none of the resulting losses in fishing revenues recouped as a result of fishing effort shifting from the Lease Area and the OECC to other fishing areas.

As stated above, however, BOEM guidance indicates that expected economic impacts will be less than economic exposure if fishing vessel operators can recoup at least some lost fishing revenues by shifting fishing effort from impacted areas to other nearby areas. In the case of New England Wind, most of the Lease Area and most of the OECC will remain open to fishing during and after construction so fishing vessel operators will have the opportunity to retain at least some fishing revenues by continuing to operate in those areas as well as the opportunity to recoup at least some lost fishing revenues from those areas by diverting fishing effort to other nearby fishing areas.

[3] For the purposes of estimating economic exposure of commercial fisheries, the Lease Area was chosen to define the impact area for this analysis because a portion of the SWDA is included in Lease Area OCS-A 0501 and economic exposure and economic impacts of commercial fisheries in that part of the SWDA were previously analyzed and mitigated for Vineyard Wind 1 (see Section 6.3 in the Vineyard Wind 1 Terms and Conditions of COP Approval Letter; BOEM 2021b).



LEGEND
Lease Area Boundary
Maximum Size of Southern Wind Development Area (SWDA)
New England Wind Offshore Export Cable Corridor (OECC)
Phase 2 OECC Western Muskeget Variant
Wind Turbine Generator (WTG) Positions
WTG or Electrical Service Platform (ESP) Positions*
Vacant Positions**
State/Federal Boundary
*One to five ESPs will be installed.
**At this time, the Proponent does not intend to develop these positions for New England Wind.
Scale 1:472,440
1 inch = 12 kilometers
0
6
12
KM
Map Coordinate System: NAD 1983 UTM Zone 19N
Basemap: Ocean/World Basemap, ESRI
Massachusetts
Nantucket Sound
Federal Waters
Martha's Vineyard
Nantucket
Rhode Island Sound
Federal Waters
Lease Area OCS-A 0501
Lease Area OCS-A 0534

This report focuses on measures of economic exposure. The two most significant sources of potential commercial fishery economic exposure from New England Wind addressed in this report are:

- Potential lost fishing revenues in the Lease Area during construction of a total of 130 WTG and ESP positions.
- Potential lost in fishing revenues in the OECC during construction resulting from commercial fishing being precluded from areas around where cable installation activities are underway.

The report also addresses two potential indirect sources of fishery-related economic exposure, including:

- Potential costs associated with increased fishing congestion outside the SWDA and OECC if enough fishing effort is diverted from those areas to other fishing areas to cause "fishing power penalties" that result in lower fishing revenues, higher fishing costs, or both.
- Potential costs and lost fishing time associated with increased fishing vessel transit times if New England Wind results in fishing vessels that typically steam through the SWDA using less direct routes through or around the SWDA as they transit between fishing ports and fishing areas.

1.2.1 Indicators of Economic Exposure in the Lease Area

During 2016–2019, AIS-equipped commercial fishing vessels were recorded fishing in the SWDA during an average of 146 trips annually. It is important to note that only 25% of time spent on fishing tracks during those 146 trips that transect the SWDA took place in the SWDA; the remaining 75% of fishing time on trips that transected the SWDA was spent outside the SWDA.[4] This indicates that the SWDA is a relatively small part of a much larger fishing area that includes adjacent and nearby locations where fishing vessels that occasionally operate in, and more frequently transit through the SWDA spend most of their fishing time.

This relatively low level of commercial fishing effort in the SWDA is consistent with the relatively low fishing revenue density (FRD) in the Lease Area ($1,515 per km^2) and the relatively low value of the expected harvest in the Lease Area (annual average of $622,863 [2021 dollars] between years 2008 and 2021).[5]

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4 See Baird 2021.

5 These values of fishing revenues and fishing revenue density in the Lease Area are based on NOAA Fisheries (2022) landings and revenue data for 2008-2021 which are based on VTR records, then adjusted to include fishing revenues associated with lobster and Jonah crab harvests that are not included in VTR records (see Table 2-1 and Table 2-2).

This estimate of annual average fishing revenues in the Lease Area of $622,863 is the best available estimate of full economic exposure in the Lease Area (NOAA Fisheries 2022). It represents the expected reduction in commercial fishing revenues that would result if commercial fishing was precluded in the entire Lease Area for a full year with none of the resulting loss of fishing revenues recouped as a result of fishing effort shifting from those areas to other fishing areas.

Fishing revenue density charts presented in Figure 1-2 through Figure 1-4 indicate that the Lease Area does not contain exceptionally productive fishing grounds and is surrounded by other comparable fishing areas. On an individual permit basis, most fishermen who spend time operating in the Lease Area generate less than 1% of their annual revenue from the SWDA (NOAA Fisheries 2022). This is consistent with the results of the analysis of AIS data for the SWDA mentioned above which indicate that a significant portion of fishing vessel time on trips that involve some fishing in the SWDA is spent fishing in other nearby areas.

During O&M it is expected that some commercial fishing vessels operating in or transiting through the SWDA may need to modify transit routes or fishing tracks to account for the presence of WTGs and ESP(s). It is also possible that some transiting fishing vessels may route around the Lease Area and some fishing effort may shift from the SWDA to other areas. Changes in fishing revenues associated with these potential changes in commercial fishing practices are sources of potential economic exposure. However, the relatively low level of fishing effort in the SWDA and the correspondingly low amount of fishing revenues generated in the SWDA indicate that direct economic exposure in the SWDA associated with these potential modifications in fishing vessel tracks will be relatively small. Records of fishing activity and fishing revenues in the SWDA also indicate that fishing effort diverted from the SWDA to other fishing areas would not involve a significant enough shift in fishing effort to result in "fishing congestion impacts" in those other areas. The 1 x 1 NM layout that will be established between WTG and ESP positions in the SWDA to accommodate continued fishing is also expected to result in fishing vessels transiting through the SWDA experiencing no significant increases in transit times or costs. As described in Section 3.2, even if fishing vessel operators choose to reroute transits between fishing ports and fishing areas that would typically pass through the Lease Area around the Lease Area it would have relatively small impacts on transit times or costs.

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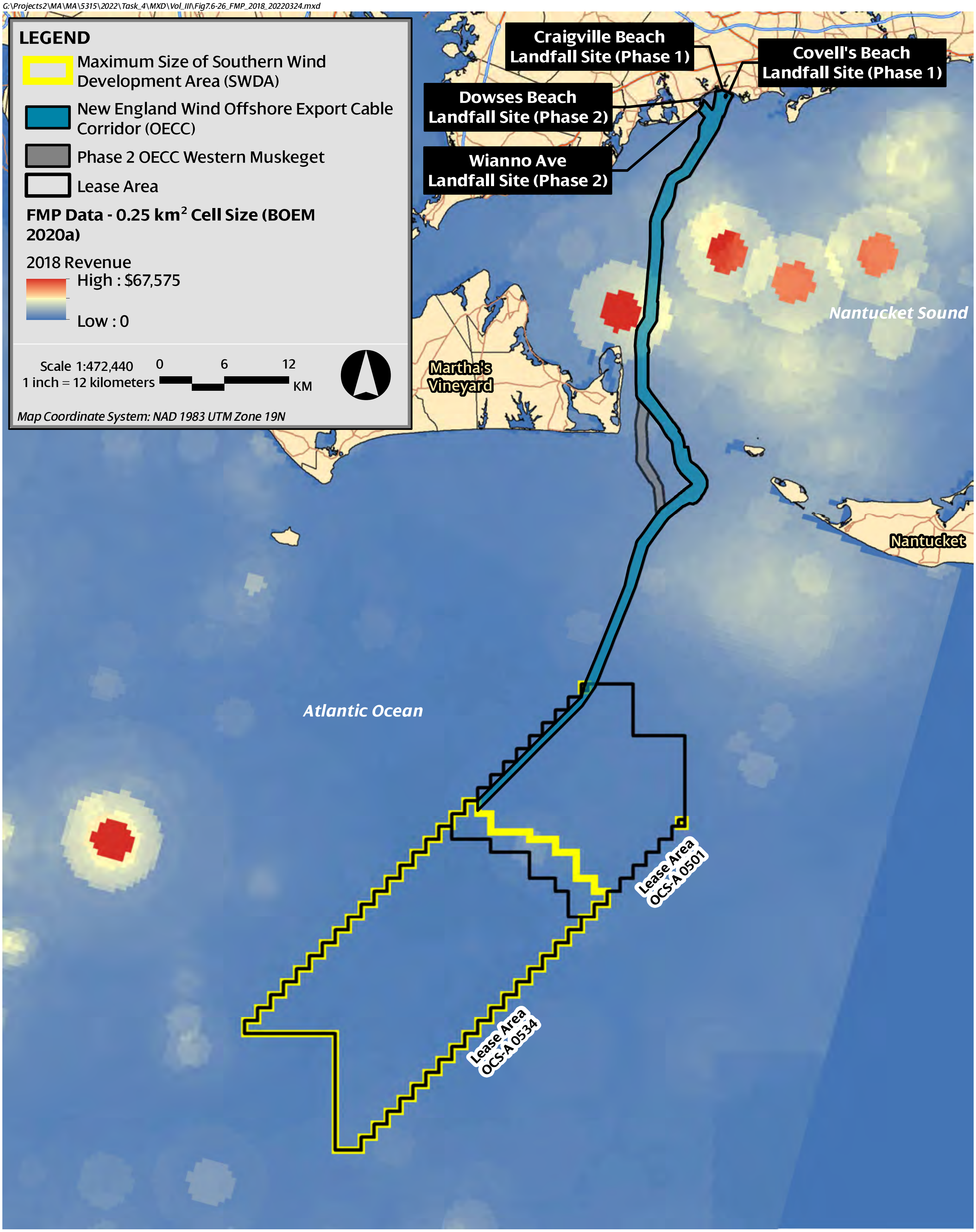


New England Wind
AVANGRID RENEWABLES

Figure 1-2

Fishing Revenue Density, All Fishery Management Plans, 2018

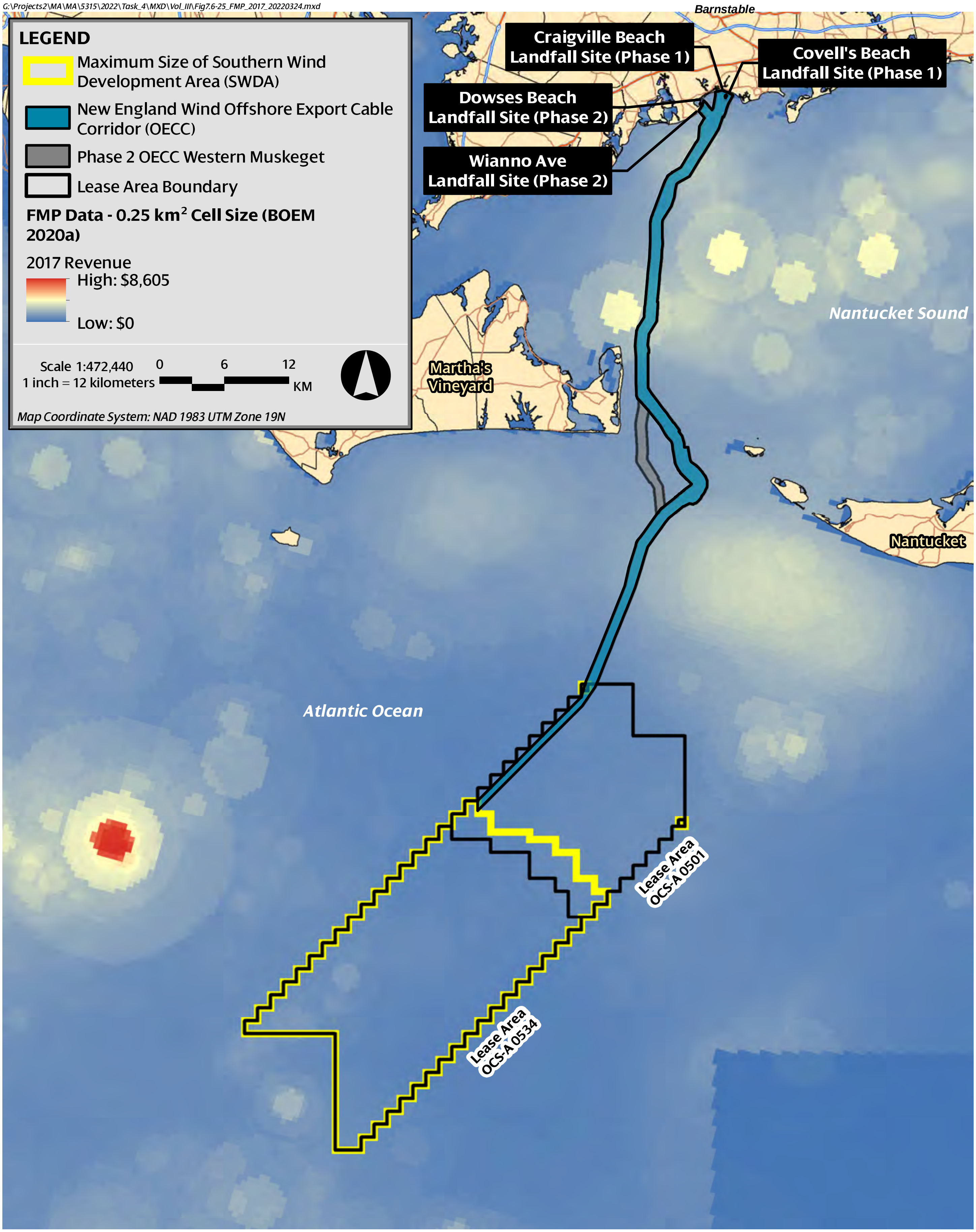


Figure 1-3

Fishing Revenue Density, All Fishery Management Plans, 2017

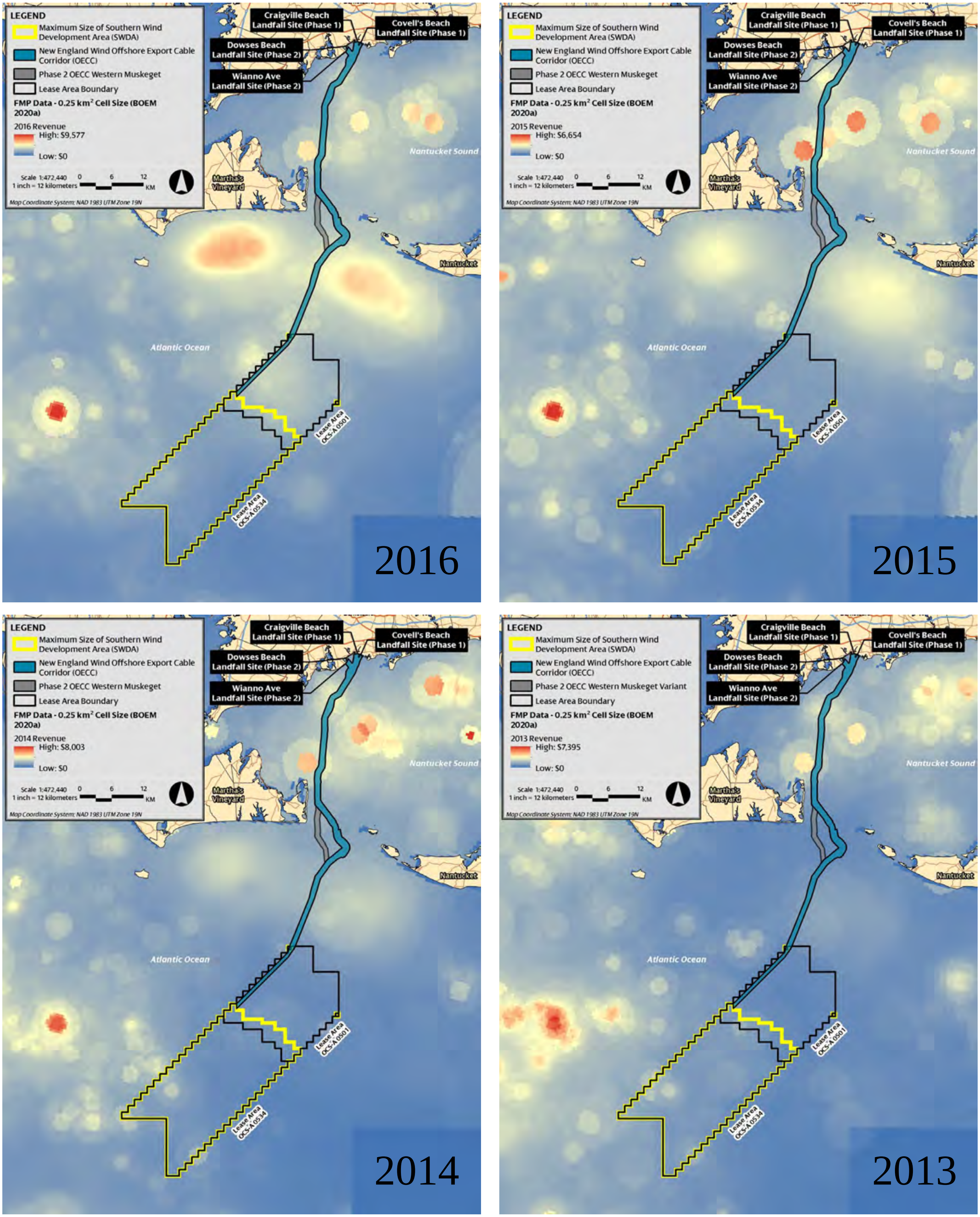


Figure 1-4

Fishing Revenue Density, All Fishery Management Plans, 2013-2016

1.2.2 Indicators of Economic Exposure in the OECC

During OECC Construction

Pre-construction activities and offshore export cable installation are expected to occur in the OECC (approximately 42 NM [78 km]) over a period of approximately nine months during Phase 1 and 13.5 months during Phase 2 (including the Western Muskeget Variant). However, at any given time cable installation activity in the OECC will typically be underway at only one location and fishing in the OECC will be precluded only in the vicinity of that one location while construction activity is underway (Figure 1-5). The USCG is expected to establish temporary 500-meter safety buffers around cable installation activity. However, for the purpose of estimating economic exposure in this report a 1 km safety buffer is assumed, resulting in an estimated fishing preclusion area of 3.14 km^2 (776 acres) around cable installation activity. It is assumed, therefore, that during cable installation commercial fishing will be precluded in the 3% of the OECC where cable installation is underway (1 km in each direction) and not in the remaining 97% of the OECC areas where cable installation has either been completed or is planned. Note that if cable installation activity is occasionally underway at more than one location, the fishing preclusion area during that period will be larger than 3.14 km^2 (776 acres) but there will be an offsetting reduction in the overall duration of cable laying activity which will result in no significant overall change in economic exposure.

After OECC Construction

Offshore export cables will be installed at a target burial depth of 1.5 to 2.5 m (5 to 8 ft) below the seafloor, which the cable burial risk assessment determined is more than twice the burial depth required to prevent them from interfering with commercial fishing operations. While every effort will be made to achieve sufficient cable burial depth, if a sufficient burial depth cannot be achieved, cable protection will be designed and installed to minimize interfering with bottom fishing gear to the maximum extent practicable and fishermen will be informed of exactly where cable protection exists.[6]

Any required cable protection will be designed and installed to minimize interfering with mobile bottom fishing gear to the maximum extent practicable, and fishermen will be fully informed about locations where cable protection has been used. For these reasons, and because there is limited use of trawlers, draggers, and other mobile bottom fishing gear in the OECC, potential fishery-related economic losses associated with bottom fishing gear snagging on cable protection

6 Potential cable protection methods include rocks, rock bags, concrete mattresses, or half-shell pipes or similar materials.

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

This product is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

New England Wind
AVANGRID RENEWABLES

Figure 1-5

Representative Safety Buffer Zone for Cable Installation in the OECC are expected to be low. The Proponent will also be developing and implementing procedures to compensate fishermen for any unexpected economic losses associated with bottom fishing gear snagging on cable protection. For these reasons, the economic exposure of commercial fishing in the OECC after cable installation is expected to be near zero.

1.3 Data Sources

Reliable sources of fishing revenue data for the Lease Area and OECC or for larger ocean areas that include those areas are described in Table 1-1. One source listed in Table 1-1, *Socioeconomic Impacts of Atlantic Offshore Wind Development* (NOAA Fisheries 2022), is a website that was developed by NOAA Fisheries and includes what are now the most reliable and current estimates of annual fishing revenues in each offshore wind lease area in New England and Mid-Atlantic waters.

Table 1-1 Data Sources

Data Source	Description
Kirkpatrick et al. (2017)	BOEM funded a study prepared by the NOAA Northeast Fisheries Science Center that characterizes commercial fishing from Maine to North Carolina and provides insight into revenue generated by federally permitted fishermen. The report details the average value of fish harvested over the six-year period between 2007 and 2012 and identifies the ports and fishery sectors (e.g., gear, species) supporting that activity. NOAA Fisheries also developed a model to estimate the socioeconomic impact of wind energy development on commercial fishermen. Making use of vessel trip report (VTR) data, spatial data from the Northeast Fisheries Observer Program database, and vessel monitoring system (VMS) data, the study provides information on commercial harvest by location, species caught, gear type, and port group. This study is available at: Volume 1: https://espis.boem.gov/final%20reports/5580.pdf Volume 2: https://espis.boem.gov/final%20reports/5581.pdf
BOEM (2020)	BOEM makes available single-year revenue intensity rasters summarized by Fishery Management Plan. These revenue intensity rasters were developed for Kirkpatrick et al. (2017), described above, and updated by BOEM to account for additional years of data. Revenue intensity rasters can be accessed at: https://www.boem.gov/renewable-energy/mapping-and-data/renewable-energy-gis-data. This data source was used to develop Figure 1-2 through Figure 1-4, which show the fishing revenue density for 2014–2018.

Table 1-1 Data Sources (Continued)

Data Source	Description
NOAA Fisheries (2022)	Socioeconomic Impacts of Atlantic Offshore Wind Development Website NOAA Fisheries developed sets of tables summarizing annual fishing activity within each offshore wind lease or project area and related annual fishing revenues during years 2008–2021. This data is based on modeled results of federal VTR, clam logbook, and queried for spatial overlap and linked to dealer data for value and landings information. These tables highlight annual landings and revenue by species, gear type, and fishery management plan within each wind energy area (WEA), as well as revenue by port and vessel dependence upon operations in each WEA. Landing and revenue data can be accessed at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/ALL_WEA_BY_AREA_DATA.html.
NOAA Fisheries (2023)	Upon request from the Proponent, NOAA Fisheries provided landing and revenue data (2008–2021) for the OECC (including the Western Muskeget Variant). This data from NOAA Fisheries is the same data used for revenue estimates for the lease areas in the Socioeconomic Impacts of Atlantic Offshore Wind Development website (see above).

1.3.1 Thresholds of Data Requirements

In order to use fishing revenue data to estimate the economic exposure of commercial fishing to offshore wind energy projects assumptions must be made about thresholds or minimum standards for defining what BOEM refers to as fishing values that "may be impacted" (Kirkpatrick et al. 2017). For the purposes of this report, it is assumed that all fishing revenues in the Lease Area and in areas of cable installation activity in the OECC "may be impacted." It is also assumed that fishing values outside the Lease Area and OECC "may be impacted" if New England Wind can be expected to result in either increased fishing vessel transit times resulting from vessels avoiding those areas or fishing congestion impacts resulting from vessels diverting fishing effort from those areas to other areas that are already being fished.

1.4 Baseline Commercial Fisheries Landings and Values

Data summarizing commercial fishing activity within the Lease Area during years 2008 through 2021 are available from NOAA Fisheries (NOAA Fisheries 2022). These data include annual landings and revenue by species, fishery management plan (FMP), gear type, state, and port and were used in this report to identify the primary commercial fisheries, species, gear types, ports, and states potentially affected by development in the Lease Area (NOAA Fisheries 2022).

The data summarized in Tables 1-2 through 1-7 are based on NOAA Fisheries' analysis of combined data from VTRs and dealer reports submitted by vessels with federal permits. Annual values reported in these tables have all been deflated to 2021 dollars using the U.S. Bureau of Economic Analysis (BEA) Gross Domestic product (GDP) Implicit Price Deflator.[7]

Table 1-2 provides the annual landed weight and value of all species harvested within the Lease Area between 2008 and 2021.

Table 1-2 Annual Landings from the Lease Area, 2008-2021

Year	Landings (lbs)	Value (2021 dollars)
2008	565,180	$519,479
2009	581,476	$437,906
2010	698,373	$575,805
2011	387,260	$403,508
2012	512,867	$559,010
2013	838,105	$741,944
2014	623,448	$685,778
2015	459,595	$564,633
2016	920,341	$958,501
2017	415,918	$425,740
2018	313,375	$331,341
2019	401,696	$423,934
2020	281,835	$294,468
2021	426,745	$562,379
Annual Average	530,444	$534,602

Notes:
1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

[7] Both NOAA Fisheries and BOEM recommend making inter-annual fish price adjustments using the GDP Price Deflator rather than Producer Price Indices for seafood products. Descriptions of the annual GDP Price Deflator and how it differs from annual Producer Price indices can be found at the BEA website at: https://www.bea.gov/data/prices-inflation.

The 14-year annual average weight and value of the 15 most exposed species in the Lease Area are shown in Table 1-3. According to NOAA Fisheries' analysis, the five most exposed species in the Lease Area are longfin squid, silver hake, monkfish, Jonah crab, and skates. These 15 species account for approximately 88% of annual average commercial fishing revenues from the Lease Area.

Table 1-3 Landings from the Lease Area by Species, 2008-2021

Species	Annual average Landings (lbs)	Annual average Value (2021 dollars)	Percentage of Annual average Lease Area Value
Longfin Squid	92,658	$127,631	24%
Silver Hake	71,705	$52,515	10%
Monkfish	29,682	$50,020	9%
Jonah Crab	45,100	$41,535	8%
Skates	83,443	$38,972	7%
Summer Flounder	10,413	$33,613	6%
American Lobster	6,455	$33,333	6%
Scup	42,218	$32,175	6%
Sea Scallop	2,425	$26,726	5%
Yellowtail Flounder	4,613	$8,473	2%
Golden Tilefish	1,478	$6,165	1%
Atlantic Herring	41,532	$5,637	1%
Butterfish	7,567	$5,079	1%
Winter Flounder	1,742	$4,930	1%
Black Sea Bass	763	$2,943	1%
All Others	88,650	$64,853	12%
Total	530,444	$534,602	-

Notes:
1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

The 14-year annual average weight and value of the ten most exposed FMPs in the Lease Area are shown in Table 1-4. These FMPs account for approximately 89% of annual average commercial fishing revenues from the Lease Area. According to NOAA Fisheries (NOAA 2022), between 2008 and 2021, the three highest value FMPs within the Lease Area were Mackerel, Squid, and Butterfish; the Atlantic States Marine Fisheries Commission (ASMFC) FMP; [8] and Summer Flounder, Scup, and Black Sea Bass.

[8] The ASMFC FMP includes the following species: American lobster, cobia, Atlantic croaker, black drum, red drum, menhaden, NK sea bass, NK seatrout, spot, striped bass, tautog, Jonah crab, and pandalid shrimp.

Table 1-4 Landings from the Lease Area by Fishery Management Plan, 2008-2021

Fishery Management Plan	Annual average Landings (lbs)	Annual average Value (2021 dollars)	Percentage of Annual Average Lease Area Value
Mackerel, Squid, and Butterfish	104,400	$134,318	25%
ASMFC FMP	51,596	$74,963	14%
Summer Flounder, Scup, Black Sea Bass	53,395	$68,732	13%
Small-Mesh Multispecies	80,756	$55,812	10%
Monkfish	29,682	$50,020	9%
Skates	83,443	$38,972	7%
Sea Scallop	2,425	$26,726	5%
Northeast Multispecies	7,254	$14,819	3%
Tilefish	1,480	$6,170	1%
Atlantic Herring	41,532	$5,637	1%
All Others	74,482	$58,432	11%
Total	530,444	$534,602	-

Notes:

1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

The 14-year annual average weight and value of landings from specific gear types are shown in Table 1-5. These five gear types account for approximately 93% of annual average commercial fishing revenues from the Lease Area.

Table 1-5 Landings from the Lease Area by Gear Type, 2008-2021

Gear Type	Annual average Landings (lbs)	Annual average Value (2021 dollars)	Percentage of Annual average Lease Area Value
Bottom Trawl	287,050	$286,491	54%
Gillnet (sink)	82,245	$79,275	15%
Lobster Pot	54,560	$76,685	14%
Clam Dredge	41,837	$33,661	6%
Scallop Dredge	1,726	$18,822	4%
All Others	63,049	$39,684	3.5%
Total	530,466	$534,618	-

Notes:

1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

The 14-year annual average weight and value of landings in the five most exposed states to fishing revenue losses in the Lease Area are shown in Table 1-6. These states account for approximately 97% of the landed value of the annual average commercial fish harvest from the Lease Area.

Table 1-6 Landings from the Lease Area by State, 2008-2021

State	Annual average Landings (lbs)	Annual average Value (2021 dollars)	Percentage of Annual average Lease Area Value
Massachusetts	247,383	$235,245	44%
Rhode Island	231,487	$224,923	42%
New York	25,408	$34,087	6%
Connecticut	16,238	$17,086	3%
Virginia	3,962	$8,868	2%
All Others	5,313	$13,470	3%
Total	529,791	$533,679	-

Notes:

1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

The 14-year annual average weight and value of five most exposed ports in the Lease Area are shown in Table 1-7. These five ports account for approximately 78% of the landed economic value of fish harvested in the Lease Area.

Table 1-7 Landings from the Lease Area by Port, 2008-2021

Port	Annual average Landings (lbs)	Annual average Value (2021 dollars)	Percentage of Annual average Lease Area Value
Point Judith, RI	175,301	$184,904	35%
New Bedford, MA	161,651	$159,551	30%
Montauk, NY	24,873	$33,096	6%
Chatham, MA	20,251	$20,936	4%
Fairhaven, MA	20,306	$20,164	4%
All Others	127,409	$115,027	22%
Total	529,790	$533,678	-

Notes:

1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

2 ESTIMATES OF ECONOMIC EXPOSURE

2.1 Economic Exposure in the Lease Area

2.1.1 Unadjusted Estimates of Fishing Values for the Lease Area

Table 2-1 presents the 14-year total and annual average fishing revenues generated in the Lease Area during years 2008–2021, valued in 2021 dollars (NOAA Fisheries 2022). These annual values range from \$294,468 to \$958,501 and average \$534,602 or \$1,301 per km^2. They are referred to in this report as “unadjusted” fishing revenues because they do not include the value of lobster and Jonah crab landings harvested in the Lease Area by vessels that fish only for those two species and do not need to file federal VTRs on which NOAA Fisheries fishing revenue estimates are based.

Table 2-1 Estimates of Annual Commercial Fishing Economic Exposure in the Lease Area, Unadjusted for Lobster and Jonah Crab

Total Fishing Revenues (2008–2021)	Annual average Revenues	Annual average Fishing Revenues per km^2
\$7,484,427	\$534,602	\$1,301

2.1.2 Adjustments for Lobster and Jonah Crab

To provide a basis for estimating full economic exposure annual fishing values presented in Table 2-1 were adjusted to account for lobster and Jonah crab landings by vessels that land only these two species and do not file federal VTRs. Federal fishing permit data are available that show how many pots are permitted to fish for lobster and Jonah crab in Lobster Management Area 2 (LMA 2) by vessels that file VTRs and by vessels that do not file VTRs.

Federal lobster fishing permit data for 2022 show that 56,039 pots were permitted to harvest lobster and Jonah crab in LMA 2, and that 34,946 of these pots or 62% of them were permitted to vessels that fish for species other than lobster and Jonah crab and therefore file VTRs. The remaining 21,093 pots, or 38% of all permitting pots in LMA 2, are permitted to vessels that fish only for lobster and Jonah crab and are not required to file VTRs.

NOAA Fisheries (2022) data shows that during the years 2008-2021, the total value of fish harvested in the Lease Area by vessels that filed VTRs included \$466,667 worth of lobster, an annual average value of \$33,333, and \$581,487 worth of Jonah crab, an annual average value of \$41,535, resulting in annual average revenues from both species of \$74,868. This results in annual average lobster and Jonah crab revenues per pot permitted in LMA 2 to vessels that file VTRs is \$2.14.

If the characteristics of lobster and Jonah crab fishing by vessels that do not file VTRs were similar to those of vessels that do file VTRs, the \$2.14 in annual lobster and Jonah crab revenues in the Lease Area per pot permitted to vessels that file VTRs could be applied equally to pots permitted to vessels that do not file VTRs. That would result in lobster and Jonah crab revenues not included in VTR records accounting for 38% of revenues from those two species in the Lease Area and would increase estimated dollar value of lobster and Jonah crab landings in the lease area by $45,139.

However, information received from Massachusetts Division of Marine Fisheries (MADMF) lobster fishery experts indicated that it is not reasonable to assume that revenues per permitted pot are the same for vessels that file and do not file VTRs. They indicated that vessels that fish only for lobster and Jonah crab and do not file VTRs are more dedicated to fishing for those two species than vessels that harvest those two species along with other species and do file VTRs. That feedback indicated that compared with vessels that do file VTRs, vessels that do not file VTRs are likely to: (1) actively fish a higher percentage of permitted pots, (2) deploy a higher percentage of active pots in the wind energy development areas, and (3) achieve higher annual average catch rates and fishing revenues per active pot.

To account for these three factors the annual value of lobster and Jonah crab harvested by non-VTR vessels in the Lease Area is estimated here by assuming that pots permitted to non-VTR vessels are: 25% more active, spend 25% more active fishing time in the Lease Area, and generate 25% more fishing revenues than pots permitted to vessels that file VTRs. In effect, these assumptions result in $4.18 as an estimate of revenues generated in the Lease Area per pot permitted to non-VTR vessels, that is $2.14 x 1.25 x 1.25 x 1.25. That means the 21,093 pots permitted to non-VTR vessels are estimated here to generate approximately $88,261 in annual lobster and Jonah crab revenues from the Lease Area that are not included in fishing revenues reported in NOAA Fisheries data (2022) as shown in Table 2-2.[9]

Table 2-2 Estimates of Annual Commercial Fishing Economic Exposure in the Lease Area, Adjusted for Lobster and Jonah Crab

Total Fishing Revenues (2008–2021)	Annual average Fishing Revenue	Annual average Fishing Revenues per km^2
$8,720,081	$622,863	$1,515

9 Note this adjustment method is conservative and likely results in a high estimate of the annual lobster and Jonah crab revenues from the Lease Area that are not included in fishing revenues reported in NOAA Fisheries (2022).

2.1.3 Final Estimate of Annual Fishing Revenues (Economic Exposure) in the Lease Area

Table 2-2 shows that annual average fishing revenues generated in the Lease Area during 2008–2021, adjusted to account for unreported lobster and Jonah crab landings, equal $622,863. This represents an estimate of the annual economic exposure of commercial fisheries if all commercial fishing revenues from the Lease Area were lost for a full year and not recouped by fishing effort shifting from the Lease Area to other fishing areas.

Table 2-3 presents estimates of annual economic exposure by state based on each state's shares of fishing revenues in the Lease Area from NOAA Fisheries (2022).[10] Commercial fishing fleets from Massachusetts and Rhode Island face the most economic exposure in the Lease Area, accounting, respectively, for 44% and 42%.

Table 2-3 Estimate of Commercial Fishing Economic Exposure in the Lease Area by State, Adjusted for Lobster and Jonah Crab

State	Annual average Value (2021 dollars)	Percentage of Annual average Lease Area Value
Massachusetts	$274,557	44%
Rhode Island	$262,510	42%
New York	$39,784	6%
Connecticut	$19,941	3%
Virginia	$10,350	2%
North Carolina	$9,814	2%
New Jersey	$5,356	1%
All Others	$550	0.1%

Notes:

1. NOAA Fisheries (2022)
2. Values have been deflated to 2021 dollars.

[10] Note that these state shares of fishing revenues from the Lease Area assume that state shares of unreported lobster and Jonah crab revenues are the same as state shares of all commercially harvested species.

2.2 Economic Exposure in the OECC

2.2.1 Overview

Table 2-4 shows that the annual average FRD in the OECC is \$2,505 per km^2 (NOAA Fisheries 2023). This provides a baseline value for estimating economic exposure in the OECC.

As described in Section 1.2.2, this report assumes that a 1 km fishing preclusion buffer will be established around where cable installation is taking place, which will result in a fishing preclusion area of 3.14 km^2 (776 acres). Within the OECC, five offshore export cables, two cables for Phase 1 and three cables for Phase 2, will be installed. Typical cable laying speeds are expected to range from 328 ft to 656 ft (100 to 200 meters) per hour and cable laying is expected to occur 24 hours per day. The duration of cable laying activity in the OECC will be only a few months.

However, cable installation requires several pre-lay activities such as surveys of cable alignments, pre-lay grapnel runs of cable alignments, and boulder relocation, and some “post-lay activities” such as cable splicing and the placement of cable protection. Based on the expected durations of those activities and cable installation, the Proponent’s export cable engineers have estimated that overall cable installation activity in the OECC will take place during approximately 22.5 months (1.875 years), with Phase 1 estimated to take nine months and Phase 2 estimated to take 13.5 months.

As Figure 1-2 illustrates the area of fishing impacts will move along the OECC as cable installation activities take place resulting in fishing impacts at any particular time along approximately 2 km (1.2 miles) of the OECC; that is, 1 km forward of and 1 km aft of cable installation vessels. This means that approximately 3% of the overall length of the OECC will be precluded to commercial fishing around where cable installation is underway. At any particular time it is not expected that commercial fishing will be precluded or impaired in the remaining 97% of the OECC where cable installation is either completed or planned.

