STATE OF RHODE ISLAND
COASTAL RESOURCES MANAGEMENT COUNCIL

IN THE MATTER OF:

SOUTHCOAST WIND ENERGY LLC
Application to Construct, Operate, and Maintain
Two 20.4-Mile HVDC Submarine Export Cables
through Rhode Island Sound, the Sakonnet River,
and Mount Hope Bay

CRMC File No.: 2023-02-090

PREHEARING DISCLOSURE OF WITNESSES, SUPPLEMENTAL EVIDENCE, DATA, AND ISSUES

Applicant SouthCoast Wind Energy LLC ("SouthCoast Wind") submits this preliminary list of anticipated witnesses in preparation for a hearing to be scheduled by the Rhode Island Coastal Resources Management Council ("CRMC" or "Council") in the above captioned matter. At this time, there is no new evidence, reports, or data being submitted as supplemental evidence for the hearing. SouthCoast Wind witnesses will testify on evidence, reports, and data already submitted to CRMC and contained in its Category B Assent Application, or within previously provided supplemental submissions, and any demonstratives used by witnesses in the hearing will reflect these materials. SouthCoast Wind reserves the right to amend this witness list, and to call additional witnesses not listed below based on witnesses availability, for purposes of rebuttal and/or in response to issues raised prior to and/or during the hearing.

I. INTRODUCTION AND OVERVIEW OF THE PROJECT

SouthCoast Wind's Application for a Category B Assent, filed on February 23, 2023 and updated on September 30, 2024, (the "Category B Application") proposes an important project that will bring renewable offshore wind energy to Rhode Island and the region and aid the State in meeting its ambitious clean energy mandates, such as those identified by the Act on Climate legislation, R.I. Gen. Laws § 42-6.2-1 et seq. SouthCoast Wind proposes to construct an offshore wind farm to deliver approximately 1,200 megawatts ("MW") of renewable energy to Rhode

Island, Massachusetts, and the New England region.

SouthCoast Wind's Category B Application seeks approval for certain components of the SouthCoast Wind 1 Project (approximately 1,200 MW, half of the full capacity of SouthCoast Wind's offshore renewable wind energy project in federal waters) located within State waters and in Rhode Island where the export cables make landfall (the "Project"). Specifically, SouthCoast Wind proposes and seeks approval to install two (2) high voltage direct current ("HVDC") submarine export transmission cables (bundled where practicable) and associated communications cabling (associated with SouthCoast Wind's offshore renewable wind energy project in federal waters) within an export cable corridor ("ECC") in Rhode Island state waters and via an underground, overland route in the Town of Portsmouth. The HVDC cable bundles will be composed of two, ±320 kilovolt ("kV") single-core armored submarine cables and may include a fiberoptic cable embedded within the cable's armor layer. The cable bundles will be approximately 20.4 miles in length within Rhode Island state waters including Rhode Island Sound (5.3 miles), the Sakonnet River (11 miles), and Mount Hope Bay (4 miles). Additionally, the ECC route will utilize an approximately two-mile long underground, overland route through the Town of Portsmouth. One landfall construction area is located on the northeast side of Portsmouth. A second landfall construction area is located on the northwest side of Portsmouth. The proposed ECC would be installed in CRMC Type 2 low intensity use waters and Type 4 multipurpose waters.

SouthCoast Wind includes below a discussion of certain issues for the Council's consideration in hearing SouthCoast Wind's Category B Application. As described in the Category B Application, its supplemental submissions, and below, the evidence and testimony will demonstrate that SouthCoast Wind meets all the necessary legal requirements for the issuance of a Category B Assent. SouthCoast Wind respectfully requests that the Council approve the Category B Application and grant the Category B Assent for this Project.

II. SOUTHCOAST WIND MEETS ALL THE REQUIREMENTS FOR ISSUANCE OF A CATEGORY B ASSENT.

The evidence submitted in SouthCoast Wind's Category B Application, its supplemental submissions, and the anticipated testimony that will be presented at the hearing collectively will demonstrate that SouthCoast Wind has met all applicable requirements for the Council to issue a Category B Assent for the Project components identified above. Attached hereto is a list of the supplemental submissions SouthCoast Wind has made to CRMC since filing the Category B Application on February 23, 2023 and updated version on September 30, 2024. (*See* Attachments—Previously provided to CRMC, Attachment A). The testimony will show that SouthCoast Wind has relied on the extensive expertise of numerous consultants to thoughtfully design this Project. SouthCoast Wind will implement best practices in connection with the construction, operation and maintenance, and decommissioning of these facilities subject to CRMC jurisdiction. The testimony, along with all the evidence submitted, will show that SouthCoast Wind has undertaken extensive efforts to avoid or minimize any potential impacts resulting from the jurisdictional facilities. For all of these reasons, the weight of the evidence and testimony support the Council finding that SouthCoast Wind has met all the requirements necessary for the issuance of a Category B Assent.

III. OTHER LEGAL ISSUES

SouthCoast Wind takes this opportunity to address a few additional legal issues related to the Project, including: (A) What is the Council's authority and role for leasing submerged lands and issuing a license for large scale projects (involving 25 acres or more) such as this Project's use of such lands; and (B) How SouthCoast Wind meets the requirements for mitigation under the Ocean SAMP.

A. Leasing of Submerged Lands and Any License for the Project's Use of Such Lands.

Under its enabling act, CRMC has the exclusive and sole authority for the leasing of submerged lands and the giving of licenses for the use of that land, except for large-scale projects to fill land of twenty-five acres or more. R.I. Gen. Laws § 46-23-1(f)(2). That subsection states, in full:

> Since its establishment in 1971, the CRMC has had the authority to manage and plan for the preservation of the coastal resources of the state including but not limited to submerged lands. ***The legislature hereby declares that, in light of the unique size, scope, and overall potential impact upon the environment of large scale filling projects involving twenty-five (25) acres or more, any lease of tidal lands, or any license to use those lands, is subject to approval, disapproval, or conditional approval by the direct enactment of the general assembly by legislative action.*** The CRMC shall review all requests for leases, licenses to use the land, and other authority to use the land made by any applicant prior to presentation of the request to the general assembly, and ***the CRMC shall make recommendations on the request to the general assembly***. ***With the exception of any and all projects to fill land of twenty-five (25) acres or more, the general assembly hereby recognizes and declares that the CRMC is delegated the sole and exclusive authority for the leasing of submerged and filled lands and giving licenses for the use of that land.*** Accordingly, the CRMC will develop, coordinate, and adopt a system for the leasing of submerged and filled lands, and licenses for the use of that land, and will ensure that all leases and licenses are consistent with the public trust. Pursuant thereto, the CRMC shall impose a maximum fee of eighty thousand dollars ($80,000) per annum for any transatlantic cable that makes landfall in Rhode Island. All such fees collected shall be deposited into the Bays, Rivers and Watersheds Fund, established pursuant to § 46-31-12.1, and shall be disbursed according to the purposes of that fund.
>
> Nothing contained in this subsection negates, repeals, or alters the provisions, processes, and requirements for the leasing of submerged land for the conduct of aquaculture as set out under chapter 10 of title 20. Therefore, nothing in this chapter shall be construed to limit or impair the authority of the state, or any duly established agency of the state, to regulate filling or dredging affecting tidal lands owned by the state or any other entity, and nothing in this chapter shall be construed to limit or impair the obligation of the applicant to obtain all applicable regulatory approvals. Specifically, and without limiting

> the foregoing, nothing in this subsection negates, repeals, or alters the provisions, processes, and requirements for water quality certification contained in chapter 12 of this title.

R.I. Gen. Laws § 46-23-1(f)(2) (emphasis added). The enabling act also provides a definition for "filled land," referring to "portions of tidal lands which have been rendered by the acts of man to be no longer subject to tidal action or beneath tidal waters." R.I. Gen. Laws 46-23-1(f)(3)(i).

The Rhode Island Supreme Court has consistently held that if the language of a statute is clear and unambiguous, it is given its plain and ordinary meaning. See *Freepoint Solar LLC v. Richmond Zoning Board of Review*, 274 A.3d 1, 6 (R.I. 2022) (quoting *City of Woonsocket v. RISE Prep Mayoral Academy*, 251 A.3d 495, 500 (R.I. 2021)); see, also, *In re Block Island Power Co*., 288 A.3d 589 (R.I. 2023) ("It is well settled that when the statutory language is clear and unambiguous, we give the words their plain and ordinary meaning," quoting *Butler v. Gavek*, 245 A.3d 750, 754 (R.I. 2021)).

According to the clear and unambiguous language of the statute, Rhode Island's legislature and CRMC have split authority over the grant of leases, easements, and other permissions to use the state's submerged lands. The size of a proposed submerged lands project determines whether CRMC or the legislature makes the final decisions regarding submerged lands licenses and fees. Under Rhode Island General Law § 46-23-1(f)(2) "for large-scale filling projects involving twenty-five (25) acres or more, any lease of tidal lands, or any license to use those lands, is subject to approval, disapproval, or conditional approval by the direct enactment of the general assembly by legislative action." Accordingly, issuance of a submerged lands lease for the Project is outside the Council's authority. However, the required submerged lands lease will not prohibit the Council from issuing a decision or making recommendations on the request to the Rhode Island General Assembly for a submerged lands lease. Similar to the CRMC's decision in Docket No. 2021-07-005, Petition of Revolution Wind, LLC, it is anticipated that CRMC will require SouthCoast

Wind, in accordance with Rhode Island General Law § 46-23-1(f)(2) to obtain a submerged lands lease authorization and requisite submerged lands lease fee by the direct enactment of the Rhode Island General Assembly prior to the start of any construction. Based on the materials submitted in its Assent B Application, the Project meets the criteria established by Rhode Island General Law § 46-23-1(f)(2). Consequently, the sole authority to issue the Submerged Land Lease for the Project rests with the Rhode Island General Assembly.

B. SouthCoast Wind Meets the Requirements for Mitigation.

SouthCoast Wind meets the requirements for mitigation. Section 11.10.1(F) of Rhode Island's Ocean Special Area Management Plan ("Ocean SAMP") requires that "the potential adverse impacts of offshore developments and other uses on commercial or recreational fisheries be evaluated, considered and mitigated." Mitigation may include, but is not limited to, "compensation, effort reduction, habitat preservation, restoration and construction, marketing, and infrastructure and commercial fishing fleet improvements." Ocean SAMP § 11.10.1(G).

The evidence and testimony will show that SouthCoast Wind has undertaken extensive efforts to avoid and minimize potential impacts to commercial or recreational fisheries from the Project. To the extent that any localized and temporary impacts remain, SouthCoast Wind engaged the Woods Hole Oceanographic Institution ("WHOI") to assess the baseline fisheries landings and landed values derived from the Project route area and the potential impacts to landings and landed values from the construction, operation and maintenance, and decommissioning of the Project. Copies of the WHOI reports were previously provided to CRMC and are reattached here for completeness. (*See* Attachments A and B). Additionally, SouthCoast Wind engaged two of CRMC's third party subject matter experts who supported CRMC's review of the Project's benthic habitat impact assessments, EMF assessments, and cable burial risk

assessments; specifically, Dr. John King and Dr. Bryan Oakley, both associated with the development of Rhode Island's Ocean SAMP.

In addition, SouthCoast Wind participated in extensive discussions with CRMC subject matter expert, Dr. Todd Guilfoos,[1] a resource economist at the University of Rhode Island who independently consulted with the Council's Fisherman's Advisory Board ("FAB") on the Category B Application. On March 13, 2026 and May 3, 2026, Dr. Guilfoos provided his evaluation of the WHOI economic impact assessment and his estimate of total impacts including recreational fishing impacts (Attachment C). Dr. Guilfoos' report refined the WHOI assessment by updating the accounting for seasonal variations in impacts to fishermen, incorporating data poor fisheries overlapping with the Project in Rhode Island state waters, and adjusting methodologies to address inflation between the time economic impacts were assessed and when those impacts may occur in the future. Throughout the development of Dr. Guilfoos' assessment, SouthCoast Wind engaged in numerous mitigation discussions with both Dr. Guilfoos and CRMC staff. In light of the comprehensive fisheries economic impact assessment conducted by WHOI, together with the subsequent refinements informed by Dr. Guilfoos' detailed independent subject matter expert review, SouthCoast Wind expects the evidence and testimony to demonstrate that SouthCoast Wind and the Project satisfies all applicable mitigation requirements.

IV. SOUTHCOAST WIND'S ANTICIPATED WITNESSES

SouthCoast Wind proposes the following persons as its anticipated fact and/or expert witnesses. SouthCoast Wind may not call all of these witnesses at the hearing. SouthCoast Wind reserves the right to amend this witness list, and to call additional witnesses not listed below based on witnesses' availability, for purposes of rebuttal and/or in response to issues raised prior to and/or

[1] https://web.uri.edu/enre/meet/todd-guilfoos/

during the hearing. The persons listed below are available to address SouthCoast Wind's

Category B Application materials and issues raised in the CRMC staff report:

Witness Name: Jennifer Flood, Head of Permitting and Stakeholders
Affiliation: OW North America LLC ("Ocean Winds")
Anticipated Testimony: Ms. Flood's current title is Head of Permitting and Stakeholders, OW North America. She also serves as the SouthCoast Wind Permitting Director. Ms. Flood has expertise in the permitting and compliance of offshore wind projects, is responsible for the leadership and direction of the federal, state, and local permitting activities for the Project, and manages engagement with stakeholders. Ms. Flood anticipates testifying generally about SouthCoast Wind, the Project background, the affected environment presented in the Category B Application, other relevant state and federal permits, and stakeholder engagement.

