SOUTHCOAST WIND

Federal Consistency Review

December 12, 2023

SOUTHCOAST WIND

Project Introduction

Jennifer Flood – Permitting Director

Kyle Cassidy – Marine Science Permitting Manager

SouthCoast Wind

- Backed by two global energy companies with deep experience in working alongside communities and managing the complexities of offshore and onshore energy development projects

Shell's ambition is to become a net-zero emissions energy business by 2050 or sooner

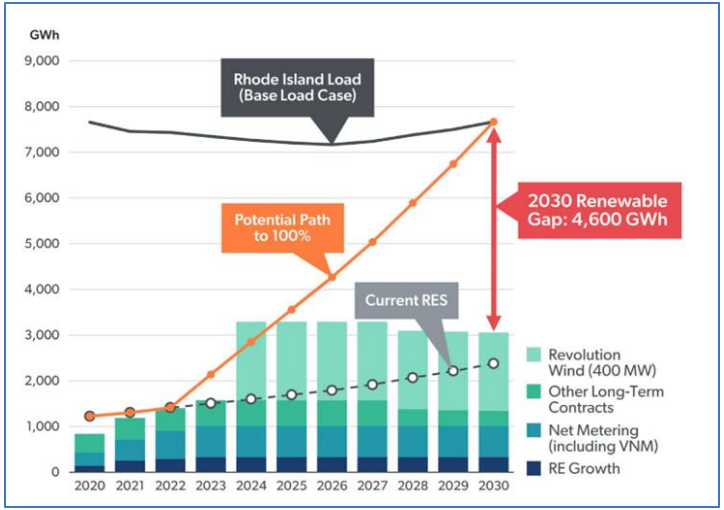
Ocean Winds – a joint venture of EDP Renewables and ENGIE – share a vision where renewables, particularly offshore wind, play an essential role in the global energy transition

Contribution to Net-Zero Emissions in the Region

SouthCoast Wind will be among the largest contributors towards meeting New England's net-zero emissions goals

The project will **eliminate over 4 million metric tons of greenhouse gases annually**

SouthCoast Wind will account for approximately **8% of the U.S. National goal** of 30 GW of OSW



Rhode Island Renewable Energy Pathway

Source: RI Office of Energy Resources, "The Road to 100% Renewable Electricity", 2020

Benefits to the Region

- Significant **Supply Chain Opportunities** and spending
- **Thousands of FTE Jobs** during construction and operation
  - MOU with North American Building Trades Unions
- Active partner, community member, and supporter of **diverse local initiatives**
- Attracts additional investment and **advances the Blue Economy** industry
- $500k in grants to be awarded to RI & MA non-profits in Dec 2023 from the **SouthCoast Wind Fund**, in support of offshore wind workforce diversity and community awareness initiatives

Local Affiliations

Clean Ocean Access

US Sailing

Roger Williams University

RIEEA
Rhode Island Environmental Education Association

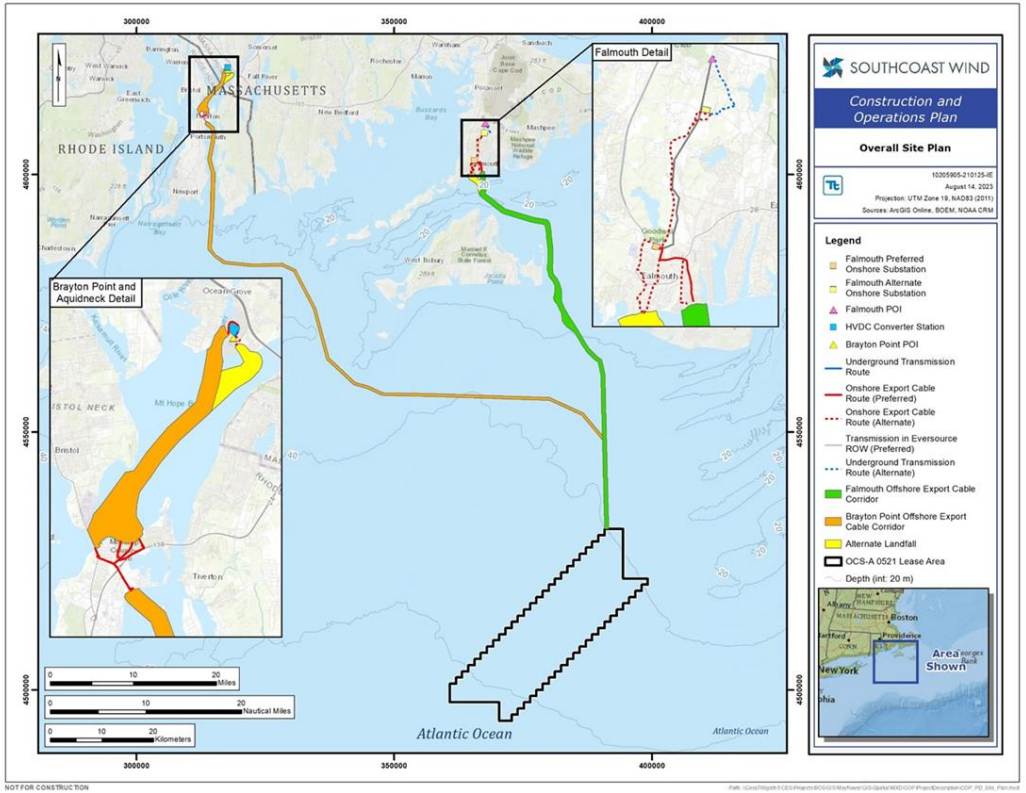
SUPPLYRI
Your Business to Business Connection

"Our partnership with *SouthCoast Wind* will help RI companies and our workforce take advantage of the many opportunities the offshore wind sector presents while increasing the resilience of our state's economy".