Possibilities exist that disruptions in the rate of cable installation may increase the duration of cable installation impacts on commercial fishing, but the area of fishing impacts at any particular time is expected to be limited to approximately 3.14 km^2 (776 acres) around where cable installation activities are underway. There may also be circumstances where more than one cable installation activity will take place at a particular time which will result in a proportional increase in the area of fishing impacts during those times. However, overlapping cable installation activities will result in a proportional decrease in the expected duration of overall cable installation activities and so is expected to result in no net change in overall commercial fishing impacts.

2.2.2 Estimating Economic Exposure in the OECC

The estimate of economic exposure in the OECC was generated by estimating three factors, A, B, and C, and multiplying them together.

Where:

A = expected FRD (annual average fishing revenues per km^2) in the OECC ($2,505)

B = area precluded to fishing during ongoing cable installation activities (3.14 km^2)

C = the total duration of cable installation activities

Such that

EE_{OECC} = A x B x C = Annual Economic Exposure in the OECC

Table 2-4 presents estimates of A, B, and C for both Phases and for the entire OECC and resulting estimates of economic exposure during cable installation. The estimated overall economic exposure in the OECC during both Phase 1 and Phase 2 using the annual average FRD is $14,748 (2021 dollars). Table 2-5 shows the estimates of economic exposure for the OECC by state. For the OECC (including the Western Muskeget Variant), Massachusetts and Rhode Island experience the highest percentage of economic exposure.

Table 2-4 Estimate of Commercial Fishing Economic Exposure in the OECC During Construction Using Annual Average Fishing Revenue

OECC	A Annual Average Fishing Revenue per km^2	B Fishing Preclusion Area (km^2)	C Construction Period (years)	EE Economic Exposure During Construction
Phase 1 (2 cables)	$2,505	3.14	0.75	$5,899
Phase 2 (3 cables)	$2,505	3.14	1.125	$8,849
Entire OECC (Phase 1 + Phase 2)	$2,505	3.14	1.875	$14,748

The analysis described above was also conducted for the Western Muskeget Variant. Based on fishing revenue data provided by NOAA Fisheries for years 2008-2021, annual average fishing revenue in the Western Muskeget Variant is $2,524 per km^2 (2021 dollars), which is just $19 higher than the OECC value of $2,505 per km^2. In the unlikely event the Western Muskeget Variant is used to install one cable for Phase 2, economic exposure is estimated to be $8,871 during the 13.5 months when one cable is being installed in the Western Muskeget Variant and two cables are being installed in the OECC. This would result in overall economic exposure of approximately $14,771, just $22 higher than the OECC.

Table 2-5 Estimate of Commercial Fishing Economic Exposure in the OECC by State

State	Percentage of Annual Average OECC Fishing Revenues (2008–2021)
Massachusetts	53.87%
Rhode Island	37.70%
New York	4.73%
Connecticut	1.96%
North Carolina	0.98%
Virginia	0.53%
New Jersey	0.38%
All Others	1.74%

Notes:

1. NOAA Fisheries (2023)

In order to conservatively account for seasonal variability in landings and revenue in the OECC, the Proponent also estimated the economic exposure in the OECC using the monthly average fishing revenue per km^2 from 2008 through 2021, which ranges from \$20 per km^2 (in January) to \$523 per km^2 (in May) (NOAA Fisheries 2023). Table 2-6 presents estimates of A, B, and C for both Phases using the monthly average fishing revenue per km^2 from the nine highest months (\$234 per km^2 for April through December) since the duration of Phase 1 cable installation is estimated to be nine months. The estimated overall economic exposure in the OECC during both Phase 1 and Phase 2 using the conservative monthly average fishing revenue per km^2 from the nine highest months is \$16,532 (2021 dollars).

Table 2-6 Estimate of Commercial Fishing Economic Exposure in the OECC During Construction using Monthly Average Fishing Revenue

OECC	A Highest Nine Months of Average Fishing Revenue per km^2	B Fishing Preclusion Area (km^2)	C Construction Period (months)	EE Economic Exposure During Construction
Phase 1 (2 cables)	\$234	3.14	9	\$6,613
Phase 2 (3 cables)	\$234	3.14	13.5	\$9,919
Entire OECC (Phase 1 + Phase 2)	\$234	3.14	22.5	\$16,532

2.3 Summary of Economic Exposure

Annual economic exposure in the Lease Area is estimated based on the assumption that all fishing will be precluded for a full year with none of the associated losses in fishing revenues recouped as a result of fishing effort being diverted from the Lease Area to other fishing areas. Since annual fishing revenues in the Lease Area are estimated in Section 2.1 to be $622,863 (2021 dollars), this represents full annual economic exposure in the Lease Area during each year of construction. As shown in Tables 2-4 and 2-6, economic exposure related to cable installation in the OECC is estimated to be $14,748-$16,532. Economic impact estimates based on estimates of economic exposure presented in this report will be determined based on updated BOEM guidance and consultations with the states through the CZMA review processes.

3 INDIRECT SOURCES OF ECONOMIC EXPOSURE

3.1 Fishing Congestion Impacts Outside the Lease Area and the OECC

In fishery economics, the term "congestion externalities" refers to increases in vessel-specific or fleetwide fishing costs and/or reductions in fishing revenues that result when so many vessels are operating in a fishing area that they interfere with one another. This is typically the result of some combination of fish being highly concentrated in an area, the fishery being severely overcapitalized, or regulations that limit fishing times or fishing areas in ways that concentrate fishing effort when and where fishing is allowed.

In general, the likelihood that the introduction of new fishing effort in an area will result in fishing congestion impacts depends on the size of the fishing area, the concentration of fish and existing fishing effort in the area, the amount of new fishing effort entering the area, and whether fleetwide fish harvests in the area are limited by fish stock abundance or fishing regulations, or both. It is uncommon for fishing congestion impacts to be significant in open ocean fisheries. Possible exceptions are when fishing regulations involve fishing area or fishing season closures or quota limitations that cause fishing effort to concentrate in particular ocean areas.

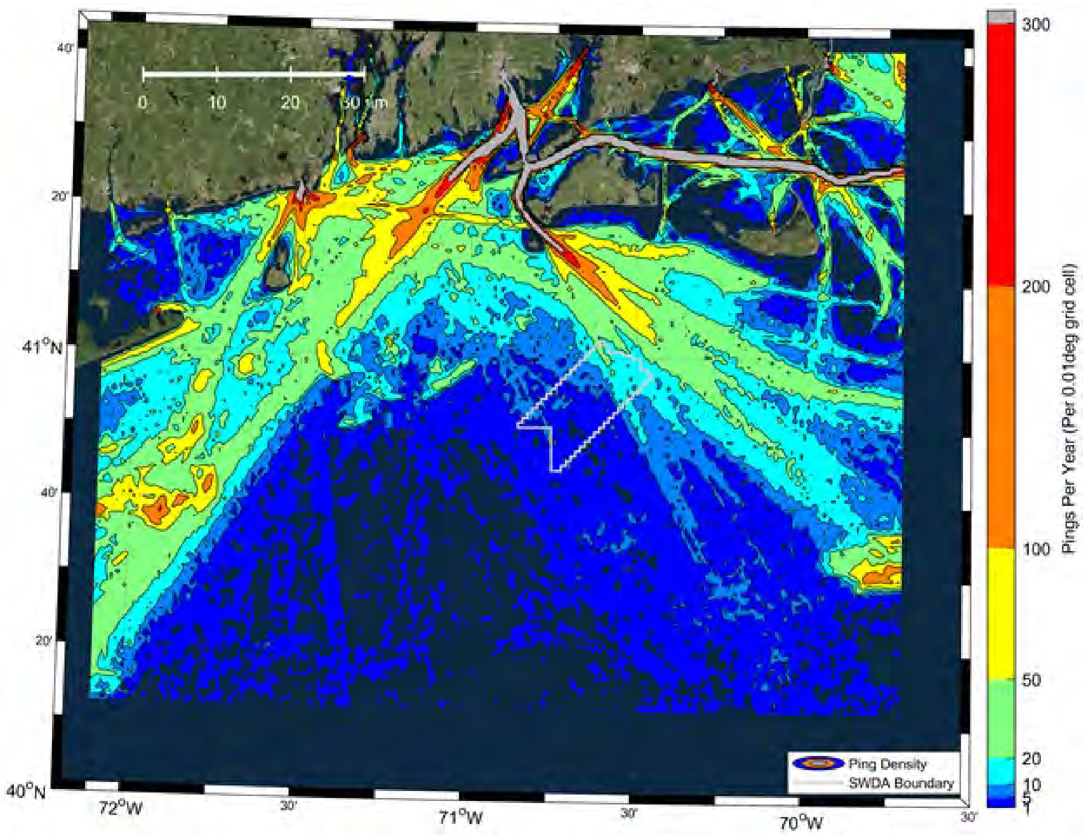
Concentrations of fishing effort and related fishing congestion impacts could result from large offshore wind energy projects. However, the available evidence described below indicates that it is extremely unlikely that the level of potential fishing effort that could be diverted from the SWDA or the OECC to other areas could constitute a significant source of potential fishing congestion impacts. In fact, AIS data indicate that vessels that spend time fishing in the Lease Area and OECC already spend most of their fishing time in adjacent and nearby fishing areas and do not constitute a significant new source of potential fishing effort in those areas.

3.1.1 Potential Fishing Congestion Impacts from the Lease Area

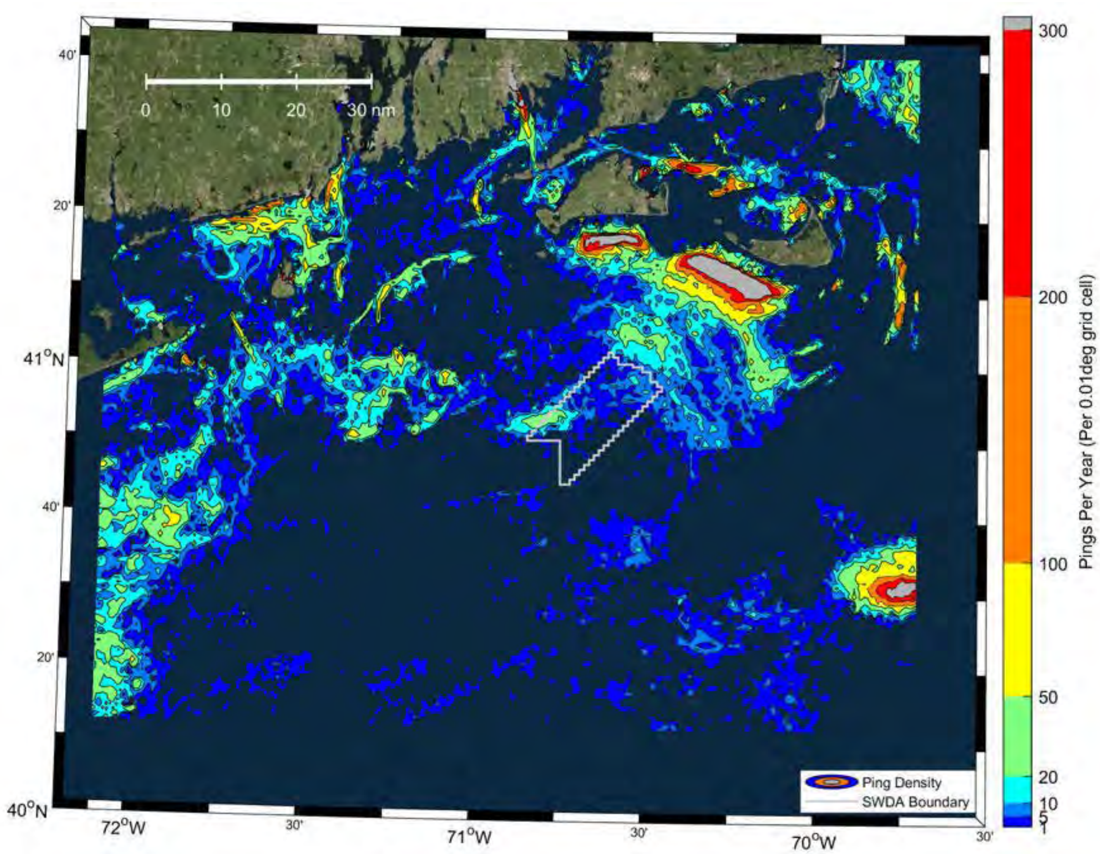
Figure 3-1 and Table 3-1 summarize AIS-equipped fishing vessel traffic in the SWDA. Table 3-1 shows that during 2016–2019 fishing vessels were engaged in fishing in the SWDA on an average of 146 trips per year. During those years the number of fishing trips in the SWDA averaged over ten during only two months (August and September). Based on the analyses of AIS data from 2016 to 2019, Baird (2021) concludes:

"The analyses of AIS data indicated that historical vessel traffic levels within the SWDA are relatively low. The vessel traffic is seasonal in nature with approximately 0.5 vessels every day on average in the winter months to a peak of 6.4 vessels per day on average in the month of August. An evaluation of vessel proximity revealed that two or more vessels are present within the SWDA simultaneously for only 124 hours per year on average (1.4% of the year). There was one short period (a few hours) in September 2016 in which up to 14 vessels were in the SWDA with most of these vessels sailing at speeds less than 4 knots while trawling." (Baird 2021)

This modest level of fishing effort is not a significant enough source of potential new fishing effort entering nearby fishing areas to pose fishing congestion threats in those areas. Also, according to New England Wind's Navigation Safety Risk Assessment (COP Appendix III-I), fishing vessels that operate in the SWDA are already part of the established fishing fleet operating in adjacent and nearby areas and already spend most of their fishing time in those areas. In summary, based on the available data, the development of the SWDA should not be expected to result in fishing congestion impacts in nearby fishing areas.



AIS Vessel Traffic Density Plot for Transiting Fishing Vessels (>4 knots)



AIS Vessel Traffic Density Plot for Trawling Fishing Vessels (<4 knots)

Figure 3-1

Fishing Vessel Activity In and Around the SWDA (2016-2019 AIS Data)

Table 3-1 Average AIS Fishing Vessel Traffic through the SWDA (2016–2019)

Year (2016–2019)	Monthly Average												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual Average Total (Unique Vessels)
Number of Unique Fishing Vessels (fishing)	0	0	0	1	3	3	5	10	19	4	1	1	33
Number of Unique Fishing Vessel Transits (fishing)	0	0	1	1	4	4	9	50	72	6	1	1	146
Number of Unique Fishing Vessels (transiting)	3	5	6	13	26	30	36	39	36	13	6	3	101
Number of Unique Fishing Vessel Transits (transiting)	8	8	10	18	43	63	81	99	71	20	8	5	422

Notes:

1. Data source is Baird 2021.
2. Analysis has been completed to separate transiting fishing vessels and those fishing vessels that are likely to be fishing (≤4 knots (kts) fishing, >4 kts transiting).
3. Transiting and actively fishing tracks can be doubly counted.

3.1.2 *Potential Fishing Congestion Impacts from the OECC*

As Figure 1-2 through Figure 1-4 indicate, the OECC represents a small portion of the available fishing grounds in the in the areas it passes through in Nantucket Sound and the areas south of Nantucket Sound and Martha's Vineyard, and accounts for a small share of the fishing effort and fishing revenues generated in those areas. As described above in Section 2.2, during New England Wind construction and installation activities in the OECC commercial fishing will only be precluded in temporary safety buffer zones of 3.14 km^2 (776 acres) established around where cable installation activity is underway. The remainder of the OECC, where cable installation is either completed or planned, will remain open to fishing vessels. It is not expected that these small areas of temporary fishing limitations within the OECC during limited cable installation activities will cause significant enough shifts in fishing effort to other fishing areas or result in fishing congestion impacts.

During O&M of New England Wind, the OECC will have no impact on commercial fishing, except, as described in Section 1.2.2, potentially along short segments of the cable route where cable protection may need to be installed on the seafloor and may pose risks of bottom fishing gear snagging. While this may result in some modifications in the precise tracks of mobile bottom fishing gear in the OECC, it is unlikely to result in enough fishing effort by those vessels shifting away from the OECC to cause fishing congestion impacts in other areas.

3.2 SWDA Impacts on Fishing Vessel Transit Costs

Figure 3-2 shows the proximity of the SWDA to major nearby fishing ports and fishing areas, and the most direct (shortest distance) tracks that fishing vessels would normally use to travel between them. As Table 3-1 indicates, during 2016-2019 the annual average number of fishing vessel transits through the SWDA was 422.

After examining options for accommodating fishing and vessel transit lanes in the Massachusetts/Rhode Island Wind Energy Area (MA/RI WEA), the USCG concluded in its recent *Massachusetts and Rhode Island Port Access Route Study* (MARIPARS) that the standard and uniform grid patterns being planned in wind development areas to facilitate safe and efficient fishing are "sufficient to maintain navigational safety and provide vessels with multiple straight-line options to transit safely through the MA/RI WEA" (USCG 2020).

The Proponent has sited the WTG/ESP positions within the SWDA consistent with the recommendations of the MARIPARS with WTG/ESP positions oriented in fixed east-to-west rows and north-to-south columns with 1 nautical mile (1.9 km) spacing between positions. This grid layout provides multiple 1 NM wide corridors in the east-west and north-south directions as well as 0.6 NM (1.1 km) wide corridors in the northwest-southeast and northeast-southwest directions. As the recent MARIPARS study indicates, this will allow multiple straight-line options for fishing vessels to transit safely through the SWDA (USCG 2020). During O&M of New England Wind, there will be no restrictions on fishing vessels operating in or transiting through the SWDA.

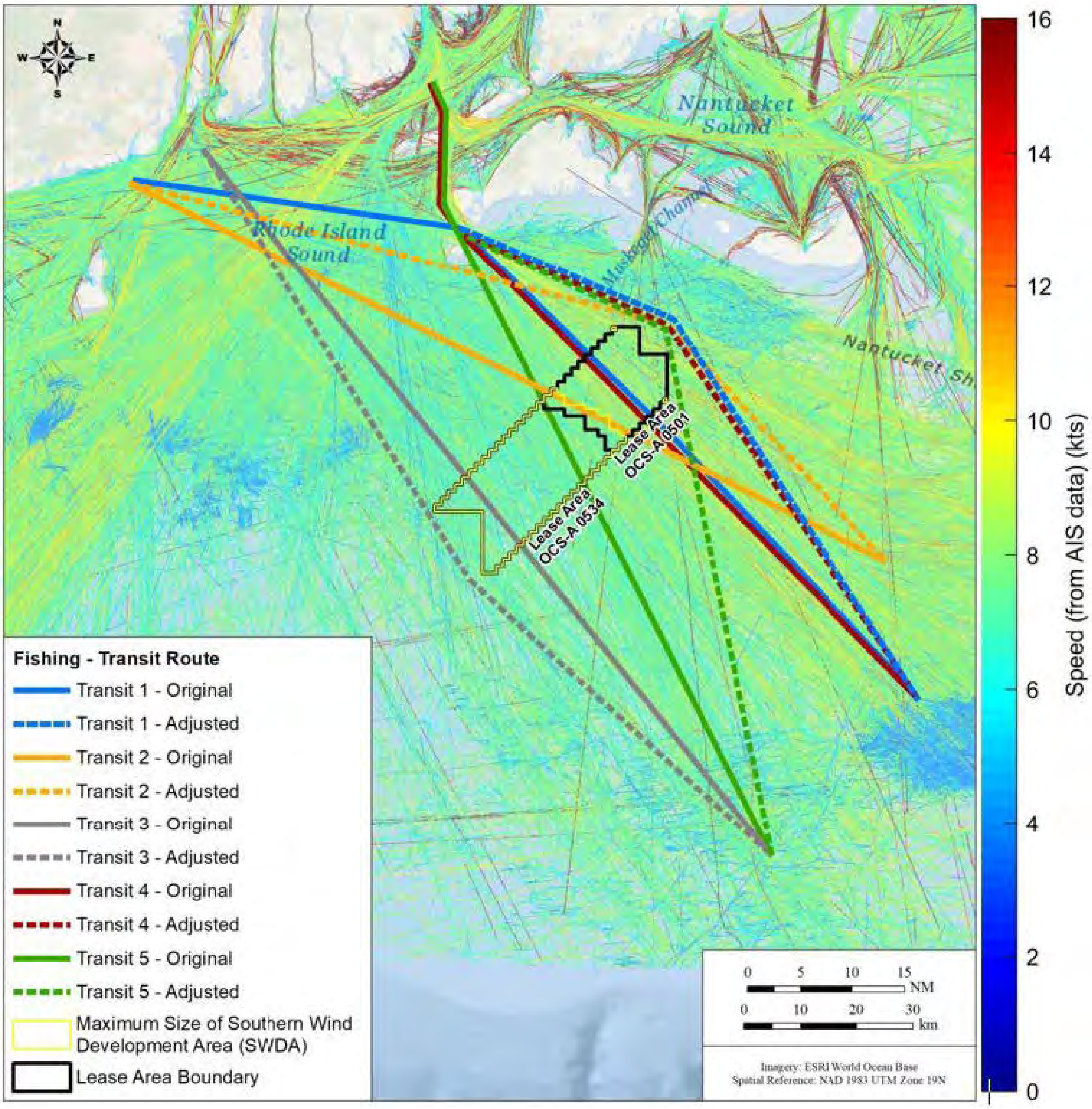


Figure 3-2

Schematic Showing Possible Fishing Vessel Re-Routing Around the SWDA

However, despite the existence of transit/fishing corridors in the SWDA, some fishermen may opt to reroute transits around the SWDA, especially during extreme weather. Figure 3-2 depicts how transiting around, rather than through, the SWDA will affect transit distances by depicting "original" routes through the SWDA (solid lines) and "adjusted" routes (dashed lines) around the SWDA. Table 3-2 presents associated differences in transit distances (NM) and added transit times (minutes) based on the average fishing vessel transit speed through the SWDA of 7.6 knots (Baird 2021).

Table 3-1 displays the average number of unique AIS-equipped fishing vessels that transited the SWDA and the average number of unique fishing vessel transits through the SWDA by month from 2016 to 2019. It shows that during these years, the average monthly number of fishing vessel transits through the SWDA ranged from 5 to 99 vessel transits and annual vessel transits averaged 422 (Baird 2021).

During construction and installation activities in the SWDA, fishing vessels will be allowed to transit through the SWDA but will need to avoid temporary safety buffer zones in the immediate vicinity of construction and installation vessels. This may require at least some of the vessels transiting through the SWDA to implement minor adjustments from the most direct transit route through the SWDA in order to use the transit/fishing corridors created by the WTG/ESP layout in the SWDA.

Table 3-2 Estimated Increase in Fishing Vessel Transit Distances and Times with Re-Routing Around the SWDA and Lease Area OCS-A 0501

Transit Route	Increase in Distance (NM)	Average Increase in Transit Time (minutes)	Percentage Increase in Transit Time
Transit 1 (blue)	1.6	12	2%
Transit 2 (orange)	3	24	4%
Transit 3 (yellow)	0.8	6	1%
Transit 4 (red)	1.5	12	2%
Transit 5 (green)	5.8	46	7%

Notes:

1. Data source is Baird 2021.

It is not possible to predict how many annual transits through the SWDA may be rerouted around the SWDA during and after construction. For purposes of illustrating potential economic exposure, therefore, it is assumed here that 100% of annual fishing vessel transits through the SWDA will reroute around the SWDA.

As shown in Figure 3-2 and Table 3-2, at a typical steaming speed of 7.6 knots, the expected increase in transit time around the SWDA between major fishing ports and important fishing areas ranges from 6 minutes to 46 minutes. If each of the 422 annual transits through the SWDA were rerouted around the SWDA, and those transits experienced the maximum estimated increase in transit time of 46 minutes, the increase in annual fleetwide transit time would be 324 hours. Assuming the average fishing vessel steaming at 7.6 knots consumes fuel (diesel) at a rate of 25 gallons per hour and purchases diesel fuel at a dockside price of $5.00 per gallon, this additional transit time would add approximately $57.50 to fuel costs per transit and add $24,265 to annual fleet-wide fuel-based transit costs for AIS-equipped vessels.

This estimate of a $24,265 increase in annual fleetwide transit cost if all current annual transits through the SWDA were to detour around the SWDA, is sensitive to assumptions about steaming speeds, fuel consumption rates, and fuel prices, and does not reflect operating costs other than fuel costs or the opportunity cost of any lost fishing time resulting from longer transit times. However, as Table 3-5 illustrates, increases in typical transit times associated with rerouting around the SWDA result in relatively minor increases in overall transit times even if all current transits through the SWDA were to reroute around it. From a fleetwide perspective, therefore, factoring in potential transit cost impacts beyond fuel costs described above will be more than offset by a reduction in estimated costs if the extreme assumption that all fishing vessels that currently transit through the SWDA will be transiting around the SWDA is relaxed. In fact, most vessels that currently transit through the SWDA can be expected to continue transiting through rather than around the SWDA and therefore can be expected to experience little to no increase in transit times or costs.

4 CONCLUSIONS

BOEM refers to economic exposure as "a starting point to understanding potential *economic impacts* … if a harvester opts to no longer fish in the area and cannot recapture that income in a different location" (BOEM 2021a). Section 2 of this report developed $622,863 as an estimate of full annual economic exposure in the Lease Area and $14,748-$16,532 is an estimate of economic exposure during cable installation in the OECC. However, lost fishing revenues would be as high as these estimates of economic exposure only if fishing vessels generate no fishing revenues when they are precluded from fishing in parts of the Lease Area or the OECC. This requires assuming that they will either stay in port or remain idle at sea or will continue fishing while generating no fishing revenues. All of these responses to the areas impacted by New England Wind are highly unlikely because they would require all fishing vessel owner/operators who typically operate in the Lease Area or OECC to act in an economically irrational manner.[11] Economic impact estimates based on estimates of economic exposure presented in this report will be determined based on updated BOEM guidance and consultations with the states through the CZMA review processes.

[11] A basic tenet of economics is that businesses will continue to operate in the short-term as long as revenues (e.g., ex-vessel value of landings) exceed operating costs (e.g., trip expenses), which allows net operating profits to offset at least some fixed costs. It is highly unlikely that the limited areas and durations of fishing preclusions associated with New England Wind would cause fishermen to cease fishing (return to port or remain idle at sea), as opposed to diverting fishing effort away from impact areas. In many meetings related to Vineyard Wind 1, commercial fishermen themselves acknowledged that fishing will likely continue in or at least around offshore wind farms.

5 REFERENCES

[ASMFC] Atlantic States Marine Fisheries Commission. [date unknown]. Jonah crab. [accessed 2021 Mar 24]. http://www.asmfc.org/species/jonah-crab

[Baird] W.F. Baird & Associates Ltd. 2021. New England Wind Navigation Safety Risk Assessment.

[BOEM] Bureau of Ocean Energy Management. 2018. Vineyard Wind Offshore Wind Energy Project Draft Environmental Impact Statement. BOEM. OCS EIS/EA BOEM 2018-060. US Department of the Interior, Bureau of Ocean Energy Management, Headquarters, Herndon, VA. https://www.boem.gov/Vineyard-Wind-EIS/

[BOEM] Bureau of Ocean Energy Management. 2020. Renewable energy GIS data: Socio-economic impact of Outer Continental Shelf wind energy development on fishing in the U.S. Atlantic. https://www.boem.gov/renewable-energy/mapping-and-data/renewable-energy-gis-data

[BOEM] Bureau of Ocean Energy Management. 2021a. Vineyard Wind 1 Offshore Wind Energy Project Final Environmental Impact Statement. OCS EIS/EA BOEM 2021-0012. https://www.boem.gov/vineyard-wind

[BOEM] Bureau of Ocean Energy Management. 2021b. Vineyard Wind 1 Terms and Conditions of COP Approval Letter. https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf

Kirkpatrick AJ, Benjamin S, DePiper GD, Murphy T, Steinback S, Demarest C. 2017. Socio-economic impact of outer continental shelf wind energy development on fisheries in the U.S. Atlantic, Vol. I – Report Narrative. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Atlantic OCS Region.

Washington, D.C. OCS Study BOEM 2017-012.

Volume I: https://espis.boem.gov/final%20reports/5580.pdf

Volume II: https://espis.boem.gov/final%20reports/5581.pdf

NOAA Fisheries. 2022. Socioeconomic impacts of Atlantic offshore wind development. [updated December 2022; accessed January 2023]. https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development

NOAA Fisheries. 2023. Landings and revenue data (2008-2021) processed by Greater Atlantic Regional Office, provided to Epsilon Associates, February 2023.

[USCG] United States Coast Guard. 2020. The areas offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS). USCG-2019-0131. https://www.regulations.gov/document?D=USCG-2019-0131-0101

Raoux A, Tecchio S, Pezy JP, Lassalle G, Degraer S, Wilhelmsson D, Cachera M, Ernande B, Le Guen C, Haraldsson M, Grangeré K. 2017. Benthic and fish aggregation inside an offshore wind farm: Which effects on the trophic web functioning? Ecological Indicators. 72:33–46.

Riefolo L, Lanfredi C, Azzellino A, Tomasicchio GR, Felice DA, Penchev V, Vicinanza D. 2016. Offshore wind turbines: An overview of the effects on the marine environment. Presented at: 26th International Ocean and Polar Engineering Conference 2016. International Society of Offshore and Polar Engineers. 2016 June; Rhodes, Greece.

Wilber, DH, Brown L, Griffin M, DeCelles GR, Carey DA. 2022. Demersal fish and invertebrate catches relative to construction and operation of North America's first offshore wind farm. ICES Journal of Marine Science. 79:1274–1288.

Wilhelmsson D, Malm T, Ohman M. 2006. The influence of offshore windpower on demersal fish. ICES Journal of Marine Science. 63:775–784.

APPENDIX A – ECONOMIC EXPOSURE OF FOR-HIRE RECREATIONAL FISHERIES TO THE NEW ENGLAND WIND LEASE AREA

1 INTRODUCTION

For-hire recreational fishing vessels include both "charter boats" that take small groups of fishers (usually six or fewer) who hire or "charter" the vessel and "headboats" that take multiple individual anglers (usually more than 6) and/or small groups of anglers on a fee per person basis.

Figure 2.1 depicts for-hire fishing areas south of Martha's Vineyard used by recreational fishing vessels based in Massachusetts and Rhode Island, as identified by Woods Hole Oceanographic Institute's (WHOI) 2022 survey of Massachusetts- and Rhode Island-based charter vessel operators (Kite-Powell et al. 2023a, 2023b). The New England Wind Lease Area OCS-A 0534 (Lease Area) is located in this ocean area. Activities within the Lease Area may temporarily prevent for-hire recreational fishing vessels from operating in the Lease Area. If for-hire recreational fishing vessels are temporarily prevented from accessing certain fishing areas and they cannot earn angler fees by redirecting fishing activity to other fishing areas, they could lose vessel revenues resulting from reduced fishing time and lost angler days.

Based on BOEM guidance, "economic exposure refers to potential economic impacts, not predicted or expected economic impacts" and BOEM refers to economic exposure as "a starting point to understanding potential economic impacts of future offshore wind project development if a harvester opts to no longer fish in the area and cannot recapture that income in a different location" (Kirkpatrick et al. 2017). This report develops estimates of the annual economic exposure of for-hire recreational fishing vessels based in Massachusetts and Rhode Island to the Lease Area. These estimates are based on the best available data related to the annual number of for-hire fishing vessel trips within the Lease Area, expected number of anglers on those trips, and expected vessel revenues per angler.

2 DATA SOURCES

There are two potential sources of reliable and current data regarding for-hire fishing activity in and around the Lease Area. The first is a website (*Socioeconomic Impacts of Atlantic Offshore Wind Development*) that was developed by NOAA Fisheries and includes estimates of annual fishing revenues in each offshore wind lease area in New England and Mid-Atlantic waters (NOAA Fisheries 2023). The second is a set of reports prepared in 2023 by WHOI Marine Policy Center that estimate economic exposure from the Revolution Wind Lease Area and the federal waters section of the Revolution Export Cable Route (Kite-Powell et al. 2023a, 2023b). The WHOI reports include figures and data based on a 2022 survey that addressed for-hire fisheries in a broad area between Block Island and Nantucket, which includes the Lease Area.

2.1 NOAA Fisheries' Socioeconomic Impacts of Atlantic Offshore Wind Development Website

NOAA Fisheries' *Socioeconomic Impacts of Atlantic Offshore Wind Development* website includes annual for-hire fishing data from years 2008 through 2021 for wind lease areas in the Northeast and Middle Atlantic region, including the Lease Area. This data is based on vessel trip reports (VTRs), which include data regarding fishing locations, fishing times, catches, number of fish kept, numbers of anglers per trip, and other trip-specific information, and marine angler expenditure surveys (Lovell et al 2020; NOAA Fisheries 2023). The website includes annual data on numbers of vessels operating in each lease area and their annual fishing revenues and state-specific estimates of numbers of anglers, numbers of fish kept, and impacts on small and large businesses. However, the data table on the NOAA Fisheries website that describes for-hire fishing activity in the Lease Area shows "no trips" for seven of the 14 years between 2008 and 2021 and "suppressed" for the other seven years (where "suppressed" means that fewer than three vessels reported trips to the Lease Area which prevents NOAA Fisheries from releasing trip data in order to meet the "rule of three" confidentiality standard). It is significant that NOAA Fisheries data indicates that there was little to no for-hire recreational fishing in the Lease Area over the past 14 years. However, the lack of specific information on the NOAA Fisheries website about for-hire recreational fishing that does take place in the Lease Area results in it providing no basis for assessing economic exposure.

2.2 Woods Hole Oceanographic Institute's 2022 Survey of Massachusetts- and Rhode Island-based Charter Vessel Operators

In 2023 WHOI released two reports that estimate the economic exposure of commercial and for-hire recreational fishing fleets based in Massachusetts and Rhode Island to the Revolution Wind development (Lease Area OCS-A 0486). These reports present the results of a 2022 survey of charter vessel operators based in Massachusetts and Rhode Island regarding their operations during 2017-2022 in the area south of Martha's Vineyard which includes both the Revolution Wind Lease Area and the Lease Area (Figure 2-1; Kite-Powell et al. 2023a, 2023b).

While the analysis presented in these WHOI reports is focused on fishing in and around the Revolution Wind project area, the 2022 survey of Massachusetts- and Rhode Island-based charter vessel operators asked charter vessel operators to provide fishing locations within the waters south of Rhode Island and Massachusetts, which includes the Lease Area. Figure 2-2, for example, is a chart from one of the WHOI reports which shows the locations of fishing areas in the ocean area between Block Island and Nantucket that were identified by for-hire fishing boat owner/operators as part of a 2022 WHOI survey.

Because the NOAA Fisheries for-hire fisheries data for the Lease Area are not useful for purposes of estimating economic exposure, some of the data presented in these WHOI reports are extrapolated in the following section to estimate the economic exposure of for-hire recreational fishing vessels to offshore wind energy development in the Lease Area.