She anticipates testifying regarding how the Project serves a compelling public purpose by providing a reliable and responsible solution to meet Rhode Island and the regions' energy and climate goals and mandates, including the directives set forth in the State energy plan, Energy 2035, and by helping the State of Rhode Island's needs under the 2021 Act on Climate, which sets mandatory, enforceable climate emissions reduction goals culminating in the State achieving net-zero emissions economy-wide by 2050.

Ms. Flood also anticipates testifying about the positive economic contribution that SouthCoast Wind is making and will continue to make in Rhode Island through job creation, added revenue to the state through the payment of state income tax, State sales/use tax and the payment of $23.2 million in host fees and taxes to Portsmouth, via a Host Community Agreement, over the life of the Project.

Regarding the affected environment, as presented in the Category B Application, she anticipates testifying that the Project components were sited, planned, and designed to avoid, minimize, and mitigate impacts. Ms. Flood anticipates testifying about the temporary environmental impacts from the onshore components of the Project and that the onshore facilities will have no impact on coastal features or coastal wetlands during construction, operation and maintenance, or decommissioning.

Ms. Flood will be presented as a fact and/or expert witness.

Witness Name: Andrew McGregor, Head of Engineering, Procurement, Construction and Installation ("EPCI")
Affiliation: Ocean Winds
Anticipated Testimony: Mr. McGregor is responsible for managing the technical and commercial aspects of the Project. Mr. McGregor has served as Package Manager and Project Engineer within offshore wind farm development field for 10 years. He specializes in offshore installation and logistics, and he has been involved in early project development through project execution. Mr. McGregor anticipates testifying about the components of the Project's offshore and onshore export cable and route covered in the Category B Application, including:

- Offshore Export Cable and Route -- which includes two high voltage direct current ("HVDC") submarine power cables (bundled for the most part where practicable) and associated communications cabling within an ECC in Rhode Island state waters; each export cable measures approximately 20.4 miles in length within Rhode Island state waters including Rhode Island Sound (5.3 miles), the Sakonnet River (11 miles), and Mount Hope Bay (4 miles); and

- Cable Landfall and Onshore Cable and Route -- which would utilize an approximately two-mile long overland route, underground, through the Town of Portsmouth. One landfall construction area is located on the northeast side of Portsmouth. A second landfall construction area is located on the northwest side of Portsmouth.

Mr. McGregor anticipates testifying regarding the construction schedule, the cable route surveys, impacts associated with the installation and operation of the SouthCoast Wind offshore export cables on the geology and soils within the ECC and demonstrate that the Project's components will avoid, minimize, and/or mitigate any impacts to the environment.

Mr. McGregor also anticipates testifying about the technical requirements for the offshore cable as well as the seabed preparation for cable installation. He is able to speak to the tools and vessel equipment that will be used to install the offshore cable and the use of the cable burial risk assessment. He can also speak to the steps necessary to achieve the target burial depth range of 3.2 to 13.1 feet below the seabed, with a target burial depth of approximately 6 feet. Mr. McGregor's testimony will include a description of the cable burial risk assessment, its use and purpose for the Project. He also anticipates testifying about the use of Horizontal Directional Drill ("HDD") to bring the export cable onshore and the selection of HDD as the preferred installation method to ensure cable burial depth and minimize environmental impacts, and the jointing of the offshore export cable with the onshore export cable at the Transition Joint Bays ("TJBs") located within the landfall work areas.

Finally, Mr. McGregor anticipates testifying regarding the operation and maintenance of the offshore export cables, including periodic inspection and routine maintenance. Mr. McGregor will be presented as a fact witness and/or expert witness.

Witness Name: Samuel Asci, Fisheries Manager
Affiliation: Ocean Winds
Anticipated Testimony: Mr. Asci is responsible for serving as a liaison between SouthCoast Wind and the fishing community, leading communications and engagement with the fishing community, supporting technical needs related to fisheries in project permitting and compliance, and developing/implementing fisheries monitoring surveys. The purpose of his testimony is to provide an overview of the Project's impact, specifically the offshore export cables, on certain aspects of the environment, including fishery resources, Essential Fish Habitat ("EFH"), and marine mammals and sea turtles.

Mr. Asci anticipates testifying regarding SouthCoast Wind's outreach efforts to solicit input and feedback from fisheries stakeholders on many different aspects of the Project. He anticipates testifying about Areas of Particular Concern ("APC") located in State waters and that SouthCoast Wind has sited the ECC to avoid APC to the extent practicable and no recreational boating areas designated as APC are located within the SouthCoast Wind 1 Project Area (see Figure 6 in §

11.10.2(I) of the Ocean SAMP). Mr. Asci anticipates testifying that: During construction, SouthCoast Wind intends to maintain access for recreational boating while maintaining safe separation distances from construction vessels, resulting in temporary impacts; that SouthCoast Wind will implement construction safety zones in consultation with local communities, the recreational boating community and the USCG and communicate to local mariners regarding upcoming and ongoing construction activities within the ECC; and that SouthCoast Wind intends to bury the Project's offshore cable to a target burial depth of approximately 6 feet, and the operation and maintenance of the cable will not conflict with the uses of the Project area for recreational boating.

Mr. Asci anticipates testifying that there will be temporary, recoverable impacts to EFH as a result of the offshore export cable installation including boulder relocation, and that these effects would occur intermittently at varying locations during the construction period, but are not expected to cause permanent impacts on EFH or population-level effects. He anticipates testifying that the spatial extent of EFH that may be impacted by the offshore export cable installation and operations will be very small relative to the amount of comparable habitat available to marine species in the region. Mr. Asci also anticipates testifying that any potential impacts will be temporary and reversible, as natural processes will return to pre-construction conditions except in limited, discrete areas where offshore export cable protection is necessary; and that in some cases, offshore export cable protection is expected to benefit certain species that prefer hard bottom habitat.

Mr. Asci anticipates testifying regarding SouthCoast Wind's Fisheries Monitoring Plan ("FMP") and its development, including SouthCoast Wind's extensive consultation with federal and state agencies and other stakeholders including commercial and recreational fishermen. He also anticipates testifying regarding the FMP's components, including targeted species, methodology, and duration.

Mr. Asci anticipates testifying that any potential impacts to marine mammals or sea turtles from construction of the offshore facilities will be temporary and localized and that the area of the cable route in state waters has a comparatively low species density for marine mammals and sea turtles and thus it is unlikely the Project will pose a risk to those animals. He also anticipates testifying that cable installation vessels will follow the National Oceanic and Atmospheric Administration ("NOAA") and BOEM guidelines for marine mammal and sea turtle strike avoidance measures, including vessel speed restrictions, to mitigate any potential impact to marine mammals and sea turtles from any increased vessel traffic in connection with the export cable installation.

Finally, Mr. Asci anticipates testifying regarding SouthCoast Wind's work to notify mariners of the work during the installation of the export cables and any work with the U.S. Coast Guard in connection with the installation of the export cables. Mr. Asci will be presented as a fact and/or expert witness.

Witness Name: Daniel L. Mendelsohn, Director of IES
Affiliation: Innovative Environmental Science, Inc. ("IES")
Anticipated Testimony: Mr. Mendelsohn has a BS and an MS in mechanical engineering and applied mechanics from the University of Rhode Island. He has been practicing environmental engineering since 1985, focusing on numerical model development and application, hydrodynamics, hydraulics, water quality, waves, meteorology and sediment, pollutants, thermal, oil and chemical spill transport and fates. Mr. Mendelsohn anticipates testifying about the sediment

dispersion modeling for the installation of the export cables. Specifically, Mr. Mendelsohn is expected to testify about the sediment dispersion modeling done for SouthCoast Wind, his role with such modeling, the purpose of the modeling, what the modeling shows as temporary and localized impacts, and the reliability of the modeling. Specifically, Mr. Mendelsohn is expected to testify that the modeling was used to evaluate potential environmental impacts associated with suspension of sediments from cable installation construction activities.

Mr. Mendelsohn is expected to testify about the sediment concentrations in the water column over time, the size of the sediment plume, the fact that the sediment deposition footprint resulting from the cable installation activities occurred relatively locally along the majority of the export cable corridor route where the mass settles out quickly. He is also expected to testify that the highest deposition thicknesses were contained primarily within a 20 m (65 ft) corridor around the ECC centerline and that deposition thicknesses of 1 mm (0.04 in) are generally limited to a corridor with a maximum width of 100-115 feet around the cable centerline. He is expected to testify that the benthic communities are projected to recolonize the area of post construction quickly from undisturbed neighboring areas along the cable route. Mr. Mendelsohn will be presented as a fact witness and/or an expert witness.

Witness Name: Anna E. Murphy, Ph.D., Director of Ecosystem Ecology and Principal Scientist at INSPIRE Environmental
Affiliation: INSPIRE Environmental, a Venterra Group Member Company
Anticipated Testimony: Dr. Murphy is Director of Ecosystem Ecology and Principal Scientist at INSPIRE Environmental, with a focus in benthic biogeochemistry, microbial ecology, aquaculture research, and marine environmental change. Dr. Murphy anticipates testifying about the results of the sediment dispersion modeling and why the Project will not have any population level effects on benthic resources or shellfish. She anticipates testifying about the comprehensive baseline data that SouthCoast Wind has collected, analyzed, and synthesized to inform decisions that ensure impacts to sensitive benthic habitats are avoided, minimized, and mitigated as much as possible. She anticipates testifying that the activity associated with construction and decommissioning of the Project will be limited and temporary and, thus, any corresponding impacts to the benthic environment will be limited and temporary.

Dr. Murphy anticipates testifying regarding the siting of the Project's export cable to either avoid or minimize adverse impacts to EFH, APC within State waters, and to benthic resources or shellfish. She also anticipates testifying that any unavoidable impacts to benthic resources or shellfish will be temporary and localized. Dr. Murphy will be presented as a fact witness and/or an expert witness.

Witness Name: Tim Verslycke, Ph.D., Principal at Gradient and President of the International Board of Environmental Risk Assessors
Affiliation: Gradient
Anticipated Testimony: Dr. Verslycke has 20 years of combined consulting and academic research experience in ecological risk assessment. He has authored over 40 peer-reviewed journal articles and regularly speaks at scientific conferences on ecological risk assessment and other topics. His areas of expertise include environmental toxicology and risk assessment; natural

resource damage assessment; industrial and consumer product environmental safety assessment; and emerging contaminants. In addition to being an expert in marine biology and ecological risk assessment, prior to joining Gradient in 2007, Dr. Verslycke conducted RI-specific research on lobsters at the Woods Hole Oceanographic Institution as part of the RI Sea Grant Program.

Dr. Verslycke anticipates testifying regarding his general knowledge of current, independent scientific research pertaining to offshore exposures to EMF from the Project, as well as the potential effects EMF could have on marine life. Dr. Verslycke expects to testify about: the frequency of fields associated with electricity; fields detected by fish, invertebrates and sharks; and the use of DC studies regarding the effect, if any, of certain magnetic fields on crab, lobster and other species' behaviors. Dr. Verslycke will be presented as a fact witness and/or an expert witness.

Witness Name: Hauke Kite-Powell, Ph.D., Research Specialist with the Marine Policy Center
Affiliation: Woods Hole Oceanographic Institution ("WHOI")
Anticipated Testimony: Dr. Kite-Powell anticipates testifying regarding the baseline fisheries landings and socio-economic impact analysis WHOI performed with respect to the Project's export cable (Fishery Impacts from the SouthCoast Wind Export Cable Corridor in Rhode Island State Waters). Specifically, Dr. Kite-Powell anticipated testimony will describe the data sets that WHOI relied on in assessing baseline landings and values for commercial and for-hire/charter fisheries in State waters and that WHOI considered fisheries landings data collected by both NOAA and RIDEM. He anticipates to testifying about the conservative assumptions that WHOI incorporated into its baseline assessment, including conservative assumptions regarding the spatial distribution of landings.

Dr. Kite-Powell also anticipates testifying regarding the methodology WHOI used to derive a conservative upper bound of potential impacts to commercial and for-hire/charter fisheries from the Project's export cable. He anticipates testifying that; the export cable construction and decommissioning will have temporary and localized potential impacts on commercial and for-hire/charter fisheries and no significant adverse impacts on recreational fishing or boating; that the Project's export cable construction will occur largely outside the primary recreational fishing and boating season, which will minimize potential impacts; and that WHOI does not anticipate that the Project's export cable will have any impacts on fisheries during operation and maintenance. Dr. Kite-Powell will be presented as a fact and/or an expert witness.