Hilary Fagan, President & COO, Rhode Island Commerce Corporation (2022)

SouthCoast Wind - Overview

- **Lease Area**
  - 127,388 acres
  - Up to 149 wind turbine/offshore substation platform positions
  - 59 miles southeast of the Rhode Island coast
  - 1 x 1 nautical mile grid layout
- **Generation Potential**
  - Estimated 2,400 MW+ total generating capacity
- **Two potential points of interconnection**
  - Brayton Point, Somerset, MA
  - Falmouth, MA



Scope of Review

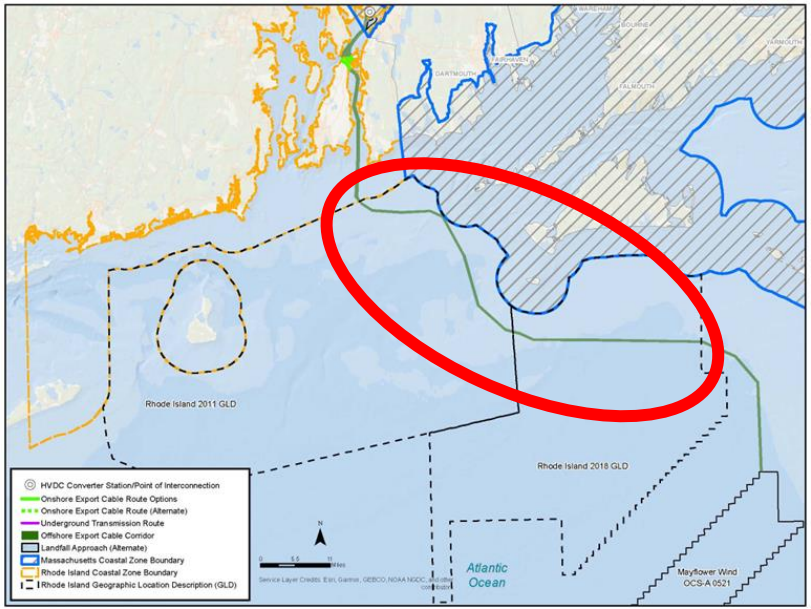
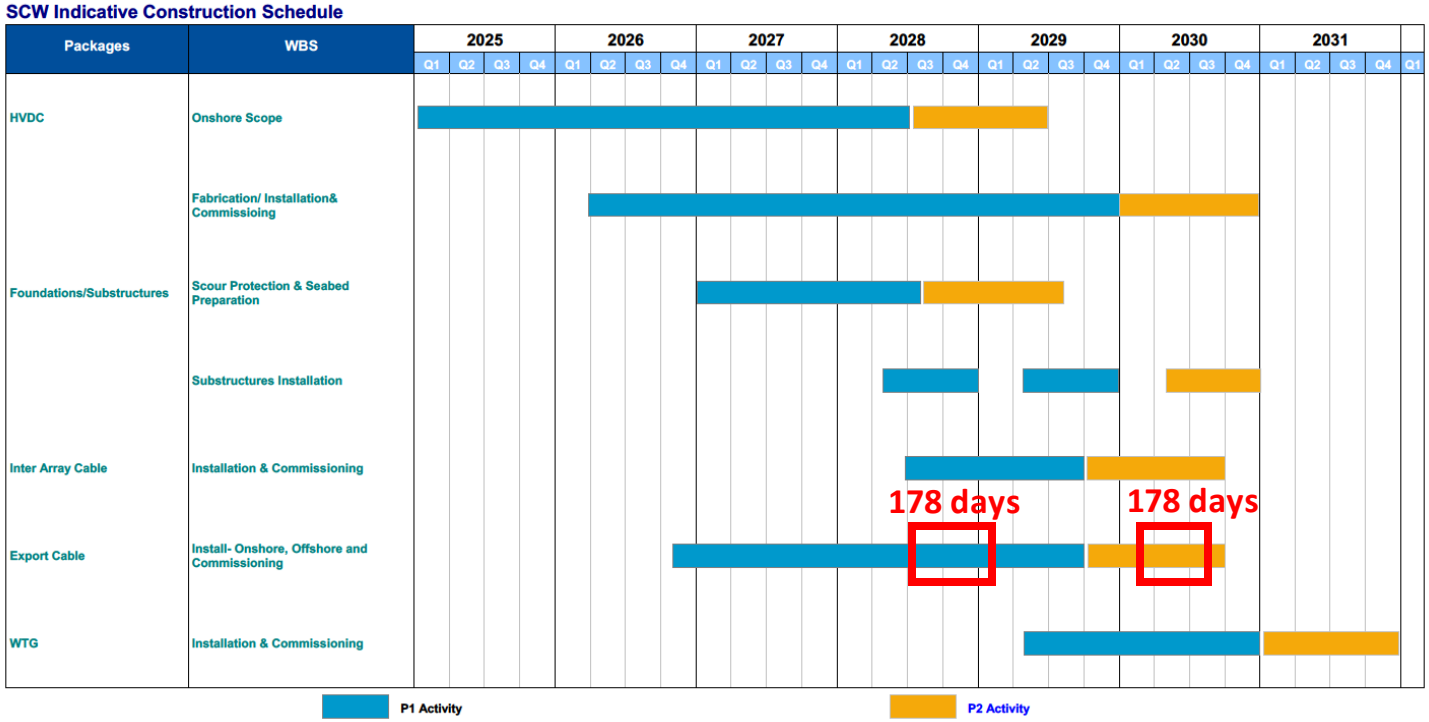