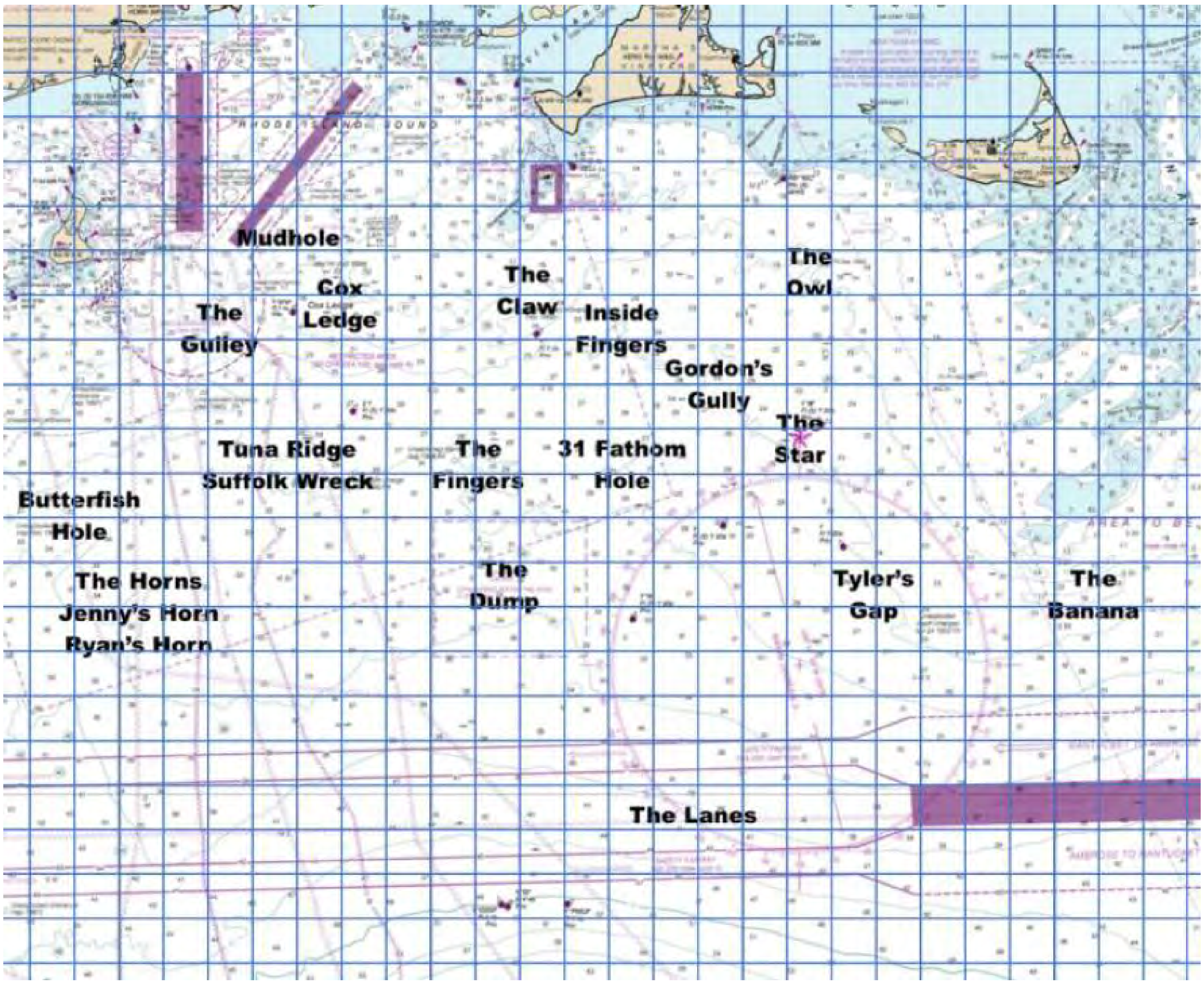


Figure 2-1 2022 WHOI For-Hire Recreational Fisheries Survey Area

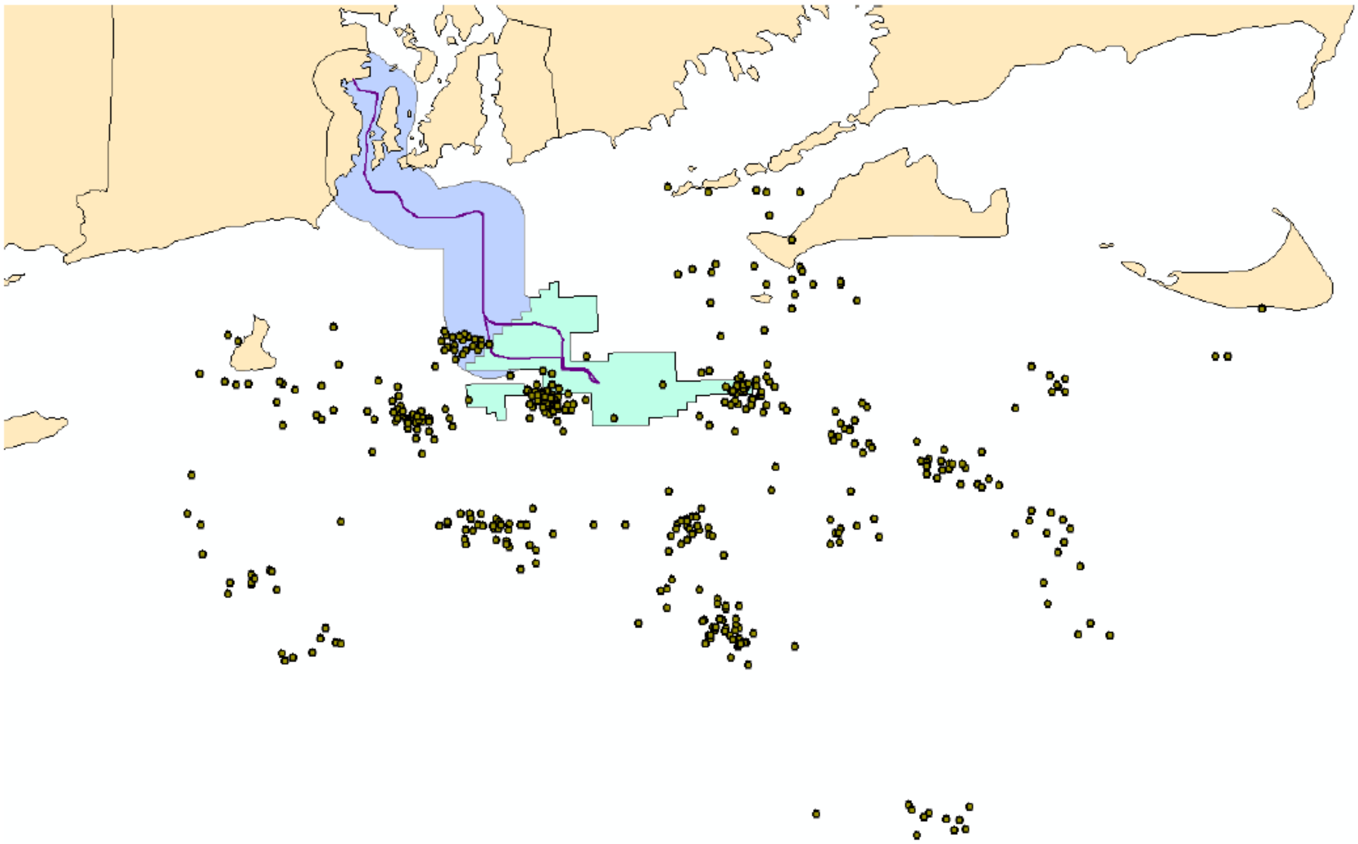


Figure 2-2 Charter Fishing Locations (2017-2022) Identified in the 2022 WHOI Survey Area

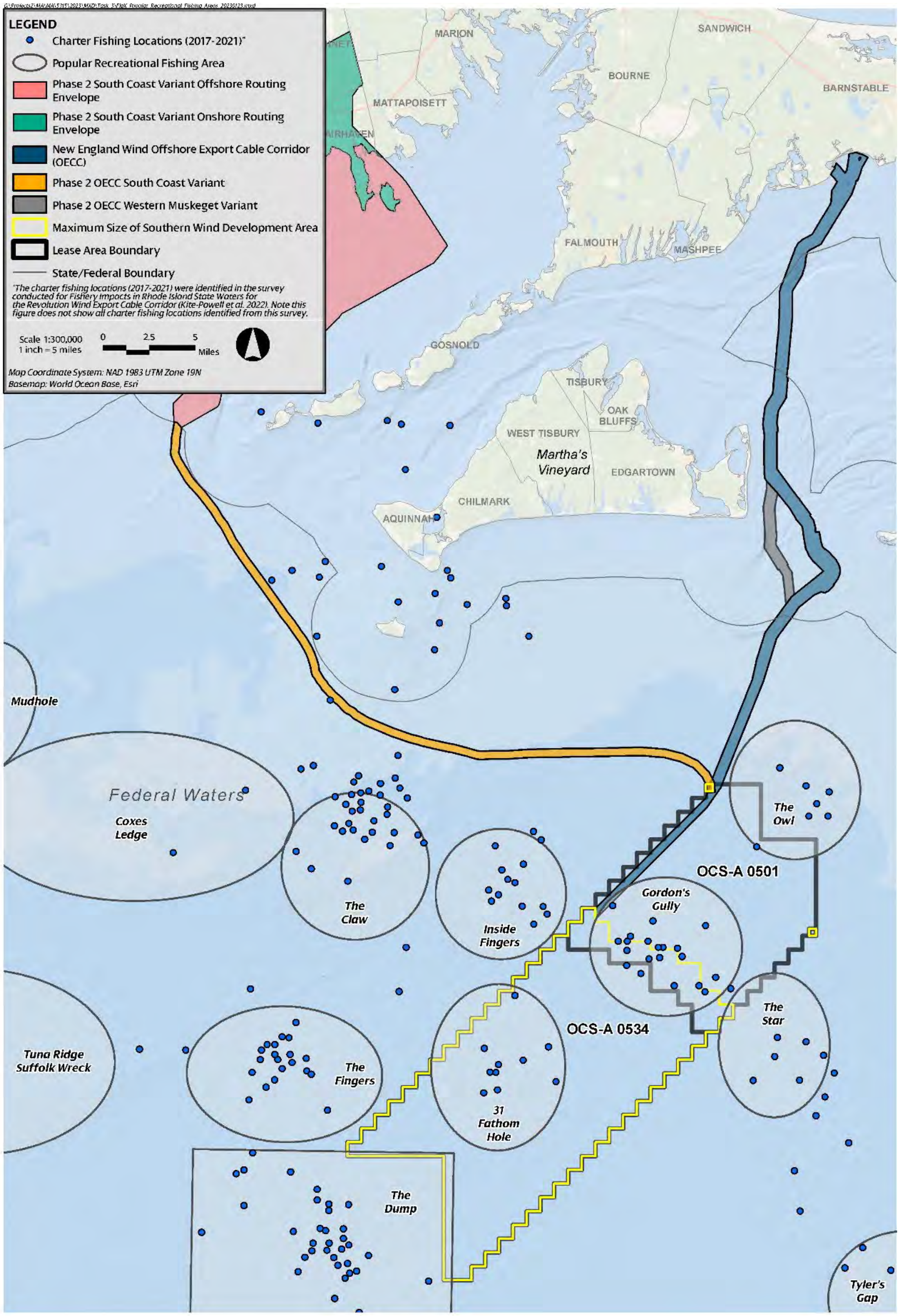


Figure 2-3 Charter Fishing Locations (2017-2022) Identified in the 2022 WHOI Survey Area with the New England Wind Offshore Development Area

3 APPROACH TO ESTIMATING ECONOMIC EXPOSURE IN THE FOR-HIRE FISHERY

The approach used to estimate annual economic exposure of for-hire recreational fishing in the Lease Area can be described as follows:

Let:

EE_{NEW} = Annual Economic Exposure in the New England Wind (NEW) Lease Area

where:
EE_{NEW} = (a) x (b) x (c)
and:
(a) = average annual number of for-hire fishing vessel trips to the Lease Area,
(b)= average number of anglers per for-hire fishing trip, and
(c)= average for-hire vessel revenues per angler.

This simple approach involves developing estimates of (a), (b), and (c) and multiplying them together to arrive at EE_{NEW}. The WHOI reports provide a reasonable basis for estimating (a) and (b) for the Lease Area and a 2013 NOAA Fisheries reference document provides a basis for estimating (c).[12]

Based on interviews with for-hire fishing vessel captains WHOI researchers estimated that approximately 100 for-hire vessels operate in the waters depicted in Figures 2-1. The 2022 WHOI survey of for-hire vessel owner/operators resulted in 66 vessels reporting that they fish in the survey area shown in Figure 2-1. Sixty-two of these vessels or 62% of the 100 vessels estimated to be operating in this area provided vessel names, including 37.5 vessels based in Massachusetts and 24.5 vessels based in Rhode Island. Assuming a fairly uniform survey response rate for the two states, the 100 vessels estimated to be operating in the area depicted in Figure 2-1 include 60.5 vessels based in Massachusetts and 39.5 vessels based in Rhode Island.

As part of the WHOI survey, for-hire fishing vessel operators identified approximately 381 specific fishing areas in the survey area as shown in Figure 2-2 and reported that the average number of annual fishing trips per for-hire vessel is 47.3 and the average number of anglers per trip is 5.41. These figures indicate that 4,730 is a reasonable estimate of the average number of annual vessel trips to the survey area and 25,589 is a reasonable estimate of the average number of annual angler trips to the survey area.

Figure 2-3 shows the New England Wind Offshore Development Area superimposed on Figure 2-2, which shows the fishing areas identified in the WHOI survey. Of the 381 specific fishing areas identified in the WHOI survey area, 14 fishing areas or approximately 3.7% are shown in Figure 2-3 to be located within the Lease Area. If for-hire fishing activity is distributed fairly uniformly across the fishing areas identified

12 The WHOI reports used average vessel revenues per angler of $106.22 (2019$) based on average VTR data for charter and headboats in the Revolution Wind Lease Area (Kite-Powell et al. 2023a, 2023b). However, based on feedback from Massachusetts Division of Marine Fisheries staff, the average vessel revenues per angler used in this analysis is $184.74 (2021$) which is the per-person share of a typical full day charter trip as estimated by NOAA in Steinback and Brinson (2013).

in the WHOI survey, this implies that approximately 3.7% of that fishing activity takes place in the Lease Area. That results in 175 average annual for-hire fishing vessel trips and 947 annual angler trips to the Lease Area.

4 ESTIMATES OF ECONOMIC EXPOSURE

Table 4-1 develops estimates of the annual economic exposure of for-hire recreational fishing vessels in the Lease Area based on the analysis described in Section 3. Based on that analysis, the average annual number of for-hire recreational fishing vessels operating in the Lease Area is 175 (a= 175), the average number of anglers per vessel is 5.41 (b=5.41), and average vessel revenues per angler is $184.37 (c=$184.37), which results in annual economic exposure in the Lease Area, that is (a x b x c), of $174,552. Assuming uniform Rhode Island and Massachusetts response rates to the WHOI survey, approximately 60.5% of the for-hire vessels that fish in the survey area are based in Massachusetts and 39.5% are based in Rhode Island which means the economic exposure of for hire recreational fishing vessels in the Lease Area is approximately $105,729 for vessels based in Massachusetts and $68,823 for vessels based in Rhode Island.

Table 4-1 Estimates of the Annual Economic Exposure of For-hire Recreational Fishing Vessels in the Lease Area

State	For-hire Vessels Operating Annually in Survey Area[1]	Average Annual Trips per Vessel[2]	Total Annual Trips by For-hire Vessels in Survey Area	Total Annual Trips by For-hire Vessels in Lease Area[3]	Average Number of Anglers Per Trip[2]	Revenue per Angler ($2021)[4]	Total Annual For-hire Fishing Revenue in Lease Area
Massachusetts	60.5	47.3	2,862	106	5.41	$184.37	$105,729
Rhode Island	39.5	47.3	1,868	69	5.41	$184.37	$68,823
Total	100	47.3	4,730	175	5.41	$184.37	$174,552

Notes:

1. The WHOI survey report indicated that approximately 100 vessels actively engage in for-hire fishing in the waters depicted in in the survey area (Figure 2-1; Kite-Powell et al. 2023a, 2023b). The WHOI reports indicate that the for-hire survey covered 62 for-hire vessels that fish in the survey area, which would be 62% of the 100 vessels in the for-hire fleet that fish in the survey area. The 62 vessels surveyed included 37.5 vessels based in Massachusetts and 24.5 vessels based in Rhode Island (Kite-Powell et al. 2023a, 2023b). If the 37.5 Massachusetts-based for-hire vessels surveyed and the 24.5 Rhode Island-based for-hire vessels surveyed account for 62% of the for-hire fleets from those two states that operate in the waters depicted in the survey area (Figure 2-1), 60.5 of those vessels are based in Massachusetts and 39.5 are based in Rhode Island.
2. Values are from Kite-Powell et al. 2023a, 2023b.
3. Approximately 14 fishing locations, or 3.7% of the total 381 fishing locations identified in the WHOI survey, were identified as being located within the Lease Area (See Figure 2-3).
4. Revenue per angler estimate is based on the per angler revenue earned on a typical full day charter trip as reported in Steinback & Brinson 2013.
5. All values have been deflated to 2021 dollars.

5 REFERENCES

Kirkpatrick AJ, Benjamin S, DePiper GD, Murphy T, Steinback S, Demarest C. 2017. Socio-economic impact of outer continental shelf wind energy development on fisheries in the U.S. Atlantic, Vol. I – Report Narrative. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Atlantic OCS Region. Washington, D.C. OCS Study BOEM 2017-012. https://espis.boem.gov/final%20reports/5580.pdf

Kite-Powell H, Jin D, Weir M. 2023a. Fisheries exposure in Massachusetts from the Revolution Wind Lease Area and the federal waters section of the Revolution Export Cable Route. Marine Policy Center, Woods Hole Oceanographic Institute.

Kite-Powell H, Jin D, Weir M. 2023b. Fisheries exposure in Rhode Island from the Revolution Wind Lease Area and the federal waters section of the Revolution Export Cable Route. Marine Policy Center, Woods Hole Oceanographic Institute.

Lovell, S., J. Hilger, E. Rollns, N.A. Olsen, and S. Steinback, 2020. The economic contribution of marine angler expenditures on fishing trips in the United States, 2017. NOAA Technical Memo # NMFS-F/SPO-201. https://spo.nmfs.noaa.gov/tm.htm

NOAA Fisheries. 2023. Socioeconomic impacts of Atlantic offshore wind development. [updated March 2023; accessed April 2023]. https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/rec/OCS_A_0534_New_England_Wind_rec.html

Steinback S, Brinson A. 2013. The economics of the recreational for-hire fishing industry in the Northeast United States. Northeast Fisheries Science Center reference document; 13-03. https://repository.library.noaa.gov/view/noaa/4373

Appendix 6 – New England Wind Responses to CRMC Requests for Information

June 16, 2023

Jeffrey M. Willis, Executive Director
State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Mr. Willis:

Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC (the Proponent), is pleased to provide the enclosed response to the State of Rhode Island Coastal Resources Management Council's (CRMC) questions regarding project status/mitigation efforts (CRMC File No. 2022-05-067).

CRMC's May 25, 2023 information requests are provided below followed by the Proponent's response.

Benefit to R.I. from the New England Wind Projects?

- *Provide an explicit account of direct benefits to R.I. from this project? The analysis in Appendix III-L states no direct spending is assumed to occur outside of Massachusetts or Connecticut and that there may be some indirect or induced benefits.*

  Response:

  A summary of New England Wind's benefits is provided in Section 4.1 of COP Volume III. Specifically, while the final ports to be used for New England Wind are still under evaluation, the New England Wind COP includes three potential ports in Rhode Island where activities may occur (i.e., Port of Davisville on Narragansett Bay, ProvPort on the Providence River, South Quay Terminal on the Providence River). It is likely that certain jobs and economic activities associated with New England Wind will occur in Rhode Island. Additionally, sourcing of local goods and materials may also occur from Rhode Island.

  The Proponent is currently working with the Rhode Island fishing industry in multiple ways. First, we contracted with a Rhode Island-based fishing organization as one of our company's Fisheries Representatives. Additional opportunities for collaboration with the fishing industry in Rhode Island include the use of fishermen as Onboard Fisheries Liaisons (OFLs) aboard our geotechnical and geophysical vessels, as well as the use of Rhode Island vessels as part of our fisheries and environmental survey efforts. Our 2019, 2020, 2021, and 2022 survey seasons benefited from having OFLs onboard survey vessels by assisting vessel captains in avoiding fixed gear and communicating with fishing vessel captains in the area, many of whom the OFLs knew personally. During our 2021 and 2022 survey campaigns, we also employed local fishing vessels to serve as scout vessels that worked ahead of the survey vessels to report back the fixed gear activity in an area and communicate with fishing vessels. The combination of OFLs and scout vessels working cooperatively reduced the risk of gear interactions during surveys and improved communication with the fishing industry. We are also considering expanding the use of OFLs and scout vessels during the construction phase of New England Wind as another measure to avoid the potential for gear conflict. These additional OFLs and scout vessels may include Rhode Island-based fishermen.

Boulder Relocation

- *What is your current boulder relocation plan for cable/foundation installation?*
- *CRMC's policy goal is to preserve benthic habits and the resources and users that are dependent on those habitats.*
- *The boulder relocation process's first objective should be to avoid impacts to EFH/sensitive areas.*
- *Boulders should be avoided (micro-sited around) to the maximum extent possible.*
- *Boulders that must be moved should be relocated to areas with similar seabed types/conditions within the cable corridor.*
- *Boulders that must be moved but cannot be grouped or placed in similar seabed conditions should not be placed in sensitive or complex hard bottom habitats.*
- *Boulders should be grouped together to prevent new hangs for fishers.*

Response:

A detailed discussion of boulders is provided in Section 3.2.3 of COP Vol. II. Within the SWDA seafloor conditions are very homogenous and dominated by fine sand and silt-sized sediments, with no apparent surficial boulders. For the portion of the OECC within the GLD, interpretation of the geophysical data suggests the likelihood of encountering boulder sized material 2-3 m below the seafloor is low. Within the South Coast Variant, localized concentrations of boulders are present.

As described in Sections 3.3.1.3.2 and 4.3.1.3.2 of COP Vol I, any large boulders along the final offshore export cable installation corridor would be avoided or relocated prior to cable installation, where feasible, to facilitate installation and ensure sufficient burial. A reasonable buffer of up to 5 m (16 ft) could be utilized around boulders that are avoided. This buffer size will be defined based on the appointed installation contractor's operating procedures and burial tool(s) in addition to any further engineering analysis.

It is currently anticipated that boulders larger than approximately 0.2–0.3 m (0.7–1 ft) will be avoided or relocated outside of the final installation corridor to create an installation corridor wide enough to allow the installation tool to proceed unobstructed along the seafloor. Boulder relocation is accomplished either by means of a grab tool suspended from a vessel's crane that lifts individual boulders clear of the route or by using a plow-like tool that is towed along the route to push boulders aside. Boulders will be shifted perpendicular to the cable route, where feasible, and no boulders will be removed from the OECC.

Any boulders that must be moved in order to install cables will be kept within the OECC. The locations of any relocated boulders that will protrude 6.5 feet [2 meters]) or more on the seafloor will be reported to the Bureau of Ocean Energy Management (BOEM), Massachusetts Department of Environmental Protection (MassDEP), Massachusetts CZM, RI CRMC, the US Coast Guard (USCG), National Oceanic and Atmospheric Administration (NOAA), and the local harbormaster (if within a town's jurisdiction) within 30 days of relocation. These locations will be reported in latitude and longitude degrees to the nearest 10 thousandth of a decimal degree (roughly the nearest meter), or as precise as practicable. Where technically practicable, relocated boulders will be grouped with other boulders to minimize creating new fishing hangs.

Cable Burial

- *What is the target burial depth for your export and inter-array cables?*

  Response:

  The target burial depth for all inter-array, inter-link, and offshore export cables is 1.5–2.5 m (5–8 ft) below the seafloor. The target burial depth is designed to ensure the safety of the cable at the time of installation and account for changes over the full project design life.

- *Have you selected a cable contractor, and will you be utilizing simultaneous lay and bury methods?*

  Response:

  Yes, Prysmian has been selected for the export cable installation.

  The majority of the offshore export cables are expected to be installed using simultaneous lay and bury via jetting techniques (e.g. jet plow or jet trenching) or mechanical plow. However, additional specialty techniques are retained as options to maximize the likelihood of achieving sufficient burial depth (such as in areas of coarser or more consolidated sediment, rocky bottom, or other difficult conditions) while minimizing the need for possible cable protection. Additional techniques that may be used more rarely include mechanical trenching, shallow-water cable installation vehicle, pre-pass jetting, pre-trenching, pre-lay plow, precision installation, and jetting by controlled flow excavation. For additional information, see Sections 3.3.1.3.6 and 4.3.1.3.6 of COP Volume I.

- *Please discuss how your project's Cable Burial Risk Assessment (CBRA) analyzes various risk factors including cable burial depth needed to ensure gear strikes are avoided. Larger vessels have expressed concern that their gear may strike cables if not buried sufficiently.*

Response:

New England Wind engineers have determined that the target burial depth of the cables (1.5–2.5 m (5–8 ft) below the seafloor) is more than twice the burial depth that is necessary to protect the cables from potential fishing activities and also provides a maximum of 1 in 100,000 year probability of anchor strike, which is considered a negligible risk.

The analysis in the CBRA divided the cable routes into segments based on soil conditions and vessel traffic intensity. The CBRA assessed the fluke penetration of standard anchors, as well as penetration depths of three major fishing gear types including hydraulic dredge, towed scallop dredge, and otter trawl. The probability of an anchor strike was based on vessel size and the exposure of the cable to vessel traffic. Vessel size is directly related to the anchor size, anchor penetration and anchor drag distance. The CBRA only considers anchorages in emergency cases (e.g., due to a mechanical failure or to prevent a collision).

- *Please provide maps with Loran Lines depicting the most recent WTG, inter-array cable, and export cable layout in relation to complex bottom habitat areas. (Large-grained sediments, coble stone, boulders/boulder fields, glacial moraine, glauconite sands, etc.)*

Response:

The attached map set shows Loran Lines, WTG/ESP foundations, the OECC, and complex bottom habitat areas. The SWDA consists only of soft-bottom habitat. The inter-array cable layouts are not displayed as they are not yet finalized.

Number of WTGs?

- *How many WTGs does your project intend to utilize? Size or range being considered?*

Response:

New England Wind will be developed in two Phases with a maximum of 130 wind turbine generator (WTG) and/or electrical service platform (ESP) positions. The Phase 1 Project Design Envelope (PDE) allows for 41 to 62 WTGs and one or two ESP(s). The footprint and total number of WTG and ESP positions in Phase 2 depends upon the final footprint of Phase 1; Phase 2 is expected to contain 64 to 88 WTG/ESP positions (up to three positions will be occupied by ESPs). Table 1 provides the maximum dimensions of the WTGs.

Table 1: WTG Parameters

WTG Parameters	Phase 1 and 2 Dimensions
Maximum Tip Height	357 m (1,171 ft) MLLW[1]
Maximum Top of the Nacelle Height[2]	221 m (725 ft) MLLW
Maximum Hub Height	214 m (702 ft) MLLW
Maximum Rotor Diameter	285 m (935 ft)
Minimum Tip Clearance	27 m (89 ft) MLLW
Maximum Blade Chord	9 m (30 ft)
Maximum Tower Diameter	10 m (33 ft)

Table Notes: WTG tip height, hub height, tip clearance, and rotor diameter dimensions may not align perfectly due to rounding and unit conversions.
1. Mean Lower Low Water (MLLW) is the average height of the lowest tide recorded at a tide station each day during the recording period. Elevations relative to Mean Higher High Water (MHHW) are approximately 1 m (3 ft) lower than those relative to MLLW.
2. Height includes Federal Aviation Administration (FAA) lights and other appurtenances.

- *What company is supplying the project's WTGs? (Siemens Gamesa, GE, Vestas, etc.)*

<u>Response</u>:

The turbine supplier has not been selected yet.

Release of Project Information to Fishing Industry

- *What information will be provided to the fishing community during the construction, operation/maintenance, and decommissioning phases? (i.e., boulder locations, secondary cable protection, scour protection, foundation locations, etc.) Please explain.*

<u>Response</u>:

The Proponent maintains a project webpage to provide information on the overall status of the project, including scheduled activities and progress during development, construction, operations and maintenance, and decommissioning, and other specific project information such as the Fisheries Communication Plan. The location (i.e., coordinates) of cable and scour protection, foundations, and relocated boulders will be provided to the fishing community, as described below. Also, each WTG and ESP will be clearly identified on NOAA nautical charts. Select WTG foundations are expected to include Mariner Radio Activated Sound Signals (MRASS) that can alert approaching vessels during low visibility conditions when activated by mariners and fishermen. AIS transponders are also included in the offshore facilities' design to enhance marine navigation safety. AIS transponders will be used to mark all WTGs and ESP(s) and can be viewed on an electronic chart display and information system (ECDIS), radar overlay, or a minimum keyboard and display (MKD).

- *How will information be distributed to the fishing community and what method(s) will be used to deliver information?*

Response:

Various outreach methods and tools will be used to disseminate relevant project information to commercial and recreational fishing stakeholders. These outreach methods and tools include, but are not limited to, the following:

- Providing portable digital media with electronic charts, including downloadable electronic information on project activities for chart plotters.
- Providing regular updates of the project's location (including cable and scour protection, foundations, and relocated boulders) and guidance on limits to air draft and vessel lengths to USCG and NOAA for use in updating navigational charts (paper and electronic). Where practicable, facilitate distribution to stakeholders.
- Employing a Fisheries Liaison (FL), Fisheries Representatives (FRs), and Onboard Fisheries Liaisons (OFLs) to support offshore operations. The Proponent has organized bi-weekly meetings with FRs and holds "port hours" to share project information and discuss concerns and current issues facing the fishing industry. FRs share information through their email lists and other media channels.
- Distributing Offshore Wind Mariner Update Bulletins (OWMUs) and coordinating with the USCG to issue Notice to Mariners (NTMs) advising other vessel operators of the project's offshore activities. OWMUs will include a vessel picture, vessel contact information, a chart showing the location and approximate duration of vessel activity, OFL contact information, a scout vessel picture, and scout vessel contact information to our fisheries email list. Post OWMUs on our four main media channels—LinkedIn, Facebook, Twitter, and Instagram.
- Publicizing activities through state agencies, fishing organization websites, fish houses, harbormasters, and newsletters (e.g., Massachusetts Division of Marine Fisheries [MA DMF], Rhode Island Department of Environmental Management, Massachusetts Lobstermen's Association [MLA], sector managers, National Oceanic and Atmospheric Association port agents, Fishing Support Services navigators, etc.).
- During offshore work, sending out regular email and/or text updates detailing progress, both for work completed and upcoming work areas, to our fisheries information listserve (including MA DMF, MLA, New Bedford Port Authority [NBPA], Martha's Vineyard Fishermen's Partnership Trust [MVFPT], etc.).
- Utilizing the WATERFRONT app, a cellphone app, which shows all of the Proponent's offshore activities on an interactive map and provides a portal for fishing vessel crews and mariners to submit inquiries directly to the Proponent. Once the

WATERFRONT app is validated in the field, the goal will be for all of the MA WEA and RI/MA WEA leaseholders to contribute and adopt the tool in order for it to serve as a single location for fishermen to find information on all the MA WEA and RI/MA WEA leases, reduce email and/or text clutter, and uncertainty about offshore development activities.

- Maintaining a dedicated page on its website for fishermen (https://www.parkcitywind.com/fisheries) to provide information on the scheduled activities and information specifically for fishermen, including mariner updates of offshore vessel activity, charts, our fisheries outreach team's contact details, fisheries science initiatives and data, the latest version of the FCP, frequently asked questions (FAQs), and other relevant information.

- *Information should be released at reasonable intervals during the construction phase of the project so to minimize risk to fishers and allow them to operate within the lease area to the extent possible.*

Response:

During construction, the Proponent will send out regular email and/or text updates detailing progress, both for work completed and upcoming work areas. At present it is expected that updates will be issued at the start of each new activity and weekly thereafter. Additionally, the Proponent will distribute Offshore Wind Mariner Update Bulletins (OWMUs) and coordinate with the USCG to issue Notice to Mariners (NTMs) advising other vessel operators of the project's offshore activities. The Proponent's website for fishermen will also provide current information on the scheduled activities, mariner updates of offshore vessel activity, and updated charts. The Proponent will continue to evaluate communication methods and may make updates on communication strategies (such as using the WATERFRONT app or other tools) based on feedback from fishermen and other stakeholders.

Communication Between Construction/Guard (scout) Vessels and Fishers

- *There have been communication breakdowns between hired scout vessels and developers resulting in frustration, lost effort/catch, and additional distrust in the fishing community. What tangible actions are being taken to address these issues? How will similar issues that result in a negative impact to fishers (lost effort/catch) be addressed in the compensation process?*

Response:

The Proponent expects to establish temporary 500-meter safety buffers zones in the immediate vicinity of construction, operations and maintenance, and decommissioning activities in coordination with the USCG. Prior to the start of these activities, this expectation will be clearly communicated throughout the company and those working for the company, including the hired scout vessels, through required training. This information will also be shared with the fishing community through the information channels mentioned above.

While the compensation approach is currently being developed, estimates of economic exposure of fisheries to project activities include conservative assumptions, such as the use of a 1 km safety buffer zone to calculate the economic exposure during OECC installation. The Proponent will continue to engage with CRMC staff and the Fisheries Advisory Board to develop the compensation approach.

Subj. Matter Expert Review Status

- *What is the status of engaging Doctor King and Doctor Oakley to review benthic conditions in the lease area and the South Coast Variant?*

Response:

The Proponent has reached out to Dr. King and Dr. Oakley and has an introductory meeting scheduled for June 22nd to discuss available data and scope of their review.

We hope that this provides the CRMC with the information needed to complete its federal consistency review for New England Wind. Please let us know if additional information is needed.

Sincerely,

Stephanie Wilson
Director – Permitting, Offshore

cc: Christina Hoffman, Avangrid
Mark Roll, Avangrid

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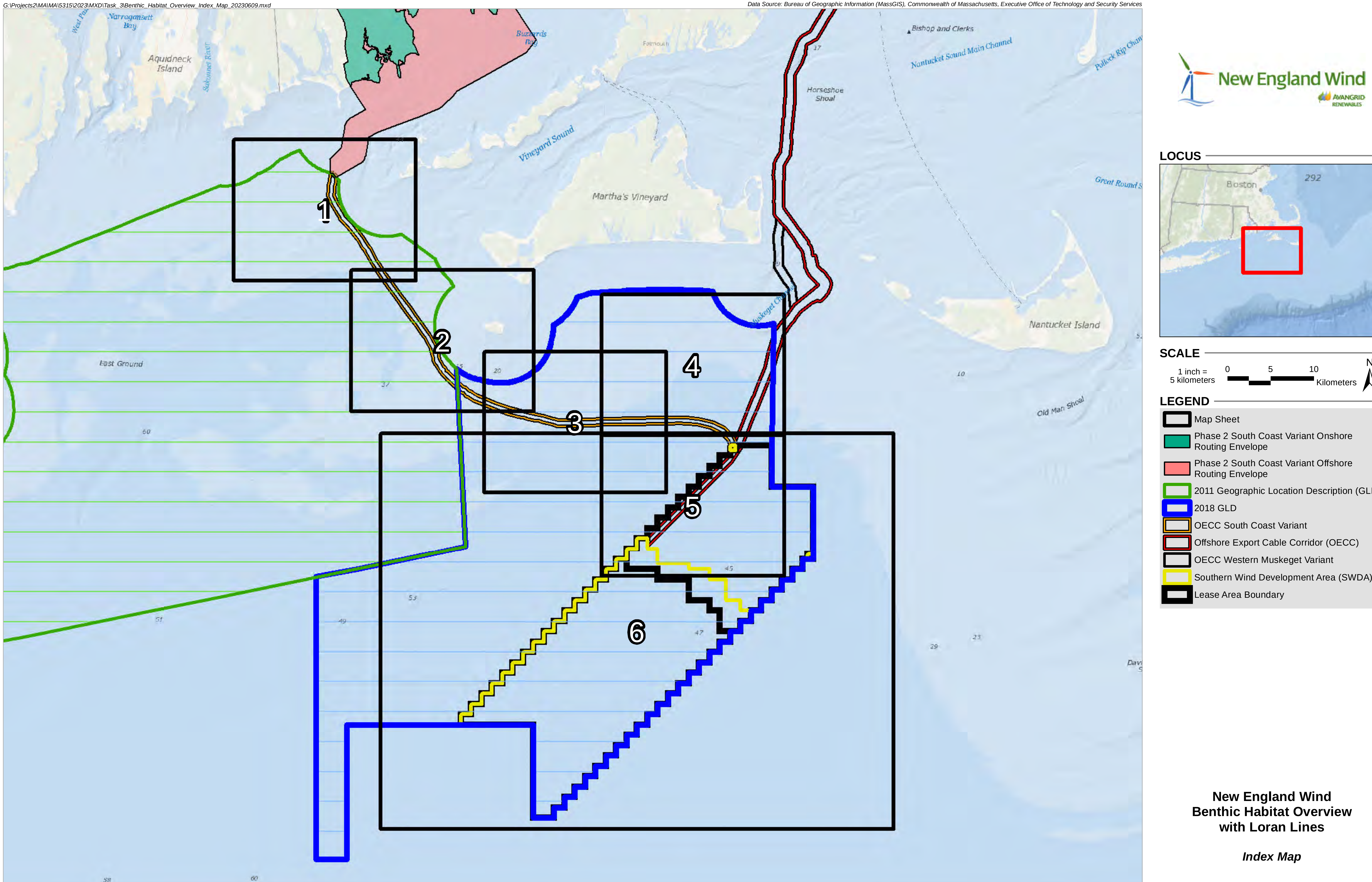
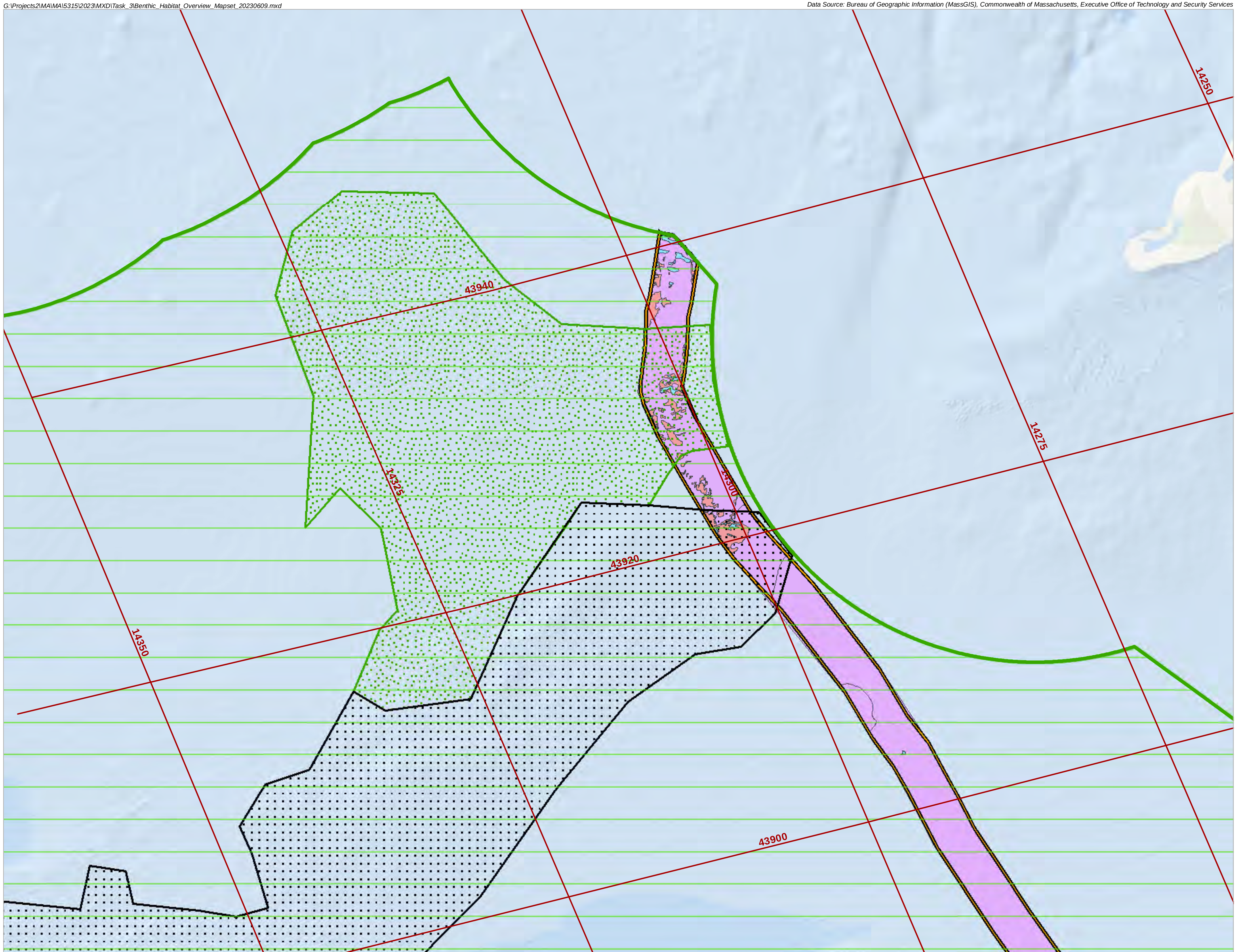
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
Benthic Habitat Overview
with Loran Lines