V. SOUTHCOAST WIND'S SUPPLEMENTAL EVIDENCE, REPORTS, AND DATA

Exhibits:

1. Resume of Jennifer Flood
2. Resume of Andrew McGregor
3. Resume of Samuel Asci
4. Resume of Daniel L. Mendelsohn

5. Resume of Anna E. Murphy, Ph.D.

6. Resume of Tim Verslycke, Ph.D.

7. Resume of Hauke Kite-Powell, Ph.D.

VI. SOUTHCOAST WIND'S PREHEARING DISCLOSURE ATTACHMENTS

Attachment A	List of Supplemental Submissions Filed in Support of Application
Attachment B	WHOI Report
Attachment C	Guilfoos Report

SOUTHCOAST WIND ENERGY LLC
By its Attorneys,

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Dated: May 29, 2026

SOUTHCOAST WIND PREHEARING EXHIBITS

Jennifer Flood

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Experience

Permitting and Stakeholders Associate Director, Ocean Winds North America (May 2025 – Present)

- Oversee and lead permitting strategy for all OW North America portfolio projects at federal, state, and local level
- Oversee and lead stakeholder engagement strategy for OW North America portfolio inclusive of Tribal, fisheries, municipalities, and other relevant stakeholders
- OW North America Management Team member

Head of Permitting, Ocean Winds North America (April 2024 – May 2025)

- Oversaw and led the permitting strategy for all projects in OW North America portfolio including SouthCoast Wind, Bluepoint Wind, and Golden State Wind
- Represent OW NA Permitting at OW NA Management Team

Permitting Director, SouthCoast Wind Energy LLC (February 2022 – May 2025)

- Developed and managed all federal, state, and local permitting strategies for the SouthCoast Wind Project
- Lead the SouthCoast Wind Permitting Team including Federal and State Permitting Managers and Analysts, Marine Science Permitting Manager, Tribal Liaison Officer, and Fisheries Manager
- Accountable for all permitting budgets and contracts associated with SouthCoast Wind

Offshore Permitting Manager, SouthCoast Wind Energy LLC, Shell Renewables and Energy Solutions (2019 – February 2022)

- Seconded to the SouthCoast Wind Project from Shell Renewables and Energy Solutions, a 50% joint venture owner of the SouthCoast Wind Energy LLC Project
- Managed all federal permits, authorizations, and consultations for the SouthCoast Wind Project, including:
    - Development of the SouthCoast Wind Construction and Operations Plan (COP), Site Assessment Plan, offshore survey plans, and associated federal permit applications and consultations
    - Held all relationships with federal agencies on behalf of SouthCoast Wind
    - Led SouthCoast Wind COP to Notice of Intent and Draft Environmental Impact Statement NEPA milestone

Project Manager/Environmental Scientist, Tetra Tech (2016 – 2019)

Deputy Project Manager, 2017–2019

Ørsted, Bay State Wind Offshore Wind Farm, MA

- Coordination and management of the development of the Construction and Operations Plan and associated federal consultations for the Bay State Wind Project
- Preparation for bid development in response to 2017 and 2018 RFP solicitations in Massachusetts, Rhode Island, Connecticut, and New York

Project Manager, 2017

Koman Government Solutions, LLC, Former Fort Devens Army Installation Environmental Restoration Project, Devens, MA

- Conducted groundwater sampling and monitoring at former Fort Devens Army site for U.S. Army Corps of Engineers, New England District

Environmental Scientist, 2016–2019
Equitrans, Mountain Valley Pipeline Project, VA and WV

- Assisted in the preparation of Resource Reports for the FERC 7 (c) application of a 300-mile natural gas pipeline in Virginia and West Virginia
- Supported FERC in NEPA public meetings and consultations
- Maintained all pre-, during, and post-construction commitments and permit requirements
- Maintained all agency correspondence and FERC filing review for federal, state, and local agencies

Head Teaching Assistant, University of Massachusetts Amherst, 2015 – 2017

- Head Teaching Assistant for 600-person undergraduate statistics course
- Led Team Based Learning class activities, held weekly office hours, graded homework, class work, and final projects, proctored exams, and held online FAQ sessions for students

Sovereign Consulting Inc. -Foxborough, MA (2013 – 2015) Environmental Scientist

- Conducted groundwater and soil sampling and monitoring at chemical release sites across New England
- Assessed data and presented in environmental reports and contour maps of sites for long-term monitoring programs

Education

Graduate Certificate Program, Harvard Extension School (September 2023 - Present)

- Graduate Certificate Program in Finance

M.S., Resource Economics, University of Massachusetts Amherst (2017)

- Concentration in offshore wind and renewable energy

B.S., Environmental & Resource Economics and Spanish, University of New Hampshire (2015)

- Summa cum laude
- Phi Beta Kappa Honor Society

Recognition

- Environmental Business Council Ascending Leader Award – September 2021

Certifications

- eCornell Women in Leadership Certificate, 2020
- Tetra Tech Sales Training, 2018
- Project Management Level 1, 2017
- 40-Hour OSHA HAZWOPER Certification, 2015
- CPR/First Aid Certification

Skills

- Project Management
- National Environmental Policy Act
- Massachusetts Environmental Policy Act
- Environmental Impact Statements and Assessments
- Construction and Operations Plans & Site Assessment Plans
- Contract and Budget Management
- Environmental Survey Plans
- Critical Issues Analyses
- Groundwater Monitoring

ANDREW McGREGOR

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PROFESSIONAL PROFILE

Senior offshore wind project manager with 10 years across EPCI, portfolio governance and large-scale project delivery in the UK and US. Track record of executing large capital-intensive projects through development and execution on time and within budget. Experience in international supply chains and logistics coordination through complex negotiations and challenging delivery. Seasoned in reporting to; regulators, lenders and board level committees.

PROFESSIONAL EXPERIENCE

Head of EPCI, North America Jun 2025 – Present

Ocean Winds — Boston, MA

- Own the EPCI agenda across engineering, procurement, project controls and commercial for the North America portfolio of fixed-bottom and floating projects.
- Commercial accountability for several hundred million Dollars of EPCI exposure; present capex and direction recommendations to board-level committees.
- Lead a multi-discipline team, responsible for all technical, procurement and project management of the portfolio.

Senior Integration & Installation Package Manager Jan 2023 – Jun 2025

Ocean Winds — South Coast Wind, Boston, MA

- Cross-package senior technical lead, managing all key interfaces between up to $1bn delivery packages.
- Led multi-disciplinary team across: Interface Management, G&G, GIS, Construction Management, Document Control, Energy Yield, Ports and T&I.
- Authored the Project Execution Plan and core project governance framework to ensure safe and efficient delivery of the project.
- Owned technical assurance with sponsors, the LTA and the CVA.
- Led the valuation and managed the technical case for the project's successful PPA bid.
- Was accountable for all site survey work in development and construction readiness.

Package Manager — 400kV Onshore Transmission Upgrade Jan 2022 – Jan 2023

Ocean Winds — Moray East, Edinburgh, UK

- Led the 275kV → 400kV onshore substation upgrade from development into construction.
- Negotiated and executed the full EPCI contract end-to-end (scope, schedule, cost); secured approvals from senior management, lender, OFTO and OFGEM.
- Owned package budget, contingency and schedule; managed the package team including engineers and contract managers.
- Concurrently held Employer/Company Representative role on the OSP and Onshore Substation EPCI construction contracts through closeout.

Package Manager — Offshore Substation Platforms May 2021 – Jan 2022

Ocean Winds — Moray East, Edinburgh, UK

- Managed OSP hook-up and commissioning, punch-list closeout and EPCI contract closeout.
- Managed the final negotiations and close out of the OSP construction contract.
- Coordinated technical and commercial submissions for the OFTO transaction at bid stage.
- Represented Ocean Winds at the Floating Offshore Centre of Excellence on cost-reduction and innovation R&D.

Senior OSP Engineer Jul 2020 – May 2021

Ocean Winds — Moray East, Edinburgh, UK

- Led delivery of OSP topside fabrication — structure, HV electrical, mechanical, SCADA and safety systems through load-out and sail-away.
- Owned readiness for offshore hook-up; directed the hook-up phase with 3 offshore representatives and up to 40 offshore contractors.
- Supported Moray West bid review and OSP EPCI negotiation, contributing to contract schedules and risk assessments.

Transmission Infrastructure Project Engineer 2018 – 2020

Moray Offshore (East) Wind Farm Ltd — Edinburgh, UK

- Delivered the auxiliary container packages for 3 OSPs — mechanical, electrical and safety systems integration.

- Provided PM, technical and commercial support across Onshore Substation, Cable Route, OSS and Electrical packages, including change and claims management.
- Led planning and execution of the offshore hook-up scope: resource allocation, programme development and vessel selection.

Mechanical Engineer 2016 – 2018

Babcock International — Rosyth, UK

- Beatrice OWF: supported OSP package management for offshore hook-up; offshore client representative for teams of up to 30 contractors.
- Ørsted Hornsea Reactive Compensation Platform: project engineer in the design team and later in execution package management.
- Developed a parametric estimating tool for OSP fabrication supporting renewables tenders.

QUALIFICATIONS & PROFESSIONAL DEVELOPMENT

- APM Project Management Qualification (PMQ); ILM Level 3 Leadership Qualification; IOSH Managing Safely.
- CORe — Harvard Business School Online; Construction Finance — Columbia University.
- VOL-VCA Belgian Health & Safety; Level 2 Health & Safety in the Workplace.

INDUSTRY VOICE & EDUCATION

- Floating Offshore Centre of Excellence — represented Ocean Winds on cost-reduction and innovation R&D for floating wind.
- MEng Mechanical Engineering (Merit), University of Strathclyde, Glasgow (2010–2015).

Samuel C. Asci
Ocean Winds North America Fisheries Manager
samuel.asci@oceanwinds.com – (508) 846-2085

Education

M.S. in Marine Science and Technology, University of Massachusetts Dartmouth, School for Marine Science and Technology, **2016**

B.S. in Fisheries Ecology and Conservation (Natural Resource Conservation), College of Natural Sciences, University of Massachusetts Amherst, **2013**

Experience

Ocean Winds North America

Fisheries Manager (June 2024 – Present)

- Same role and responsibilities as previous role, but applied to the wider Ocean Winds North America portfolio (i.e., SouthCoast Wind, Bluepoint Wind, Golden State Wind).

SouthCoast Wind Energy LLC

Fisheries Manager (June 2023 – June 2024)

- Manages communication and outreach to local and regional fishing communities, including noticing of vessel operations on the water.
- Supports project team with knowledge of commercial and recreational fisheries operating in and around lease area and export cable corridor.
- Manages fisheries monitoring surveys in federal and state waters.
- Collects, analyzes, and utilizes data and feedback to identify opportunities to improve the relationship between the company and fisheries stakeholders
- Supports Geophysical & Geotechnical surveys through coordination with fishermen operating in the lease area.
- Supports Package Managers (Cables, Foundation, Logistics) during planning and construction.

New England Fishery Management Council

Fishery Analyst, **2022 - 2023**

Fishery Specialist, **2017-2022**

- Supported Council policy decision-making process for the United States Atlantic Sea Scallop Fishery Management Plan.
- Worked collaboratively with fishing industry members, fishing industry organizations, state and federal government representatives, and academic institutions to support management of US scallop fishery and other fisheries in the New England region.
- Stakeholder outreach engagement: facilitated comments from fishery stakeholders on controversial management decisions through public meetings.
- Compiled, analyzed, and reported out fisheries environmental, biological, socio-economic, and other technical data, including survey information from various research groups in New England and Mid-Atlantic regions.
- Authored environmental assessments that analyze impacts of management decisions on target/non-target species, protected resources, in accordance with requirements of National Environmental Policy Act, Magnuson-Stevens Fishery Conservation and Management Act, and Marine Mammal Protection Act.
- Supported administration of industry-funded Scallop Research Set-Aside program, including development of research priorities and evaluating research proposals.
- Participation in stock assessment of US sea scallop resource.

- Staff lead for action that implemented electronic reporting requirement for all federally permitted commercial fishing vessels (eVTR Framework, 2021).

University of Massachusetts Dartmouth, School for Marine Science and Technology

Research Technician, **2016-2017**
Graduate Research Assistant, **2013-2016**
Undergraduate Intern, **2011-2013**

- Lead field scientist for broad-scale drop camera video survey of commercial scallop fishing grounds.
- Coordinated and executed collaborative, industry-based surveys following survey protocols.
- Contributed to grant proposals/reports and technical manuscripts for scientific journal publication.
- Analyze and interpret survey data using ArcGIS and Microsoft Office software packages.

Massachusetts Division of Marine Fisheries

MRIP Field Scientist, **2014-2016**

- Seasonal interviewer for the Marine Recreational Information Program (NOAA). Interviewed recreational saltwater anglers; followed survey protocol to identify, measure, and weigh varying species of finfish commonly targeted in Massachusetts.

Publications/Relevant Work

Bethoney, N. David, **Samuel C. Asci**, and Kevin D.E. Stokesbury. 2016. Implications of extremely high recruitment events into the US sea scallop fishery. Marine Ecology Progress Series 547: 137-147.

Asci, Samuel C., Richard Langton, and Kevin D.E. Stokesbury. "Estimating the impacts of fishing and recovery in the closed and opened areas of the Gulf of Maine, focusing on sea scallop mortality [abstract]". SNEC Winter Meeting. *American Fisheries Society*. Avery Point, CT. 14 Jan. 2016. Oral Presentation.

Asci, Samuel C. , Richard Langton, and Kevin D.E. Stokesbury. "Estimating the impacts of fishing and recovery in the closed and opened areas of the Gulf of Maine, focusing on sea scallop mortality [abstract]". 107th Annual Meeting. *National Shellfisheries Association*. Monterey, CA. 24 Mar. 2015. Poster Presentation.

Asci, Samuel C., Richard Langton, and Kevin D.E. Stokesbury. 2018. Estimating similarity in benthic communities over decades and in areas open and closed to fishing in the central Gulf of Maine, USA. *Marine Ecology Progress Series*, *595*, 15-26.

Asci, Samuel C. 2019. Adapting science-based management: recent evolution of rotational management in the Atlantic sea scallop fishery [abstract]. International Pectinid Workshop. Santiago de Compostela, Spain. April 29, 2019. Oral Presentation.

Asci, Samuel C. 2023. Scallop fishery bycatch on eastern Georges Bank: considering tradeoffs between fishery management objectives. School for Marine Science and Technology, Department of Fisheries Oceanography Seminar. March 1, 2023. Oral Presentation.