Figure 2. Location of the Brayton Point ECC within the Rhode Island GLD Boundaries

- Review of the SouthCoast Wind project is focused to the cable route within the RI Geographic Location Description (GLD) as part of the Federal Consistency Certification process
- 50 miles (43 nm) of cable route in the 2011 and 2018 RI GLDs
- The state waters portion will be evaluated at a later date as part of the RI Category B Assent

Project Schedule

Indicative Project Schedule



– Activity period within the RI GLD

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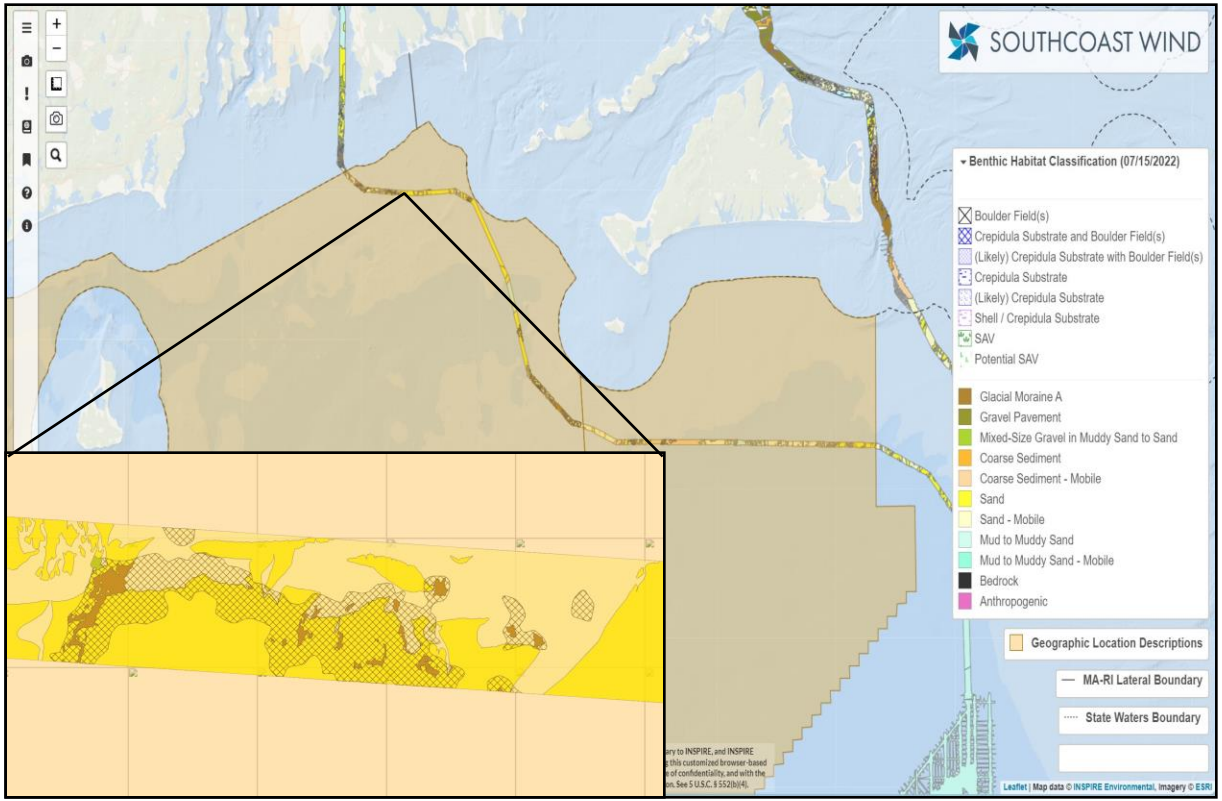
Cables and Installation

Aimee Thurlow – Export Cables Lead

Kyle Cassidy – Marine Science Permitting Manager

Benthic Habitat Mapping and Cable Routing Survey



Benthic Habitat Mapping

- Used to guide cable routing
- Substrate (hard, soft, etc.)
- Sensitive Habitat
- Cultural Resources
- Geohazards (slopes, boulders)
- Existing Infrastructure (cable and pipelines)

Cable Routing Survey

- Using information from multiple benthic, geophysical, and geotechnical surveys to inform the cable route selection
- A cable corridor is surveyed to allow for micro-routing
- Analysis is planned for 2024/25 to examine boulder densities and micro routing plans in further detail

Independent Review by Dr. Bryan Oakley and Dr. John King

- General concurrence with surveys and ability to avoid glacial moraine and complex habitats

Offshore Cables

- Proposed target burial depth below level seabed: **6 ft**
  - Acceptable range of burial depths: **3 to 13 ft**
- Installed in bundle configuration where practicable to minimize footprint and installation impacts – which is an advantage of HVDC technology