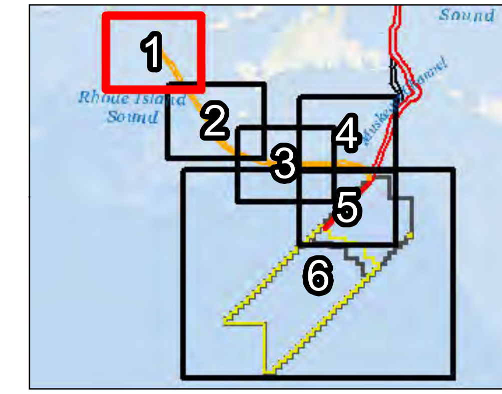
Index Map

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
AVANGRID RENEWABLES

LOCUS



SCALE

1 inch = 1.6 kilometers

0 0.8 1.6 Kilometers

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LEGEND

- Loran-C Lines
- 2011 Geographic Location Description (GLD)
- 2018 GLD
- OECC South Coast Variant
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- OECC Western Muskeget Variant
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- WTG or Electrical Service Platform (ESP) Positions
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- Complex Habitats
- Heterogeneous Complex Habitats
- Soft Bottom Habitats

RI Samp Data

- End Moraine – Blocky
- End Moriane – Boulder
- End Moriane – Boulder, Cobble, Sand

New England Wind
Benthic Habitat Overview
with Loran Lines

Map Sheet 1 of 6

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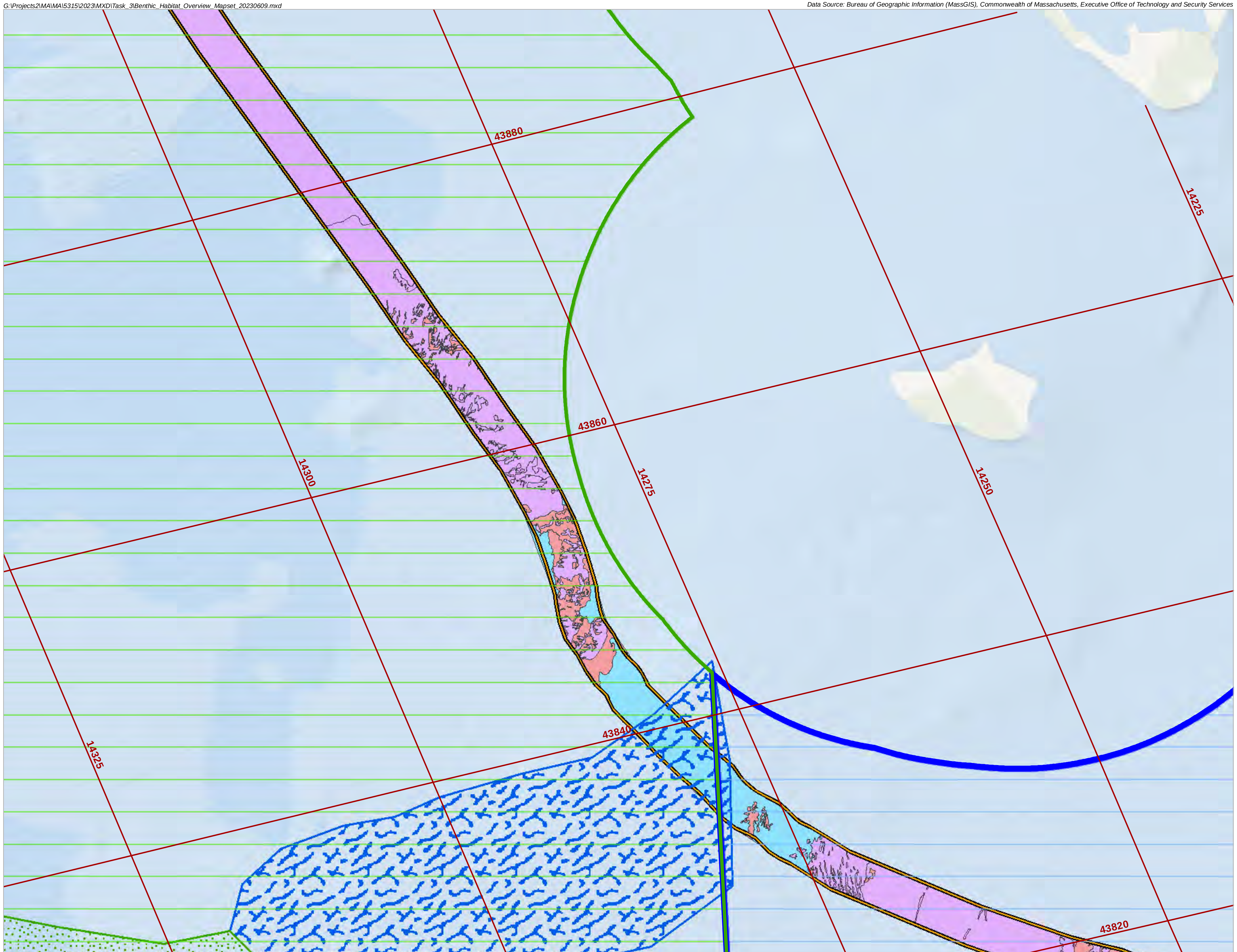
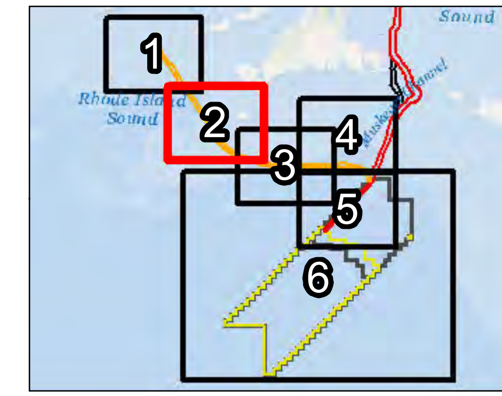
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
AVANGRID RENEWABLES



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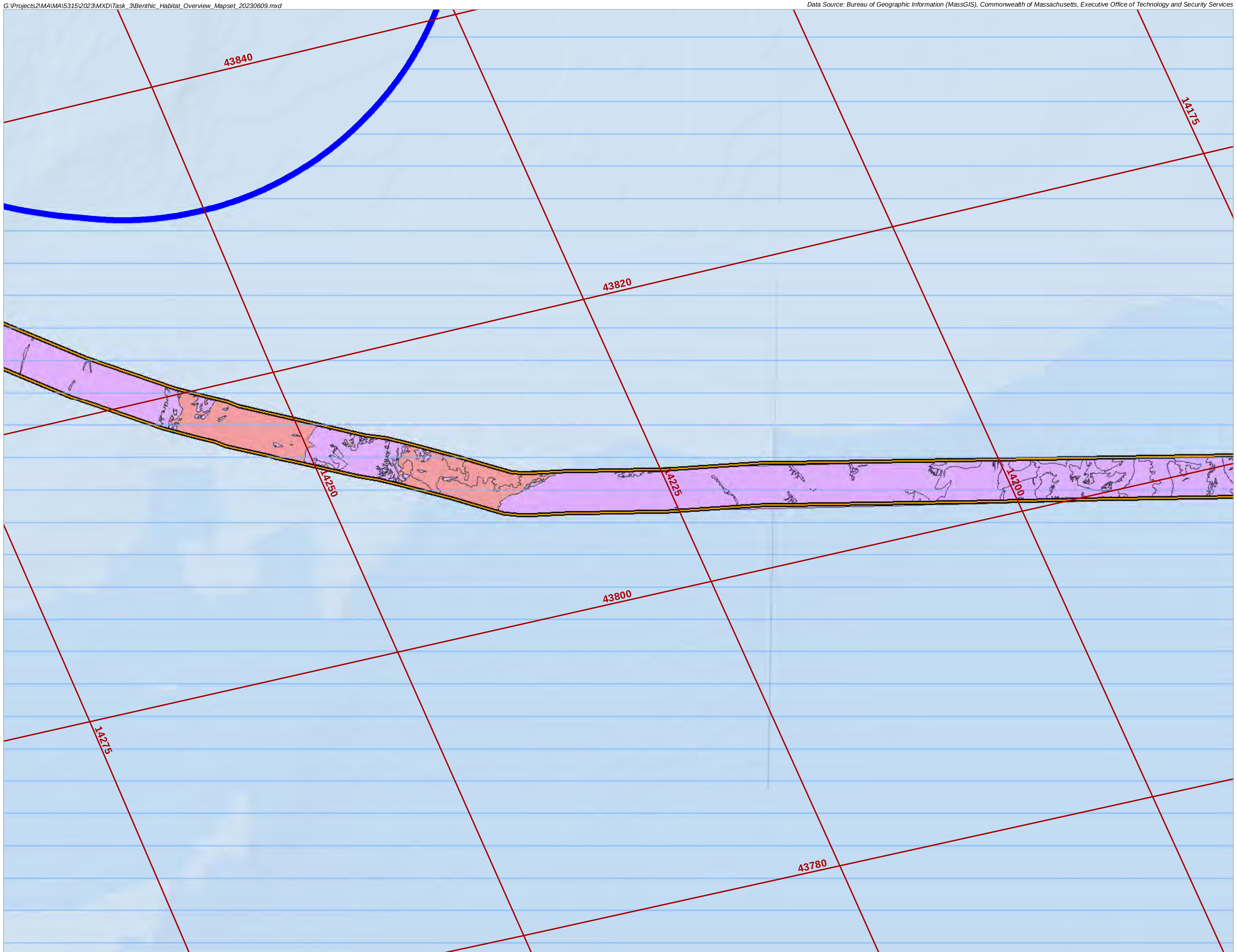
New England Wind
Benthic Habitat Overview
with Loran Lines

Map Sheet 2 of 6

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



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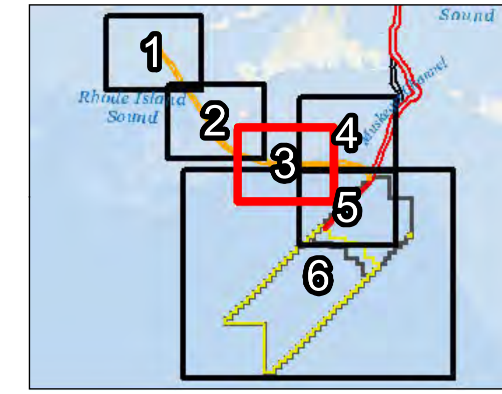

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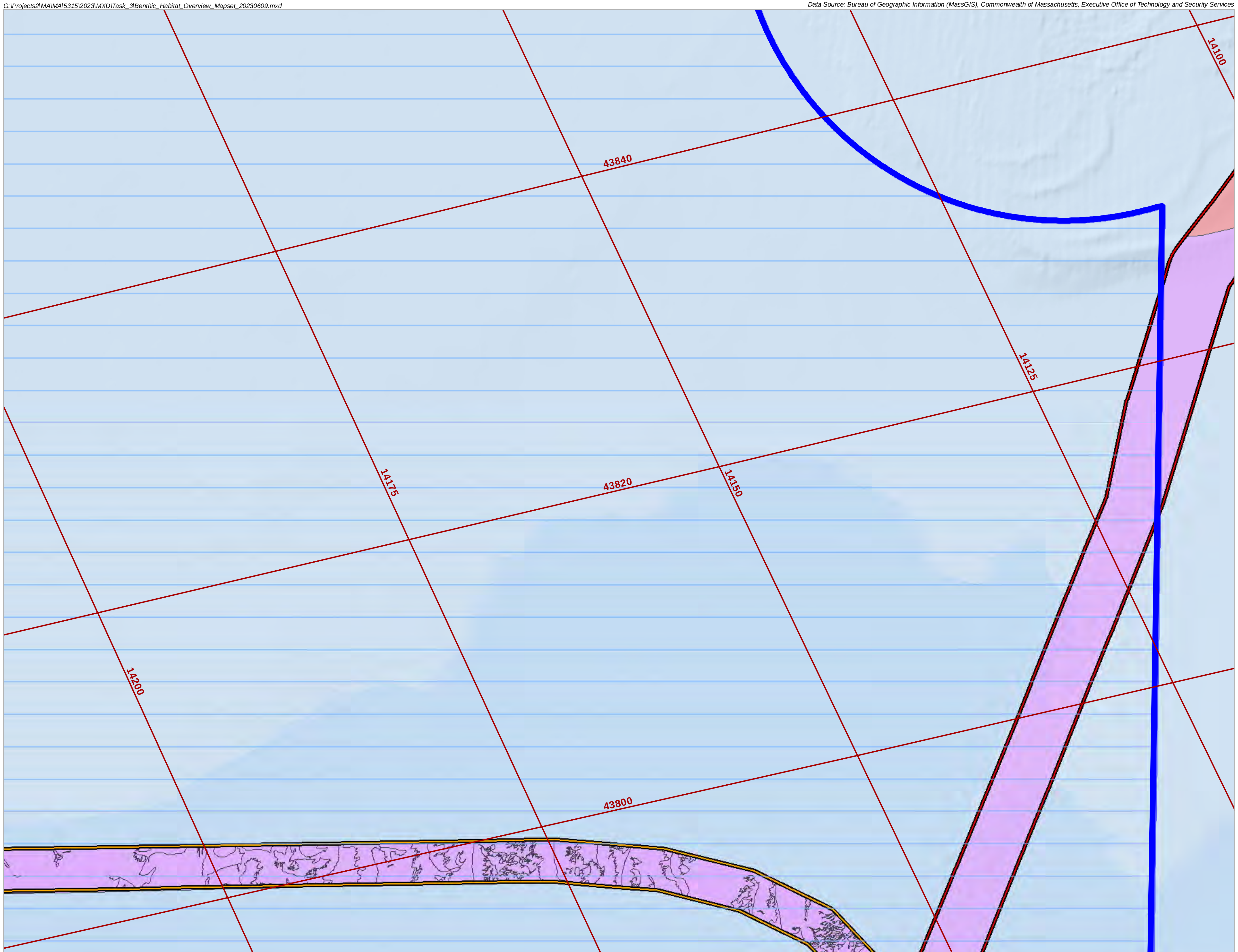
New England Wind
Benthic Habitat Overview
with Loran Lines

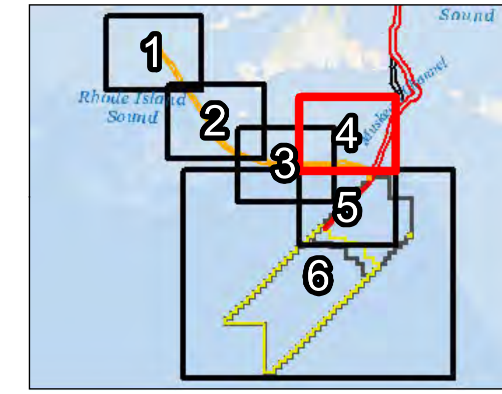
Map Sheet 3 of 6

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
AVANGRID RENEWABLES

LOCUS



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New England Wind
Benthic Habitat Overview
with Loran Lines

Map Sheet 4 of 6

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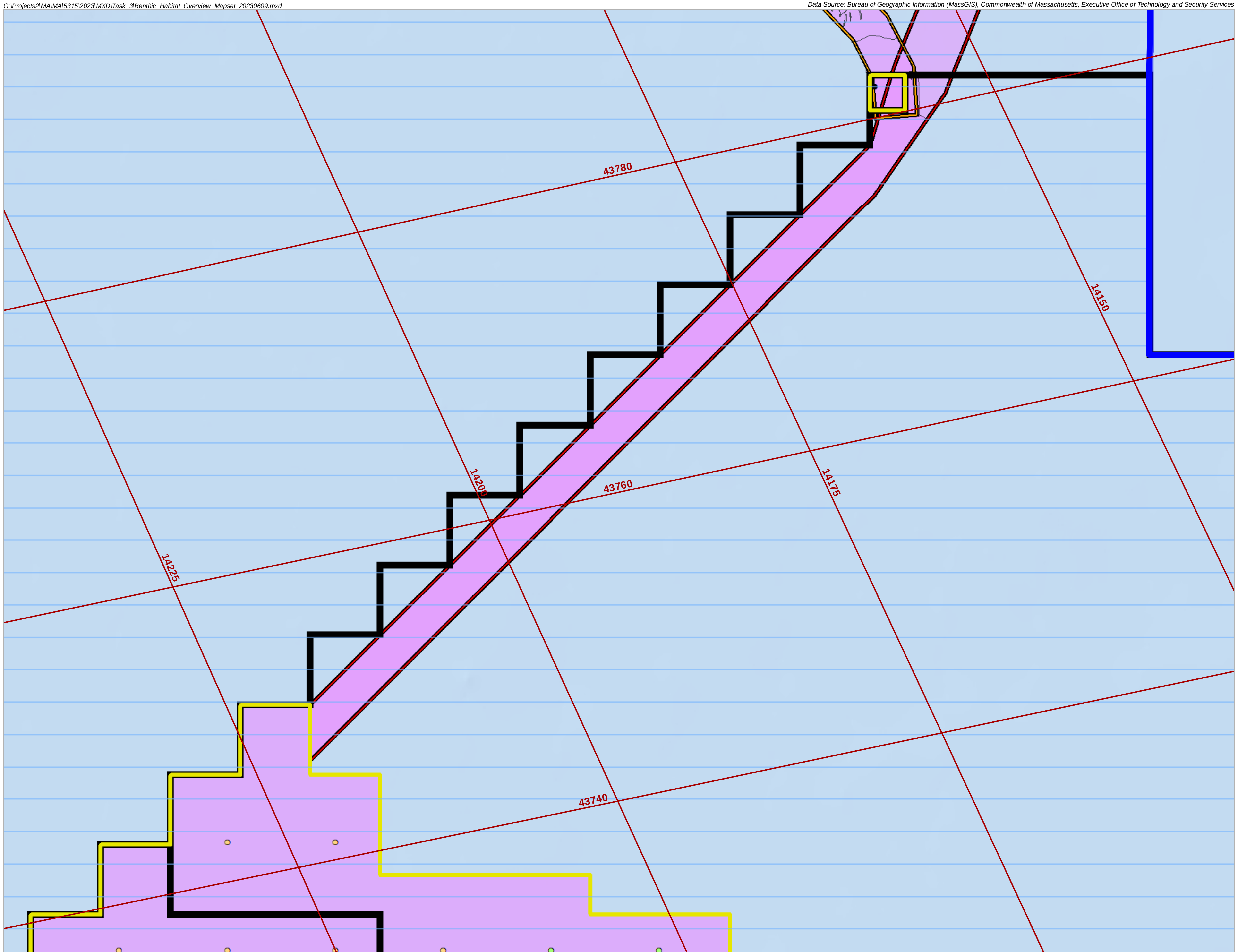
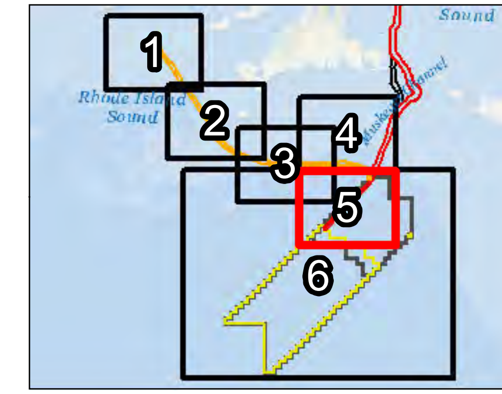


New England Wind
AVANGRID RENEWABLES

LOCUS



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New England Wind
Benthic Habitat Overview
with Loran Lines

Map Sheet 5 of 6

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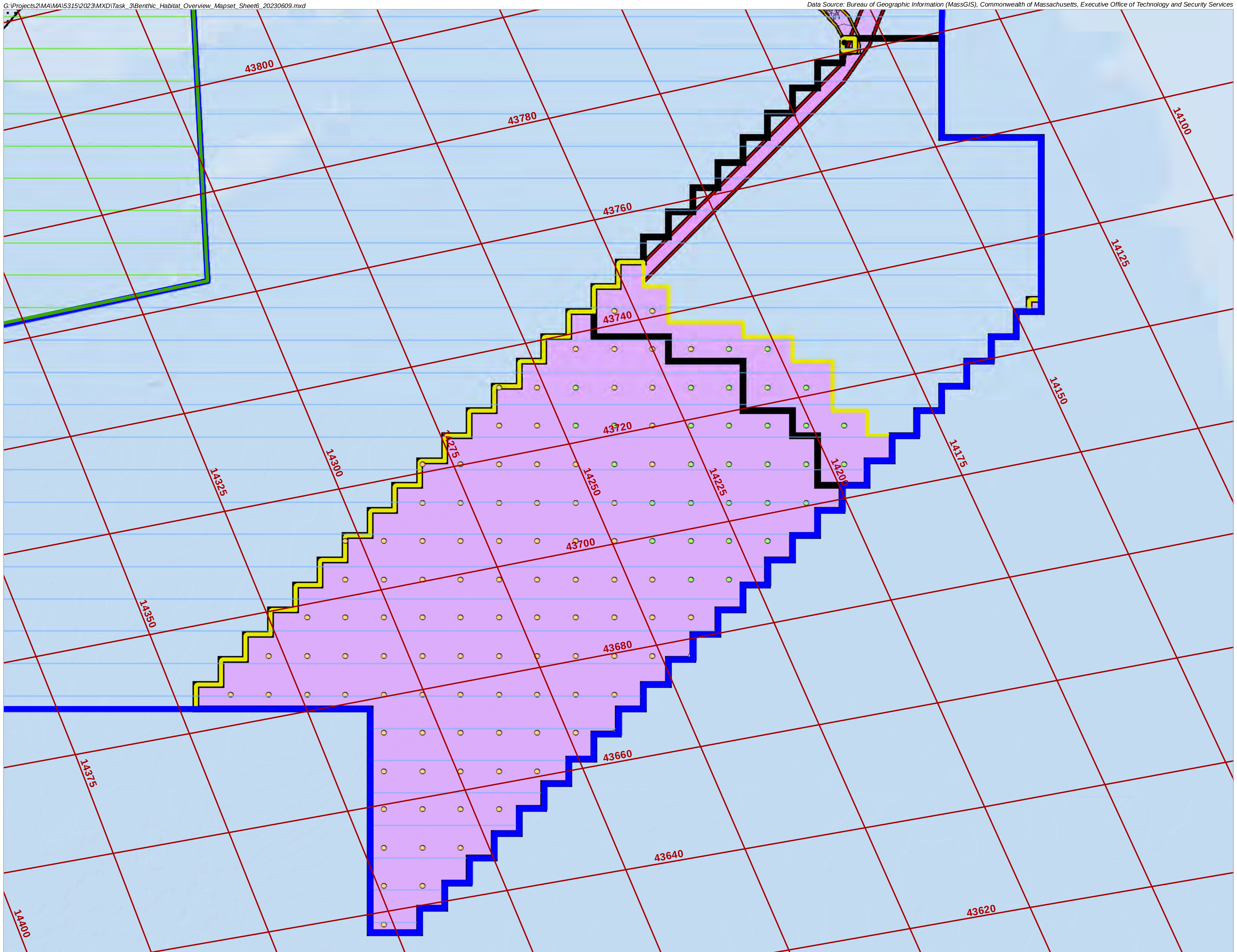
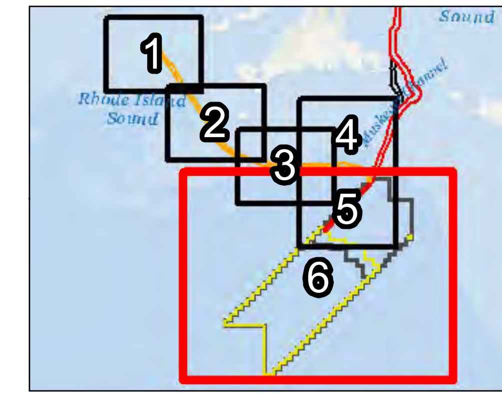
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New England Wind
AVANGRID RENEWABLES

LOCUS



SCALE

1 inch = 4.5 kilometers

0 2.25 4.5 Kilometers

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LEGEND

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New England Wind
Benthic Habitat Overview
with Loran Lines

Map Sheet 6 of 6

August 15, 2023

Jeffrey M. Willis, Kevin Sloan, and Bruce Lofgren
State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Messrs. Willis, Sloan, and Lofgren:

Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC (the Proponent), is pleased to provide the enclosed response to the State of Rhode Island Coastal Resources Management Council's (CRMC) questions regarding New England Wind's fisheries exposure analysis.

CRMC's August 2, 2023 questions are provided below followed by the Proponent's response.

Data and 2021 Dollars

The report is based on NOAA data from 2008-2021. Is there additional, more recent data that has since become available that can be incorporated into the baseline analysis?

Response: The most recently available data is the NOAA Fisheries landings and revenue data for 2008-2021 provided on the NOAA Fisheries Socioeconomic Impacts of Atlantic Offshore Wind Development website.[1] This data was used to estimate economic exposure of commercial fisheries in the Lease Area and OECC.

The economic exposure report was conducted in 2021 dollars. The Bureau of Labor Statistics (BLS) has calculated the Consumer Price Index (CPI) in New England at 7.1% annual average for 2021 to 2022. In 2023 CPI was estimated to be 2.4%.[2] We will also need to account for the Net Present Value of the estimates based on the year(s) construction is planned to occur. Please update the exposure results to 2023 dollars based on BLS CPI data for New England and provide a Net Present Value of the calculation based on best assumptions of when the construction will occur.

Response: The economic exposure analysis was calculated in 2021 dollars in order to be consistent with the NOAA Fisheries landings and revenue data for 2008-2021 provided on the NOAA Fisheries Socioeconomic Impacts of Atlantic Offshore Wind Development website, which is also available in 2021 dollars. In addition to the economic exposure report previously provided to CRMC, the Proponent continues to refine the economic impact assessment based on stakeholder input and will report on the economic exposure estimate in 2023 dollars as calculated using the

[1] https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/ALL_WEA_BY_AREA_DATA.html
[2] https://www.bls.gov/regions/northeast/data/xg-tables/ro1xg01.htm

GDP Implicit Price Deflator,[3] which is consistent with how NOAA Fisheries estimates the revenue values for lease areas on the NOAA Fisheries Socioeconomic Impacts of Atlantic Offshore Wind Development website. For reference, the updated economic exposure value of the Lease Area is $684,289 and $16,202 for the OECC for installation of five offshore export cables (2023 dollars; GDP Implicit Price Deflator values were applied up to April 1, 2023). The Proponent will also provide a Net Present Value of the calculation based on best assumptions of when the construction will occur in an economic impact assessment.

Recreational for-hire fishing and recreational fishing were not accounted for in the analysis. Can you explain why?

Response: An overview of the assessment of recreational for-hire fishing was provided to CRMC in a presentation on June 12, 2023, and a report with the details of this assessment is attached to this letter. An assessment of recreational fisheries is provided in Section 7.5 (Recreation and Tourism) of COP Volume III.

Direct Exposure

Vessels will not be restricted from operating in or transiting through the lease area or OECC beyond the temporary safety zones. Is this considered a mitigating factor when calculating the exposure?

Response: The economic exposure of commercial fisheries to the Lease Area was conservatively calculated to be 100% economic exposure during construction and decommissioning. Therefore, the economic exposure was not adjusted for fishing that will still occur in the Lease Area beyond temporary safety zones during construction and decommissioning. The economic exposure of commercial fisheries in the OECC during cable installation was estimated for parts of the OECC where commercial fishing will be temporarily precluded during installation. Therefore, the fact that vessels will be allowed to fish in most of the OECC during installation is considered in the estimate of economic exposure in the OECC. Expected economic impacts for both the Lease Area and OECC are likely to be significantly lower than full economic exposure because any fishing effort temporarily precluded is likely to be diverted to other areas where it will continue generating at least some of the fishing revenues lost in the Lease Area and OECC.

Can you better explain how AIS, VTR, and VMS were used in the report?

Response: The primary data source used for estimating the economic exposure for the Lease Area and OECC is the NOAA Fisheries landings and revenue data from 2008-2021 provided on the NOAA Fisheries Socioeconomic Impacts of Atlantic Offshore Wind Development website. This data is developed from modeled Greater Atlantic Regional Fisheries Office VTRs and dealer report data, overlaid upon current offshore wind lease areas. This data provides annual landings and revenue by species, gear type, fishery management plan, port, and state within each lease area.

[3] https://fred.stlouisfed.org/data/GDPDEF.txt

AIS and VMS data were not used to develop the economic exposure estimates but were used to provide additional context on fishing activity in the area and estimate potential indirect economic exposure. More specifically, AIS data was used in this analysis to estimate the number of vessels transiting in and through the SWDA and OECC and to estimate indirect economic exposure for the SWDA, including congestion externalities and increased transit/steaming times.

VMS data was also reviewed to provide additional context and characterize commercial fishing effort in the SWDA and OECC. An overview of VMS data is provided in Section 7.6 of COP Volume III (Commercial Fisheries and For-hire Recreational Fisheries).

Section 1.3 of the report details data sources considered during the economic exposure analysis.

Is AIS the best (or only) data point that can be used to determine the number of vessels transiting in and through the lease area and cable corridors?

Response: AIS is the best, readily available data set for estimating the number of vessels transiting in and through the SWDA and OECC. As mentioned above, AIS data was used in this analysis to estimate indirect economic exposure for the SWDA including congestion externalities and increased transit/steaming times.

Lobster/Jonah Crab Multipliers – we would like to walk through this portion of the report to make sure we understand how this was calculated.

Response: The Proponent provided an overview of the lobster and Jonah crab adjustments used in the commercial fisheries analysis to CRMC during a call on August 8, 2023. Note, this is an adjustment, not a multiplier, to account for lobster and Jonah crab landings by vessels that land only these two species and do not file VTRs. Additional details are provided in Section 2.1.2 of the report.

The report states direct exposure along the OECC during construction is $14,748 - $16,532 across both project Phases based on a 1.87-year construction schedule.

- *Is it possible to understand what portion of the value range is attributable to RI fishers?*

  Response: Yes, we have developed this calculation for the portion of the OECC located within the Rhode Island GLD that is attributable to Rhode Island fishermen. The estimated economic exposure during cable installation (of five offshore export cables) of Rhode Island fishermen along the OECC located within the Rhode Island GLD is approximately $1,379 (2021 dollars) or $1,515 (2023 dollars).

- *The 1.87-year schedule is based on a 24/7 export cable installation schedule, correct? Does this schedule also account for weather, time of year restrictions, and other reasonably foreseeable delays?*

Response: Yes, the schedule assumes cable installation occurs 24/7. The 1.87-year cable installation schedule is considered realistic and accounts for weather, reasonably foreseeable delays due to weather or other restrictions on working conditions, pre-installation activities (e.g., surveys, pre-lay grapnel run), and other factors (e.g., vessel logistics of transporting cable segments to and from the site).

- *Is there an estimated construction timeframe if the maximum scenario for the SCV (3 cables over 13.5 months) occurs, along with 2 cables in the OECC? (Understanding there will be 5 cables across both Phases)*

Response: The estimated cable installation schedule for the Phase 2 OECC if two cables are installed within the OECC and three cables are installed within the South Coast Variant is 1.87 years. From the SWDA boundary (excluding the two separate aliquots that are closer to shore) through federal waters to the Massachusetts state waters boundary, the South Coast Variant is approximately 79 kilometers, which is approximately the same length as the OECC.

However, at present, the installation of more than one cable in the South Coast Variant is unlikely as the interconnection to the South Coast is limited to 400 MW, and there are no planned upgrades that would allow for interconnecting greater capacity within the timeframe contemplated for development of New England Wind. Installation of more than one cable in the South Coast Variant is only included as a potential option in the unlikely event that Phase 2 is significantly delayed.

Indirect Exposure

Are shoreside impacts not being addressed? If not, please explain.

Response: The economic exposure report does not assess economic impacts, including shoreside impacts. The Proponent is in the process of refining the economic impact assessment based on input from stakeholders. However, the Proponent does not expect fishermen to stop fishing, therefore, there would be no reduction in purchases for fishing activity and unless fishermen do not catch any fish in areas outside of the temporary safety buffer zones, there would be no shoreside impacts. The estimates used from the NFMS revenue data are gross revenue (not net revenue), which means fixed and variable costs of fishing are not removed (i.e., cost of gas, ice, bait, gear, maintenance, loans, labor, etc.). As such, the Proponent used revenue estimates to calculate economic exposure that are well above the actual income generated for fishermen (about twice as much as their actual income). NOAA fisheries estimates for net revenue (i.e., income to fishermen and vessel owners) are typically below 50% of gross revenue. This is consistent with, for example, NOAA Fisheries' *Fisheries Contingency Fund*[4] that offshore oil and gas operators are required to pay into. By paying 50% of ex-vessel value, a vessel owner can be assured of an amount of revenue to cover fixed costs and gross earnings as if a fishing trip occurred, even if no such trip occurred.

[4] https://www.fisheries.noaa.gov/national/funding-and-financial-services/fishermens-contingency-fundprogram

We understand the two sources of indirect economic exposure for the SWDA are congestion externalities and increased transit/steaming times. With regard to congestion externalities, is the report saying that because vessel traffic levels are low and a sizable amount of the fishing effort occurs outside, rather than inside, of the SWDA that no measurable amount of congestion would be caused by construction, operation/maintenance, or decommissioning activities?

Response: Due to the fact that vessel traffic levels are low and most of the fishing effort occurs outside of the SWDA, we do not anticipate a measurable amount of congestion to be caused by construction, O&M, and decommissioning. As detailed in Section 3.1, the average number of unique AIS-equipped vessels fishing in the SWDA only rose to 10 or more in the months of August (10 vessels) and September (19 vessels). On average, approximately 75% of time spent on unique fishing tracks that intersected the SWDA was spent outside of the SWDA. See Section 3.1 for additional details on the analysis of congestion externalities.

Gear Loss Program

The exposure report mentions that a gear loss/damage protocol is expected to be established for economic losses associated with incidents involving cable protection if and when they occur. We will need more information regarding how this will be established. This should be presented and finalized prior to CRMC concurrence decision.

Response: The Proponent has adopted a standard gear loss/damage claims form that was developed through coordination with Fisheries Representatives, Fisheries Liaisons, and other developers. This form, which has also been adopted by other developers, is provided on the Proponent's website: https://www.parkcitywind.com/fisheries. The Proponent will present the Gear Loss and Compensation Plan to CRMC prior to the October 13, 2024 concurrence decision.

We hope that this provides the CRMC with the information needed to complete its federal consistency review for New England Wind. Please let us know if additional information is needed.

Sincerely,

Mark Roll
Federal Permitting Manager, Offshore

cc: Michael Clayton, Avangrid
Kenneth Kimmel, Avangrid

August 17, 2023

Jeffrey M. Willis, Executive Director
State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Mr. Willis:

Park City Wind LLC, a wholly owned subsidiary of Avangrid Renewables, LLC (the Proponent), is pleased to provide the enclosed response to the State of Rhode Island Coastal Resources Management Council's (CRMC) questions regarding project status/mitigation efforts (CRMC File No. 2022-05-067).

CRMC's July 13, 2023 information requests are provided below followed by the Proponent's response.

Benefit to R.I. from the New England Wind Projects?

- *COP Vol. III section 4.1.2 states the current economic analysis is based on the previous PPAs with Massachusetts and Connecticut. Considering New England Wind will be rebidding its projects in Massachusetts, and alterations to the PPA with Connecticut are possible, will there be additional economic impact analysis if new PPAs are agreed to? Is there an expected timeframe for that analysis to be released? Will it be before the RI federal consistency decision date?*

  Response:

  The Proponent's economic impact analysis presented in Volume III of the COP demonstrates how New England Wind is expected to yield economic benefits in the onshore and offshore development regions for the duration of each Phase's pre-construction, construction, operations and maintenance (O&M), and decommissioning period. Although the PPA(s) may be realigned with current market conditions, the overall conclusions of the economic impact analysis presented in the COP are not anticipated to change. That is, New England Wind will result in significant long-term economic benefits and high-quality jobs in every phase. New England Wind will, therefore, play an important role in further establishing a thriving, utility-scale offshore wind sector in the United States (US) and realizing the tremendous potential economic benefits of this rapidly emerging industry in Connecticut, Massachusetts, and elsewhere in the Northeastern US. Accordingly, there are no plans to develop a new economic impact analysis.

- *We understand that PCW is considering using three RI ports to support the Project. Assuming all three ports are used, could you provide a range of potential job creation and economic impacts that may be realized by RI?*

  Response:

  Offshore wind energy generation development has significant job creation and economic development potential. The conservatively estimated anticipated minimum level of economic benefits for New England Wind demonstrates the potential for millions in new state and local tax revenues along with thousands of direct, indirect, and induced FTE jobs years. While the economic analysis for New England Wind presented in Appendix III-L of the COP assumes no direct spending will occur in states other than Massachusetts or Connecticut (and therefore no direct benefits), we expect some additional induced or indirect benefits to occur in Rhode Island. No further detail on specific Rhode Island benefits is available at this time.