Bethoney, N. D., Cleaver, C., **Asci, S. C.**, Bayer, S. R., Wahle, R. A., & Stokesbury, K. D. 2019. A comparison of drop camera and diver survey methods to monitor Atlantic sea scallops (*Placopecten magellanicus*) in a small fishery closure. *Journal of Shellfish Research*, *38*(1), 43-51.

Peros, Jonathon, **Samuel Asci**, N. David Bethoney, Jason Clermont, Benjamin Galuardi, Dvora Hart, Kevin Kelly, Burton Shank, and Michael Torre. 2018. "SARC 65 Appendix 3: An Overview of the Atlantic Sea Scallop Resource in the Gulf of Maine." https://s3.us-east-1.amazonaws.com/nefmc.org/3c.-180606_Gulf-of-Maine-Appendix_for_A21.pdf

Relevant Skills

Expert in ArcGIS/MS Office Suite, professional training in project management (Rochester Institute of Technology), engaging presenter/public speaker, strong technical writer, team-oriented worker, verse in data management/organization/visualization, experienced in stakeholder engagement.

IES Innovative Environmental Science

Daniel L. Mendelsohn

Principal

Education: M.S. Mechanical Engineering and Applied Mechanics – University of Rhode Island
B.S. Mechanical Engineering and Applied Mechanics – University of Rhode Island

Contact: 29 Marine Ave.
Jamestown, RI USA 02835
Daniel.Mendelsohn@IEScoastal.com +1 (401) 374-0366

Overview

Mr. Mendelsohn has more than 35 years' experience in environmental engineering applications with a focus on, numerical model development and application, hydrodynamics, hydraulics, water quality, waves, meteorology and sediment, pollutant, thermal, oil and chemical spill transport and fates. His experience is in the implementation and management of engineering analyses, modeling studies, metocean observations and assessment, environmental impact assessments, permitting support, site assessments, water quality and TMDL analyses, dredging impacts assessment, resource assessment, feasibility studies, field monitoring programs and data analysis, providing support to the public and private sector for engineering, environmental and permitting issues.

[Areas of expertise]

- Environmental engineering applications
- EIS and permitting support
- Estuarine, coastal, ocean, river, lake and reservoir processes
- Renewable energy resource assessment and feasibility studies
- Offshore/onshore wind project development support
- Numerical model development and application
- Hydrodynamic & water quality modelling
- Sediment transport modeling
- Metocean monitoring, modeling and data analysis
- Environmental heat transfer and atmospheric thermodynamics
- Oil spill transport and fates modelling

Mr. Mendelsohn has also completed the development of an integrated, state-of-the-art boundary fitted coastal hydrodynamic and water quality modelling system, including the integration of the USEPA WASP kinetic rate equations in a GIS based interactive modeling, mapping and analysis package. Mr. Mendelsohn has worked extensively in the oil and gas industry providing metocean observation systems, analysis and modelling studies. He has spent over 15 years in the conceptual design, feasibility, planning and development of renewable energy system projects for electric power cooperatives, municipalities, state government agencies, resort developments, and offshore wind energy projects.

Experience

IES Consulting / (Innovative Environmental Science, LLC) **2021 - Present**
Principal

RPS / (Formerly Applied Science Associates, Inc.) **1985-2002 & 2008-2021**
Principal Consultant Metocean and Ocean Science / Renewable Energy Resources

RPS ASA (Formerly Applied Science Associates, Inc.) **2012 - 2014**
Technical Director South America

Applied Technology & Management, Inc. **2002-2008**
Northeast Regional Director / Energy Resources Group Leader / Modelling Team Leader

Project Manager or Senior Scientist in the following representative projects:

Example Renewable Energy Projects

- SouthCoast Wind, Nantucket Shoals – Project Manager and lead analyst and modeler for the assessment of potential operational impacts of offshore wind turbines on the hydrodynamics of Nantucket Shoals and surrounding seas. The study quantified the potential wind turbine impacts and potential for subsequent impacts to the copepod population density and foraging efficiency of the endangered North Atlantic right whale.

- Alpine Ocean, Wilmington and Humbolt WEAs – Project Manager and lead analyst for the development of wind and wave statistical characterization of the Wilmington and Humbolt Wind Energy Areas for weather days estimates. Similar analyses also performed for the French Coast in the Mediterranean and the Pertuis de Antioche on the Atlantic Coast.

- Mayflower Wind, MFW – Project Manager and lead modeller for export cable burial sediment transport modelling assessment. Development of a hydrodynamic model application to offshore regional waters and Narragansett Bay with sediment transport and fates impacts assessment.

- RIWINDS, Rhode Island – Principal-in-Charge and program manager of the RIWINDS technical and economic feasibility study for the Rhode Island Governor's Office of Energy resources, to assess the feasibility of producing 15% of the state's aggregate electrical demand from wind generation. The project findings resulted in the Block Island Wind Farm development.

- Revolution Wind, Orsted – Project Manager and lead modeler for the development of a 40 year hindcast and statistical analysis of the wind, waves, currents and temperatures in Narragansett Bay for cable burial design and operations criteria development.

- Revolution Wind, Orsted – Project Manager for cable burial, sediment transport modelling assessment. Project involved development of a hydrodynamic model application to regional waters and sediment transport and fates impacts assessment.

- Atlantic Shores, EDF/Shell – Project Manager for cable burial, sediment transport modelling assessment. Project involved development of a hydrodynamic model application to regional waters and sediment transport and fates impacts assessment.

- Block Island Sound, Rhode Island – Project Manager for a transmission cable burial, jet plow sediment transport modelling assessment. Project involved development of a hydrodynamic model application to regional waters, sediment transport and fates impacts assessment and near shore surf zone sediment transport characterization.

- Renewable Energy Siting Partnership (RESP), RI – Project manager for the development of a web based wind energy facility siting tool for the State of Rhode Island's RESP. The system integrated resource assessment, siting impacts assessment tools and RIGIS environmental data layers, into web based GIS system, hosted by the Rhode Island Environmental Data Center.

- Meteorological Modeling in Support Ocean Special Area Management Plan, Rhode Island – Principal-in-Charge and project manager for a data analysis and high resolution meteorological modeling study for wind resource assessment and power production estimation in the vicinity of the island of Block Island, Rhode Island. Study was performed in support of a siting assessment of an offshore wind farm by the RI Coastal Resources Management Council.

- Wind Energy Siting and Feasibility Study, East Bay, RI – Principal-in-Charge and project manager for the planning and development of a nine municipality, wind energy project for the East Bay Energy Consortium. Project includes siting, technical and economic feasibility studies, consultation on regulatory and legal implications for project development and net-metering in RI.

Example Metocean Projects

- Trinidad and Tobago – Project manager for a one year, three string deep water mooring current profile and waves field monitoring program and analysed and compared the observations to large scale numerical model analyses for the time period, for design and operational criteria development in support of an offshore oil and gas exploration and production facility.

- Offshore Ghana – Project manager for a data assessment and extremal analysis for a long term current and wave data set at 3 sites offshore of Ghana, in support of design criteria development.

- Palma Bay, Mozambique – Project manager for a data assessment and model development and application project offshore of Palma Bay, Mozambique, to support development of design and operational criteria and to assess potential environmental impacts on a transport pipeline route from an offshore collection facility to an onshore processing facility. A multi-year, 16 mooring, currents, waves and winds data set was analysed and used for calibration of regional/local storm, waves and currents models used for the assessment.

Example Hydrodynamics and Water Quality Projects

- Propel Energy NY Transmission Line, LIS – IES project manager and lead modeler for the assessment of the potential impacts from Long Island Sound cable burial activities. Included a fine resolution hydrodynamics and sediment model of resuspended sediment transport and sedimentation, determining water column concentrations and deposition patterns of sediment and contaminants, in support of a New York Article VII application.

- Transco NESE Lower NY Bay Pipeline Burial Assessment Project, Raritan Bay, NJ/NY – Lead modeler for the development and application of a hydrodynamic, sediment transport and contaminant transport model system for water column concentration assessment including presentation to NYSDEC and NJDEP. Second project phase included a 40 year storm assessment, currents and waves modeling and extreme value assessment for design criteria development.

- Trinity River Water Quality Modelling, Ft. Worth, TX – Lead modeller for the Trinity River Vision project water quality assessment modelling. Application of the CE-QUAL-W2 water quality model to the Trinity River present conditions and planned redevelopment conditions to assess hydraulic and water quality impacts of the development plan, for the Tarrant Regional Water District.

- Ras Tanura Sedimentation Assessment, Saudi Arabia – Lead modeller for the assessment and mitigation of sedimentation issues in the Ras Tanura power station intake canal caused by heavy littoral sediment transport along the Arabian Gulf coast.

- Indian Point Power Station Permitting Modeling Support, Hudson River, NY – Lead modeler for the development and application of a 3D, coupled prognostic, hydrodynamic and thermal water quality model for investigation of thermal structure of the Hudson River and the Indian Pt. Power Station thermal effluent. Performed in support of a permit renewal process NYSDEC.

- Thermal Effluent Model, Saugus, MA – Technical project manager for a field and modeling study to evaluate the environmental impacts of thermal effluent from the Refuse Energy Systems Company (RESCO) and General Electric (GE) facilities which discharge to the Saugus River, Mass. Provided support to RESCO and GE personnel and consultants in permit negotiations with the Environmental Protection Agency and the Mass. DEP

- Hydrodynamic, Temperature and Dissolved Oxygen Model, Mount Hope Bay, RI – Lead modeller for the development and application of a 3D, coupled prognostic, hydrodynamic, thermal and water quality model system model for investigation of water quality impacts of thermal effluent from the Brayton Pt. Power station. The system used the USEPA WASP Eutrophication model integration with the WQMAP model system.

- Savannah Harbor Expansion Tier 1 EIS - Modeling, Savannah, GA – Lead modeler and ASA project manager for the development and application of a coupled, prognostic hydrodynamic and a USEPA WASP based dissolved oxygen water quality model system for the determination of potential impacts from a proposed channel deepening in the Lower Savannah River, GA.

Example Oil Spill Modeling Projects

- Gulf of Mexico, USA – Lead modeller for development and application of a blowout plume model for the Deepwater Horizon oil well blowout impacts assessment.
- Campos Basin, Brazil – Principal in charge and project manager for the development and application of a blowout model for older offshore deepwater wells including basic sediment and water constituents in the oil and gas blowout plume.

Publications:

Mr. Mendelsohn has authored and/or co-authored numerous publications, conference proceedings and technical reports – list available upon request.

Example Expert Witness Testimony and Legal Support:

Expert witness deposition and testimony

- Subject matter expert preparation and testimony for sediment transport fates and impacts for the South Fork offshore wind farm export cable burial operations analysis (analysis and expert witness testimony).
- Subject matter expert preparation (for potential testimony) for sediment transport fates and impacts for the Vineyard Winds 501 N offshore wind farm export cable burial operations analysis (analysis and expert witness testimony).
- U.S. Department of Justice vs Waste Management of Hawaii for illegal medical waste dumping; providing project management, analysis and expert witness testimony (2014)
- Dam breach and flood inundation analysis for the planned Tampa Bay Regional Reservoir, on behalf of Hillsborough County, FL (analysis and expert witness testimony)
- Man overboard accident and subsequent drowning in the lower Taunton River, RI (analysis and expert witness testimony on behalf of barge operator)

Expert support to major legal cases

- Exxon Valdez spill. Performed simulations for the Exxon Valdez spill and possible response options on behalf of Exxon (1989-1992) (Exxon)
- Deepwater Horizon (DWH) oil spill. Part of ASA team performing simulations for the DWH spill to assess natural resource damages for NOAA Office of Response and Recovery. Lead ASA expert on blowout model of spill (2010- 2015).
- Vermont Yankee Nuclear Power Plant thermal discharge to the Connecticut River, 2012 to 2014 (Client: Else Zoli, Goodwin Procter, Boston, MA)
- Indian Point Energy Center Nuclear Power Plant thermal discharge to the Hudson River, 2009 to 2014 (Client: Else Zoli, Goodwin Procter, Boston, MA)

ANNA E. MURPHY, Ph.D.

PRINCIPAL SCIENTIST / DIRECTOR OF ECOSYSTEM ECOLOGY

PROFILE

Dr. Annie Murphy is a marine scientist with expertise in benthic biogeochemistry, microbial ecology, aquaculture research, and marine environmental change. Her expertise lies at the interface between benthic community ecology and biogeochemistry with a specific interest in the response of aquatic ecosystems to anthropogenic disturbances. With over 15 years of experience, she has investigated the ecological effects of aquaculture in coastal waters, the influence of nutrient enrichment on microbial communities in New England salt marshes and shifts in salt marsh community dynamics along an urbanization gradient in the greater Boston, MA area. Dr. Murphy designs and executes research and monitoring programs aimed at understanding the ecology and multi-faceted function and value of coastal and offshore benthic habitats, and how these may be affected by human activities, with a focus on organic enrichment of the seafloor.

QUALIFICATIONS

Ph.D. Marine Science, College of William & Mary, Virginia Institute of Marine Science, USA, 2016
B.S. Biology, Fairfield University, USA, 2007

AREAS OF SPECIALIZATION

- Coastal Ecology
- Sediment Biogeochemistry
- Microbial Ecology and Bioinformatics
- Aquaculture

KEY ROLES AND EXPERIENCE

Orsted, South Fork Wind, Revolution Wind, Sunrise Wind, and Ocean Wind 1 Development and Execution of Benthic Monitoring Plans, (1/2020-Present), Northeast and Mid-Atlantic Regions. Developed, drafted, and presented benthic monitoring plans that have been accepted through the federal and state permitting processes for four Orsted lease areas along the US eastern seaboard. These plans are aimed at documenting effects associated with offshore wind infrastructure on ecological function of the benthic environment. Through this process, Dr. Murphy worked closely with state and federal agencies to address specific concerns regarding shifts in benthic function as a result of offshore wind development by designing targeted and hypothesis-driven monitoring programs. Participated in several scientific working groups that aim to inform regional research initiatives and standardize approaches in monitoring effects of offshore wind development and operations including the Regional Synthesis Working Group of the Offshore Wind Environmental Technical Working Group and the habitat subcommittee of the Regional Wildlife Science Collaborative. Following the acceptance of these monitoring plans, Dr. Murphy has served as project manager in the execution of baseline data collection, analysis, and reporting, and most recently the initial post-construction data collection at South Fork Wind.