Export Cable Parameter	Brayton Point Export Cable Corridor
Number of Cables	1-6
Nominal Cable Voltage	±320 kV
Cable Length	97 – 124 mi (156 – 200 km)
Anticipated Burial Depth	3.2 - 13.1 ft (1 – 4 m)
Export Cable Corridor Width	2,625 – 3,280 ft (800 – 1000 m)
Target Separation Between Cables	3.2 - 13.1 ft (1 – 4 m)

Example of cable laying vessel

Offshore Cable Equipment

Seabed Preparation Equipment

EQUIPMENT	USE
Grapnel plow	Pre-lay grapnel run
Orange peel grabber	Localized boulder removal
Boulder clearing plow	Boulder field clearance
Trailing suction hopper dredger	Removal of sand wave tops
Water injection dredge dredger	Removal of sand wave tops in shallow areas
Constant flow excavator	Seabed leveling and preparation

Example of a boulder clearing plow

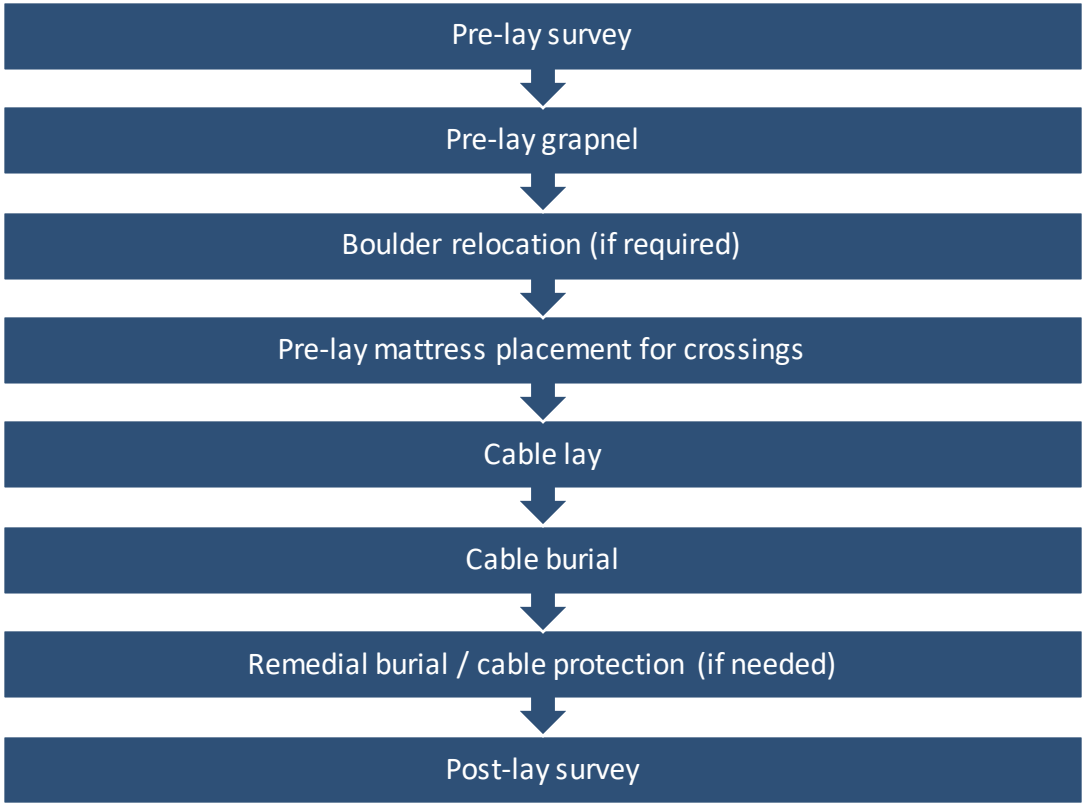
Offshore Export Cable Installation and Burial Equipment

EQUIPMENT	USE
Vertical injector	Vessel mounted burial solution for shallow water use that does not require seabed/sandwave sea leveling
Jetting sled	Shallow water uses for deeper tranch depths (surface fed water supply) in areas of prepared/benign seabed surfaces
Jetting ROV	Typically used in deeper water and can be used for unconsolidated soft beds
Pre-cut plow	Any depth and can be used for hard bottoms (plows can be used for a wide range of soils from unconsolidated sands to stiff clays)
Mechanical cutting ROV system	Any depth, used for hard, consolidated substrate

Example of a jetting ROV

Photo source: SMD, 2016

Timeline of events



Seabed Prep and Boulder Relocation

Boulder relocation study (2024/25)

Pre-lay grapnel

- Pick up small marine debris (fishing gear, nets, etc.)