- *In PCW's RFI answers you provide examples of how the Project has and plans to work with the RI fishing industry. Besides these examples, would it be accurate to say one of the largest expected benefits to the RI fishing industry from a fully built wind farm would be the potential benefits to the recreational fishing sector due to the anticipated artificial reef effect and ancillary shoreside economic benefits? (COP Vol. III section 4.1.2)*

  Response:

  Section 7.5 of Volume III of the COP discusses how wind turbine generator (WTG) and electrical service platform (ESP) foundations may become popular fishing locations, and recreational fishing activities may increase. Angler's interest in visiting the Southern Wind Development Area (SWDA) may also lead to an increased number of fishing trips out of nearby ports, which could support an increase in angler expenditures at local bait shops, gas stations, and other shore side dependents. New England Wind may become a popular tourist destination that could provide opportunities for sightseeing vessel operations. In addition, as previously described in our June 16, 2023 letter, there are additional expected benefits to the Rhode Island fishing industry from New England Wind. These include contracting with a Rhode Island-based fishing organization as one of our company's Fisheries Representatives, the use of fishermen as Onboard Fisheries Liaisons (OFLs) aboard our geotechnical and geophysical vessels, as well as the use of Rhode Island vessels as part of our fisheries and environmental survey efforts. Benefits to Rhode Island fishing industry also include the employment of local fishing vessels to serve as scout vessels during surveys.

Boulder Relocation

- *PCW states boulder relocation will be accomplished by either a boulder grab tool or by using a boulder plow. Does PCW plan to utilize both tools in bolder removal/seabed preparation operations or only one of the tools?*

  Response:

To provide flexibility, the Proponent's construction plan includes the potential use of both tools to relocate boulders within the offshore export cable corridor. This plan includes using a grab tool suspended from a vessel's crane that lifts individual boulders clear of the route or using a plow-like tool that is towed along the route to push boulders aside.

- *Relocated boulders that will protrude greater than 6.5 feet or more on the seafloor will be reported to BOEM, CRMC, and other state/federal agencies within 30 days of relocation.*
    - *How long will boulder relocation and seabed preparation take?*
    - *If boulder locations will be reported within 30 days of relocation, does this mean that locations will be supplied on a rolling basis? For example, every 30 days information will be released. We understand other projects in the region plan to release this type of information after the construction phase of their projects.*

Response:

OECC cable installation duration is estimated to be approximately 9 months for Phase 1 and approximately 13.5 months for Phase 2. Of this total, the Proponent currently estimates approximately one month to complete boulder relocation and the pre-lay grapnel run within the OECC for Phase 1 and one month for Phase 2; the actual duration is subject to final planning and will depend on route engineering and the final number of boulders required to be moved. Within the Lease Area, boulder relocation is not anticipated; however, standard debris clearance activities (e.g., removal of abandoned fishing gear) may require approximately one month to complete. No seabed preparation/leveling is expected within the Lease Area.

As previously stated, the Proponent will provide notice to agencies within 30 days of relocating boulders that will protrude 6.5 feet or more on the seafloor. These agency notifications will occur on a rolling basis in accordance with the 30-day limit.

Cable Burial

- *What other wind/cable projects has the installation contractor, Prysmian, done?*

Response:

Prysmian Group is considered a world leader in the energy and telecom cable systems industry. Examples of some of Prysmian Group's other recent North American offshore wind and submarine cable projects include Vineyard Wind 1, Empire Wind 1 and 2, HEEC cable replacement in Boston Harbor, SOO Green HVDC link, Neptune, Trans Bay Cable, and Hudson River Project.

- *Does PCW have, or could you get, an estimate of how long simultaneous lay and bury will take for the OECC/SCV as well as the IAC for each phase as compared to how long it would take to use post-cable lay burial? CRMC understands simultaneous lay and bury is a longer process.*

Response:

OECC cable installation duration is estimated to be approximately 9 months for Phase 1 and approximately 13.5 months for Phase 2 (this includes cable installation via simultaneous lay and bury as well as pre-installation activities and reasonably foreseeable weather delays). Inter-array cable installation duration is estimated to be about 5 months for Phase 1 and approximately 10 months for Phase 2. It is challenging to make a direct comparison between durations for simultaneous lay and burial and post-lay burial because each installation technique requires different activities. When considering only vessel working number of days, simultaneous lay and bury may seem like a longer process than post-lay burial. However, post-lay burial requires two separate campaigns: one to lay the cable on the seafloor and one to install the cable, and some restrictions on vessel activities may be required until the second (burial) campaign is completed. Post-lay burial is an appropriate technique for the inter-array cables given the relatively short lengths of the cables and the homogeneous seafloor conditions. For the export cables, the use of simultaneous lay and burial is the preferred technique given the longer cable length and seafloor conditions (where simultaneous lay and burial equipment is most likely to achieve sufficient burial), and it involves the shortest duration of restricted access to parts of the OECC.

- *COP Vol. I section 3.3.1.3.6 at 3-74 states cable lay operations would allow for up to 11 feet of cable laid per minute and with 24-hour operations. Is this estimate based on simultaneous lay and bury? Is this estimate limited to OECC installation or is it also representative of IAC installation?*

Response:

Offshore export cable laying is expected to be performed primarily via simultaneous lay and bury using jetting techniques (e.g., jet plow or jet trenching) or mechanical plow. Inter-array cables are expected to be installed via post-lay burial. The Proponent assumed an installation rate of approximately 200 meters/hour offshore export cables and 200-300 meters/hour for burial of inter-array cables (one or more passes may be required). The overall installation timeframe for export cables and inter-array cables is provided in the previous response.

- *What is the width of the survey corridors and the construction/installation corridors for cable laying assuming the maximum number of cables would be installed in the SCV/OECC?*

Response:

New England Wind includes five offshore export cables within the OECC. The Proponent has identified two variations of the Phase 2 OECC (i.e., Western Muskeget Variant and South Coast Variant). The Proponent may install one or two Phase 2 offshore export cables within the Western Muskeget Variant; however, it is highly unlikely that more than one cable could be installed within the Western Muskeget Variant due to multiple technical reasons related to challenging site conditions. Likewise, the installation of more than one cable in the South Coast Variant is infeasible as the interconnection to the South Coast is limited to 400 MW, and there are no planned upgrades that would allow for interconnecting greater capacity within the timeframe contemplated for development of New England Wind. Therefore, installation of more than one cable in the South Coast Variant is only included as a potential option in the unlikely event that Phase 2 is significantly delayed.

The total width of the offshore export cable corridor (OECC) is approximately 950–1,700 m (3,100–5,500 ft) and total width of the South Coast Variant OECC is approximately 720 m (2,360 ft) in width. The cables installed within the OECC and South Coast Variant OECC will typically be separated by a distance of 50–100 m (164–328 ft) to provide appropriate flexibility for routing and installation and to allow room for maintenance or repairs. This separation distance could be further adjusted, pending ongoing routing evaluation, to account for local conditions, such as deeper waters, micro-siting for sensitive habitat areas, or other environmental or technical reasons.

Impacts from cable installation are expected to include an up to 1 m (3.3 ft) wide cable installation trench and an up to 3 m (10 ft) wide temporary disturbance zone from the skids/tracks of the cable installation equipment that will slide over the surface of the seafloor (each skid/track is assumed to be approximately 1.5 m [5 ft] wide). Where dredging is necessary, it is conservatively assumed that the dredge corridor will typically be 15 m (50 ft) wide at the bottom (to allow for equipment maneuverability) with approximately 1:3 sideslopes for each cable. Impact calculations also include vessel anchors that reposition every 400 m (1,312 ft) during offshore export cable installation, jack-up vessel legs during cable splicing (assumed three splices per cable), and vessel grounding (once per cable).

During in-water construction activities, the Proponent expects that the USCG will establish temporary 500-meter safety buffers around the cable installation activity. A safety radius of twice that distance, 1 km, is used for the purposes of the commercial fisheries economic analysis to account for vessel activity supporting cable installation.

- *Regarding the cable burial process, if the cable does not reach target burial depth in a location initially, is the next step to consider a second attempt at achieving burial depth using an ROV or would the contractor immediately consult the CBRA to determine if the depth is acceptable or that secondary cable protection should be used?*

Response:

Yes, the Proponent would consider a second attempt at achieving cable burial depth. As described in Section 3.3.1.3.6 of COP Volume I, "if the target burial depth is not being achieved, operational modifications may be required. Subsequent attempts with a different tool (such as controlled flow excavation) may be required where engineering analysis indicates subsequent attempts may help achieve sufficient burial." Accordingly, the Proponent would first evaluate whether a subsequent attempt is likely to achieve sufficient burial, then would evaluate whether the achieved burial depth is adequate per the CBRA and BOEM requirements.

- *Can PCW provide examples (i.e., studies or other observations) demonstrating the colonization of concrete mattresses? We have heard conflicting reports that mattresses do not necessarily promote colonization.*

  Response:

  Concrete mattress are one of the cable protection methods under consideration for New England Wind (other options include gabion rock bags, rock, concrete mattresses, half-shell pipes [or similar]). Concrete mattresses are widely used for cable protection and they provide hard surfaces for epifaunal attachment.[1] However, they do not provide vertical relief/structure, holes of any particular size (such as for adult cod use), or a variety of surface orientations necessary for serving as useful habitat to many demersal fish and invertebrate species. While traditional concrete mattresses have smooth, flat plane designs, concrete mattresses used for cable protection can be manufactured from ECOncrete[2], a bio-enhanced concrete admixture that has been determined to promote settlement of marine fauna and flora, a benefit over traditional concrete mattresses.

  ECOncrete mattresses mimic natural marine rock with complex surface textures. This surface roughness provides marine larvae with the micro-turbulences they need to attach and grow into marine organisms such as tubeworms, oysters, or corals. ECOncrete technology includes features such as crevices and holes that serve as shelter and breeding spaces for fish and other species. ECOncrete provides the structural integrity and protection required for underlying cables, is made of environmentally friendly materials, and also mimics, to a certain extent, hard bottom habitats in proximity to the export cables in this location. Therefore, ECOncrete mattresses present a more protective and environmentally sensitive alternative compared to traditional concrete mattresses while minimizing additional impacts and disturbances to the marine environment. ECOncrete mattresses allow for efficient installation and can be designed with tapered edges to minimize snagging from fishing gear and anchors.

  Accordingly, should concrete mattresses be used for cable protection, the Proponent has determined that ECOncrete mattresses are the preferred type of concrete mattress.

[1] BERR (Department for Business Enterprise & Regulatory Reform). 2008. Review of cabling techniques and environmental effects applicable to the offshore wind farm industry. Technical Report in Association with Defra. January 2008. 164 pp.

[2] https://econcretetech.com/faq/

Number of WTGs

- *When is offshore construction anticipated to start for each Phase?*

  Response:

  Phase 1 offshore construction is scheduled to start in the second quarter of 2026 with ESP installation and Phase 2 offshore construction is scheduled to start in the first quarter of 2027 with offshore export cable installation.

- *We understand the intent is to construct Phase 1 and immediately move to constructing Phase 2.*
  - *How long do you anticipate Phase 1 and 2 constructions to take respectively? We understand the footprint for Phase 2 depends on the final footprint of Phase 1.*
  - *If there is a construction gap between Phases, how long do you anticipate that gap being?*

  Response:

  The total Phase 1 offshore construction duration is anticipated to be 18 months and the Phase 2 offshore construction duration is estimated to be 24 months. The Proponent does not anticipate a construction gap between phases based on current schedule projections.

- *Do you have more detailed information on where the offshore substations will be located for each Phase?*

  Response:

  The COP includes one or two electrical service platforms (ESP(s)) for Phase 1 and up to three ESP(s) for Phase 2. COP Volume I Figures 3.1-4 and 4.1-4 show potential ESP locations; no further specificity is available at this time.

- *Are the offshore substations expected to include an AC/DC converter that utilizes a hot water exchange?*

  Response:

  The New England Wind offshore export cables and electrical service platforms will transmit electricity via high voltage alternating current (HVAC). A hot water exchange system is not proposed.

Release of Project Information to Fishing Industry

- *You mentioned certain foundations may have Mariner Radio Activated Sound Signals (MRASS) that can alert approaching vessels during low visibility conditions when activated by mariners and fishermen.*
    - *Can you explain how the MRASS works or point to the COP section/appendix with that information?*
    - *Do you have an idea of what WTG foundations may have MRASS and how those positions are selected?*

  Response:

  In accordance with United States Coast Guard's (District 1) revised ME, NH, MA, RI, CT, NY, NJ-Atlantic Ocean-Offshore Structure Paton Marking Guidance contained in Local Notice to Mariner (LNM) 29/22, a uniform system of marine navigation lighting, marking, and signaling on the WTGs and ESP will be implemented for Phase 1 and Phase 2 of New England Wind. The USCG requires Mariner Radio Activated Sound Signal (MRASS) devices to be installed on corner structures/significant peripheral structures (SPS) within the wind development area. SPS are significant points at the periphery of an offshore wind farm with a distance between them not exceeding 3 nautical miles (NM). The MRASS allows mariners to energize the sounds signal on demand by keying VHF Radio frequency 83A five times within 10 seconds. The MRASS must sound every 30 seconds to a range of 2 NM and the signal will sound for 45 minutes following each activation.

We hope that this provides the CRMC with the information needed to complete its federal consistency review for New England Wind. Please let us know if additional information is needed.

Sincerely,

Mark Roll
Federal Permitting Manager, Offshore

cc: Michael Clayton, Avangrid
Kenneth Kimmel, Avangrid

From:	Maria Hartnett
To:	ksloan@crmc.ri.gov; ROLL, MARK; Clayton, Michael
Cc:	"Jeff Willis"; jskenyon@crmc.ri.gov; blofgren@crmc.ri.gov; "Laura Miguel"; HOFFMAN, CHRISTINA; Caitlin Hamer; Richard Paquette
Subject:	RE: New England Wind/CRMC Federal Consistency RFI Responses/Scheduling
Date:	Thursday, August 17, 2023 9:26:59 AM
Attachments:	image001.png image002.png NE Wind_RICRMC_Responses_08.17.2023.pdf

Kevin,

Please see below answers to your questions, as well as the attached response to the questions provided on July 13.

- The cable installation methods, cable crossing discussion, and cable protection discussion in the COP are essentially the same for Phase I and Phase II, correct? They appear to be but we want to understand if there are any substantive differences between the Phases.
- Yes, that is correct - the cable installation methods, cable crossing discussion, and cable protection discussion in the COP are essentially the same for Phase 1 and Phase 2. Actual site conditions may vary somewhat between the Phases but the COP provides an envelope of cable installation methods that can be used for both Phases.

- Does PCW have an estimate of the number of cable joints/splices that will be needed for IACs, the SCV, and any portion of the OECC that is under CRMC's review? Will cable joints/splices be buried or will they require secondary protection? How large are the jointed sections in comparison to the cable?
- No subsea field joints are expected for the inter-array cables. For the export cables, the two Phase 1 cables are expected to have one joint, for a total of two joints. The three Phase 2 cables are expected to have two joints each, for a total of six joints. The locations of the 2 joints for Phase 1 and 6 joints for Phase 2 are still being finalized but may be inside the portion of the OECC that is within CRMC's review. For the South Coast Variant, the number of subsea field joints within federal waters has not been determined but may be similar to or greater than the Phase 2 cables. As described in the COP, cable joints may require cable protection, although the preferred option is to achieve sufficient burial of the joints. The joint diameter depends on final cable design but is approximately 1 m (the export cable outer diameter is approximately 0.3m).

Maria Hartnett | Principal

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703.489.8945 (cell)
mhartnett@epsilonassociates.com | www.epsilonassociates.com

From: ksloan@crmc.ri.gov <ksloan@crmc.ri.gov>
Sent: Friday, July 28, 2023 2:47 PM
To: ROLL, MARK <mark.roll@avangrid.com>
Cc: 'Jeff Willis' <jwillis@crmc.ri.gov>; jskenyon@crmc.ri.gov; blofgren@crmc.ri.gov; 'Laura Miguel' <lmiguel@crmc.ri.gov>; Maria Hartnett <mHartnett@epsilonassociates.com>; HOFFMAN, CHRISTINA <christina.hoffman@avangrid.com>; Caitlin Hamer <chamer@epsilonassociates.com>
Subject: RE: New England Wind/CRMC Federal Consistency RFI Responses/Scheduling

Hi Mark,

As discussed in our meeting earlier, below are a couple of additional questions we have on cable burial.

- The cable installation methods, cable crossing discussion, and cable protection discussion in the COP are essentially the same for Phase I and Phase II, correct? They appear to be but we want to understand if there are any substantive differences between the Phases.

- Does PCW have an estimate of the number of cable joints/splices that will be needed for IACs, the SCV, and any portion of the OECC that is under CRMC's review? Will cable joints/splices be buried or will they require secondary protection? How large are the jointed sections in comparison to the cable?

Thank you,

Kevin A. Sloan (he/him)
Coastal Policy Analyst
RI Coastal Resources Management Council
Oliver Stedman Government Center
4808 Tower Hill Road
Wakefield , RI 02879
ksloan@crmc.ri.gov|
Office: 401.783.7365
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Appendix 4 – CRMC New England Wind Stay Agreements
&
BOEM Notice of Stay Letters

State of Rhode Island
Coastal Resources Management Council
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Fax (401) 783-3767

AGREEMENT TO STAY SIX-MONTH REVIEW PERIOD

Between

Rhode Island Coastal Resources Management Council

And

Park City Wind, LLC

The Rhode Island Coastal Resources Management Council, hereinafter referred to as the "CRMC," and Park City Wind, LLC[1] hereinafter referred to as "Park City Wind," hereby agree as follows.

Pursuant to 15 CFR § 930.76, Park City Wind filed a Federal Consistency Certification with the CRMC on May 17, 2022 for the proposed New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if one or more Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would diverge from the OECC and travel west-

[1] Park City Wind, LLC is a wholly owned subsidiary of Avangrid Renewables, LLC. Park City Wind, LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

northwest through federal waters, and Rhode Island's 2011 and 2018 GLDs, to Massachusetts state waters boundary near Buzzards Bay. The SCV does not enter Rhode Island state waters.

The New England Wind project has been assigned CRMC File 2022-05-067 and is identified in the Federal docket as BOEM-2021-0047. The proposed WTGs and OSPs will be installed within BOEM Lease Area OCS-A 0534, located just over 20 miles from the southwest corner of Martha's Vineyard and approximately 24 miles from Nantucket. Lease Area OCS-A 0534, a small portion of the OECC, and the SCV export cable corridor are listed activities of the Rhode Island 2011 and 2018 GLD, and therefore subject to CRMC Federal Consistency review pursuant to Section 307 of the Coastal Zone Management Act (CZMA), and the CZMA's implementing regulations at 15 C.F.R. Part 930, Subpart E.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[2] BOEM anticipates issuing a Notice of Availability for the Draft Environmental Impact Statement (DEIS) on or about December 23, 2022, and the CRMC expects that there will be significant information within the DEIS that will be instructive to the CRMC decision making process, including the range of expected project alternatives. And, CRMC's review of the DEIS is supported by BOEM's statement within the DEIS for the South Fork Wind project (BOEM Docket 2020–0066) in that "Cooperating agencies would rely on the DEIS to support their decision making and to determine if the analysis is sufficient to support their decision" (Emphasis added). *See* DEIS at i. State CZMA agencies are cooperating agencies under the BOEM renewable energy NEPA process.

In accordance with 15 CFR § 930.60(b), and in consideration of the Parties' mutual interest that the State have sufficient time to fully assess the consistency of the proposed New England Wind project with the State's enforceable policies, the CRMC and Park City Wind mutually agree to the following dates and to stay the CRMC CZMA six-month review period as follows;

- Date the CRMC 6-month review period commenced: August 5, 2022
- Date the 6-month review period was to end: February 3, 2023
- Date during the 6-month review period that the stay begins: September 14, 2022

---

[2] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022 that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

- Date that the stay ends: March 28, 2023
  (146 days remaining in the 6-month review period)
- Date the 6-month review period ends and
  the CRMC consistency decision is due: August 15, 2023

Pursuant to 15 C.F.R. §§ 930.60, 930.62 and 930.78, the CRMC will issue its federal consistency decision on or before **August 15, 2023** unless Park City Wind and CRMC mutually agree in writing to another later date. Furthermore, should the CRMC conclude its CZMA review earlier than anticipated by this agreement, then the CRMC will issue its federal consistency decision at the earliest possible time prior to August 15, 2023.

This agreement made and entered by:

Jeffrey M. Willis
Executive Director, CRMC

12 OCT 2022
Date

Park City Wind, LLC,

Megan E. Higgins

Megan E. Higgins
Senior Director, Development
Park City Wind, LLC

10/10/2022
Date

cc BOEM
NOAA OCM
CRMC Council members

STATE OF RHODE ISLAND

COASTAL RESOURCES MANAGEMENT COUNCIL
Oliver H. Stedman Government Center
4808 Tower Hill Road, Room 116
Wakefield, R.I. 02879-1900

(401) 783-3370
Fax: (401) 783-3767

October 12, 2022

Amanda Lefton, Director
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

James Bennett, Renewable Energy Program Manager
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Re: **Park City Wind, LLC**; Docket No. BOEM-2021-0047
CRMC File 2022-05-067

Dear Ms. Lefton and Mr. Bennett,

Pursuant to 15 C.F.R. § 930.76, Park City Wind, LLC on May 17, 2022 filed with the Rhode Island Coastal Resources Management Council ("CRMC") a federal consistency certification for the proposed construction and operation of the New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would travel west-northwest through federal waters and Rhode Island's 2011 and 2018 GLDs, to the Massachusetts state waters boundary near Buzzards Bay.

The proposed New England Wind project is a listed activity subject to CRMC federal consistency review pursuant to Section 307 of the Coastal Zone Management Act ("CZMA"), 16 U.S.C. § 1451 *et seq*., and the CZMA's implementing regulations at 15 C.F.R. part 930, subpart E

- Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[1] Absent a stay of the CZMA six-month review, the State's CZMA decision date would be on or before February 3, 2023. Both New England Wind and the CRMC began discussions regarding a stay agreement in early September 2022 and discussions continued into early October 2022. Both parties proposed various timeframes none of which were not initially agreed upon. After further discussions surrounding the CRMC's schedule of review for four offshore wind projects and New England Wind's project schedule, the parties have mutually agreed to stay the CRMC's CZMA six-month review period as specified in the attached stay agreement executed on October 12, 2022. **Pursuant to the agreement, the CRMC federal consistency decision in this matter is now due not later than August 15, 2023.**

Additionally, the stay of the CRMC's CZMA sixth-month review period will allow the State to adequately consider information contained in the New England Wind project's Draft Environmental Impact Statement (DEIS). The Notice of Availability for the DEIS is expected from BOEM on or about December 23, 2022. The CRMC expects that there will be considerable information that will be valuable to its decision-making process within the DEIS, including the range of expected project alternatives.

The purpose of this letter is to notify the Bureau of Ocean Energy Management of this stay agreement between the parties pursuant to the requirements of 15 C.F.R. § 930.60(b). In addition, the CRMC requests BOEM not to issue a license or permit to Park City Wind, LLC until the requirements of 15 C.F.R. Part 930, Subpart E have been completely satisfied. The CRMC will promptly notify BOEM when it issues a federal consistency decision in this matter.

Please contact me at 401-783-3370 or email jwillis@crmc.ri.gov should you have any questions.

Sincerely,

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

/lat

cc: Megan Higgins, Sr. Director, Development, Park City Wind, LLC
David Kaiser, NOAA
Allison Castellan, NOAA
Anthony DeSisto, Esq., CRMC Legal Counsel

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[1] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022 that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

State of Rhode Island
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<u>SECOND</u> AGREEMENT TO STAY SIX-MONTH REVIEW PERIOD

Between

Rhode Island Coastal Resources Management Council

And

Park City Wind, LLC

The Rhode Island Coastal Resources Management Council, hereinafter referred to as the "CRMC," and Park City Wind, LLC[1] hereinafter referred to as "Park City Wind," hereby agree as follows.

Pursuant to 15 CFR § 930.76, Park City Wind filed a Federal Consistency Certification with the CRMC on May 17, 2022, for the proposed New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if one or more Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would diverge from the OECC and travel west-

[1] Park City Wind, LLC is a wholly owned subsidiary of Avangrid Renewables, LLC. Park City Wind, LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

northwest through federal waters, and Rhode Island's 2011 and 2018 GLDs, to Massachusetts state waters boundary near Buzzards Bay. The SCV does not enter Rhode Island state waters.

The New England Wind project has been assigned CRMC File 2022-05-067 and is identified in the Federal docket as BOEM-2021-0047. The proposed WTGs and OSPs will be installed within BOEM Lease Area OCS-A 0534, located just over 20 miles from the southwest corner of Martha's Vineyard and approximately 24 miles from Nantucket. Lease Area OCS-A 0534, a small portion of the OECC, and the SCV export cable corridor are listed activities of the Rhode Island 2011 and 2018 GLD, and therefore subject to CRMC Federal Consistency review pursuant to Section 307 of the Coastal Zone Management Act (CZMA), and the CZMA's implementing regulations at 15 C.F.R. Part 930, Subpart E.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[2] BOEM issued the Draft Environmental Impact Statement (DEIS) on or about December 23, 2022, and the CRMC continues to review the information contained in in the DEIS as well as the project's Construction and Operation Plan materials. This second stay agreement is necessary to allow the CRMC the appropriate time to complete its review of the New England Wind project given the unprecedented number and schedule of offshore wind projects under review.

In accordance with 15 CFR § 930.60(b), and in consideration of the Parties' mutual interest that the State have sufficient time to fully assess the consistency of the proposed New England Wind project with the State's enforceable policies, the CRMC and Park City Wind mutually agree to the following dates and to stay the CRMC CZMA six-month review period as follows:

First Stay:

- Date the CRMC 6-month review period commenced: August 5, 2022
- Date the 6-month review period was to end: February 3, 2023
- Date during the 6-month review period that the stay begins: September 14, 2022
- Date that the stay ends: March 28, 2023
  (146 days remaining in the 6-month review period)
- Date the 6-month review period ends and the CRMC consistency decision is due: August 15, 2023

[2] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022 that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

Second Stay:

- Date the first stay ended: March 28, 2023
- Date the second stay begins: May 10, 2023
- Date the second stay ends: May 28, 2023
  (103 days remaining in the 6-month review period)
- Date the 6-month review period is to end and the CRMC consistency decision is due: September 8, 2023

Pursuant to 15 C.F.R. §§ 930.60, 930.62 and 930.78, the CRMC will issue its federal consistency decision on or before **September 8, 2023,** unless Park City Wind and CRMC mutually agree in writing to a later date. Furthermore, should the CRMC conclude its CZMA review earlier than anticipated by this agreement, then the CRMC will issue its federal consistency decision at the earliest possible time prior to September 8, 2023.

This agreement made and entered by:

Jeffrey M. Willis
________________________________ __May 10, 2023_____
Jeffrey M. Willis Date
Executive Director, CRMC

Park City Wind, LLC, (Avangrid Renewables)

Stephanie K Wilson
________________________________ May 15, 2023
Stephanie Wilson Date
Director of Permitting, Offshore
Avangrid Renewables

cc BOEM
NOAA OCM
CRMC Council members

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
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May 16, 2022

Elizabeth Klein, Director
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

James Bennett, Renewable Energy Program Manager
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Re: **Park City Wind, LLC**; Docket No. BOEM-2021-0047
CRMC File 2022-05-067

Dear Director Klein and Mr. Bennett,

Pursuant to 15 C.F.R. § 930.76, Park City Wind, LLC on May 17, 2022, filed with the Rhode Island Coastal Resources Management Council ("CRMC") a federal consistency certification for the proposed construction and operation of the New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would travel west-northwest through federal waters and Rhode Island's 2011 and 2018 GLDs, to the Massachusetts state waters boundary near Buzzards Bay.

The proposed New England Wind project is a listed activity subject to CRMC federal consistency review pursuant to Section 307 of the Coastal Zone Management Act

("CZMA"), 16 U.S.C. § 1451 *et seq*., and the CZMA's implementing regulations at 15 C.F.R. part 930, subpart E - Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[1] Absent a stay of the CZMA six-month review, the State's CZMA decision date would be on or before February 3, 2023. Both New England Wind and the CRMC agreed to an initial stay which provided for a CRMC consistency decision on or before August 15, 2023. After further discussions surrounding the CRMC's concurrent review of three offshore wind projects including the New England Wind project, the parties have mutually agreed to stay the CRMC's CZMA six-month review period as specified in the attached stay agreement executed on May 15, 2023. **Pursuant to the agreement, the CRMC federal consistency decision in this matter is now due not later than September 8, 2023.**

The purpose of this letter is to notify the Bureau of Ocean Energy Management of this stay agreement between the parties pursuant to the requirements of 15 C.F.R. § 930.60(b). In addition, the CRMC requests BOEM not to issue a license or permit to Park City Wind, LLC until the requirements of 15 C.F.R. Part 930, Subpart E have been completely satisfied. The CRMC will promptly notify BOEM when it issues a federal consistency decision in this matter.

Please contact me at 401-783-3370 or email jwillis@crmc.ri.gov should you have any questions.

Sincerely,

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

/lat

cc Stephanie Wilson, Avangrid Renewables
David Kaiser, NOAA
Allison Castellan, NOAA

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[1] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022, that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
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THIRD AGREEMENT TO STAY SIX-MONTH REVIEW PERIOD

Between

Rhode Island Coastal Resources Management Council

And

Park City Wind LLC

The Rhode Island Coastal Resources Management Council, hereinafter referred to as the "CRMC," and Park City Wind LLC[1] hereinafter referred to as "Park City Wind," hereby agree as follows.

Pursuant to 15 CFR § 930.76, Park City Wind filed a Federal Consistency Certification with the CRMC on May 17, 2022, for the proposed New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if one or more Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would diverge from the OECC and travel west-

[1] Park City Wind LLC is a wholly owned subsidiary of Avangrid Renewables LLC. Park City Wind LLC is the Proponent of the New England Wind project and is responsible for the construction, operation, and decommissioning of the New England Wind project.

northwest through federal waters, and Rhode Island's 2011 and 2018 GLDs, to Massachusetts state waters boundary near Buzzards Bay. The SCV does not enter Rhode Island state waters.

The New England Wind project has been assigned CRMC File 2022-05-067 and is identified in the Federal docket as BOEM-2021-0047. The proposed WTGs and OSPs will be installed within BOEM Lease Area OCS-A 0534, located just over 20 miles from the southwest corner of Martha's Vineyard and approximately 24 miles from Nantucket. Lease Area OCS-A 0534, a small portion of the OECC, and the SCV export cable corridor are listed activities of the Rhode Island 2011 and 2018 GLD, and therefore subject to CRMC Federal Consistency review pursuant to Section 307 of the Coastal Zone Management Act (CZMA), and the CZMA's implementing regulations at 15 C.F.R. Part 930, Subpart E.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[2] BOEM issued the Draft Environmental Impact Statement (DEIS) on or about December 23, 2022, and the CRMC continues to review the information contained in in the DEIS as well as the project's Construction and Operation Plan materials. This third stay agreement is necessary to allow the CRMC the appropriate time to complete its review of the New England Wind project given the unprecedented number and schedule of offshore wind projects under review.

In accordance with 15 CFR § 930.60(b), and in consideration of the Parties' mutual interest that the State have sufficient time to fully assess the consistency of the proposed New England Wind project with the State's enforceable policies, the CRMC and Park City Wind mutually agree to the following dates and to stay the CRMC CZMA six-month review period as follows:

First Stay:

• Date the CRMC 6-month review period commenced:	August 5, 2022
• Date the 6-month review period was to end:	February 3, 2023
• Date during the 6-month review period that the stay begins:	September 14, 2022
• Date that the stay ends: (146 days remaining in the 6-month review period)	March 28, 2023
• Date the 6-month review period ends and the CRMC consistency decision is due:	August 15, 2023

[2] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022 that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

Second Stay:

- Date the first stay ended: March 28, 2023
- Date the second stay begins: May 10, 2023
- Date the second stay ends: May 28, 2023
  (103 days remaining in the 6-month review period)
- Date the 6-month review period is to end and the CRMC consistency decision is due: September 8, 2023

Third Stay:

- Date the second stay ended: May 28, 2023
- Date the third stay begins: June 23, 2023
- Date the third stay ends: July 28, 2023
  (77 days remaining in the 6-month review period)
- Date the 6-month review period is to end and the CRMC consistency decision is due: October 13, 2023

Pursuant to 15 C.F.R. §§ 930.60, 930.62 and 930.78, the CRMC will issue its federal consistency decision on or before **October 13, 2023,** unless Park City Wind and CRMC mutually agree in writing to a later date. Furthermore, should the CRMC conclude its CZMA review earlier than anticipated by this agreement, then the CRMC will issue its federal consistency decision at the earliest possible time prior to October 13, 2023.

This agreement made and entered by:

Jeffrey M. Willis
Executive Director, CRMC

6/22/23
Date

Park City Wind LLC (Avangrid Renewables)

Stephanie Wilson
Director of Permitting, Offshore
Avangrid Renewables

6/21/23
Date

cc BOEM
NOAA OCM
CRMC Council members

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
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June 22, 2023

Elizabeth Klein, Director
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Karen J. Baker, Chief
Bureau of Ocean Energy Management
Office or Renewable Energy Programs
45600 Woodland Road
Sterling, Virginia 20166

James Bennett, Manager
Bureau of Ocean Energy Management
Renewable Energy Program
45600 Woodland Road
Sterling, Virginia 20166

Re: **Park City Wind LLC**; Docket No. BOEM-2021-0047
CRMC File 2022-05-067

Dear Director Klein, Ms. Baker, and Mr. Bennett,

Pursuant to 15 C.F.R. § 930.76, Park City Wind LLC on May 17, 2022, filed with the Rhode Island Coastal Resources Management Council ("CRMC") a federal consistency certification for the proposed construction and operation of the New England Wind project consisting of offshore renewable wind energy facilities in Lease Area OCS-A 0534 and potentially a portion of Lease Area OCS-A 0501. The collective area is referred to as the Southern Wind Development Area (SWDA) and is located within Rhode Island's 2011 and 2018 GLDs. The New England Wind project will be developed in two Phases, Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind), with a maximum of 130 wind turbine generators (WTGs) and electrical service platforms (ESPs) and four to five submerged renewable energy offshore export cables. All export cables are planned to be installed within a shared offshore export cable corridor (OECC) that will travel from the northwestern corner of Lease Area OCS-A 0501 and head northward along the eastern side of Muskeget Channel toward landfall sites in the Town of Barnstable. Park City Wind has also proposed the South Coast Variant (SCV) cable corridor as an alternate cable route to be used if Phase 2 export cables need to interconnect at a second grid interconnection point. The SCV would travel west-northwest through federal waters and Rhode Island's 2011 and 2018 GLDs, to the Massachusetts state waters boundary near Buzzards Bay.

The proposed New England Wind project is a listed activity subject to CRMC federal consistency review pursuant to Section 307 of the Coastal Zone Management Act ("CZMA"), 16 U.S.C. § 1451 *et seq*., and the CZMA's implementing regulations at 15 C.F.R. part 930, subpart E - Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities.

The CRMC's CZMA six-month review period for the New England Wind project began on August 5, 2022.[1] Absent a stay of the CZMA six-month review, the State's CZMA decision date would have been on or before February 3, 2023. Both New England Wind and the CRMC agreed to an initial stay which provided for a CRMC consistency decision on or before August 15, 2023. After further discussions surrounding the CRMC's concurrent review of three offshore wind projects including the New England Wind project, the parties have mutually agreed to stay the CRMC's CZMA six-month review period for a third time as specified in the attached stay agreement executed on June 22, 2023. **Pursuant to the agreement, the CRMC federal consistency decision in this matter is now due not later than October 13, 2023.**

The purpose of this letter is to notify the Bureau of Ocean Energy Management of this stay agreement between the parties pursuant to the requirements of 15 C.F.R. § 930.60(b). In addition, the CRMC requests BOEM not to issue a license or permit to Park City Wind LLC until the requirements of 15 C.F.R. Part 930, Subpart E have been completely satisfied. The CRMC will promptly notify BOEM when it issues a federal consistency decision in this matter.

Please contact me at 401-783-3370 or email jwillis@crmc.ri.gov should you have any questions.

Sincerely,

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director
Coastal Resources Management Council

/lat

cc Stephanie Wilson, Avangrid Renewables
David Kaiser, NOAA
Allison Castellan, NOAA

[1] The CRMC notified BOEM and Park City Wind in a letter dated August 15, 2022, that commencement of the CRMC CZMA federal consistency review for the New England Wind project began on August 5, 2022.

Appendix 8 – CRMC Draft Environmental Impact Statement Comment Letter

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February 20, 2023

Ms. Karen Baker, Chief
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Re: Docket No. BOEM-2022-0070
Comments for the Notice of Availability of the Draft Environmental Impact Statement for Park City Wind, LLC's Proposed Energy Facility Offshore Massachusetts

Dear Ms. Baker,

We have reviewed the December 23, 2022, Federal Register Notice of Availability (NOA) of the Draft Environmental Impact Statement (DEIS) for the construction and operation plan (COP) submitted by Park City Wind, LLC (Park City) of its proposed New England Wind Offshore Wind Farm Project (Project) offshore Massachusetts within the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A 0534. This letter responds to your request for comments during the public review and comment period regarding the DEIS analysis on potential environmental impacts of the Project and alternatives to the proposed action.

Project Description

The Project is located within the CRMC's 2011 and 2018 Geographic Location Description (GLD) areas and is subject to CRMC federal consistency authority pursuant to the Federal Coastal Zone Management Act (CZMA)) at 16 USC § 1456(c)(3)(A) and the CZMA's implementing regulations at 15 CFR Part 930, Subpart D - Consistency for Activities Requiring a Federal License or Permit and Subpart E - Consistency for Outer Continental Shelf (OCS) Exploration, Development and Production Activities.