Orsted, Revolution and Sunrise Wind, Benthic Habitat Baseline Assessments and Permitting Support, (1/2019-10/2023), New York and Rhode Island. Dr. Murphy served as subject matter expert in benthic ecology in support of the Revolution Wind and Sunrise Wind projects. This involved data generation, analyses, interpretation, and reporting for the federal and state permitting processes (RI for Revolution Wind and NY for Sunrise Wind). She is experienced in analyzing sediment profile images to assess the benthic environment within the context of offshore wind development. These project-specific baseline benthic assessments were incorporated into the projects' Construction and Operations Plans and are integral in the detailed characterization and mapping of the benthic

habitats associated with each project. For the state permitting process, Dr. Murphy served as expert witness during the RI CRMC Category B Assent and Federal Consistency for the Revolution Wind Project, which involved preparing for and attending public hearings with specific focus on issues related to oyster aquaculture and benthic recovery following cable installation. For Sunrise Wind, Dr. Murphy served as expert witness during the Article VII permitting process in New York, which involved monthly meetings with associated stakeholder parties towards the development of a joint agreement.

PROFESSIONAL EXPERIENCE

Assessing Shifts in Benthic Biogeochemical Cycling in Response to Large Scale Aquaculture Operations. Dr. Murphy has extensive experience researching the interactions of large scale aquaculture operations and the environment. She has led several projects that involved measuring rates of benthic biogeochemical processes including sediment oxygen demand, remineralization rates, denitrification, and dissimilatory nitrate reduction to ammonium (DNRA) at a variety of coastal environments. Her dissertation focused on assessing the influence of commercial scale clam and oyster aquaculture operations on carbon and nitrogen biogeochemical cycling in coastal environments. Using isotope tracer approaches, Dr. Murphy determined how rates of nitrogen removal and recycling pathways are affected by clam cultivation in Chesapeake Bay and the Sacca di Goro, Italy.

Chemical and Biological Characterizations at Offshore Dredged Material Disposal Sites. Dr. Murphy is involved in data acquisition, analyses, interpretation, and reporting for several projects documenting the response of the benthic environment to dredged material disposal. This includes synthesizing, integrating, and reporting on various environmental data types including sediment profile images, sediment chemistry data (metals, organics, pesticides), radionuclide data, and multibeam acoustic data. She is experienced in analyzing sediment profile images to assess the benthic environment associated with dredged material disposal. This work includes projects aimed at assessing remediation efforts involving dredged material capping and documenting ecological recovery following dredged material placement. Recently, Dr. Murphy led a survey effort to locate and characterize the dredged material resulting from a short dump event near a disposal site in the Northeast, US. She was successful in utilizing a combination of tools including reconnaissance multibeam acoustic data and adaptive SPI/PV imagery collection to identify the dredged material on the seafloor.

Benthic Assessment Following Seafood Waste Deposition. Dr. Murphy analyzed data and developed a benthic assessment report for seafood waste deposition and associated adverse impacts to the benthic habitat in a harbor in the Aleutian Island, Alaska. She analyzed sediment profile images to assess the benthic environment to provide a detailed characterization of the benthic community and compared survey data across several years. Dr. Murphy led the interpretation and reporting of sediment grab samples analyzed for natural abundance stable isotopes to provide information about the source of bulk organic matter on the seafloor across the harbor. Benthic assessment investigations included collection of data necessary to support delineation of ecological adverse impact areas (ZOIs) and the presence of seafood waste deposits. Water quality monitoring was also conducted as part of the benthic assessment surveys.

Microbial Community Analyses to Investigate the Response of Coastal Systems to Perturbations. As a postdoctoral scientist, Dr. Murphy investigated the microbial community structure, composition, and function of coastal benthic habitats, including salt marsh restoration. She is experienced in prepping DNA and RNA libraries for next generation high throughput sequencing. She is well-versed in a variety of bioinformatics pipelines to process, analyze, and interpret these big datasets. Within the context of salt marsh restoration, projects aimed to compare microbial community shifts post-restoration and to more pristine sites, including locations on Cape Cod and Boston, MA. Other projects include investigating the response of microbial communities to large-scale and prolonged nutrient enrichment at the Plum Island Long Term Ecological Research Site in Massachusetts. She also used stable isotope probing of microbial RNA to investigate the carbon sources in salt marsh microbial food webs. She supported research investigating the controls on blue carbon sequestration in salt marsh peat, including the use of anaerobic flow-through bioreactors to tease apart mechanisms controlling the microbial decomposition of complex organic matter substrates.

PROFESSIONAL MEMBERSHIPS & CERTIFICATES

- Stellwagen Bank National Marine Sanctuary Advisory Council
- MOCEAN member
- Massachusetts Habitat Working Group on Offshore Wind
- UN Global Compact Working Group on Net Biodiversity Positive Offshore Renewables Regional Synthesis Workgroup of the Offshore Wind Environmental Technical Working Group (E-TWG)
- Coastal and Estuarine Research Federation (CERF)
- Association for the Sciences of Limnology and Oceanography (ASLO)
- National Shellfisheries Association (NSA

PEER-REVIEWED PUBLICATIONS

- Bulseco, A., **A.E. Murphy,** A.E. Giblin, J. Tucker, J. Sanderman, and J.L. Bowen. 2024. Marsh sediments chronically exposed to nitrogen enrichment contain degraded organic matter that is less vulnerable to decomposition via nitrate reduction. *Science of the Total Environment*
- Guarinello, M.L., S.K. Sturdivant, **A.E. Murphy**, L. Brown, J.A. Godbold, M. Solan, D.A. Carey, and J.D. Germano. 2022. Evidence of rapid functional benthic recovery following the Deepwater Horizon oil spill. *ACS ES&T Water.* DOI 10.1021/acsestwater.2c00272
- Bowen, J.L., A.E. Giblin, **A.E. Murphy,** A. Bulseco, L. Deegan, D. Johnson, J. Nelson, T. Mozdzer, and H. Sullivan. 2020. Not all nitrogen is created equal: Differential effects of nitrate versus ammonium enrichment in coastal wetlands. *BioScience*
- **Murphy, A.E.,** A. Bulseco-McKim, R. Ackerman, and J.L. Bowen. 2020. Sulfide addition favors respiratory ammonification (DNRA) over denitrification and alters the active microbial community in salt marsh sediments. *Environmental Microbiology*
- Bulseco-McKim, A., J. Vineis, **A.E. Murphy**, A.C. Spivak, A.E. Giblin, J. Tucker, and J.L. Bowen. 2019. Metagenomics coupled with biogeochemical rates measurements provide evidence that nitrate addition stimulates respiration in salt marsh sediments. *Limnology and Oceanography*
- **Murphy, A.E.**, R. Kolkmeyer, B. Song, I.C. Anderson, and J.L. Bowen. 2019. The bioreactivity and microbiome of biodeposits from filter feeding bivalves. *Microbial Ecology*
- Bulseco-McKim, A., A.E. Giblin, J. Tucker, **A.E. Murphy**, K. Hiller, and J.L. Bowen. 2019. Nitrate addition stimulates microbial decomposition of organic matter in salt marsh sediments. *Global Change Biology*
- **Murphy, A.E.,** D. Nizzoli, M. Bartoli, A.R. Smyth, G. Castaldelli, and I.C. Anderson. 2018. Variation in benthic metabolism and nitrogen cycling across clam aquaculture sites. *Marine Pollution Bulletin* 127: 524-535. DOI 10.1016/j.marpolbul.2017.12.003
- Smyth A.R., **A.E. Murphy,** I.C. Anderson, and B. Song. 2017. Differential effects of bivalves on sediment nitrogen cycling in a shallow coastal bay. *Estuaries and Coasts.* DOI 10.10007/s12237-017-0344-9
- **Murphy, A.E.**, I.C. Anderson, A.R. Smyth, M.W. Luckenbach, and B. Song. 2016. Dissimilatory nitrate reduction to ammonium (DNRA) exceeds denitrification in hard clam cultivation sediments. *Limnology and Oceanography* 61: 1589-1604. DOI 10.1002/lno.10305
- **Murphy, A.E.,** K.A. Emery, I.C. Anderson, M.L. Pace, M.J. Brush, and J.E. Rheuban. 2016. Quantifying the effects of commercial clam aquaculture on carbon and nitrogen cycling: An integrated ecosystem approach. *Estuaries and Coasts* 39: 1746. DOI 10.1007/s12237-016-0106-0
- **Murphy, A.E.,** I.C. Anderson, and M.W. Luckenbach. 2015. Enhanced nutrient regeneration at commercial hard clam (*Mercenaria mercenaria*) beds and the role of macroalgae. *Marine Ecology Progress Series* 530: 135-151. DOI 10.3354/meps11301
- Brousseau, D.J., **A.E. Murphy**, N.P. Enriquez, and K. Gibbons. 2008. Foraging by two estuarine fishes, *Fundulus heteroclitus* and *Fundulus majalis*, on Juvenile Asian Shore Crabs (*Hemigrapsus sanguineus)* in Western Long Island Sound. *Estuaries and Coasts* 31: 144-151. DOI 10.1007/s12237-007-9006-7

Tim Verslycke, Ph.D.
Principal
(he/him)
Tim.Verslycke@gradientcorp.com

Areas of Expertise

Ecotoxicology, ecological risk assessment, natural resource damage assessment, product stewardship, emerging contaminants, endocrine disruptors, pharmaceuticals, personal care products.

Education

Ph.D., Applied Biological Sciences, Ghent University, Ghent, Belgium, 2003

M.S., Bioscience-engineering/Environmental Technology, Ghent University, Ghent, Belgium, 1999

B.S., Bioscience-engineering, Ghent University, Ghent, Belgium, 1996

Professional Experience

2007 – Present GRADIENT, Boston, MA
Principal. Ecotoxicology and ecological risk assessment, natural resource damage assessment, industrial and consumer product environmental safety assessment, and emerging contaminants.

2007 – 2019 WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, MA
Guest Investigator. Biology Department. Environmental toxicology studies.

2003 – 2007 WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, MA
Postdoctoral Researcher. Research on hormone signaling in marine animals and its potential disruption by chemical and other environmental stressors. National and international collaboration on research, protocol development, and policymaking for endocrine disruptors.

1999 – 2003 LABORATORY FOR ENVIRONMENTAL TOXICOLOGY AND AQUATIC ECOLOGY, GHENT UNIVERSITY, Ghent, Belgium
Ph.D. Researcher. Endocrine disruption studies using mysid shrimp. Laboratory research and field studies in Belgium, The Netherlands, and South Africa. Supervising students, teaching graduate-level courses in environmental toxicology and marine ecology, managing multi-stakeholder international projects on endocrine disruption, managing marine ecotoxicological research in the laboratory.

Professional Affiliations

Flanders Marine Institute (VLIZ Belgium); International Board of Environmental Risk Assessors (IBERA); International Society of Regulatory Toxicology and Pharmacology (ISRTP); Society for Risk Analysis (SRA); Society of Environmental Toxicology and Chemistry (SETAC); Society of Toxicology (SOT).

Professional Activities

- President, IBERA, 2023-2025.
- Vice-President, IBERA, 2020-2022.
- Founding Member, IBERA, 2020-2021.
- Member, US EPA Board of Scientific Counselors (BOSC), 2017-2022.
- Member, Steering Committee, SETAC's Global Endocrine Disruptor Testing and Risk Assessment (EDTRA) Advisory Group, 2014-2020.
- President, SETAC North Atlantic Chapter, 2013-2014.
- Member, Steering Committee, SETAC's Global Pharmaceutical Advisory Group, 2010-2013.
- Instructor, Short Course "Endocrine Disruptors: The Good, The Bad, and The Regulations." SETAC North Atlantic Chapter Annual Meeting, Freeport, ME, 2011.
- Participant, ISRTP conference on "The Endocrine Disruptor Screening Program: What Can Screening Results Tell Us About Potential Adverse Endocrine Effects?" NIH, Bethesda, MD, 2009.
- Participant, ISRTP conference on "Conducting and Assessing the Results of Endocrine Screening." NIH, Bethesda, MD, 2008.
- Expert input on marine pollution module of the e-learning projects "Expeditie Zeeleeuw" and "Planeet Zee," Flanders Marine Institute, Ostend, Belgium, 2004-2005.
- Participant, seminar on the use of mysid shrimp for endocrine disruptor studies, US EPA's Atlantic Ecology Division, Narragansett, RI, 2005.
- Instructor, three-day training seminar on the use of mysid shrimp for endocrine disruptor studies, US EPA's Gulf Ecology Division, Gulf Breeze, FL, 2004.
- Participant, Program Review of US EPA's Endocrine Disruptor Screening Program, North Carolina, December 2004.
- Research Assistant Representative, Department Board Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium, 2002-2003.
- Scientific Advisor, Center for Health and Environment of the Flanders Regional Government, Brussels, Belgium, 2002-2003.
- Scientific Committee Member, Flanders Marine Institute, Ostend, Belgium, 2001-2003.