Pre-lay survey efforts

- Geophysical survey – validate seabed condition

Avoid it if necessary

Relocate in coordination with agencies and fishing industry input

Locations of relocated boulder will be made available

Massachusetts recently issued guidance on boulder relocation and seabed preparations which will be considered in the plan development

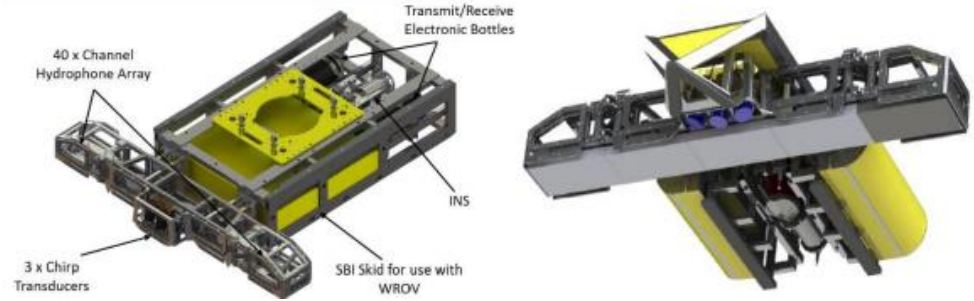
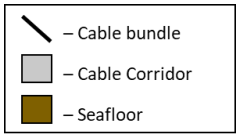


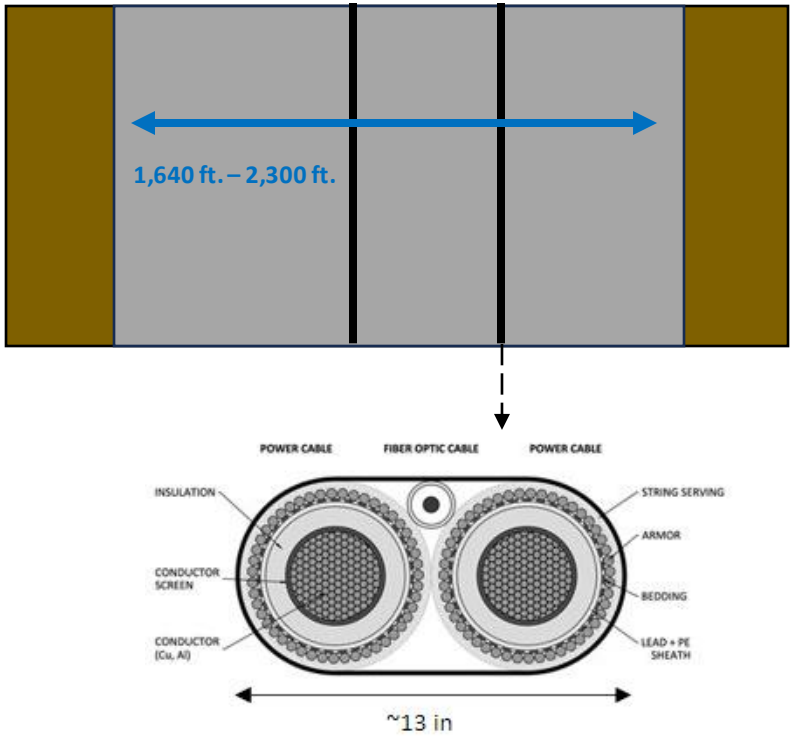
Figure 1. Pre-lay survey equipment

Export Cable Corridor Width and Spacing

- **Corridor Width:** 1,640ft -2,300ft
- **The Cable Corridor is designed for:**
  - Cable spacing (if cables un-bundled)
  - Include any impacts from anchoring within corridor
  - Space for **micro-routing/micro-siting** cables within corridor to avoid hazards and SSU impacts where possible
  - The primary objective is to achieve a suitable target burial depth of the offshore export cables in the seabed wherever possible along the entire cable route – micro-routing within the cable corridor is one tool to achieve this
- **Use of HVDC cables allows for bundling, which reduces seabed impacts and required corridor width**



Brayton Point ECC – 1-2 HVDC cable bundles



Cable Protection

Secondary cable protection needed for:

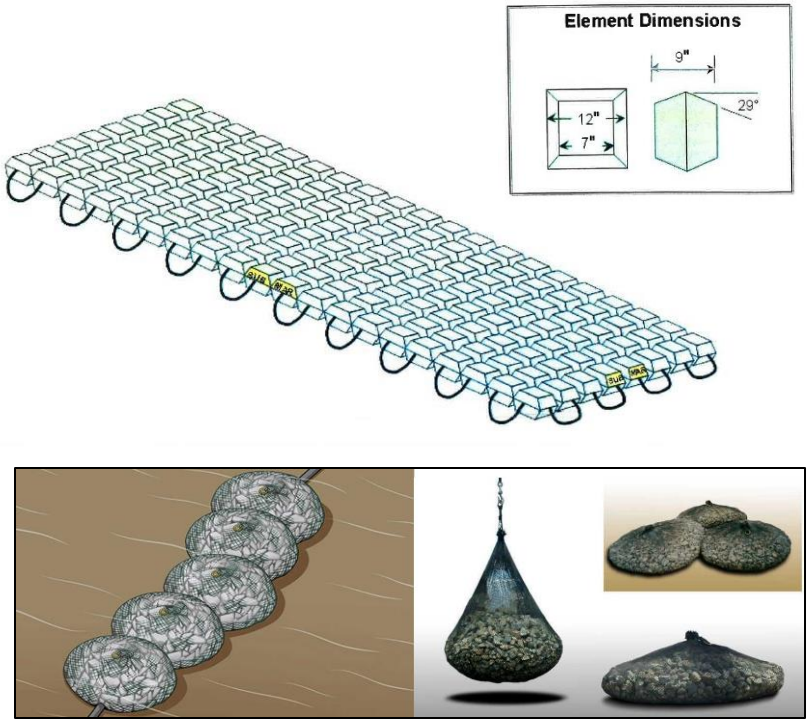
- Cable crossings
- Areas where adequate burial isn't achieved (not planned, but possible)
- Up to 15% of the route is anticipated to have secondary cable protection