The Project will be developed in two Phases: Phase 1 (Park City Wind) and Phase 2 (Commonwealth Wind). Phase 1 has an 804megawatt (MW) Purchase Power Agreement (PPA) with the State of Connecticut, and Phase 2 will have the capacity to produce 1,200-1,500MW of offshore renewable wind energy. A full buildout of the Project across both Phases would consist of 130 foundation positions comprised of 125 to 130 wind turbine generators (WTGs), one (1) to five (5) electrical service platforms (ESPs), associated inter array cables (IACs), and four to five offshore export cables (OECs). The OEC routes will extend from the lease area, through the Muskeget Channel, and will make landfall in the Town of Barnstable, Massachusetts. Each Project Phase intends to land its respective OECs at separate onshore transmission systems located in the Town of Barnstable.

For Phase 2, Park City has also proposed the "South Coast Variant" (SCV) export cable route as an alternate route should technical, logistical, grid interconnection, or other unforeseen issues arise during COP review and engineering process that would preclude one or more Phase 2 export cables from interconnecting at the West Barnstable substation. Up to three export cables could be sited within the SCV. The SCV would travel from the Offshore Export Cable Corridor (OECC) at the northern boundary of Lease Area OCS-A 0501 and travel west-northwest through Rhode Island's 2011 and 2018 Geographic Location Descriptions (GLDs) to the state waters boundary near Buzzards Bay and enter Massachusetts state waters. The SCV does not enter Rhode Island state waters.

Project Comments

Alternative Cable Routing Scenarios

Rhode Island CRMC recommends the cable routing alternatives, Alternative C, be utilized as they would minimize impacts to Rhode Island coastal resources and users located and identified in the CRMC's 2011 and 2018 GLDs. Alternative C-1 would avoid using the Western Muskeget Variant cable scenario and limit the total number of potential crossings of the SouthCoast Wind cable. Alternative C-2 would minimize the use of the Eastern Muskeget cable corridor. Both alternatives would potentially reduce impacts on productive habitats along the Muskeget Channel by collocating cables with the Vineyard Wind project and by providing a more direct route from the lease area to interconnection points at Barnstable, Massachusetts.

The SCV is an alternative cable route that should be avoided. The SCV passes through both the 2011 and 2018 GLDs and would be located in reasonable proximity to South Coast Wind's Brayton Point export cable corridor. This route passes through extensive stretches of dense surface and subsurface boulder fields as well as complex bottom habitats, each of which has similar characteristics, values and resources as those found in Rhode Island state waters. Additional seafloor disturbance would result in unnecessary impacts to benthic resources and commercial/recreational fishers. Furthermore, as noted in the DEIS, Park City's COP includes *limited* details regarding the SCV cable corridor and the DEIS admittedly void of meaningful analysis and information regarding environmental impacts. Should the SCV be deemed necessary, the DEIS states that "…the applicant would be required to file a COP revision per 30 C.F.R. § 585.634, describing the need for the SCV and providing the information necessary to complete a sufficient analysis" resulting in additional time and cooperating agency resources to conduct the necessary environmental reviews. Further, the COP revision would require a new

CZMA consistency certification under 15 C.F.R. § 930.85 and/or § 930.51(b) (major amendment). BOEM should contact and coordinate with state cooperating agencies to inform decisions surrounding the SCV.

Conclusion

Thank you for the opportunity to provide comments on the DEIS for the Park City Wind's proposed New England Wind project. The CRMC supports the development of offshore renewable energy but firmly believes development must be done in a responsible and equitable manner. The Proposed Action does not achieve either of these goals due to the lack of information regarding the SCV and uncertainty surrounding the financial viability of Phase 2 of the Project. At present, there is a severe lack of necessary data and information and accompanying analysis in the DEIS, COP, and COP Addendum regarding potential impacts and which only adds to the uncertainty of the Project.

Sincerely,

Jeffrey M. Willis

Jeffrey M. Willis, Executive Director

Appendix 9 – CRMC Subject Matter Expert Reports:
Dr. John King & Dr. Bryan Oakley

Review of Benthic Geologic Habitat Mapping for the Proposed New England Wind Energy Area and South Coast Variant

Oakley Geologic Consulting

Bryan A. Oakley

Oakley.Bryan@gmail.com

Report Prepared for Rhode Island Coastal Resources Management Council

03 August 2023

The focus of this review is an examination of the interpretations of benthic geologic habitats of the proposed New England Wind Energy Area (NEWEA) and South Coast Variant cable corridor (SCV), with a particular focus on the results of the benthic habitat mapping reports provided in the Construction and Operation Plan (COP) and COP Addendum for the SCV as well as the data provided in the ArcGIS Online WebMap. The scope of this review was limited to federal waters and did not include the wind energy corridor extending through Muskeget Channel and associated areas into the state waters of Massachusetts.

I concur with comments within the COP that the benthic data collected was of sufficient quality for the geologic interpretations, and appropriate tools and techniques were used in the field surveys. The use of ArcGis Online (AGOL) limited the resolution of the geophysical data and required the sharing of the processed Geotif side-scan sonar mosaics to examine the seafloor geologic habitats in more detail. The overall mapping of geologic habitats (specifically moraine) area was mostly sound particularly around the terminal moraine, although as explained below, portions of the SCV where the corridor crosses the recessional positions of the Laurentide Ice Sheet were not initially classified as moraine.

The primary motivation for this review is the identification of areas mapped (or not mapped as glacial moraine; Glacial moraines have been identified as areas of particular concern (APC) as part of the Rhode Island Ocean Special Area Management Plan (§ 11.10.2). Glacial moraines are important habitat areas for a diversity of fish and other marine plants and animals because of their relative structural permanence and complexity. The moraines are also important to commercial and recreational fishermen. Much of the original work on the inner shelf offshore of New England was based on limited seismic reflection profiles, hydrographic data and correlation with units above sea level (e.g., Schafer, 1965; Stone and Borns jr., 1986; Stone and Sirkin, 1996), so it is not unexpected that the recent high-resolution mapping efforts have identified additional moraines/APC. The more detailed mapping completed within the NEWEA and SCV (as well as adjacent wind energy areas) improves upon the existing understanding of the extent of geologic habitats south of Rhode Island beyond those identified in the (OSAMP) (LaFrance et al., 2010). The NEWEA is south of all previously mapped glacial moraines, however the corridors identified for the transmission cable cross both the terminal and recessional moraine(s). the Late Wisconsinan Laurentide Ice Sheet, which extended across New England, reaching a terminal position sometime before 26,000 yBP (figure 1).

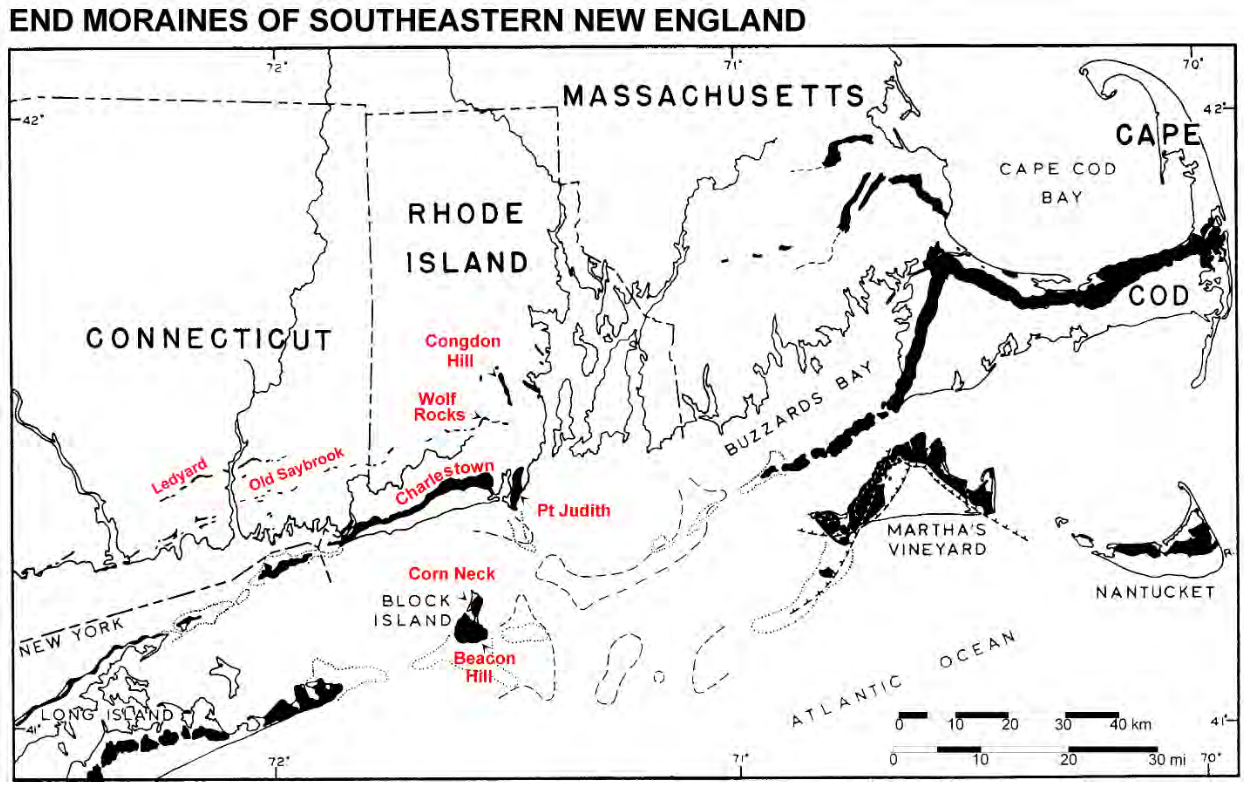


Figure 1: End moraines of southeastern New England (modified from Boothroyd and Sirkin, (2002). Black polygons are moraines exposed above sea level; dashed lines are inferred extensions of the moraines below sea level. Moraines adapted from Shafer and Hartshorn (1965) and Sirkin, (1982).

The moraines of southern New England are glacial tectonic moraines formed from older, pre-existing deposits deformed and thrusted by the fluctuating ice margin of the Laurentide Ice Sheet during the Late Wisconsinan, with a complicated stratigraphy and morphology (figure 2) (Oldale and O'Hara, 1984). The pre-existing sediment includes till (diamict) as well as stratified deposits ranging from coarse-grained (i.e., sand and gravel) ice-marginal meltwater deposits to fine-grained (silt/clay) lacustrine deposits. Portions of the moraine contain blocks of Cretaceous aged Coastal Plain strata displaced up to 80 m above the in-place elevation (Oldale and O’Hara, 1984). The stratigraphic complexity of the moraine and glacial-tectonic origin is well illustrated on Block Island, RI (Boothroyd and Sirkin, 2002; Stone and Sirkin, 1996) and Martha’s Vineyard (Oldale and O’Hara, 1984). The formation of these moraines is relevant because the process results in a landform composed of a variety of sediment types. The vertical and lateral heterogeneity of the moraine deposits produces a multifaceted suite of geologic habitats at the surface. The complex topography creates a pattern where topographic highs are generally dominated by coarser grained sediment (e.g., cobble-gravel and boulders) which can be derived (figure 2) from discontinuous basal till deposited when the ice advanced across the moraine prior to retreat (Oldale and O’Hara, 1984) and the flanks of the moraine are often overlain by stratified deposits, reworked glacial deposits or Holocene marine sediment.

Where the moraines are exposed at the surface, boulders, and other coarse-grained sediment (e.g., cobbles) are common. As a result, boulders serve as a proxy for ‘moraine’ habitat, although they are not diagnostic for the broader moraine landform. The COP Addendum section 3.2 (Epsilon, 2022) provides a good discussion of the boulder mapping both at the seafloor and in the shallow subsurface. Other geologic units can also contain boulders, including glacial till over bedrock or very-coarse grained ice-marginal stratified deposits (including eskers, ice-channel fillings and ice-proximal fluvial deposits). These are all areas of complex seafloor habitats and even if not formed by fluctuations of the ice-margin as a "moraine", impacts to these areas should be minimized as they are similar to the moraine deposits in structural form and benthic geologic habitat distribution.

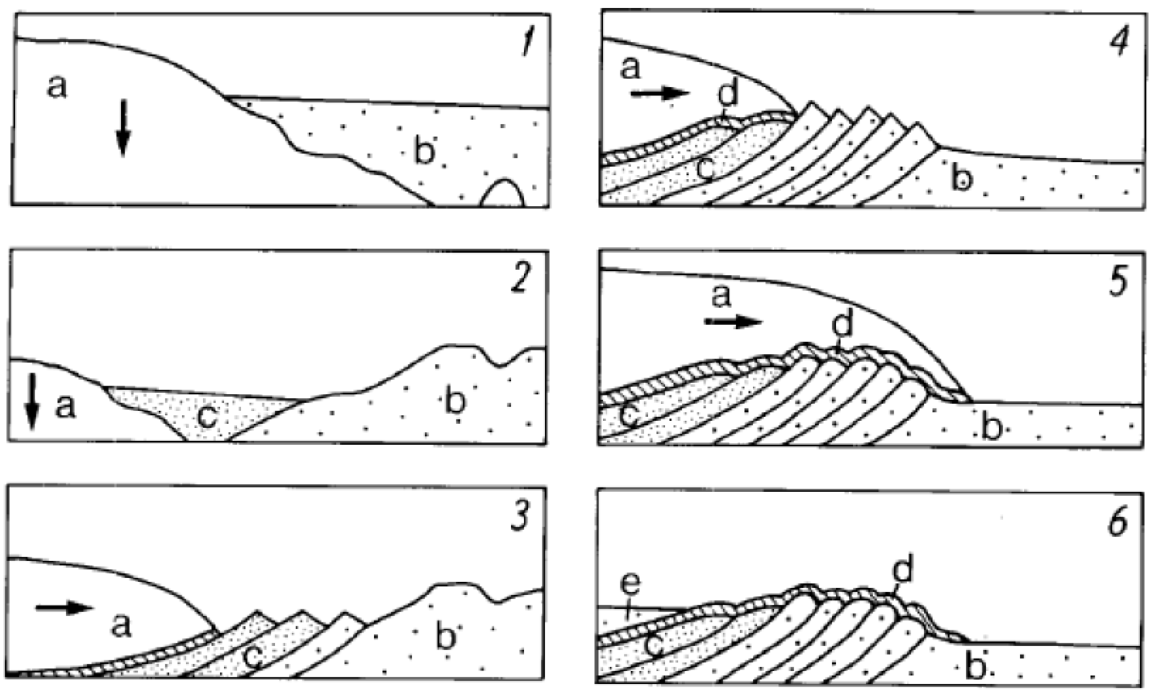


Figure 2: Formation of tectonic end moraines in southern New England (figure 12, Oldale and O'Hara, 1984). The ice sheet is 'a'; units b and c are stratified deposits deformed by the fluctuating ice margin. The number in the box represents the relative age, with 1 being the oldest. Note the till veneer (d) deposited in stages 5 and 6, which in this model extended beyond the main portion of the moraine as a thin layer overlying other ice-contact stratified deposits.

New England Wind/Vineyard South Wind Energy Area (NEWEA)

The main wind energy area was assessed, and benthic geologic features (sand waves, sorted bedforms) are common. Given the lack of boulders and location south of any identified glacial moraine habitat, a turbine-by-turbine review was not undertaken for the NEWEA. The modern depositional environments are interpreted to largely occur on top of reworked glacial stratified sediment, deposited in fluvial and lacustrine environments as the Laurentide Ice Sheet retreated from the terminal position. Of the 96 grab samples taken within the Lease OCS-A 0534, 62% of the samples were classified using the CMECS Substrate component (FGDC, 2012) as muddy sand and another 6% of the samples were 'sandy mud'. (All references to grab samples herein came from the ArcGIS Online viewer established by Avangrid.) The remaining 30% of the samples were comprised of very coarse sand (n=11), medium sand (n=11) and fine to very fine sand (n=7 samples). While the entirety of the mapped as 'soft bottom' following the NMFS classification may be a bit of an oversimplification of the seafloor complexity there appears to be no moraine or moraine-like habitat within the NEWEA. Sorted bedforms, bedforms and coarser sediment (sand to coarse sand) is found on a broad sandy topographic high within the NEWEA. The sand waves and sorted bedforms are discussed below. Concerns remain regarding the cable burial depth being reached due to the potential for bedform migration as well as the potential for impacts from hydraulic dredging for the harvesting of surf clams common in the region.

South Coast Variant Wind Energy Corridor

The primary issues found in this review are with the potential South Coast Variant cable corridor, which if used would connect the NEWEA to Massachusetts via a yet to be determined site within Buzzards Bay. The SCV crosses both the terminal and recessional moraine(s) and these areas are associated with dense boulder fields throughout the SCV. While relict and active fishing gear (i.e., Lobster Traps) and dumped debris may account for some of these targets, the sheer number and concentration of these boulders suggests most are of a geologic origin. The COP also interpreted boulders in the shallow subsurface (within 2 meters of the seafloor) in portions of SCV (See figure 3.2-6 in the COP SCV Addendum). Where the SCV corridor crosses the terminal moraine, which extends southwest from Martha's Vineyard through Nomans Land and continues offshore as Southwest Shoal, two distinct areas of dense (>50 boulders per 100m^2) were mapped (figure 3) between kilometer posts (KP) 44 and 52. This area was mostly mapped as 'moraine' (Figure 4). This includes a 5 km and 0.75 km sections, in which dense boulder fields span the entire width of the SCV corridor (See figures 5A-E; 7-13). Routing the cable through these sections without affecting the moraine habitat will be difficult.

Other areas of the SCV contained boulders, particularly along the prominent recessional Buzzards Bay Moraine extending southwest from Cuttyhunk Island (KP25 – KP 26.5). This was not mapped as 'moraine' by FUGRO (NEW_2021_ECC_Seabed_Morphology_Rev02 (moraine)) although it contained areas of dense (>50 boulders per 100m^2) (Figure 3, 4). Other habitats with boulders (including those mapped as glacial till, eroded sand body overlying till, or rippled scour depressions with boulders or mixed with till) (Figure 4) occurred but were not mapped as moraine. Given the alignment with the recessional position of the Laurentide ice sheet, this area should be considered moraine (figure 1). One important distinction compared to the terminal moraine portion of the SCV, is that the boulder fields crossing the recessional position <u>did not span the entire width of the corridor and routing the cable around the boulder</u> fields (through areas of isolated boulders, may be possible) (figures 5A-E; 6; 13-16). The potential for subsurface boulders should be considered in this rerouting to ensure adequate cable burial. Other boulder fields were mapped ~11km Southwest of Gay Head, Martha's Vineyard (KP40.5 – KP 41.5) (Figures 3; 4) between the inferred terminal and recessional moraine positions. The extent of boulders in both of these areas is such that routing of the cable could likely minimize impacts to these habitats. It is unclear if these boulders are part of the terminal moraine to the south or mark a recessional moraine 3 km north of the terminal moraine. Scattered and lower density boulders occurred north of this area between KP 38.5 – 40 and around KP 33.

South of the mapped terminal limit, approximately 9 (KP 55 – 58) and 11 km south/southeast of Nomans Island (KP 59 - 62.5) (figures 3, 4, 17-19). The potential for buried boulders was estimated as 'high' near kilometer post 50, roughly 20 km south of Martha's Vineyard, although only isolated bounders were mapped at the seafloor (COP Addendum figure 3.2-7 (Epsilon, 2022)). The geologic origin of these boulders remains unclear, but given the proximity to the terminal moraine deposits, these could be related to the last glacial maximum Laurentide Ice Sheet, either as a further advance of the Laurentide Ice Sheet OR coarse-grained ice-marginal stratified deposits. Other authors have suggested that lobes of the Laurentide Ice Sheet offshore of southern New England extended further south in earlier glaciations than Late Wisconsinan (Siegel et al., 2012). Stanford et al., (2021) report evidence of two glaciations older than the Late Wisconsinan (one from the early Pleistocene and one probably from the Illinoian glaciation ~130,000 yBP. Moraines marking this probable Illinoian glaciation extend ~5 km south of the Late Wisconsinan glacial maximum, suggesting, at least there, the southern extent of the ice sheet was similar during the Illinoian. The possibility that these boulders are moraine deposits from this earlier glaciation cannot be ruled out.

Sorted Bedforms and Sandwaves

Bedforms at a variety of scales were found in the NEWEA and SCV areas. Most of these features, which are complex patterns of wave and current scoured seafloor, are 'sorted bedforms' (also known as 'Rippled Scour Depressions' – areas of coarser sediment, typically with 2-Dimensional ripples slightly incised relative to the adjacent seafloor. The ripples contained within the features are wave-orbital ripples, and these areas may transition to plane bed (no ripples) during storm events, with the ripples reforming as the wave heights decrease as the wave heights wane following the storm (Clifton, 2006). <u>The total height of the ripples (>0.5 m) suggests this process will not impact the cable, provided the burial depth is met.</u>

The broader sorted bedforms/rippled scour depressions themselves are complex, particularly the exact formation mechanism, although they have been proposed to be self-organizing bedforms, and the inherent roughness of the features inhibits the deposition of finer-grained sediment within these features (Goldstein et al., 2011). These features are common throughout the region in a variety of water depths (Goff et al., 2005; McMullen et al., 2015; Oakley, 2019; Oakley et al., 2019). <u>The total relief of these features (0.2 to 0.8 m) suggests that significant scour and reworking of sediment at depth is unlikely.</u> The COP Addendum section 3.2 (Epsilon, 2022) provides a good discussion of the bedforms and sorted bedforms (rippled-scour depressions). Goff et al., (2005) working south of Martha's Vineyard in water depths of 8 to 18 m, found that migration of these features was complex; the boundaries between sorted bedforms may fluctuate over 10's of meters (horizontally) in both alongshore directions, however the general bathymetric features were relatively stable. <u>The relief of these features is less than the proposed cable burial depth (2 meters) so any migration of the bedforms should not uncover the cable provided the target depth is met.</u> Repeat surveys (if the data exists) could provide insight into the migration of these features within the SCV or NEWEA, although migration of some bedforms may only happen in substantial storm events and may not be captured with only a few years of data. Repeat surveys within the energy corridor around Muskeget Channel, which did show significant migration, are beyond the scope of this review. Section 3.2.1.1 and 3.2.1.2 of the COP Addendum (Epsilon, 2022) briefly discusses bedform migration and scour in the SCV, although it is not clear if repeat surveys were carried out.

Trawl Marks

Several areas of the SCV are mapped (figure 20) as low to moderate density of trawl marks ranging from 3-4 m wide and less than 10 cm deep. Features of this scale are interpreted to be from hydraulic dredges used to harvest surf clams. This was found south of Martha's Vineyard near kilometer posts 50 – 60 (figure 21). Other portions of the SCV were mapped as low to high density around kilometer posts 0 through 15. These trawl marks were less than 50 cm wide and likely form from the otter doors of a dragger harvesting finfish.

Trawl marks were common within the NEWEA, particularly in the northwestern and central portion of the Vineyard Wind north lease area. Trawl marks were less common in the Vineyard South lease area, although it is not clear if this represents reworking of the sediment or lack of trawl effort here.

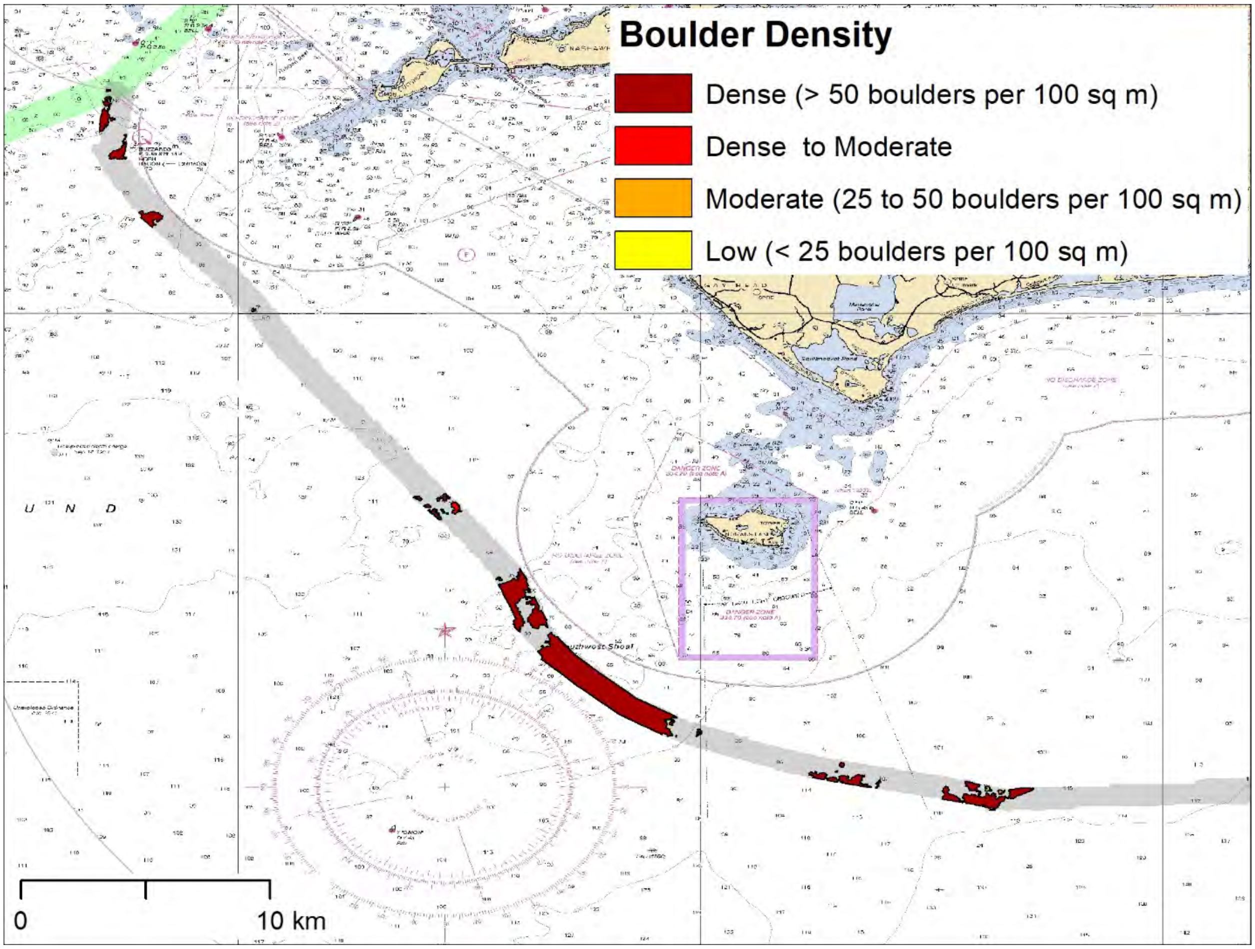


Figure 3: Boulder density within the South Coast Variant.

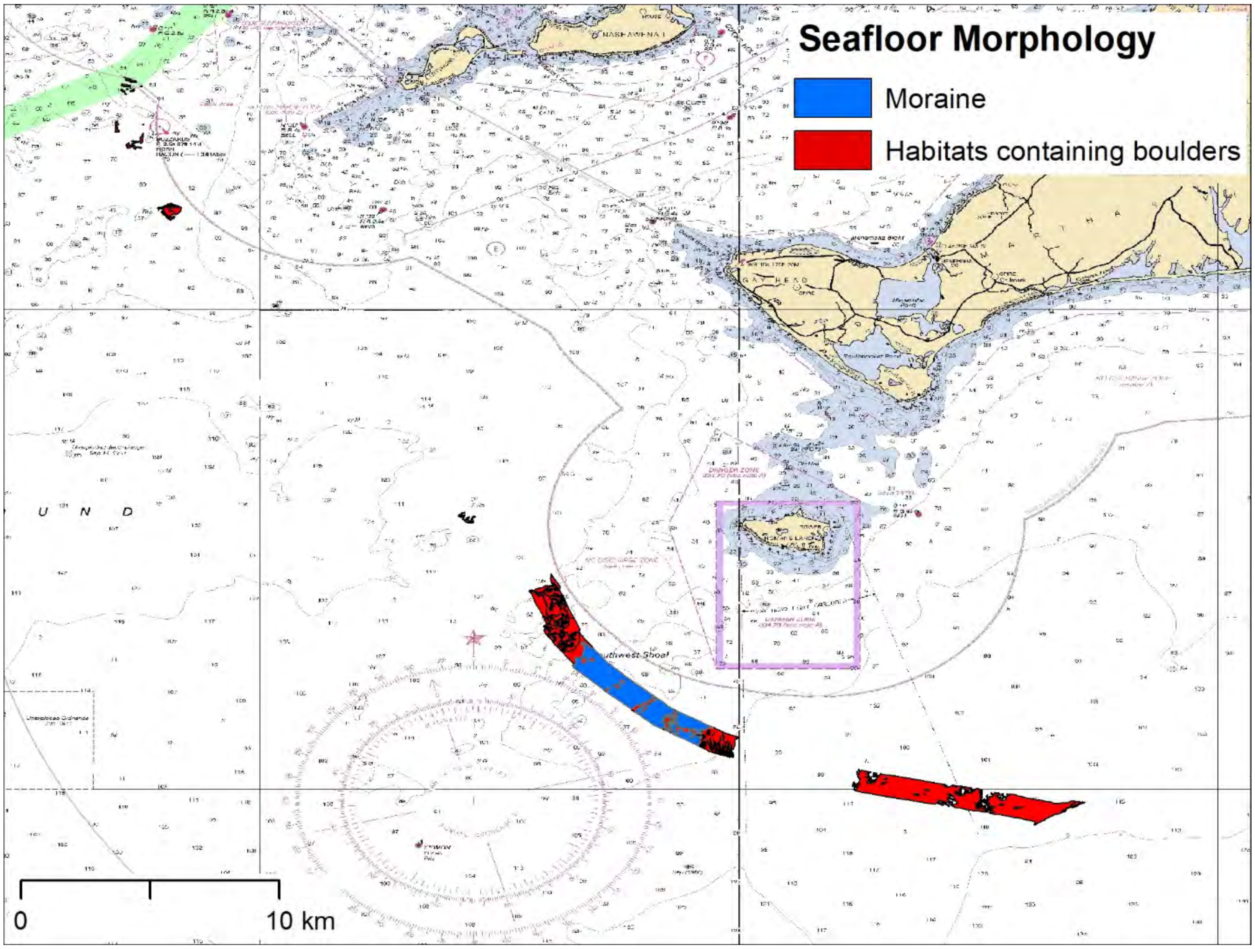
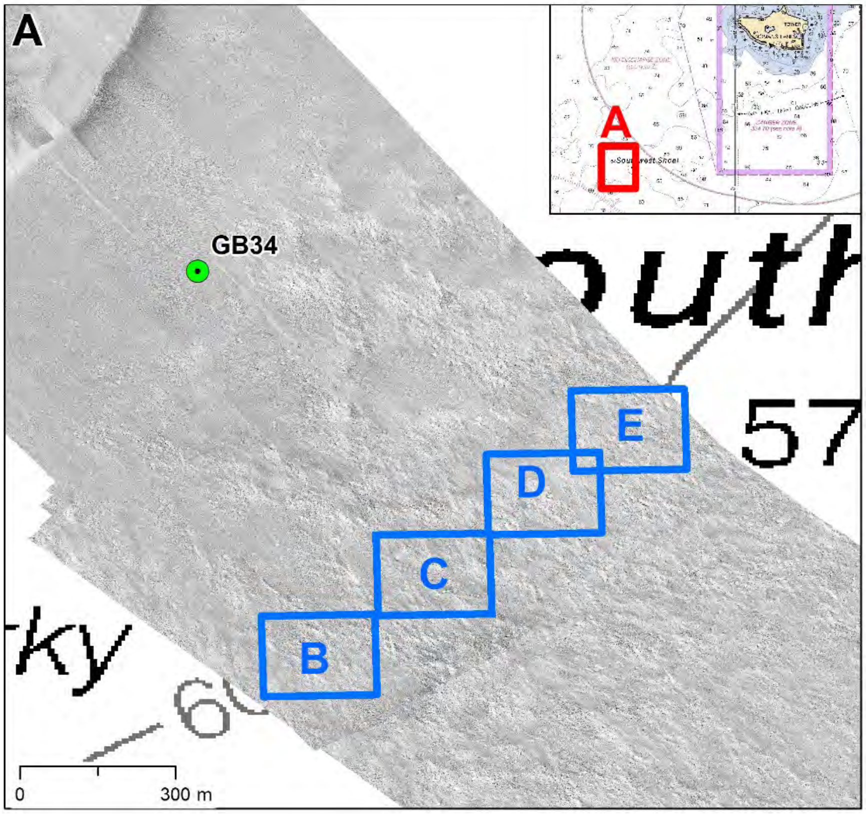