Projects – *Ecological Risk Assessment and Natural Resource Damage Assessment*

Industrial Client, AZ: Evaluated dust effects on vegetation, including on threatened and endangered species, for a large critical minerals mining project.

Industrial Client, IN: Provide technical support related to post-remedial fish tissue monitoring for polychlorinated biphenyls (PCBs) in the Little Mississinewa River.

Environmental Trust Group: Provide an expert review of the scope of sediment, surface water, and biota sampling proposed in a long-term monitoring plan for a large, contaminated estuary in the Northeast.

Industrial Client, NY: Develop and implement a tissue biomonitoring plan for PCBs in finfish and crayfish to evaluate the performance and effectiveness of a planned remedial action.

Utility Client: Evaluated risks to human health and the environment associated with coal combustion residual (CCR) surface impoundments at six coal fired power plants in the Southern US.

Utility Client: Evaluated risks to human health and the environment at a closed CCR surface impoundment. Prepared report materials suitable to update regulatory agency and aid in communication to the public.

Law Firm, FL: State of knowledge of natural resource damage (NRD) assessment and settlements from the late 1990s until the late 2000s. Evaluate potential NRD liability at a portfolio of US chemical sites.

Confidential Clients, NH, CT: Evaluating the impact of the presence of per- and polyfluoroalkyl substances compounds (PFAS) at contaminated sites where PFAS may have been used historically (*e.g.*, in firefighting, hexavalent chromium-based plating, or other operations).

PRP Group, NJ: Review chemical and ecological risk assessment data to support an equitable cost allocation at a large Superfund site containing tidal estuarine and marshland habitats.

Industrial Client, CT: At an industrial facility going through Connecticut's Voluntary Remediation Program, conducted a baseline ecological risk assessment (BERA) for a river and associated wetlands.

Industrial Client, CT: Evaluated the ecological protectiveness of a proposed sediment remedy for a fire protection pond impacted by historical PCB contamination.

Industrial Client, CT: Evaluated the ecological protectiveness of a proposed sediment remedy for a drainage swale and associated wetlands impacted by historical PCB contamination.

Industrial Client, CT: Evaluated current and post-remedial ecological risks, following planned remediation to comply with Connecticut's Remediation Standard Regulations (RSRs), at a site impacted by historical PCB contamination.

Industrial Client, CT: At an industrial facility going through the Connecticut's Voluntary Remediation Program, evaluated ecological risks to nearby wetlands from historical wastewater discharges.

Industrial Client, NJ: At a coastal Superfund site in NJ impacted by metal slag materials, evaluated US EPA's human health and ecological risk assessments in order to determine the appropriateness of the proposed cleanup levels.

Industrial Client, NY: Supplied ecological risk assessment support for a sediment Superfund site with an extensive industrial history dating back to the 1800s. Reviewed historical site data, evaluated previous and ongoing ecological investigations and risk analyses. Our analyses will be used to support the basis of an equitable and scientifically defensible cost allocation.

Municipal Client, CT: Conducted a screening level ecological risk assessment (SLERA) to assess potential risks from groundwater discharge from a landfill to a nearby surface water. Metals and volatile organic compounds were evaluated in surface water, groundwater, and sediments and potential risks to aquatic receptors were determined. Results were used to design a sampling plan to fill data gaps.

Industrial Client, CT: Conducted a BERA for a site located near a large river and containing an active manufacturing facility, around 700 acres of undeveloped land, brooks, and wetlands. The BERA was accepted by the Connecticut Dept. of Energy and Environmental Protection (CTDEEP) and US EPA Region I, who agreed that no further remediation was required to address ecological risks.

Industrial Client, KY: Evaluated technical approaches for developing Alternate Concentrations Limits (ACLs) for groundwater to surface water discharge from a manufacturing facility located next to a large river. Reviewed existing groundwater data and evaluated the relative sensitivity of benthic *versus* pelagic organisms for key chemicals of concern at the facility. Reviewed current state-of-the-science on mixing of groundwater with surface water in the hyporheic zone.

Industrial Client, NJ: Assisted with the development of sampling plans, conducted ecological risk assessments, and responded to US EPA and New Jersey Dept. of Environmental Protection (NJDEP) comments for a Superfund site surrounding a former paint manufacturing plant in Gibbsboro, New Jersey.

Industrial Client, Canada: Conducted an ecological risk assessment for environmental media affected by the historical presence of a preservative and estrogens in wastewater associated with a pharmaceutical manufacturing facility. Conducted a feasibility study to evaluate remedial options.

Industrial Client, CT: Evaluated ecological risks at a former aircraft engine testing facility. Results of a SLERA indicated the potential for ecological impacts in several upland areas, requiring further evaluation as part of a BERA. The SLERA and BERA were approved by CTDEEP and formed the basis for selecting the final remedy.

Industrial Client, CT: Evaluated risks to ecological receptors in a brook adjacent to a closed landfill at a former manufacturing facility for aircraft engines and components. Site-specific bioavailability and sediment toxicity were collected, and results were used to develop a remedial action plan that was approved by CTDEEP and US EPA. Assisted with the preparation of a request for a site-specific Surface Water Protection Criterion that was accepted by CTDEEP.

Industrial Client, CT: Evaluating risks to ecological receptors at a large industrial manufacturing facility going through voluntary remediation in CT. To support the ERA, we are evaluating existing site data, identifying data gaps, developing and overseeing additional data collection, conducting the risk assessment, and assisting with agency negotiations.

Utility Company, WI: Evaluated the technical basis for a proposed NRD settlement offer at a Great Lakes Superfund site. Performed a benchmarking analysis to quantitatively compare NRD settlements at other sediment sites to our client's offer. Our analysis considered the nature and extent of the ecological harm, as well as our client's potential role in causing the harm.

Montana Environmental Trust Group, MT: In coordination with state (*e.g.*, Montana Department of Environmental Quality) and federal (*e.g.*, US EPA, US FWS) beneficiaries and as part of a Resource Conservation and Recovery Act (RCRA) facility investigation, performed a BERA for a former lead smelter site in East Helena, Montana.

Industrial Client, CT: As part of review of the effectiveness of a Superfund remedy, and at the request of US EPA and CTDEEP, reviewed historical fish metal and PCB tissue data and coordinated additional fish tissue sampling in a pond at an old landfill. Additional tissue data were used to evaluate population-level effects in fish, higher trophic level ecological receptors, and human health.

Aircraft Manufacturer, CT: Assisted in preparing a response letter to US EPA to provide the technical basis for selection of a targeted set of chemicals of concern to be carried forward for the development of Media Protection Standards (MPS) at a former aircraft manufacturing site. Conducted sediment triad studies to support the development of site-specific MPS values. Conducted a Corrective Measures Study (CMS) and assisted with the development of pre-design data to support an ecological risk-based wetland remedy.

Utility Company, WI: Prepared comments on US EPA's proposed Superfund site remedy, including a large sediment component driven by ecological concerns, for non-aqueous phase liquid (NAPL) and polycyclic aromatic hydrocarbon (PAH) impacts from historical wood treatment plant and manufactured gas plant (MGP) operations. Our comments were submitted to US EPA for consideration prior to a final remedy selection in the record of decision.

Research Organization Sponsored by Power Utility Companies: Prepared a summary of the risks of selenium to organisms in aquatic and sediment environments, including a review of case studies where selenium from coal ash caused documented adverse ecological impacts. Our report, which provides ecological risk assessment resources for selenium, is part of a larger reference library that is made available to all members of the utility company consortium.

Water Supplier, New Zealand: At the request of New Zealand's largest company in the water and wastewater industry, developed a risk-based discharge limit for the pesticide methoprene at its Mangere wastewater treatment plant. Methoprene is used to control insect (midge) nuisance from the plant to the surrounding local community. Presented our analysis and proposed discharge limit to the relevant regulatory authority, which was subsequently approved.

Industrial Client, CT: To comply with RCRA Corrective Action requirements, performed an ecological risk assessment for terrestrial and aquatic receptors potentially exposed to contaminants in soil, surface water, and sediment. Reviewed historical data, developed a conceptual site model, and designed a comprehensive sampling program to fill data gaps. Based on the site-specific data, evaluated contaminant bioavailability and ecological risk-based cleanup levels for the proposed remediation. Our risk assessment was prepared for CTDEEP review as a component of the remedy negotiations.

Energy Services Company, Brazil: Conducted a complex human and ecological risk assessment in a marine setting to define the need for remedial actions associated with a former barite mine in South America. The project included design and oversight of field sampling, dietary surveys, and presentation of the risk assessment results to regional regulators.

Industrial Client, CT: At a plant under RCRA Corrective Action requirements, developed a soil and sediment remedial strategy. Evaluated risks to terrestrial and aquatic receptors from exposure to metals, PCBs, and PAHs in soil, surface water, and sediment. Examined bioavailability and considered contribution from multiple urban background sources to develop a health-protective and cost-effective solution. The approach was presented to the CTDEEP.

Industrial Client, CT: Performed an ecological risk assessment (ERA) of a former aircraft manufacturing facility, defining the need for sediment and wetland soil remediation in accordance with RCRA Corrective Action requirements. Designed and implemented a sampling program that resulted in an approved performance-based remedy without the need for the development of numerical cleanup goals or delineation sampling.

Projects – *Product Environmental Safety, Environmental Stewardship*

Food Importer: In the context of a California Proposition 65 matter, evaluated background levels of lead in imported seafood.

US Trade Association: Conducted an update to a previous literature review to evaluate the current state of science of microplastics with a focus on coatings-related microplastics.

Asian Trade Association: Provide technical support with environmental exposure modeling and meetings with the environmental authorities related to the use of a fuel constituent in China.

US Trade Association: Conducted a literature review to evaluate the current state of science of microplastics with a focus on coatings-related microplastics.

Global Chemical Company: Evaluated the human and environmental safety of three titanium dioxide by-products sold for beneficial reuse at a European manufacturing facility.

Global Personal Care Products Company: Conducted an ecological risk assessment and a review of environmental monitoring data for 1,4-dioxane.

Washington State Department of Ecology: Prepared GreenScreen® assessments to support a safety evaluation of three chemicals, which will be used by the state to assist companies in identifying and selecting safer chemical alternatives. The assessment profiles were published on the Interstate Chemicals Clearinghouse (IC2) database.

Global Chemical Company: Prepared GreenScreen® assessments to support a safety evaluation of different wood preservative alternatives.

Global Personal Care Products Company: Conducted an ecological risk assessment associated with the use of an antimicrobial soap in the US and EU.

Global Personal Care Products Company: Evaluated human health risks from potential exposure to triclosan *via* land-applied biosolids.

Global Personal Care Products Company: Reviewed published studies on the potential effects of triclosan on fish, conducted a state-of-the-science review of the toxicological mode of action of triclosan in ecologically-relevant species, and identified important areas of ongoing and future research.

Global Energy Services Company: Evaluated the environmental safety of hydraulic fracturing fluid components to be used in Australia.

Chemical Manufacturer: To evaluate the potential environmental impacts of amending an over-the-counter drug monograph for a sunscreen ingredient, performed a US Food and Drug Administration (US FDA)-compliant environmental assessment. Leveraged existing data to recommend a cost-effective environmental testing approach for the same ingredient under Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Global Energy Services Company: Led project assessing a comprehensive relative hazard evaluation system developed by the client for scoring and ranking its products. Reviewed all aspects of the system and developed a sensitivity analysis to assess possible alternative approaches.

Global Cleaning Products Manufacturer: Developed a user-friendly guide defining potential adverse impacts on biological treatment systems (*e.g.*, wastewater treatment plant failures) due to disposal of used cleaning products. The client used the guide to communicate best practices to its customers.

Trade Association: Assessed the relative ecotoxicity of vegetable oils to petroleum oils. Developed a robust literature-based assessment and compared regulatory requirements for the safe handling of both product groups.

Global Personal Care Products Company: Managed the development of a protocol to assess environmental risks associated with their ingredient portfolio.

Projects – *Pharmaceuticals*

Global Pharmaceutical Company: Assisted with responding to US FDA comments on an Environmental Assessment of a new drug indicated for the treatment of menopause-related symptoms.

Pharmaceutical Supply Chain Initiative (PSCI): Developed a set of user-friendly tools for predicting active pharmaceutical ingredient (API) concentrations in different environmental media following different discharge scenarios.

Self: Provided public comments on the European Medicines Agency's (EMA) proposed revision of its guideline on the environmental risk assessment of human medicines.

Global Veterinary Pharmaceutical Company: Assisted with responding to US FDA comments on an Environmental Impact Assessment of a broad-spectrum antiparasitic drug used to treat cattle.

Multiple Pharmaceutical Companies: Designed and oversaw environmental fate and ecotoxicity testing to support EMA and/or US FDA submissions of a wide range of new human drugs, including hormone replacement, pain management, cholesterol management, depression management, diabetes management, and antimicrobial drugs. Prepared EMA and US FDA-compliant environmental assessments and responded to EMA and US FDA comments.

Global Pharmaceutical Company: Developed a streamlined, yet environmentally-protective, approach for estimating Predicated No Effect Concentrations (PNECs) for APIs that lack environmental toxicity data.

Global Pharmaceutical Company: Developed a screening framework to identify potential risk-driving APIs ("surrogate APIs") that could be used to define the need for and extent of remediation at a former drug synthesis facility. Our approach was accepted by the state.

Global Pharmaceutical Company: Developed protocol to generate environmental fate and effects data required for APIs for international drug registration, environmental risk assessments, and setting effluent compliance criteria.