Protection types may include:

- Mattresses (traditional or fronded)
- Rock / Rock Bags
- Half-Shells (or similar)

Considerations

- Seabed survey data
- Nature-based design options
- Habitat growth
- Over-trawlability



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Benthic Monitoring Plan

Kyle Cassidy – Marine Science
Permitting Manager

Benthic Monitoring

Cable-associated Physical Disturbance

Export Cable Segments

Hypothesis: After initial physical disturbance during construction, soft sediment community function is expected to return to pre-conditions; effects will decrease with increasing distance from cable

Approach: Use SPI/PV to measure changes in benthic function over time and with distance from cable centerline; focus on documenting any delayed recovery following disturbance.

Design: stratified random selection of cable segments within benthic habitat; BAG at each selected cable segment, triplicate transects perpendicular from cable centerline – 10 stations along each transect (5 on each side) with varying distances from cable

Y0 – Pre seabed prep
Y1 – during the first late summer/early fall after construction
Y3 – three years post construction

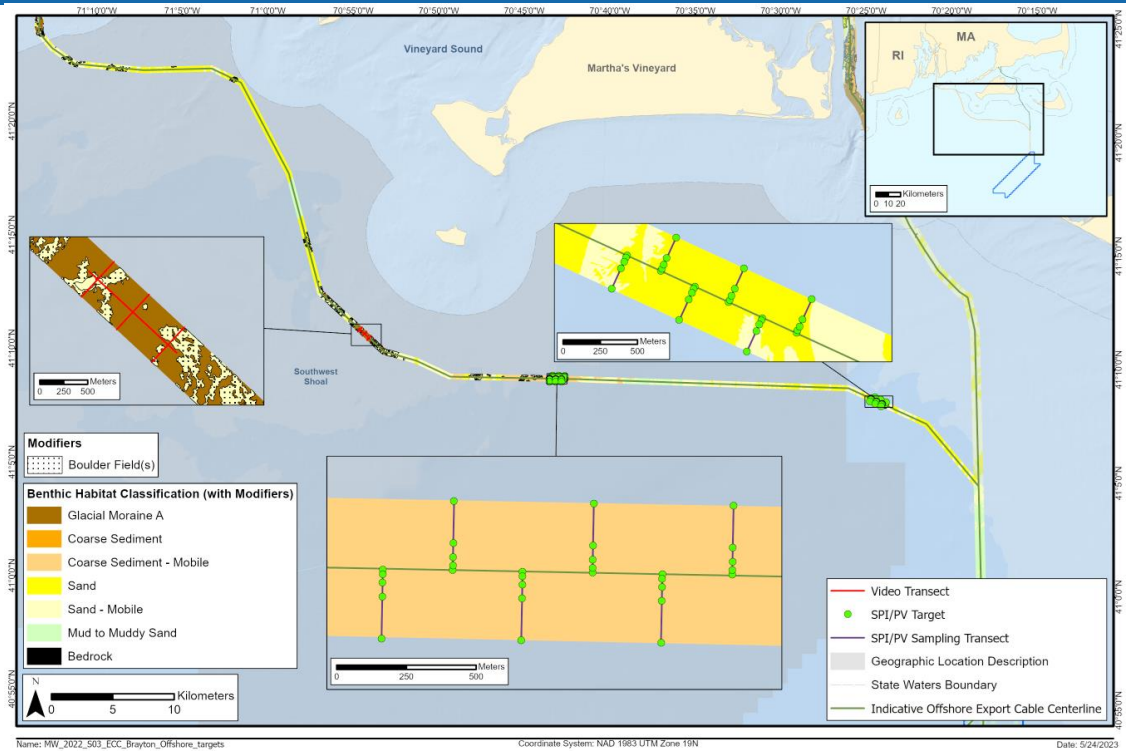


Figure 6-1. Conceptual diagram illustrating the Before-After Gradient design of Cable-associated Physical Disturbance survey design along the Brayton Point ECC in Federal Waters