Figure 4: Seafloor morphology as mapped by FUGRO. Blue polygons represent areas where the seafloor morphology (class) was mapped as moraine. Red polygons are units described to have boulders within various other morphologies.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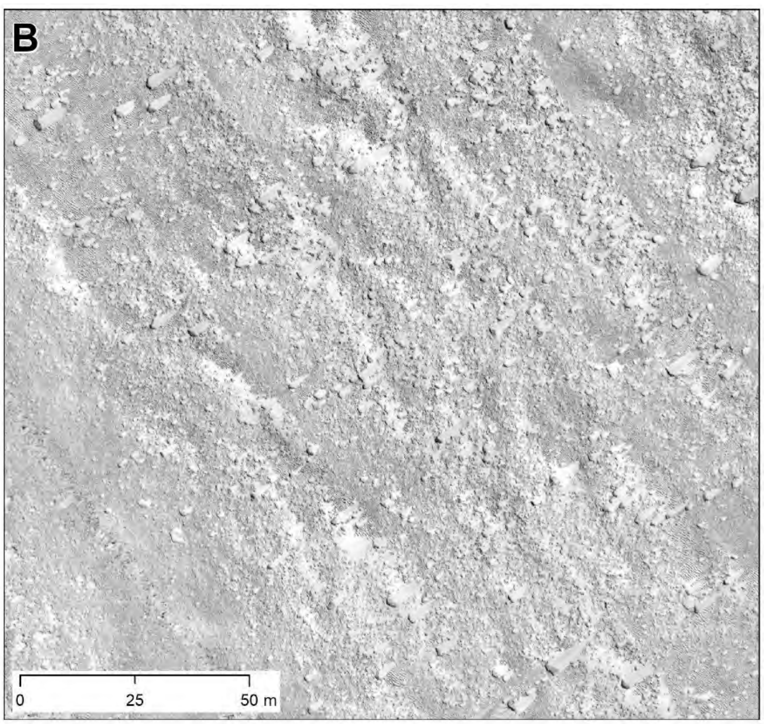
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25
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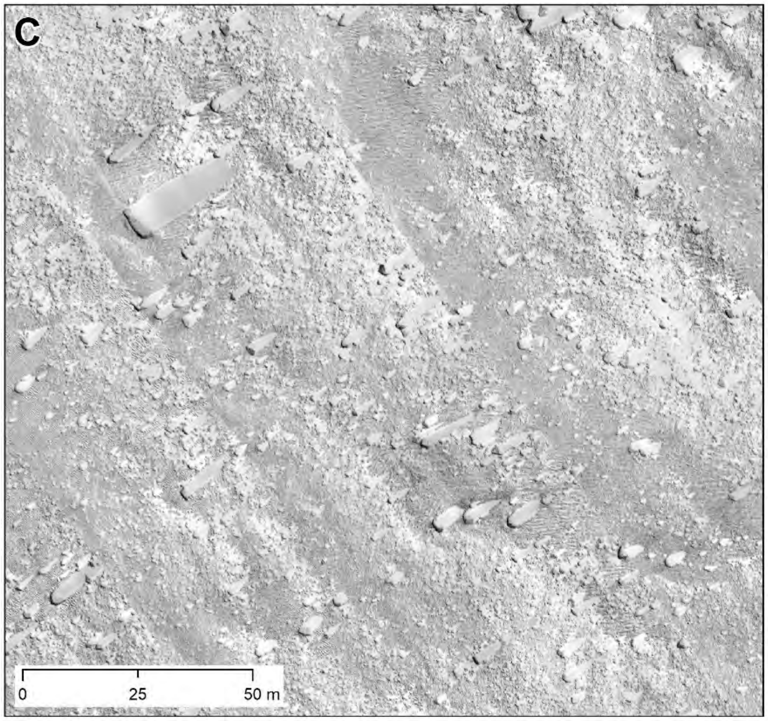
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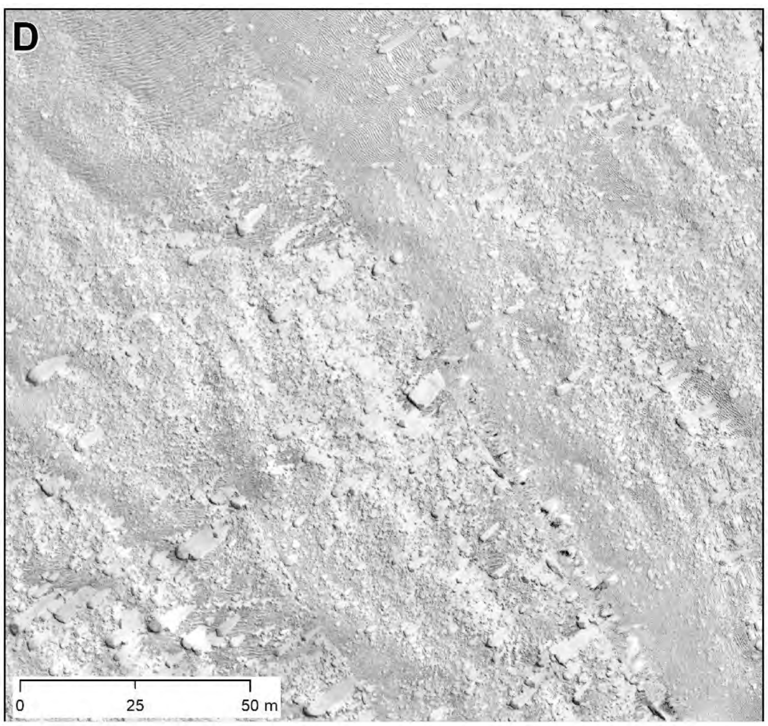
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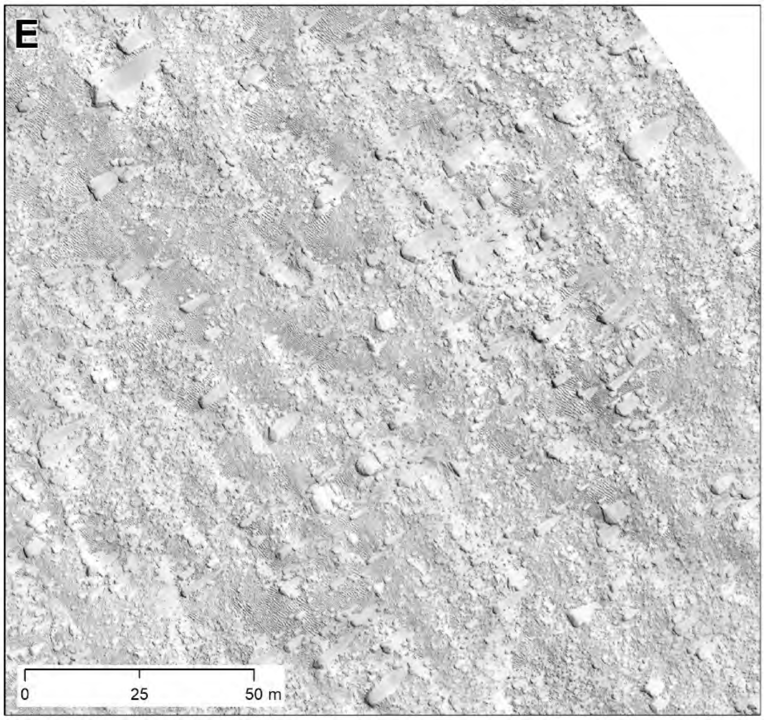
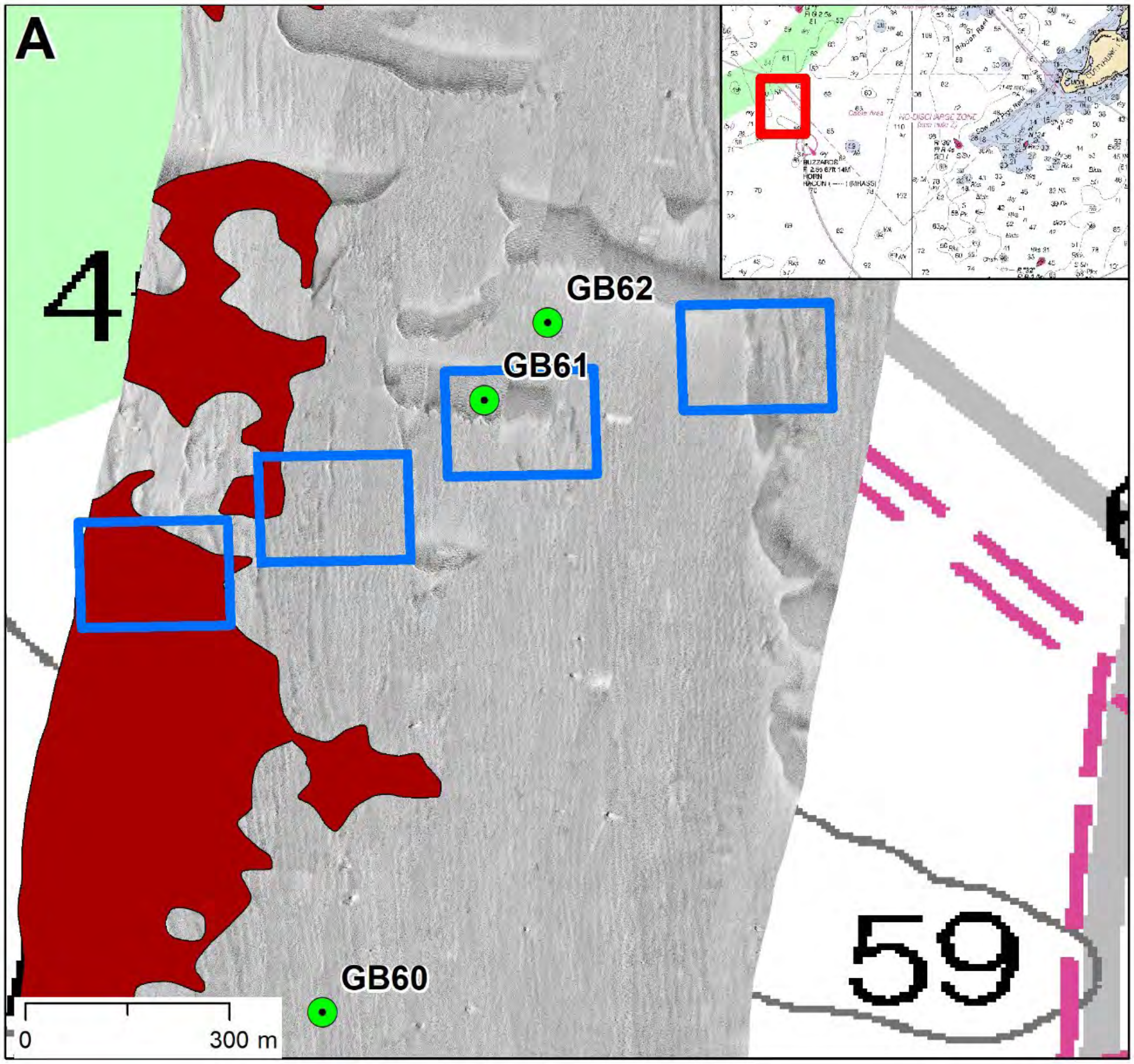


Figure 5: A) Location map of figures 5A-E on NOAA chart 13218. B-E Side-scan sonar mosaic across the terminal moraine at Southwest Ledge.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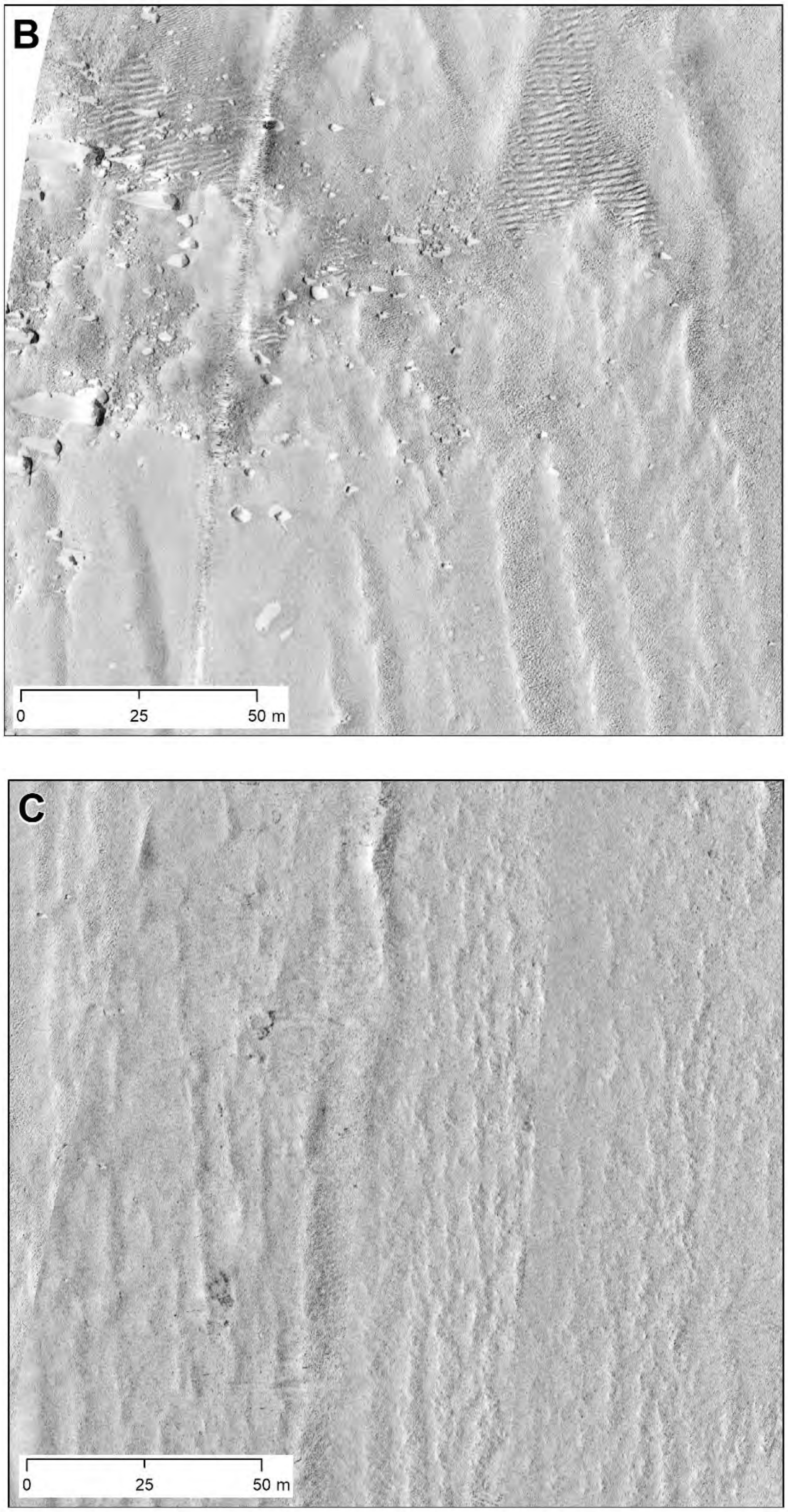
B
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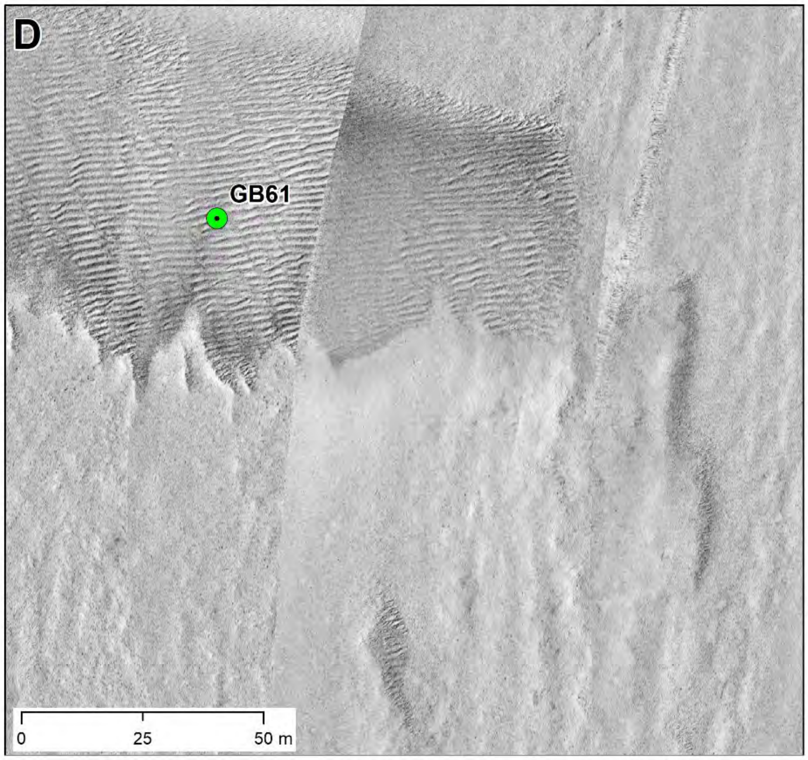

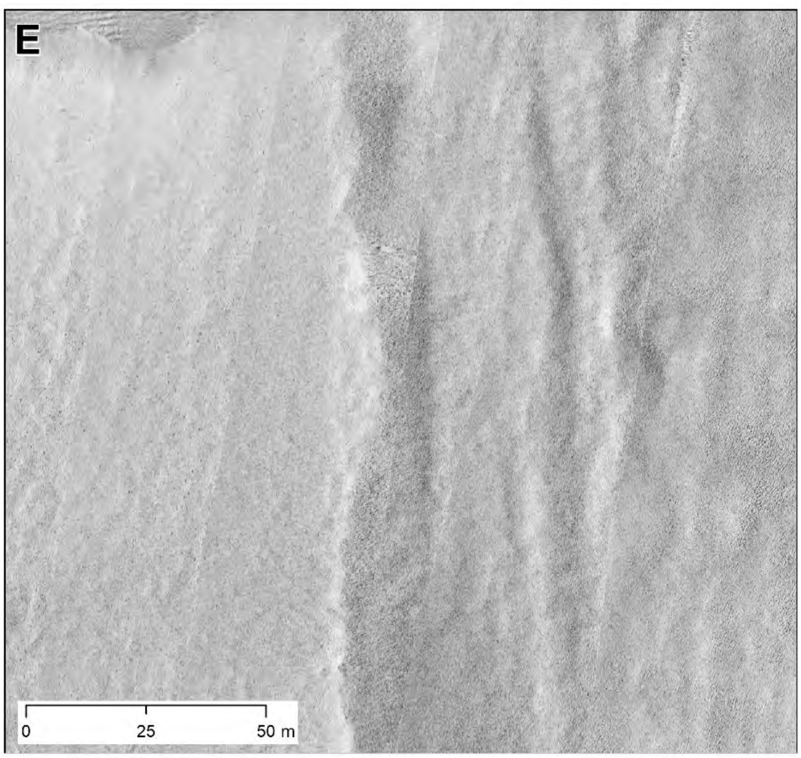

Figure 6: A) Location map of figures 6A-E on NOAA chart 13218. B-E Side-scan sonar mosaic across the recessional moraine southwest of Cuttyhunk.

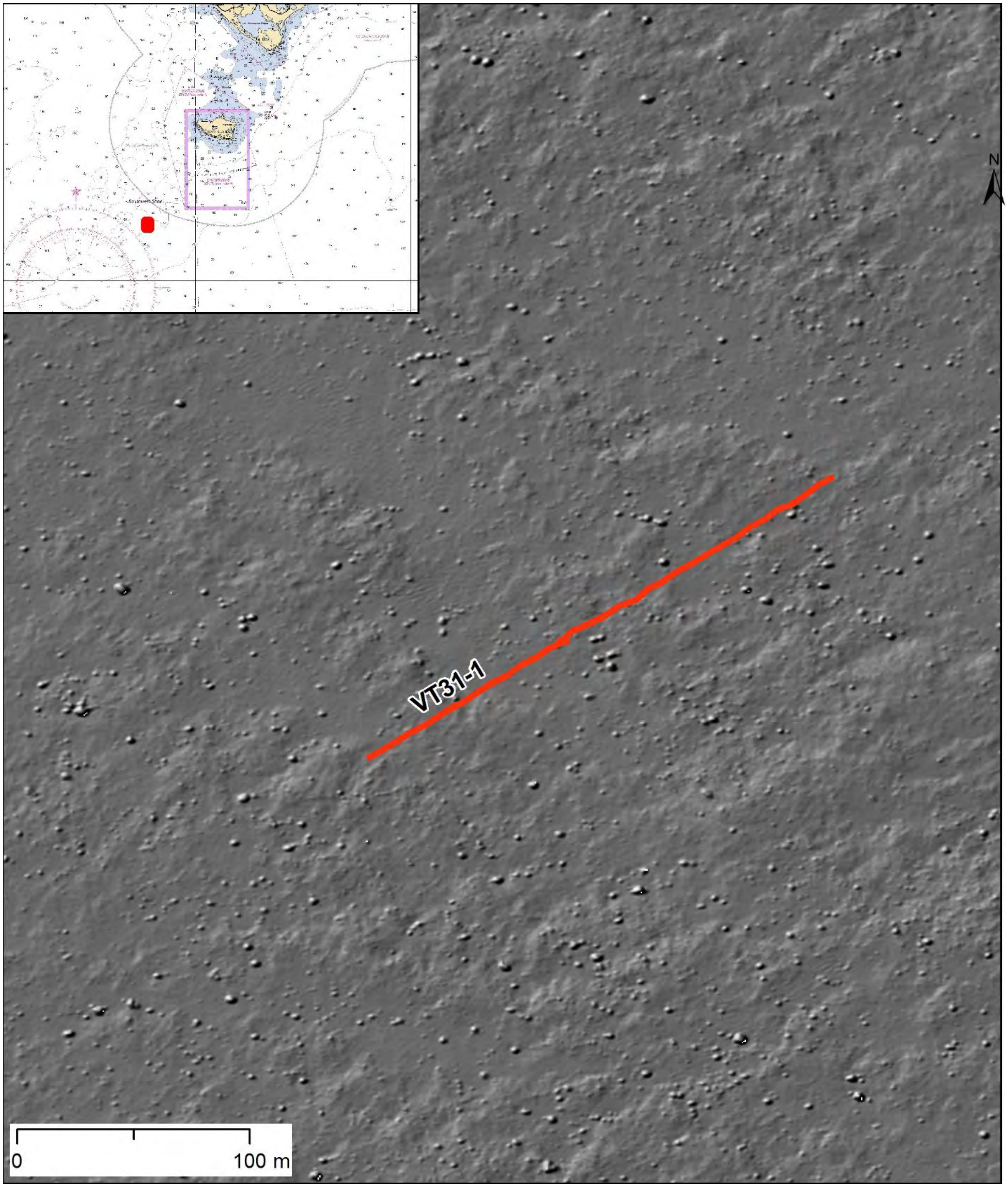

Figure 7: Hillshaded bathymetry of the seafloor around video transect 31 (red line). The substrate here is gravelly although portions of the video show medium-coarse sand with 2D ripples. The sample is located within a polygon mapped as dense boulders (>50 boulders per 100m^2) as part of the terminal moraine deposits extending along Southwest Ledge. See figure 4 for the plan view image of the seafloor. The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

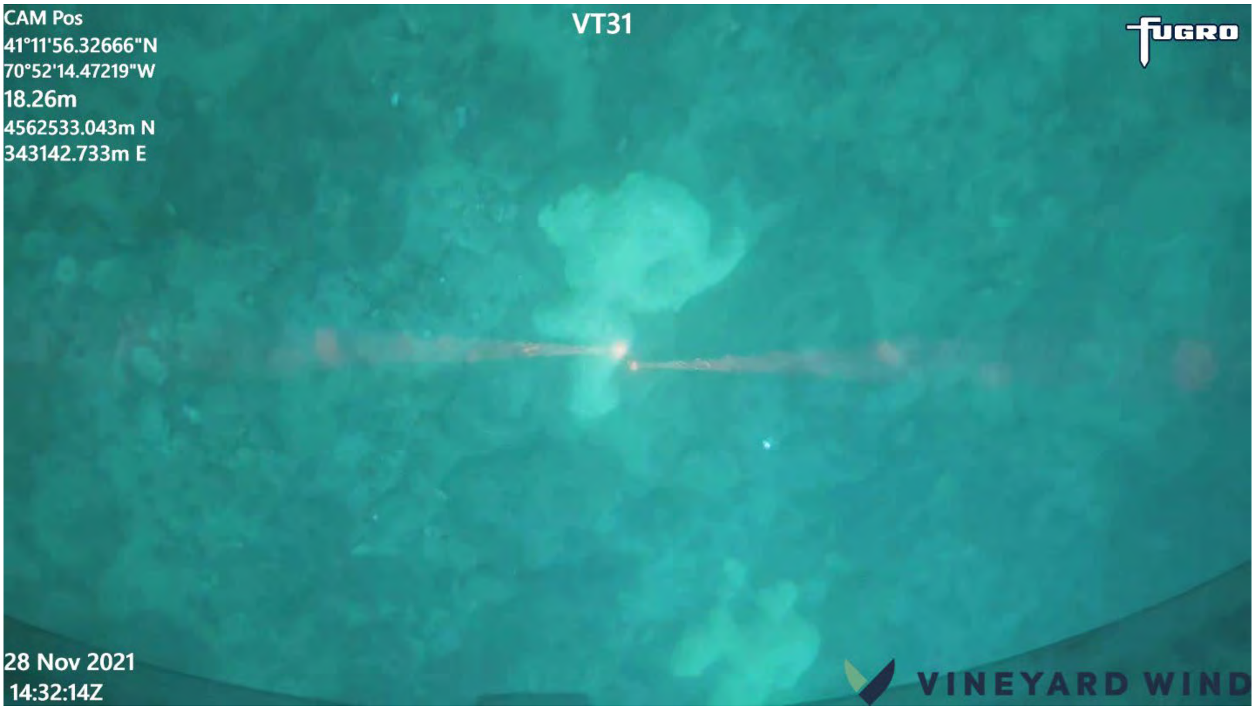

Figure 8: Plan view image from video transect 31 within the dense boulders (>50 boulders per 100m2) within the terminal moraine deposits on Southwest Ledge. (See figure 3 for the location). Note the large boulders visible in the image.

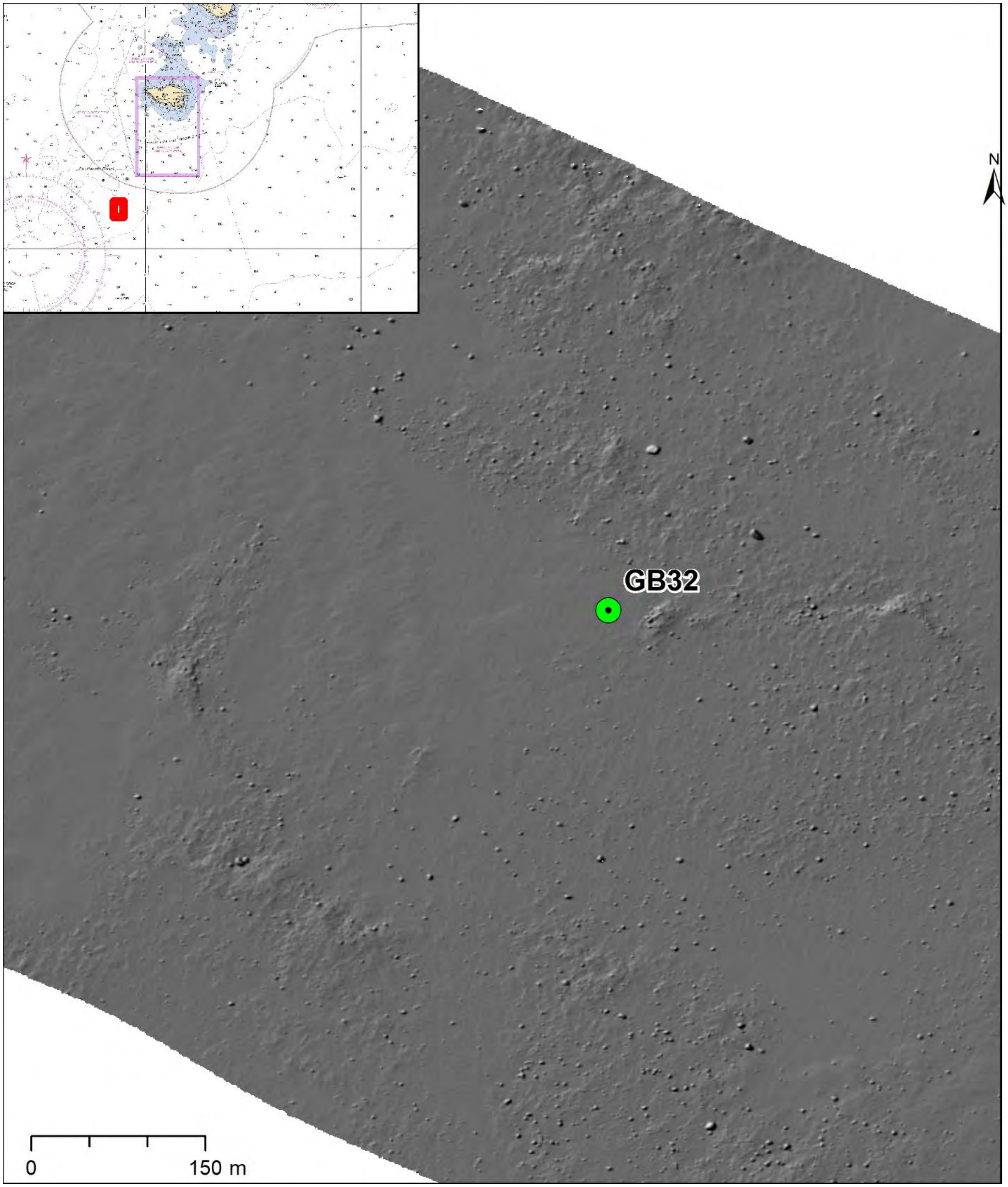

Figure 9: Hillshaded bathymetry of the seafloor around station GB-32 (green dot). The substrate here is gravelly sand, with a mix of sand and cobbles visible. The sample is located within a polygon mapped as dense boulders (>50 boulders per 100m^2) as part of the terminal moraine deposits extending along Southwest Ledge. See figure 6 for the plan view image of the seafloor at station GB-32. The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

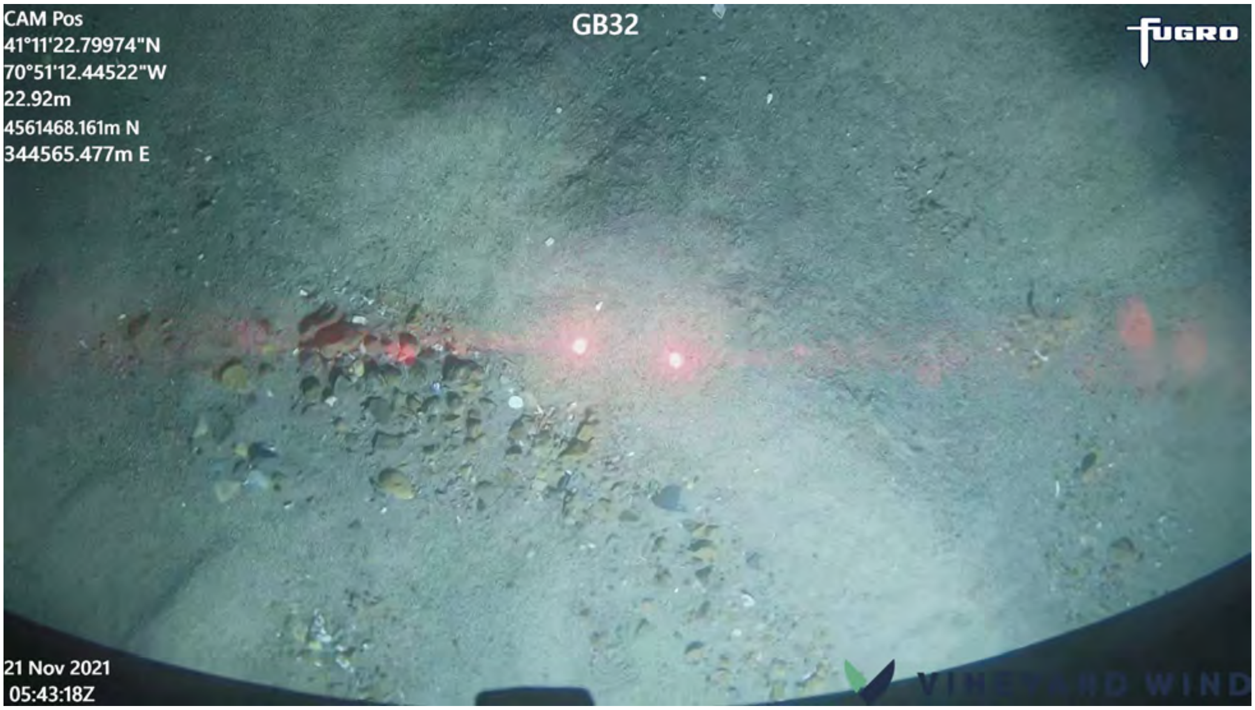

Figure 10: Plan view image of the seafloor at station GB-32. The sediment here is mapped as gravelly sand. See figure 5 for the location of the sample.

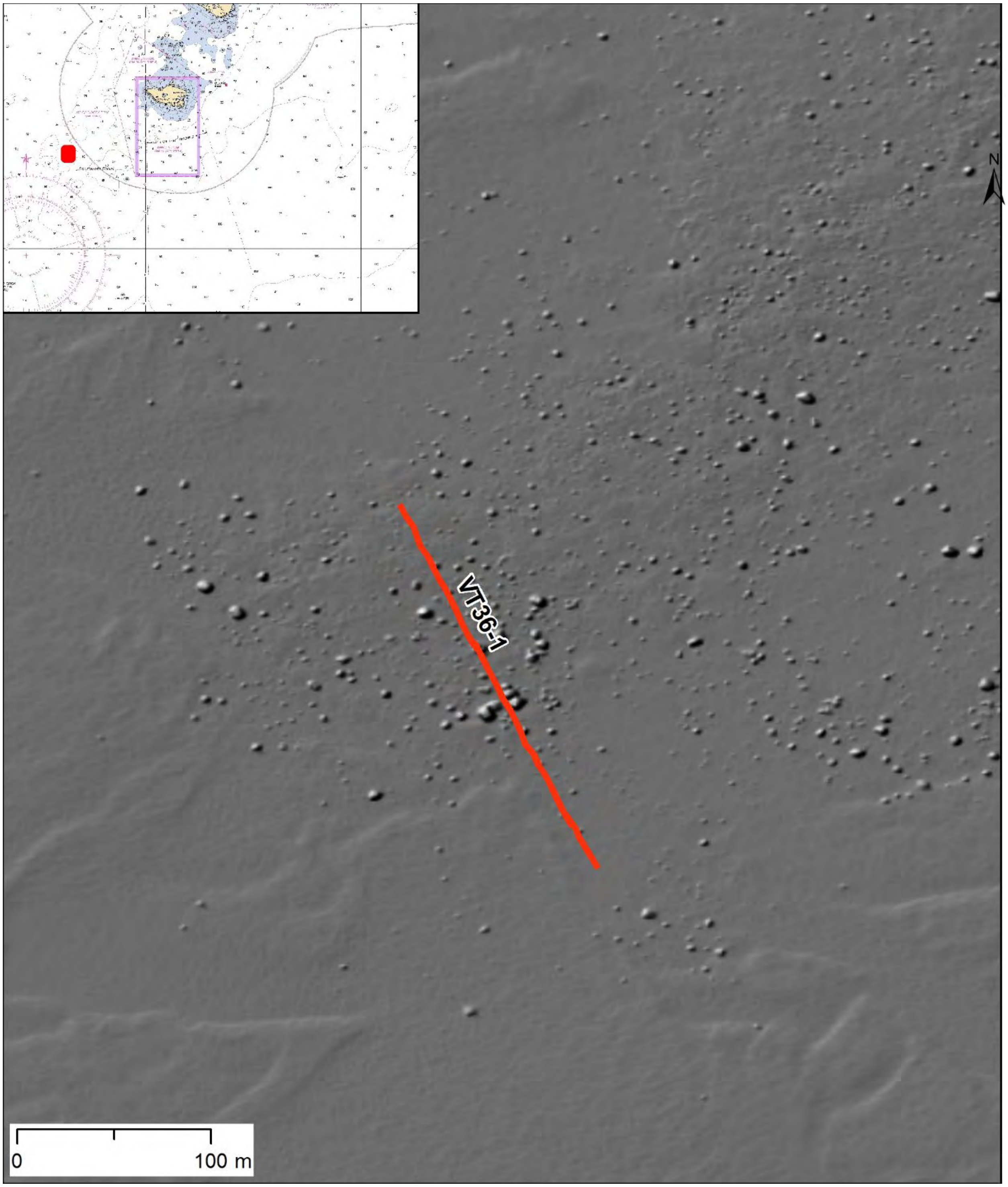

Figure 11: Hillshaded multi-beam bathymetry southwest of Nomans as part of the terminal moraine deposits. The boulders here are mapped as dense (>50 boulders per 100m2) within the terminal moraine deposits of Southwest Ledge. The red line is the location of video transect 36 (figure 8). The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

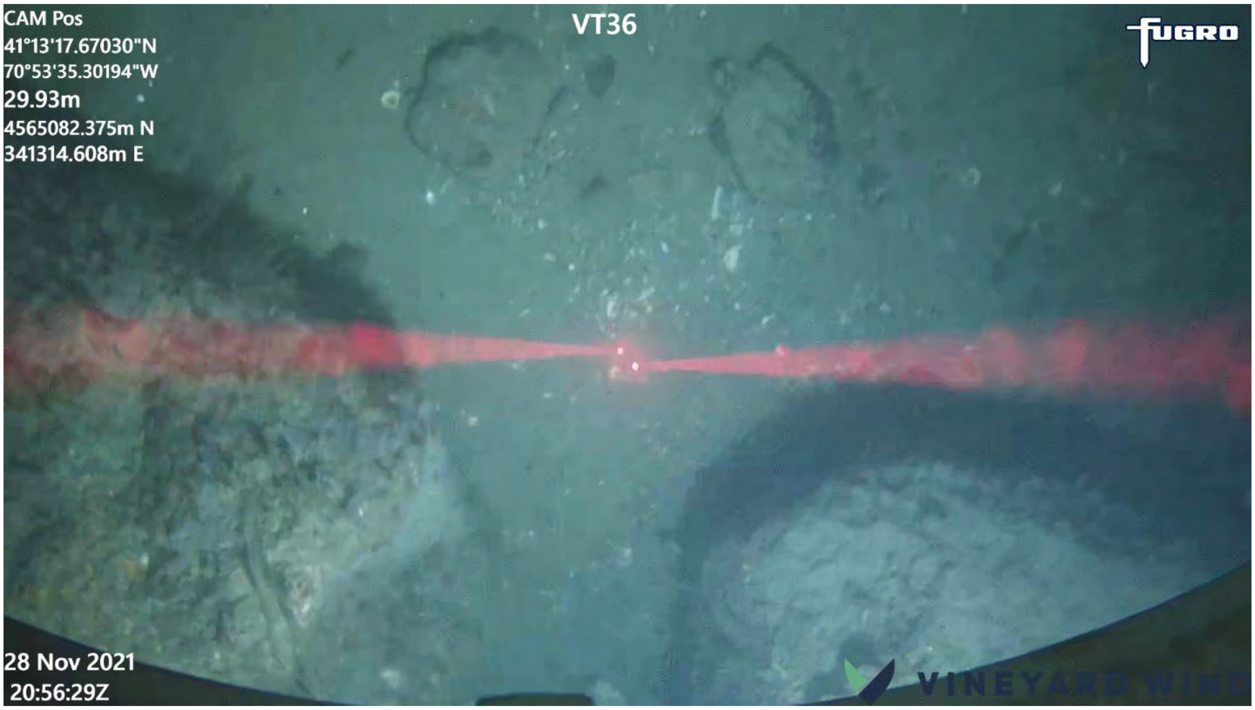

Figure 12: Plan view image from video transect 36 within the dense boulders (>50 boulders per 100m^2) within the terminal moraine deposits on Southwest Ledge. (See figure X for the location). Note the large boulders visible in the image.