Global Pharmaceutical Company: Developed a new fish estrogen receptor (ER) *in vitro* binding assay in collaboration with the Woods Hole Oceanographic Institution. Assay was used to evaluate the estrogenicity of individual APIs and API manufacturing plant effluents. Performance of fish ER assay was also evaluated against the E-SCREEN assay.

Global Pharmaceutical Company: Conducted an environmental assessment of risks associated with the use of a pharmaceutical compound to treat river blindness in Africa.

Projects – *National Ambient Air Quality Standards (NAAQS)*

Trade Association: Attended a US EPA workshop on policy-relevant science organized to inform US EPA's review of the secondary NAAQS for ozone. Developed a summary of the key discussion topics presented during this meeting.

Trade Association: Attended several Clean Air Scientific Advisory Committee (CASAC) meetings related to the policy assessment for the review of the secondary NAAQS for oxides of nitrogen, oxides of sulfur (NO_x/SO_x) and particulate matter (PM). Developed a summary of the key discussion topics presented during this meeting.

Trade Association: Attended a US EPA workshop on policy-relevant science organized to inform US EPA's review of the secondary NAAQS for NO_x/SO_x. Developed a summary of the key discussion topics presented during this meeting.

Trade Association: Conducted an independent scientific analysis of the welfare risk and exposure assessment and the policy assessment, which were used to support US EPA's proposed rule for ozone. Submitted written comments and provided public testimony to CASAC.

State Environmental Agency: Organized and participated in a workshop focused on the scientific evidence for ozone effects and the societal implications of lowering the ozone NAAQS.

State Environmental Agency: As part of US EPA's NAAQS review for ozone, assisted the agency with written comments on the welfare risk and exposure assessment and the policy assessment.

Projects – *Regulatory Comment*

Self: Provided public comments on the EMA's 2018 proposed revision of its 2006 guideline on the environmental risk assessment of human medicines.

Environmental Professionals' Organization of Connecticut (EPOC): Reviewed a proposed amendment to the Significant Environmental Hazard Notification Statute for remediation sites in Connecticut. As part of our review, we evaluated the potential policy implications of the proposed amendment and the scientific basis of an analysis conducted by the Connecticut Dept. of Health in support of the amendment. Gradient's comments were submitted to CTDEEP.

Non-profit, Washington: For the Common Sense Alliance, prepared comments on proposed changes to critical areas ordinances for wetlands and fish and wildlife habitat conservation areas in San Juan County, Washington. Our comments focused on consistency of the proposed changes with existing regulations and regulatory guidance, the use of best available science, and the need and effectiveness of the proposed measures. Our comments were submitted to the San Juan County Council.

EPOC: Reviewed proposed revisions to CTDEEP's Remedial Standard Regulations. Assessed the scientific basis of proposed groundwater volatilization and surface water protection criteria for petroleum hydrocarbon fractions. Our analysis and comments were submitted to CTDEEP.

Global Energy Services Company: Reviewed NY's proposed guidelines for regulating natural gas hydraulic fracturing (HF) fluid additives and prepared a risk assessment for multiple potential spill and migration pathways. Our work was submitted to New York State Department of Environmental Conservation (NYSDEC) as part of the public comment process, to US EPA in response to its Request for Information to inform its national HF study, and presented at technical workshops on HF convened by US EPA.

Projects – *Endocrine Disruptors*

European Trade Association: Compiled relevant information regarding the endocrine disruption potential of hydrocarbons and petroleum substances following the 2018 European Chemicals Agency (ECHA)/European Food Safety Authority (EFSA) "Guidance for the identification of endocrine disruptors in the context of Regulations (EU) No 528/2012 and (EC) No 1107/2009."

SETAC Pellston® Workshop: Invited expert participant in a 2016 workshop called "Guidance for Environmental Hazard and Risk Assessment Approaches for Endocrine-Active Chemicals (GEHRA): A Case Studies Approach."

US EPA – Office of Science Coordination and Policy: Served as co-author and lead technical expert on the Integrated Summary Report (ISR) of the Invertebrate (Mysid) Two-Generation Toxicity Test that was being proposed as a Tier 2 testing assay under US EPA's Endocrine Disruptor Screening Program.

Global Pharmaceutical Company: Developed a new fish ER *in vitro* binding assay. The assay was used to screen new APIs and environmental samples.

Belgian-American Educational Foundation Fellowship: Research project using a mode-of-action approach to understanding early-life stage effects and critical time windows of exposure in endocrine disruptor studies with mysid crustaceans.

Ocean Life Institute Postdoctoral Fellowship at Woods Hole Oceanographic Institution (WHOI): Research project on hormonal regulation and disruption of early development, molting, growth, and reproduction of crustaceans.

Federally Funded Research Project in Belgium (OSTC-PODO II): ENDIS-RISKS/Endocrine disruption in the Scheldt Estuary: distribution, exposure, and effects.

European Research Project: *In vivo* and *in vitro* evaluation of endocrine-disrupting compounds with invertebrate model organisms.

Ghent University Research Fund Project: Analytics and metabolization studies with endocrine disruptors (natural hormones and xenobiotics) in aquatic invertebrates.

European Research Project: The energy metabolism of the estuarine mysid *Neomysis integer* (Crustacea, Mysidacea) as a biomarker for endocrine disruption in estuaries.

Bilateral Research Project between Belgium and South Africa: Development of routine biological test methods for the assessment of endocrine-disrupting compounds in the environment, a complementary approach using *in vivo* and *in vitro* test endpoints.

Projects – *Expert Testimony & Litigation Support*

Law Firm: Provided expert ecotoxicological, ecological risk assessment, and natural resource damage assessment services related to PFAS NRD cases.

Law Firm: Prepared an expert report regarding surface contamination and potential impacts to vegetation at an active oil and gas facility in Texas.

Law Firm: Evaluated the historical scientific state of knowledge of PFAS bioaccumulation and ecotoxicity. Prepared expert reports and provided expert testimony in deposition.

Law Firm: In the context of a RCRA citizen suit, prepared an expert report and provided expert testimony regarding the likely ecological protectiveness of a proposed remedy for treating conductivity in surface mine discharges in West Virginia.

Law Firm: In the context of a RCRA citizen suit, provided expert witness services regarding potential environmental risks associated with seeps and other releases resulting from historical disposal of glass manufacturing waste.

Law Firm: For an NRD case at an oil refinery in the Caribbean, provided expert witness services regarding potential damages to marine ecological receptors.

Law Firm: Prepared an expert report regarding potential post-remediation impacts of chloride and total dissolved solids (TDS) in wastewater pond sediments on nearby vegetation.

Chemical Manufacturer: Provided technical support to evaluate potential sources of synthetic organic chemicals found in processed brine shrimp.

Law Firm: Prepared an expert report and provided expert testimony regarding ecologically-based clean-up criteria for an active natural gas exploration site in Texas.

Law Firm: Prepared expert report in a case before the Commonwealth of Pennsylvania Environmental Hearing Board. The work involved evaluating ecological risks following a potential spill of coal combustion byproducts during river transport.

Law Firm: Prepared an expert report and sworn deposition in a trespass and negligence case in the Atascosa County District Court in Texas. The work involved evaluating ecological risks at a power plant and associated lignite mine.

Projects – *Coastal/Marine Environmental Research*

New England Lobster Initiative Grant: A molecular approach to understanding lobster shell disease.

MIT Sea Grant: Development and *in situ* validation of *in vitro* assays for pesticides in coastal waters.

Woods Hole Sea Grant: Identifying differentially-expressed genes in shell-diseased *versus* healthy American lobster, *Homarus americanus*.

Ocean Life Institute Project at WHOI: Diapause regulation in marine copepods.

Publications – *Peer Reviewed*

Mebane, CA; Sumpter, JP; Fairbrother, A; Augspurger, TP; Canfield, TJ; Goodfellow, WL; Guiney, PD; LeHuray, A; Maltby, L; Mayfield, DB; McLaughlin, MJ; Ortego, LS; Schlekat, T; Scroggins, RP; Verslycke TA. 2019. "Scientific Integrity Issues in Environmental Toxicology and Chemistry: Improving Research Reproducibility, Credibility, and Transparency." *Integr. Environ. Assess. Manag.* 15(3): 320-344.

Fairbrother, A; Muir, D; Solomon, KR; Ankley, GT; Rudd, MA; Boxall, ABA; Apell, JN; Armbrust, KL; Blalock, BJ; Bowman, SR; Campbell, LM; Cobb, GP; Connors, KA; Dreier, DA; Evans, MS; Henry, CJ; Hoke, RA; Houde, M; Klaine, SJ; Klaper, RD; Kullik, SA; Lanno, RP; Meyer, C; Ottinger, MA; Oziolor, E; Petersen, EJ; Poynton, HC; Rice, PJ; Rodriguez-Fuentes, G; Samel, A; Shaw, JR; Steevens, JA; Verslycke, TA; Vidal-Dorsch, DE; Weir, SM; Wilson, P; Brooks, BW. 2019. "Toward sustainable environmental quality: Priority research questions for North America." *Environ. Toxicol. Chem.* 38(8):1606-1624.

Marty, MS; Blankinship, A; Chambers, J; Constantine, L; Kloas, W; Kumar, A; Lagadic, L; Meador, J; Pickford, D; Schwarz, T; Verslycke, T. 2017. "Population-relevant endpoints in the evaluation of endocrine-active substances (EAS) for ecotoxicological hazard and risk assessment." *Integr. Environ. Assess. Manag.* 13(2):317-330.

Matthiessen, P; Ankley, GT; Biever, RC; Bjerregaard, P; Borgert, C; Brugger, K; Blankinship, A; Chambers, J; Coady, KK; Constantine, L; Dang, Z; Denslow, ND; Dreier, DA; Dungey, S; Gray, LE; Gross, M; Guiney, PD; Hecker, M; Holbech, H; Iguchi, T; Kadlec, S; Karouna- Renier, NK; Katsiadaki, I; Kawashima, Y; Kloas, W; Krueger, H; Kumar, A; Lagadic, L; Leopold, A; Levine, SL; Maack, G; Marty, S; Meador, J; Mihaich, E; Odum, J; Ortego, L; Parrott, J; Pickford, D; Roberts, M; Schaefers, C; Schwarz, T; Solomon, K; Verslycke, T; Welter, L; Wheeler, JR; Williams, M; Wolf, JC; Yamazaki, K. 2017. "Recommended approaches to the scientific evaluation of ecotoxicological hazards and risks of endocrine-active substances." *Integr. Environ. Assess. Manag.* 13(2):267-279.

Verslycke, T; Mayfield, DB; Tabony, JA; Capdevielle, M; Slezak, B. 2016. "Human health risks of triclosan in land-applied biosolids." *Environ. Toxicol. Chem.* 35(9):2358-2367.

Verslycke, T; Reid, K; Bowers, T; Thakali, S; Lewis, A; Sanders, J; Tuck, D. 2014. "The Chemistry Scoring Index (CSI): A hazard-based scoring and ranking tool for chemicals and products used in the oil and gas industry." *Sustainability* 6:3993-4009.

Boxall, ABA; Rudd, MA; Brooks, BW; Caldwell, DJ; Choi, K; Hickmann, S; Innes E; Ostapyk, K; Staveley, JP; Verslycke, T; Ankley, GT; Beazley, KF; Belanger, SE; Berninger, JP; Carriquiriborde, P; Coors, A; DeLeo, PC; Dyer, SD; Ericson, JF; Gagné, F; Giesy, JP; Gouin, T; Hallstrom, L; Karlsson, MV; Larsson, DGJ; Lazorchak, JM; Mastrocco, F; McLaughlin, A; McMaster, ME; Meyerhoff, RD; Moore, R; Parrott, JL; Snape, JR; Murray-Smith, R; Servos, MR; Sibley, PK; Oliver Straub, J; Szabo, ND; Topp, E; Tetreault, GR; Trudeau, VL; Van Der Kraak, G. 2012. "Pharmaceuticals and personal care products in the environment: What are the big questions?" *Environ. Health Perspect.* 120(9):1221-1229.

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Ghekiere, A; Verslycke, T; Janssen, CR. 2006. "Effects of methoprene, nonylphenol and estrone on the vitellogenesis of the mysid *Neomysis integer*." *Gen. Comp. Endocrinol.* 147(2):190-195.

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Presentations – *Selected Platform*

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Verslycke, T. 2014. "Regulatory Multi-Generational Testing: The Endocrine Disruptor Screening Program Experience." Presented at the SETAC North America 35th Annual Meeting, Vancouver, British Columbia, November 13.

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Presentations – *Selected Posters*

Bamgbose, I; Vo, J; Verslycke, T. 2024. "A Refined Read-Across Approach to Support Environmental Assessment of Data-Poor Pharmaceuticals." Poster # 3.20.P-Th34 5. Presented at the SETAC Europe 34th Annual Meeting, Seville, Spain, May 5-9.

Verslycke, T; Bamgbose, IA. 2023. "An Updated Concordance Assessment of Predicted No-Effect Concentration (PNEC) Aquatic Toxicity Data for Pharmaceuticals." Poster # 3.13.P-We157. Presented at the SETAC Europe 33rd Annual Meeting, Dublin, Ireland, April 30-May 4.

Rominger, JT; Verslycke, T; Hoque, WT. 2023. "Comparing the Sensitivity of Predicted Environmental Concentrations of Pharmaceuticals Using Empirical and Quantitative Structure-Activity Relationship (QSAR)-Derived Physico-chemical Parameters." Poster # 3.02.P-Tu142. Presented at the SETAC Europe 33rd Annual Meeting, Dublin, Ireland, April 30-May 4.