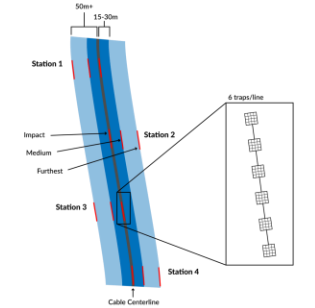
SOUTHCOAST WIND

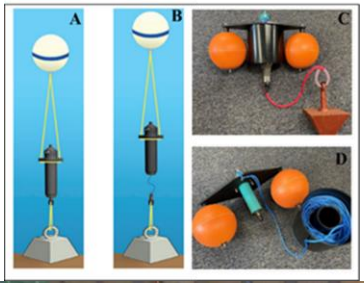
Fisheries

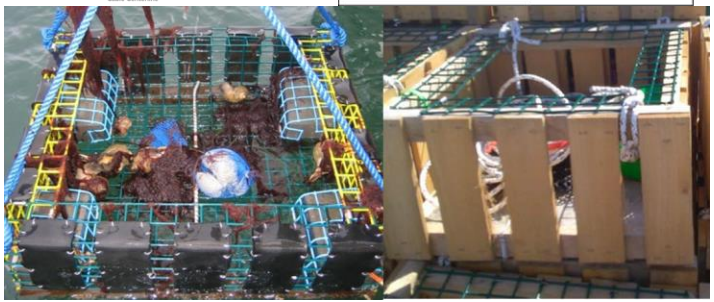
Samuel Asci – Fisheries Manager

Fisheries Monitoring

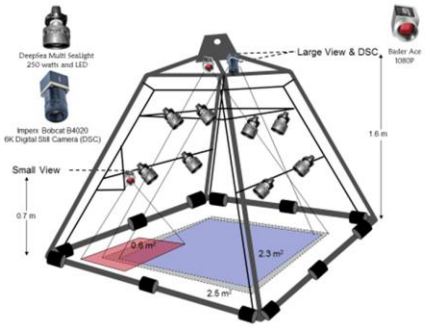
- Sakonnet River (INSPIRE Environmental)
  - Whelk tagging
  - Acoustic telemetry

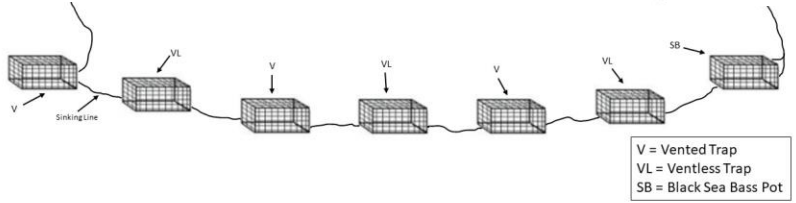






- Lease Area (UMass Dartmouth SMAST)
  - Trawl survey
  - Drop camera survey
  - Lobster trap and larvae sampling





Fishing Community Engagement

Commercial and Recreational Fisheries

- SouthCoast Wind has a full time Fisheries Manager, Sam Asci, who is engaged with the commercial and recreational fishing industry
- Monthly Port Hours at Point Judith, RI and New Bedford, MA
- Robust online resources (Fact Sheets, FAQs, filings/documents, project hotline, etc.)
- Actively contracting scouting vessels, onboard representatives, and fisheries representatives
- Routine scouting areas for fishing gear ahead of surveys
- Active coordination with fishing vessels before and during surveys
- Utilization of local Fisheries Representatives for outreach & engagement efforts
- Regular distribution of mariner notices ahead of on-water operations

COMMERCIAL FISHERIES
CENTER OF RHODE ISLAND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SEDIMENT SAMPLING IN MOUNT HOPE BAY

OCTOBER 24-26

On October 24, a localized sediment sampling survey is scheduled to begin within the northern extent of Mount Hope Bay. Vessel operations are planned for 27 fixed sampling stations in the Massachusetts state waters portion of Mount Hope Bay, including sites at the mouth of the Taunton River and Lee River in close proximity to Brayton Point.

Conducted from the R/V Lophius, **sampling is scheduled to start October 24 with estimated completion on October 26.** The vessel will operate from approximately 7:30 am – 4:00 pm each day. The vessel will be stationary while deploying sediment sampling equipment – please observe a minimum 0.1NM passing clearance.

The R/V Lophius is a welded, Stanley Bullnose, landing-craft; all-aluminum work boat that is designed for inshore survey and coring operations.

The sediment sampling is a requirement for SouthCoast Wind's Mass 401 Water Quality Certification (WQC) dredging permit.

SouthCoast Wind is developing an offshore lease area off the coast of Massachusetts with the potential to generate over 2,400 megawatts of clean electricity.

VESSEL INFORMATION

Vessel Name/Call Sign: R/V Lophius
Reg: MS2005MD
Vessel Captain: Benjamin Maher

Phone Number: 774-454-0323
Email: benmcre@gmail.com
Standing by VHF Channel 13 and 16

Mariners may reach SouthCoast Wind's fisheries manager, Sam Asci, at 857-260-4116 or samuel.asci@southcoastwind.com.

For more information about SouthCoast Wind, our commitment to mariners and ongoing survey activities, please visit: southcoastwind.com/fishermen

We encourage you to stay connected and sign up for updates!