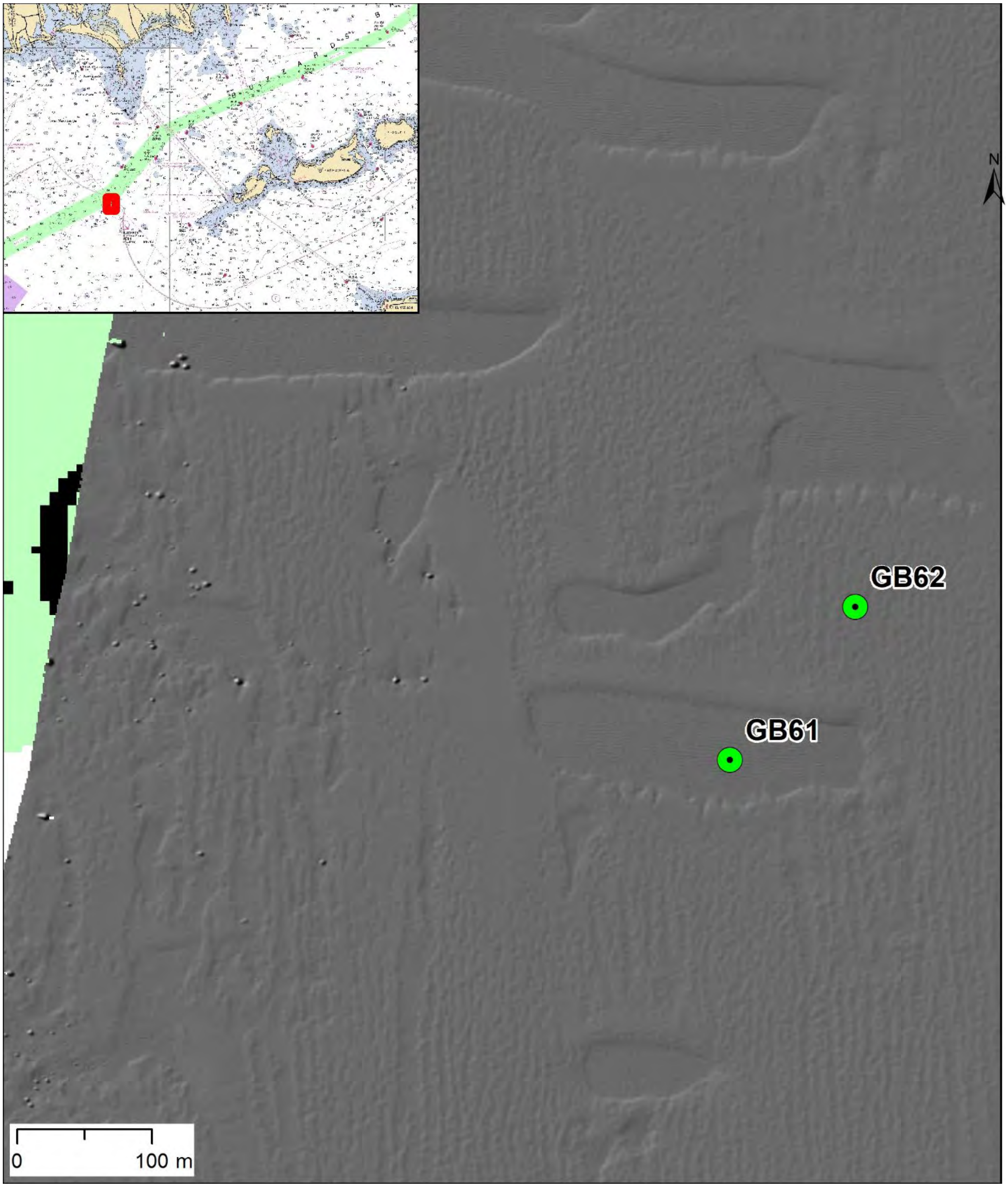

Figure 13: Hillshaded multi-beam bathymetry of a portion of the recessional moraine extending southwest of Cuttyhunk Island (marked by the scattered boulders on the left side of the image).. Sample GB-61 is located within a scattered depression. The seafloor at sample GB-61 is gravelly sand/sandy gravel (See figure 10). Sample GB-62, located outside of the scour depression did not contain an image but the substrate here is fine sand. The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

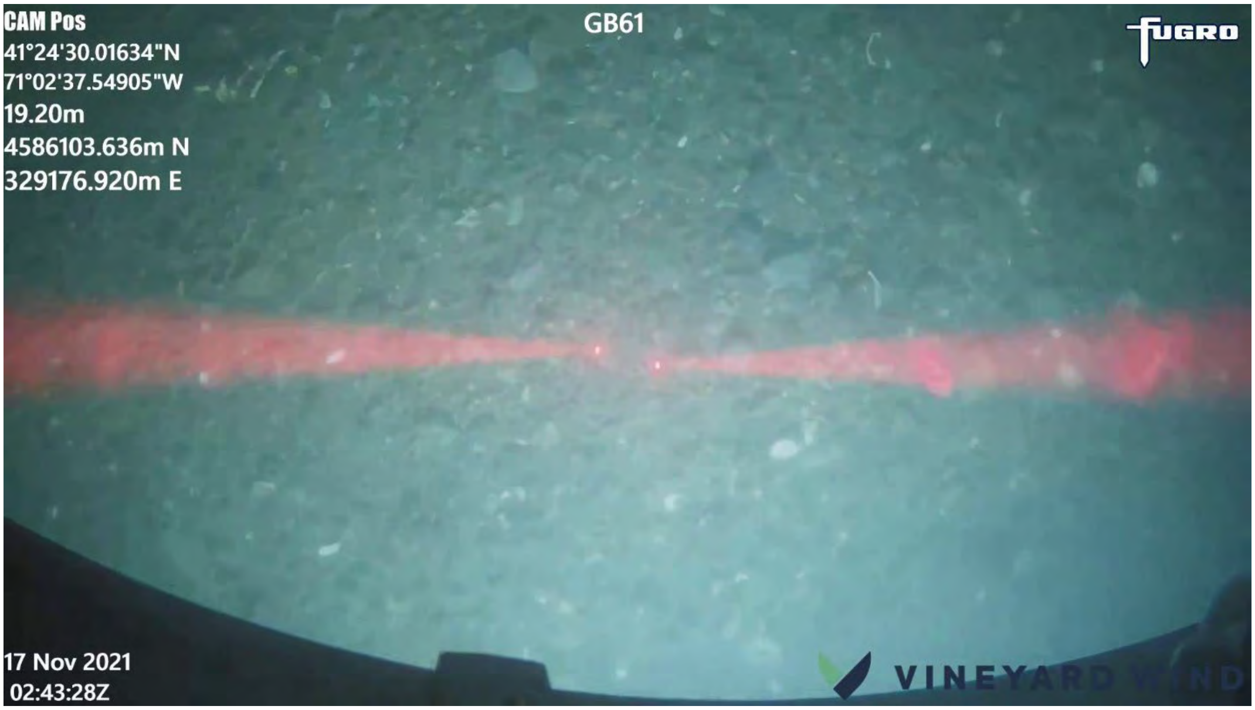

Figure 14: Station GB61 showing a complex Gravelly sand (cobbles to small boulders) located within the recessional moraine deposits southwest of Cuttyhunk Island. See figure 9 for the location of the sample.

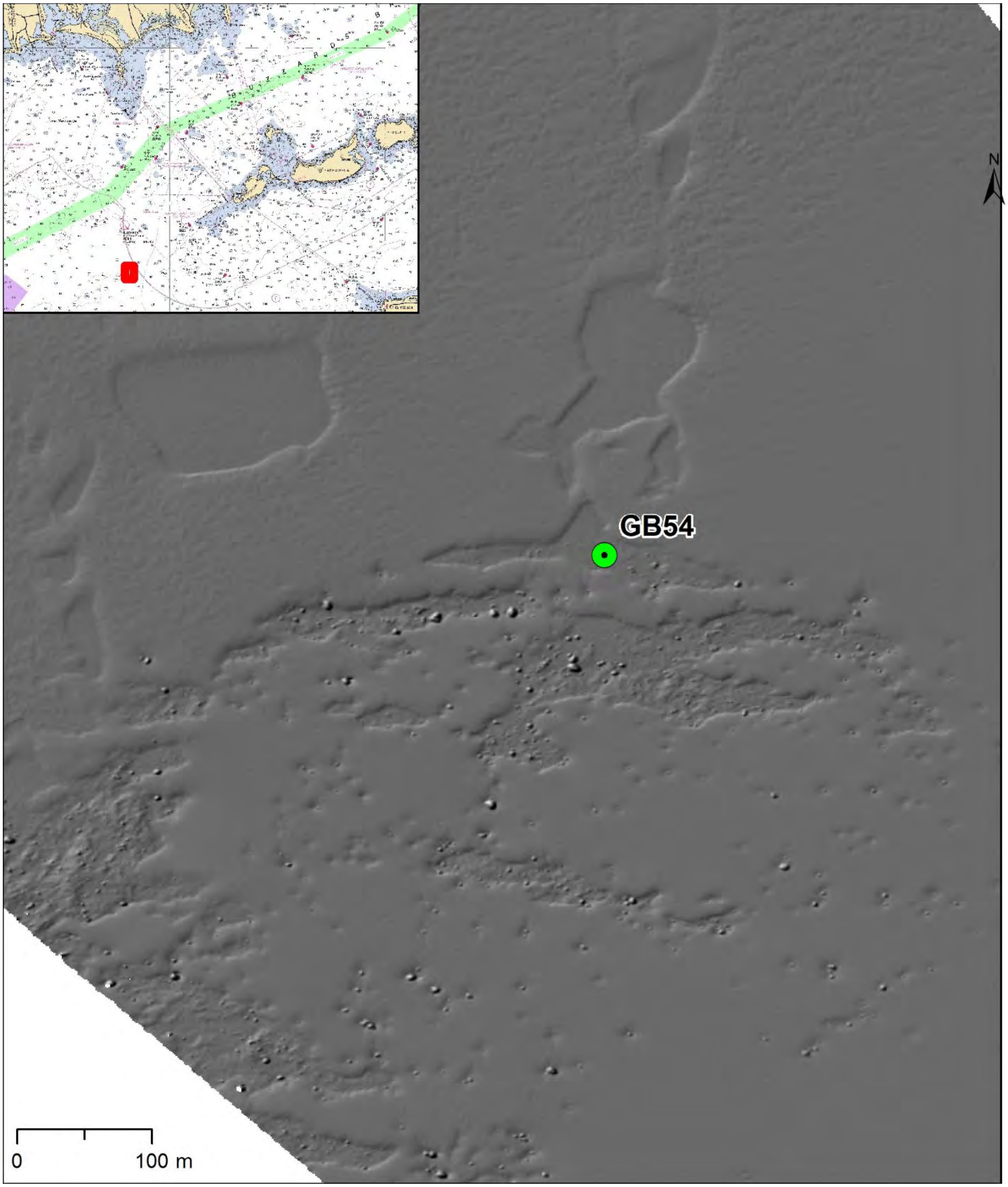

Figure 15:Hillshaded bathymetry of the seafloor around station GB-54 (green dot). The substrate here is sandy gravel, with a mix of sand and cobbles visible (see figure 12). The sample is located within a polygon mapped as dense boulders (>50 boulders per 100m^2). The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

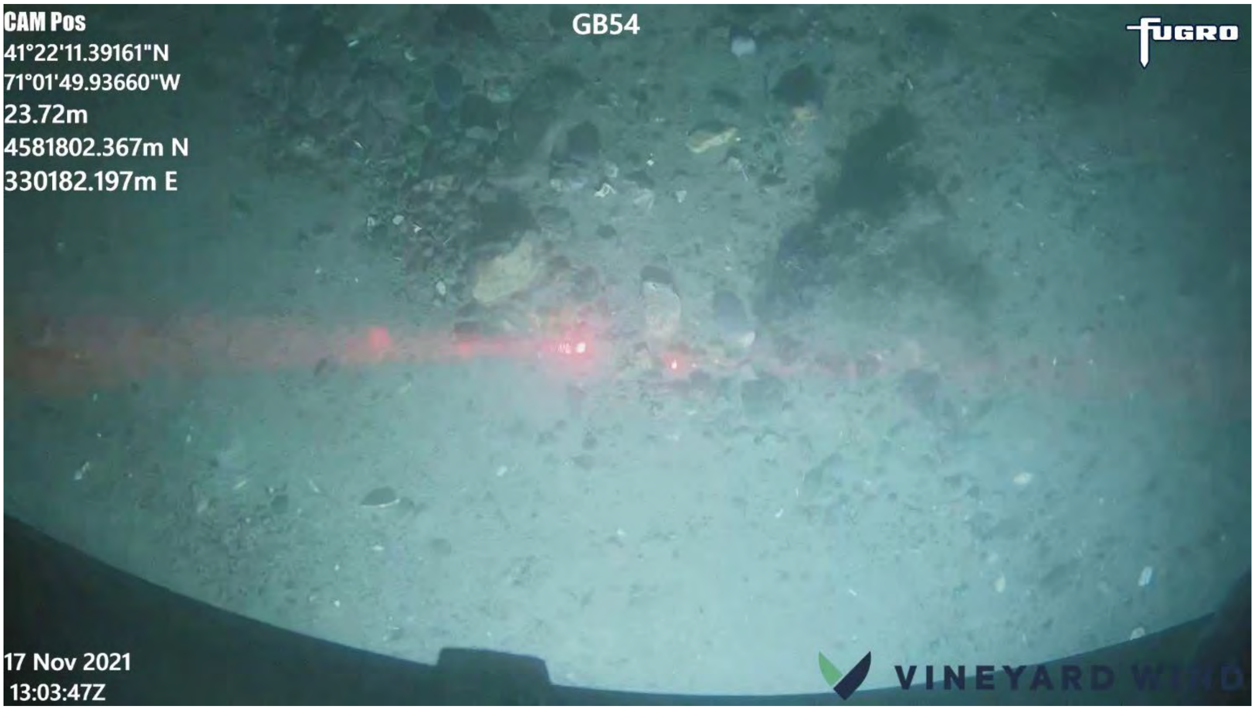

Figure 16: Plan view image of the seafloor at station GB-54 located southwest of Cuttyhunk along a portion of Browns Ledge. The sediment here is mapped as sandy gravel. See figure 11 for the location of the sample.

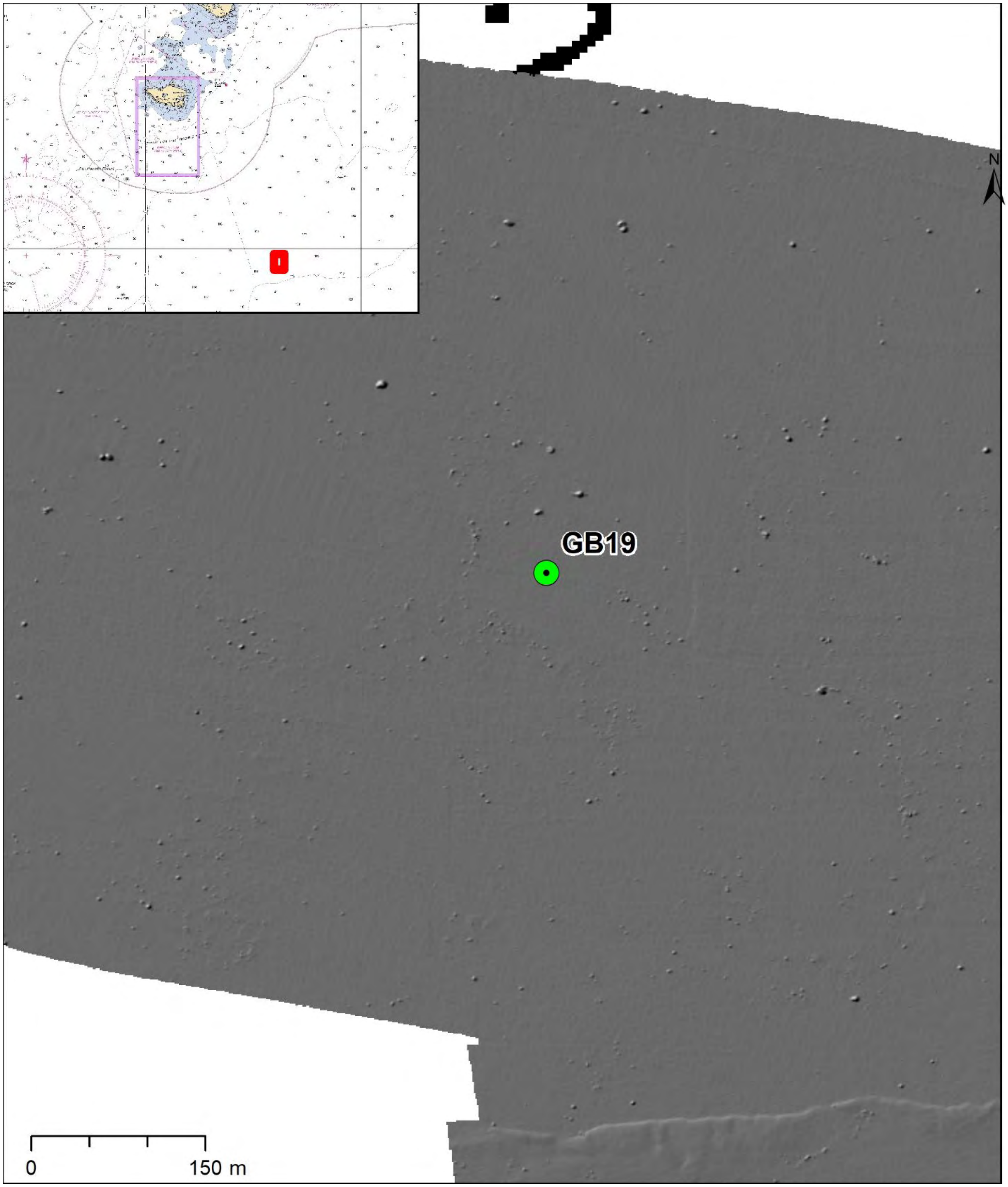

Figure 17: Hillshaded multi-beam bathymetry 11 km south of Nomans. The boulders here are mapped as dense (>50 boulders per 100m^2). The green dot is the location of grab sample GB-19. The red line is the location of video transect 36. The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

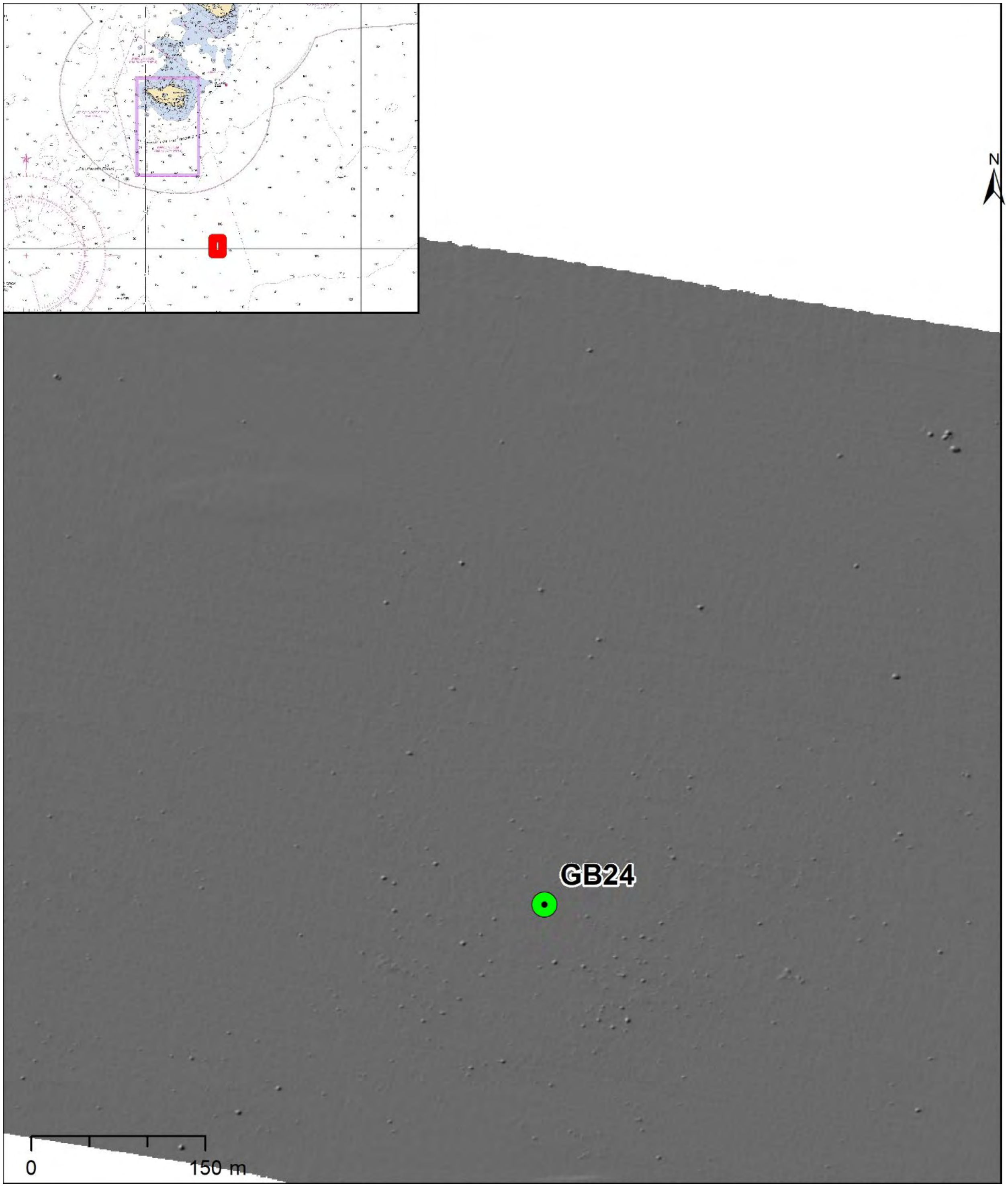

Figure 18: Hillshaded bathymetry around grab sample GB-24 located 9 km south of Nomans. The boulder density here is mapped as dense (>50 boulders per 100m^2). See figure 15 for the plan view image of the seafloor at station GB24 (green dot). The locus map in the upper left shows NOAA Chart 13218. The red box shows the extent of the figure.

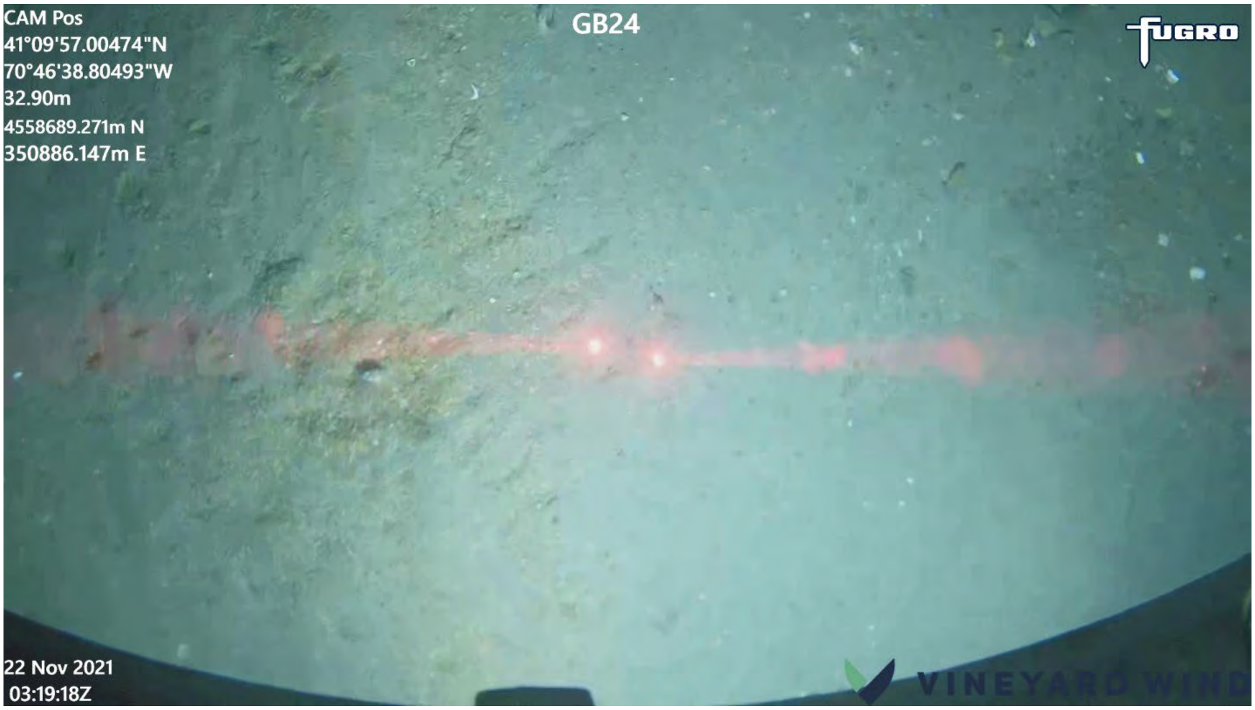

Figure 19: Plan view image of the seafloor at station GB24. The sediment here is mapped as gravelly sand. See figure 5 for the location of the sample.

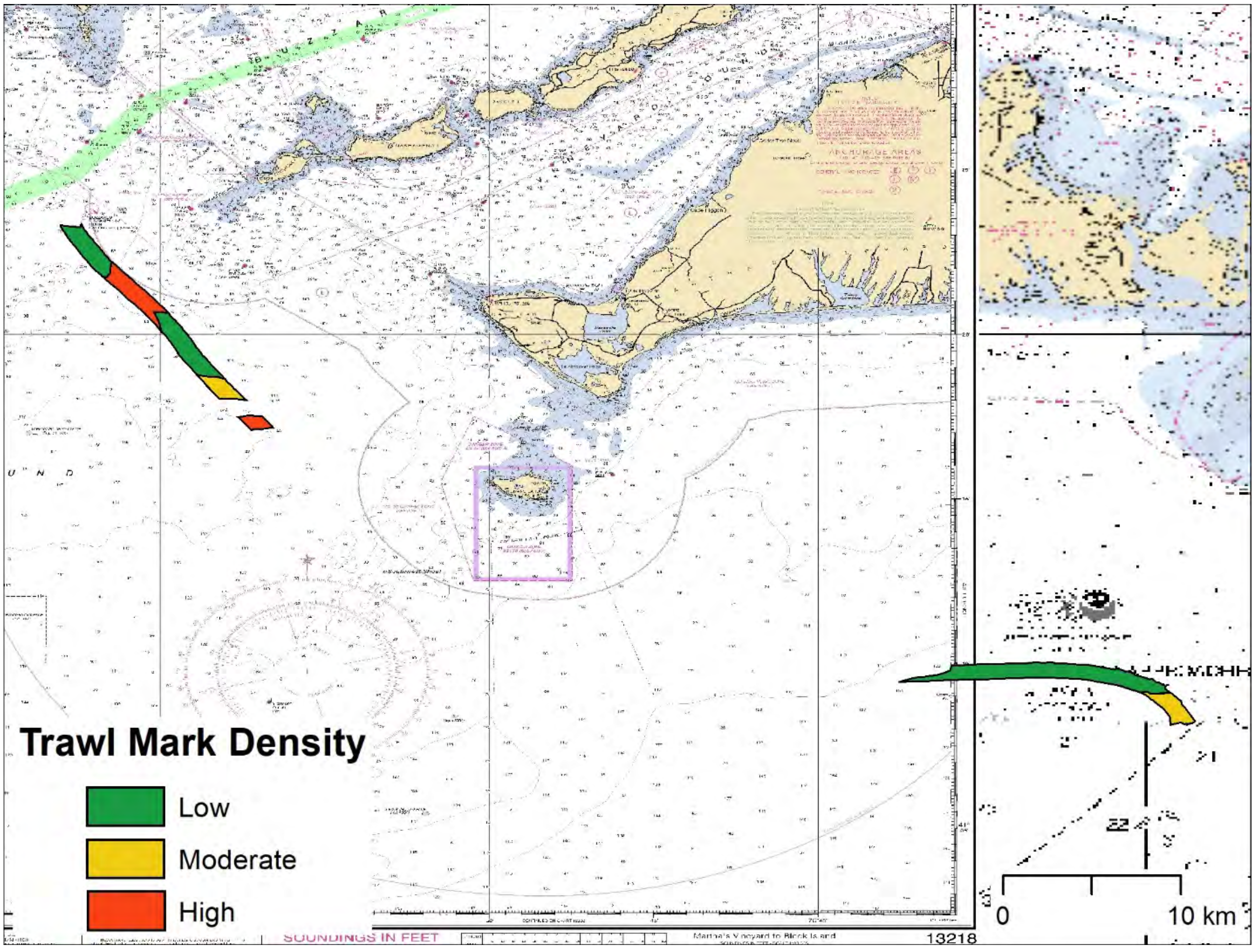

Figure 20: Trawl mark density as mapped in the South Coast Varient

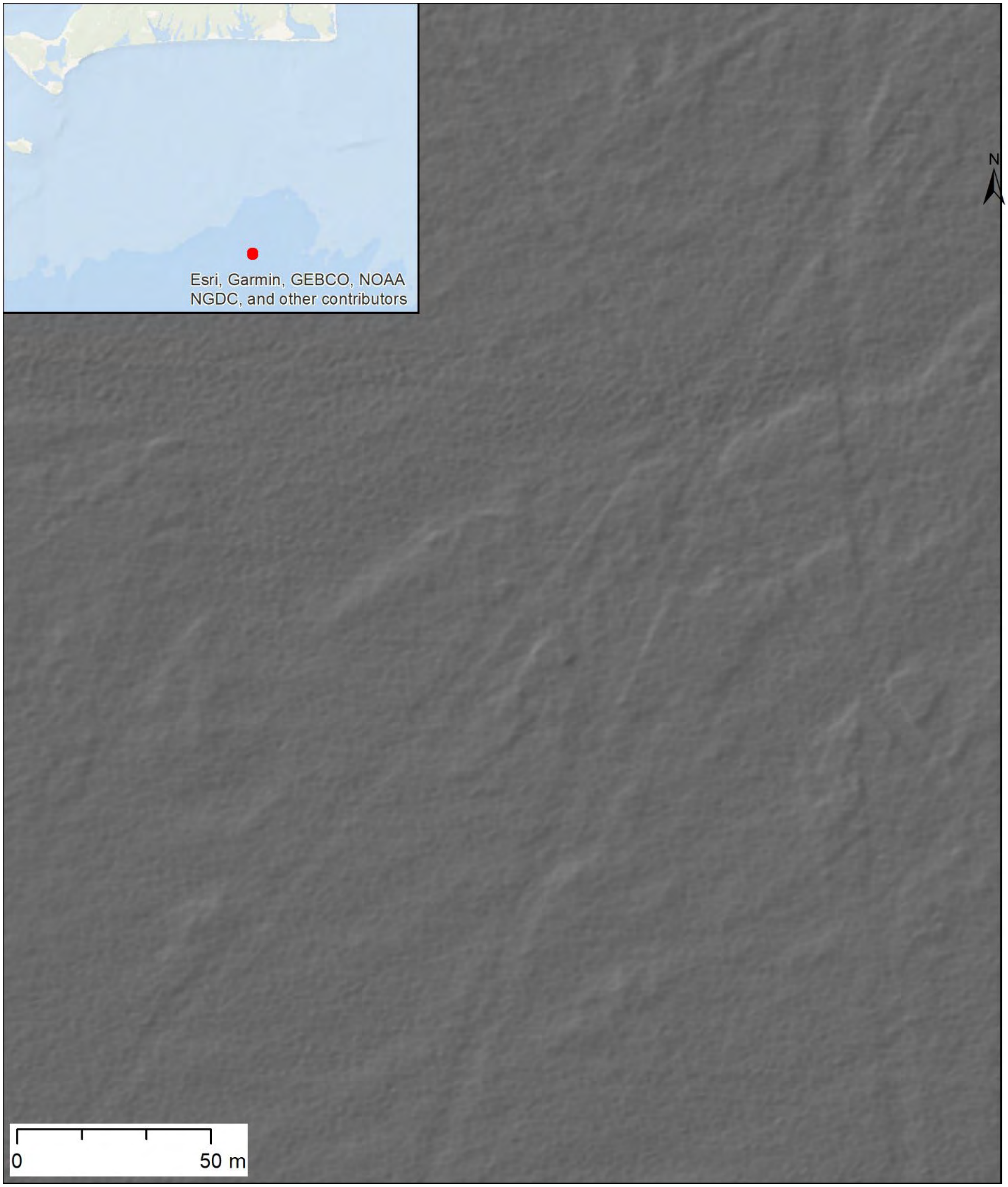

Figure 21: Hillshaded bathymetry within the SCV south of Martha's Vineyard showing linear features 3-4 m wide likely formed from the harvesting of surf clams with a hydraulic dredge. This area is mapped as a low density of drag scars. The red box on the inset locus map shows the location of the figure.

References Cited

Boothroyd, J. C., and Sirkin, L., 2002, The Quaternary geology of Block Island and adjacent regions, *in* Paton, P., Gould, L. I., August, P. V., and Frost, A. O., eds., The Ecology of Block Island: Kingston, Rhode Island, Rhode Island Natural History Survey, p. 13-27.

Clifton, H. E., 2006, A reexamination of facies models for clastic shorelines, *in* Posamentier, H. W., and Walker, R.G, ed., Facies Models Revisited, Society of Economic Paleontologists and Mineralogists: Special publication 84, p. 293-337.

Epsilon, 2022, Draft Construction and Operations Plan Addendum for the Phase 2 Offshore Export Cable Corridor South Coast Variant.

FGDC, 2012, Coastal and Marine Ecological Classification Standard (CMECS).

Goff, J. A., Mayer, L. A., Traykovski, P., Buynevich, I., Wilkens, R., Raymond, R., Glang, G., Evans, R. L., Olson, H., and Jenkins, C., 2005, Detailed investigation of sorted bedforms, or "rippled scour depressions," within the Martha's Vineyard Coastal Observatory, Massachusetts: Continental Shelf Research, v. 25, no. 4, p. 461-484.

Goldstein, E. B., Murray, A. B., and Coco, G., 2011, Sorted bedform pattern evolution: Persistence, destruction and self-organized intermittency: Geophysical Research Letters, v. 38, no. 24.

LaFrance, M., Shumchenia, E. J., King, J. W., Pockalny, R., Oakley, B. A., Pratt, S., and Boothroyd, J. C., 2010, Benthic habitat distribution and subsurface geology of selected sites from the Rhode Island Ocean Special Management Study Area: Rhode Island Coastal Resources Managament Council.

McMullen, K. Y., Poppe, L. J., and Parker, C. E., 2015, Character, distribution, and ecological significance of storm wave-induced scour in Rhode Island Sound, USA: Geo-Marine Letters, v. 35, no. 2, p. 135-144.

Oakley, B. A., 2019, Persistence of Sorted Bedforms on the Glaciated Rhode Island Shoreface at the Weekly to Decadal Scale, Coastal Sediments 2019, p. 2186-2199.

Oakley, B. A., Murphy, C., Varney, M., and Hollis, R. J., 2019, Spatial Extent and Volume of the Shoreface Depositional Platform on the Upper Shoreface of the Glaciated Rhode Island South Shore: Estuaries and Coasts.

Oldale, R. N., and O'Hara, C., 1984, Glaciotectonic origin of the Massachusetts coastal end moraines and a fluctuating late Wisconsinan ice margin: Geological Society of America Bulletin, v. 95, no. 1, p. 61-74.

Schafer, J. P., and Hartshorn, J., 1965, The Quaternary of New England, *in* Frey, J. W. a. D., ed., The quaternary of the United States: Princeton, N.J., Princeton University Press, p. 113-127.

Siegel, J., Dugan, B., Lizarralde, D., Person, M., DeFoor, W., and Miller, N., 2012, Geophysical evidence of a late Pleistocene glaciation and paleo-ice stream on the Atlantic Continental Shelf offshore Massachusetts, USA: Marine Geology, v. 303-306, p. 63-74.

Sirkin, L. A., 1982, Wisconsinan glaciation of Long Island, New York to Block Island, Rhode Island, *in* Larson, G. J., and Stone, B. D., eds., Late Wisconsinan glaciation of New England: Dubugue, IA, Kendall/Hunt, p. 35-60.

Stanford, S. D., Stone, B. D., Ridge, J. C., Witte, R. W., Pardi, R. R., and Reimer, G. E., 2021, Chronology of Laurentide glaciation in New Jersey and the New York City area, United States: Quaternary Research, v. 99, p. 142-167.

Stone, B. D., and Borns jr., H., 1986, Pleistocene glacial and interglacial stratigraphy of New England, Long Island and adjacent Georges Bank and Gluf of Maine, *in* V. Sibrava, D. Q. B. a. G. M. R., ed., Quaternary glaciations in the Northern Hemispher: New York, Pergamon, p. 39-52.

Stone, B. D., and Sirkin, L. A., 1996, Geology, *in* Veeger, A. I., ed., Hydrogeology and Water Resources of Block Island, Rhode Island: Providence, RI, U.S. Geological Survey.

Review of the Proposed New England Wind Energy Area and South Coast Variant Plan for Benthic Geologic Habitat Mapping and EMF

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and Geologist, J King Consulting LLC

August 3, 2023

I view this report more as an addendum to Bryan Oakley's very detailed report rather than as a stand-alone report. I have reviewed the same materials as Bryan, read his report and rather than produce a very similar document, I summarize my views. In terms of interpretations of the materials that we were provided, I agree with Bryan on virtually all points.

New England Wind/Vineyard South Wind Energy area (NEWEA)

There is no moraine or similar benthic habitat within the NEWEA and therefor it isn't necessary to do a separate evaluation for each turbine location as has been done in previous wind farm reviews. The only potential issues are bedform migration and fishing activity potentially impacting cables within the NEWEA area. Since both of these factors are confined to at most the upper .5m of the sediment column, it is extremely unlikely that they could impact cables that attain the full proposed project depth. Cable protection, e. g. mattresses, should be considered for areas where cables do not attain project depth or at cable junctions with the turbines.

South Coast Variant Wind Energy Corridor (SCV)

The SCV crosses moraine habitat at both the Late Wisconsin terminal moraine and recessional moraines as well as what are likely to be pre-Late Wisconsin moraines to the south of the terminal moraine. FUGRO clearly denotes a significant area between kilometer posts (KP) 44-52 across the terminal Moraine as moraine habitat, whereas they do not map the area (KP 25-26.5) across the Buzzards Bay recessional moraine as moraine habitat. That interpretation by FUGRO is incorrect and should be corrected. Three other areas of high boulder density were identified around KP 33, between KP 38.5-40, and between KP 40.5-

41.5 that may also be Late Wisconsin age recessional moraines and should probably be identified moraine habitat. Two other areas south of the Late Wisconsin terminal moraine between KP 55-58 and KP 59-62.5 may represent older than Late Wisconsin moraines (see Oakley discussion of older moraines), but should also be considered as moraine habitat.

The area between KP 44-52 was characterized by dense boulders across the entire width of the SCV corridor. It will be impossible to cross that part of the corridor without significant impacts to the habitat. On the other hand, the other lengths of the corridor were not as “bouldery” and had areas across the corridor that that had few boulders through the cable could likely be strategically routed.

Migrating bedforms and trawl marks from fishing are common in the SCV. Fortunately, the maximum depths associated with the factors are >.5m, and potential impacts on the cable would be unlikely as long as the cable either reaches proposed project depth or is protected by mattresses.

Potential Impacts of EMF from Cables

This topic is perhaps beyond the scope of the project review but is germane to a discussion or why reaching project depth with transmission cables is important. Recent reviews, (Hutchison, et al., 2021; Hutchison, et al., 2020) of potential impacts of EMF from transmission cables on marine organisms have indicated two important factors are the most important to mitigating potential impacts. First, marine organisms are more likely to be sensitive to DC fields (steady fields) than they are to AC (alternating fields). Therefore cables that use an AC design are less likely to cause an impact than are DC cables. Second, the depth of a cable below the seafloor will significantly reduce either AC or DC EMF exponentially with depth. Therefor cables that attain full project burial depth are unlikely to have any impacts from EMF.

References

Hutchison, Z.L., Gill, A., Sigray, P., He, H. and King, J.W. 2021, A modelling evaluation of electromagnetic fields emitted by buried subsea power cables and encountered by marine animals: Considerations for marine renewable energy development, Renewable Energy, 177 DOI:10.1016/j.renene.2021.05.041

Hutchison, Z.L., D.H. Secor, and A.B. Gill. 2020. The interaction between resource species and electro- magnetic fields associate with electricity production by offshore wind farms. Oceanography 33(4):96-107, https://doi.org/10.5670/oceanog.2020.409.