Example mariner notice

https:www.SouthCoastWind.com/Fishermen

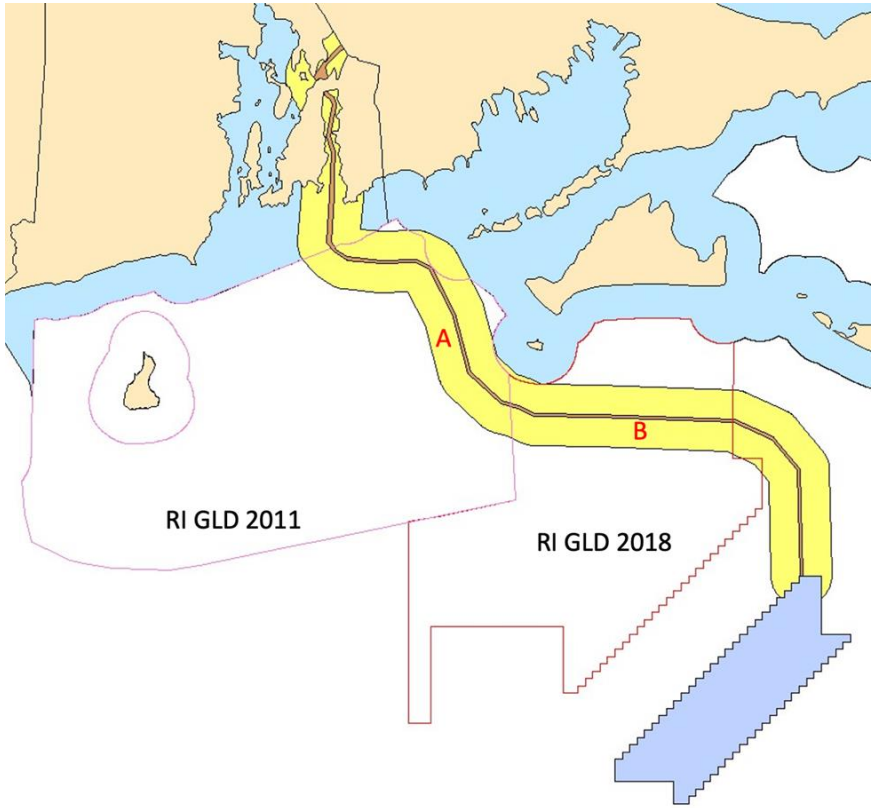
Fisheries Impact Avoidance, Minimization, Mitigation

- Project area open for fishing minus localized/temporary safety zones during construction
- Regular Local Notice to Mariners and update bulletins
- Use of scout/safety vessels and on-board fisheries reps to minimize negative interactions
- Gear loss/lost fishing time program
- Portable and digital media to fishermen on SCW activities (e.g., WATERFRONT app)
- Boulder relocation study, working with fishermen on boulder relocation plan to minimize gear hangs
- Navigational and marine safety measures for all SouthCoast vessels
- Fisheries Communication Plan
- Fisheries Manager and Fisheries Representatives – proactive communication to fishermen
- Fisheries Monitoring Plans
- 6 ft target cable burial depth

Rhode Island Fisheries Exposure Area of Focus

WOODS HOLE OCEANOGRAPHIC INSTITUTION®

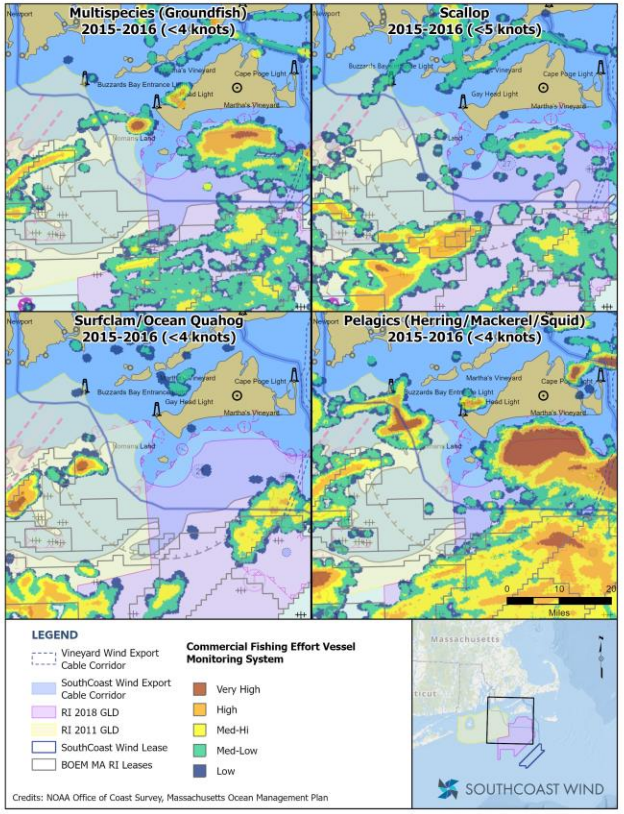
- **Analysis reflects jurisdiction of CRMC Federal Consistency Review**
  - RI Geographic Location Description 2011 (Area A)
  - RI Geographic Location Description 2018 (Area B)
- Fishery exposure in RI state waters will be addressed through separate permitting process (Category B Assent).



Fisheries Impacted, Exposure Estimate

- Overall impact relatively low given limited overlap in cable corridor within RI GLDs and popular fishing grounds
- Indirect and induced impacts (IMPLAN 2021) for RI (1.822 multiplier)
- Data adjusted for dockside lobster/crab sales (2.5 multiplier)

	RI landed value or revenue	Indirect and induced effects	Total economic impact in RI
Baseline ($/year)			
Commercial	$29,000	$17,000	$46,000
Charter	$19,000	$12,000	$31,000
Total	**$48,000**	**$29,000**	**$77,000**
Exposure ($ present value)			
Commercial	$114,000	$68,000	$182,000
Charter	$32,000	$20,000	$52,000
Total	**$146,000**	**$88,000**	**$234,000**
Based on NOAA/NMFS data, 2008-2021			



Compensatory Mitigation

- Based on results of fisheries exposure analysis, compensatory mitigation package for RI fishermen totals **$280,000**
  - $250,000 for direct compensation to commercial and for-hire fishermen
  - $30,000 for general support to commercial, for-hire, and recreational fishermen
    - e.g., studies re: costs of offshore wind structures, training programs, research initiatives, navigational/safety equipment (e.g., radar, AIS, survival suits, etc.)
    - Support to recreational fishing community

Thank You