Verslycke, T; Lewis, AS; Manidis, T; Lyon, D; Synhaeve, N; Hinkal, G; Saunders, L; Villalobos, SA; Colvin, K. 2023. "Screening Assessment of Endocrine Disruption Properties of a Large Portfolio of Petroleum-Related UVCB Substances." Poster # 4.05.P-We301. Presented at the SETAC Europe 33rd Annual Meeting, Dublin, Ireland, April 30-May 4.

Bamgbose, IA; Verslycke, T. 2022. "Environmental Assessment for Human Drug Approval: An Outdated Technical Framework?" Abstract/Poster ID #: P521. Presented at the American College of Toxicology (ACT) 43rd Annual Meeting 2022, Denver, CO, November 13-16.

Bamgbose, IA; Mohar, I; Verslycke, T. 2020. "Are Existing Environmental Assessment Approaches Appropriate for Novel Drug Products?" Presented at the American College of Toxicology (ACT)'s 41st Annual Meeting, Austin, TX, held virtually November 12-19.

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Verslycke, T; Janssen, CR. 2001. "The Energy Metabolism of *Neomysis integer*: A New Biomarker for Endocrine Disruption in Estuaries?" Presented at SETAC Europe 11th Annual Meeting, Madrid, Spain, May 6-10.

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Verslycke, T. 2012. "Assessing hazards of HF products?" *Gradient Trends - Risk Science & Application* Issue 55:1.

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Vandenbergh, G; Verslycke, T; Janssen, CR; De Coen, W; Comhaire, F; Dhooge, W; Callebaut, K. 2001. "Evaluation of the Impact of Endocrine Disruptors on the North Sea Ecosystem: Final Report." Plan for Scientific Support for A Policy of Sustainable Development (DWTC - PODO II), Program "Sustainable Management of the North Sea."

Versonnen, B; Arijs, K; Vandenbergh, G; Du Four, V; Verslycke, T; Janssen, CR. 2000. "Community Program of Research on Environmental Hormones and Endocrine Disrupters (COMPREHEND)." Technical report on *in situ* exposures in Belgium.

Awards

- SETAC Exceptional Paper Award, 2020.
- Best Risk Assessment Poster Award, Annual Society of Toxicology Meeting, 2009.
- Highlighted paper in Ecotoxicology and Environmental Safety, 2007.
- Belgian American Educational Foundation (BAEF) Postdoctoral Research Fellowship, 2005-2006.
- Annual Flanders Marine Institute (VLIZ) North Sea Award for Ph.D. Thesis, 2004.
- Woods Hole Oceanographic Institution Postdoctoral Scholarship, 2003-2004.
- SETAC North America Student Travel Award, 2002.
- Best poster award Flanders Marine Institute (VLIZ) Young Scientists' Day, 2001.

Other Qualifications

Reviewer

- *Aquatic Toxicology*; *Journal of Experimental Marine Biology and Ecology*; *Steroids*; *Ecotoxicology and Environmental Safety*; *Integrative and Comparative Biology*; *Pesticide Biochemistry and Physiology*.

Session Chair

- "Advances in Environmental Risk Assessment and Management of Pharmaceuticals in the Environment." Co-chair with Ericson J (Pfizer), Silverman K (Merck), Mills M (US EPA), and Erikson C (US FDA) at SETAC North America 30th Annual Meeting, November 7-11, 2010, Portland, OR.
- "Pharmaceuticals in the Environment." Soils, Sediments and Water 24th Annual Conference, October 23, Amherst, MA.
- "Endocrine Disruption in Invertebrates: History, Regulation and Future Research." Co-chair with Meiller J. (US EPA) at SETAC North America 26th Annual Meeting, November 13-17, 2005, Baltimore, MD.

Languages

Dutch (native proficiency), English (bilingual proficiency), French (limited working proficiency), German/Portuguese/Spanish (elementary proficiency)

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RESEARCH INTERESTS
Maritime economics and management; Marine resource economics and management

PROFESSIONAL PREPARATION
B.S., Naval Architecture and Marine Engineering, Massachusetts Institute of Technology, 1984
M.S., Ocean Systems Management, Massachusetts Institute of Technology, 1986
M.S., Technology and Policy, Massachusetts Institute of Technology, 1988
Ph.D., Ocean Systems Management, Massachusetts Institute of Technology, 1992

APPOINTMENTS
Research Specialist, Woods Hole Oceanographic Institution (WHOI), 1995-present
Research Associate, WHOI, 1992-1995
Research Assistant, WHOI, 1988-1992
Summer Student Fellow, WHOI, 1985
Lecturer, Massachusetts Maritime Academy, 2008-present
Lecturer, Massachusetts Institute of Technology, 1994-2007
Senior Analyst, Marsoft, Inc., 1998-present

EDUCATIONAL ACTIVITY
- Thesis committee member: Elizabeth Halliday (MIT-WHOI, Ph.D. awarded 2012); Megan May (MIT-WHOI, Ph.D. in progress); Merrielle McCleod (Brown Univ., M.S. awarded 2009)

OTHER PROFESSIONAL ACTIVITIES
- Member, International Council for the Exploration of the Seas Working Group on Social and Economic Dimensions of Aquaculture
- Member, Marine Technology Society, Society of Naval Architects and Marine Engineers,
- Member, Editorial Board, Journal of Ocean and Coastal Economics
- Chair, Woods Hole Diversity Advisory Committee
- Reviewer: ad hoc reviewer for California Sea Grant Program, and various journal including Journal of Ocean and Coastal Economics, Journal of Aquaculture Economics and Management, and WMU Journal of Maritime Affairs

REVIEWED PUBLICATIONS

Kite-Powell, H.L., C. Brehme, S. Kraus, P. McCarron, H. Tetrault, and B. Wikgren. In prep. The spatial and temporal distribution of risk to Right Whales from lobster fishing gear off the coast of Maine.

Rogers, D.R., C. Mazur, A. Cobban, A. Pepe, H.L. Kite-Powell, and V.P. Edgcomb. Submitted. Denitrification and anammox processes in sediments underneath oysters at coastal aquaculture sites, Cape Cod, MA. *Marine Ecology Progress Series* .

Tlusty, M.F., B. Wikgren, K. Lagueux, H.L. Kite-Powell, D. Jin, P. Hoagland, R.D. Kenney, and S.D. Kraus. 2017. Co-occurrence mapping of disparate data sets to assess potential aquaculture sites in the Gulf of Maine. *Reviews in Fisheries Science and Aquaculture*, DOI: 10.1080/23308249.2017.1343798

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Hoagland, P. and H.L. Kite-Powell. 1993. Technology transfer and scientific relevance. *Oceanography* 6(3):68-77.

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SOUTHCOAST WIND PREHEARING DISCLOSURE ATTACHMENTS

ATTACHMENT A
LIST OF SUPPLEMENTAL SUBMISSIONS FILED IN SUPPORT OF APPLICATION

STATE OF RHODE ISLAND
COASTAL RESOURCES MANAGEMENT COUNCIL

IN THE MATTER OF:

SOUTHCOAST WIND ENERGY LLC
Application to Construct, Operate, and Maintain
Two 20.4-Mile HVDC Submarine Export Cables
through Rhode Island Sound, the Sakonnet River,
and Mount Hope Bay.

CRMC File No.: 2023-02-090

SUPPLEMENTAL SUBMISSIONS BY SOUTHCOAST WIND IN SUPPORT OF ITS APPLICATION FOR CATEGORY B ASSENT

Applicant SouthCoast Wind Energy LLC ("SouthCoast Wind") submits this list of supplemental submissions that SouthCoast Wind has provided to the Rhode Island Coastal Resources Management Council since filing its updated Application for Category B Assent on September 30, 2024. SouthCoast Wind reserves its right to amend this list, including adding any inadvertent omissions.

Date	**Supplemental Submission**
October 11, 2024	WHOI report titled, "*Baseline Value of Commercial Fisheries Landings and For-Hire Revenue from the SouthCoast Wind Export Cable Corridor in Rhode Island State Waters*"
March 10, 2025	Applicable NOAA EFH Conservation Recommendations to RI CRMC
May 5, 2025	SCW/WHOI slides presented at CRMC/FAB kick-off meeting covering Project overview and Fisheries Economic Baseline Assessment for FAB and HAB feedback.
May 16, 2025	Project 2 Supplemental Attachment for SouthCoast Wind 1 Category B Assent application.
May 22, 2025	SCW/WHOI slides presented at FAB meeting (RIDEM in attendance).
June 6, 2025	SouthCoast Wind's responses on FAB questions and comments
June 20, 2025	WHOI report titled, "*Commercial Fisheries Landings and For-Hire Charter Fishing Revenue Exposure to the SouthCoast Wind Export Cable Corridor in Rhode Island*

	State Waters"
July 16, 2025	SCW/WHOI slides presented at FAB meeting (RIDEM in attendance)
July 22, 2025	SouthCoast Wind's responses on FAB questions and comments
July 25, 2025	SouthCoast Wind's draft Fisheries Compensatory Mitigation Memorandum of Understanding (MOU) for Category B Assent for sharing with the FAB and HAB
September 24, 2025	Repeat presentation slides of WHOI's July 16, 2025 Fisheries Exposure and Impact presentation (to reorient the FAB and update a new member) clarifying the analysis for the mantis shrimp fishery to address FAB feedback.
November 7, 2025	SouthCoast Wind letter outlining Category B Assent and FAB process to date
February 18, 2026 (CONFIDENTIAL)	Executed consulting agreement between Dr. Guilfoos (CRMC resource economist expert) and CRMC legal counsel to support FAB's advisory review of SCW's fisheries compensation and mitigation plan.
May 15, 2026	Revised draft Fisheries Compensatory Mitigation MOU for Category B Assent, updated based on CRMC counterproposal received on May 8, 2026

SOUTHCOAST WIND PREHEARING DISCLOSURE ATTACHMENTS

ATTACHMENT B
WHOI REPORT

Commercial Fisheries Landings and For-Hire Charter Fishing Revenue Exposure to the SouthCoast Wind Export Cable Corridor in Rhode Island State Waters

Hauke Kite-Powell, Di Jin, and Michael Weir
Marine Policy Center
Woods Hole Oceanographic Institution

19 June 2025

Table of Contents

List of Figures

List of Tables

List of Abbreviations

COP – Construction and Operations Plan

ECC – Export Cable Corridor

ECR – Export Cable Route

ECRA – Export Cable Route Area

FAB – Fishermen's Advisory Board

GDP – Gross Domestic Product

MA DEP – Massachusetts Department of Environmental Protection

MA DMF – Massachusetts Division of Marine Fisheries

NEMFIS – Northeast Marine Fisheries Information System

NMFS – National Marine Fisheries Service

NOAA – National Oceanographic and Atmospheric Administration

PPI – Producer Price Index

RICRMC – Rhode Island Coastal Resources Management Council

RIDEM – Rhode Island Department of Environmental Management

SBRM – Standardized Bycatch Reporting Methodology

VMS – Vessel Monitoring System

VTR – Vessel Trip Report

WLA – Wind Lease Area

Summary

Based on Rhode Island Department of Environmental Management data from 2008 to 2021, we estimate the average annual value of commercial landings from Rhode Island State waters in the vicinity of the SouthCoast Wind Brayton Point Export Cable Corridor to be $18,200/km^2/year from finfish, $43,800/km^2/year from shellfish, and $25,200/km^2/year from mantis shrimp in the Rhode Island portion of Mt. Hope Bay (all values in 2024$). The Brayton Point Export Cable Area (ECA; defined here as a 180 m wide lane surrounding the export cables) has a footprint of about 6.1 km^2 in Rhode Island state waters. We estimate the average annual landed value in Rhode Island from commercial fishing in the ECA to be $398,000, resulting in total economic impact in Rhode Island of $766,000 per year when accounting for indirect and induced effects.

A survey of Rhode Island and Massachusetts-based charter fishing suggests that the annual revenue to Rhode Island-based charter fishing vessels from fishing in the RI state waters portions of the Brayton Point Export Cable Corridor is between $9,800 and $29,400 (2024$). Including indirect and induced effects, this results in total economic impact between $15,900 and $47,800 per year.

Given development timelines and external factors that can affect the final SouthCoast Wind Project 1 and Project 2 construction schedules, we assess the present value of fisheries exposure to the Brayton Point Export Cables for a range of cable installation scenarios. Based on a two-month cable installation schedule for the sections of the SouthCoast Wind Project 1 Brayton Point Export Cable in Rhode Island waters, we estimate conservatively a total exposure (in 2024$) of Rhode Island commercial landed value of $215,000 (2031 cable installation) to $261,000 (2027 cable installation). The corresponding values for charter fishing revenue are $3,800 and $4,600.

Including indirect and induced (onshore) effects, total Project 1 cable exposure impact is estimated to be $414,000 (2031 cable installation) to $503,000 (2027 cable installation) for Rhode Island commercial fishing, and $6,200 to $7,500 for charter fishing.

The corresponding values for the SouthCoast Wind Project 2 Brayton Point export cable are $185,000 (2034 cable installation) to $225,000 (2030 cable installation) for commercial landed value, $3,300 to $4,000 for charter fishing revenue, $357,000 to $434,000 for total commercial impact, and $5,300 to $6,500 for total charter fishing impact (2024$).

Introduction

This report estimates the level of pre-development fishing operations intersecting with, and landings and landed value from, the SouthCoast Wind Brayton Point Export Cable Route (shown in orange in Figure 1) in Rhode Island state waters. It also estimates the economic value of Rhode Island-based fishing operations that may be at risk due to installation, operation, and decommissioning of the Brayton Point export cables.

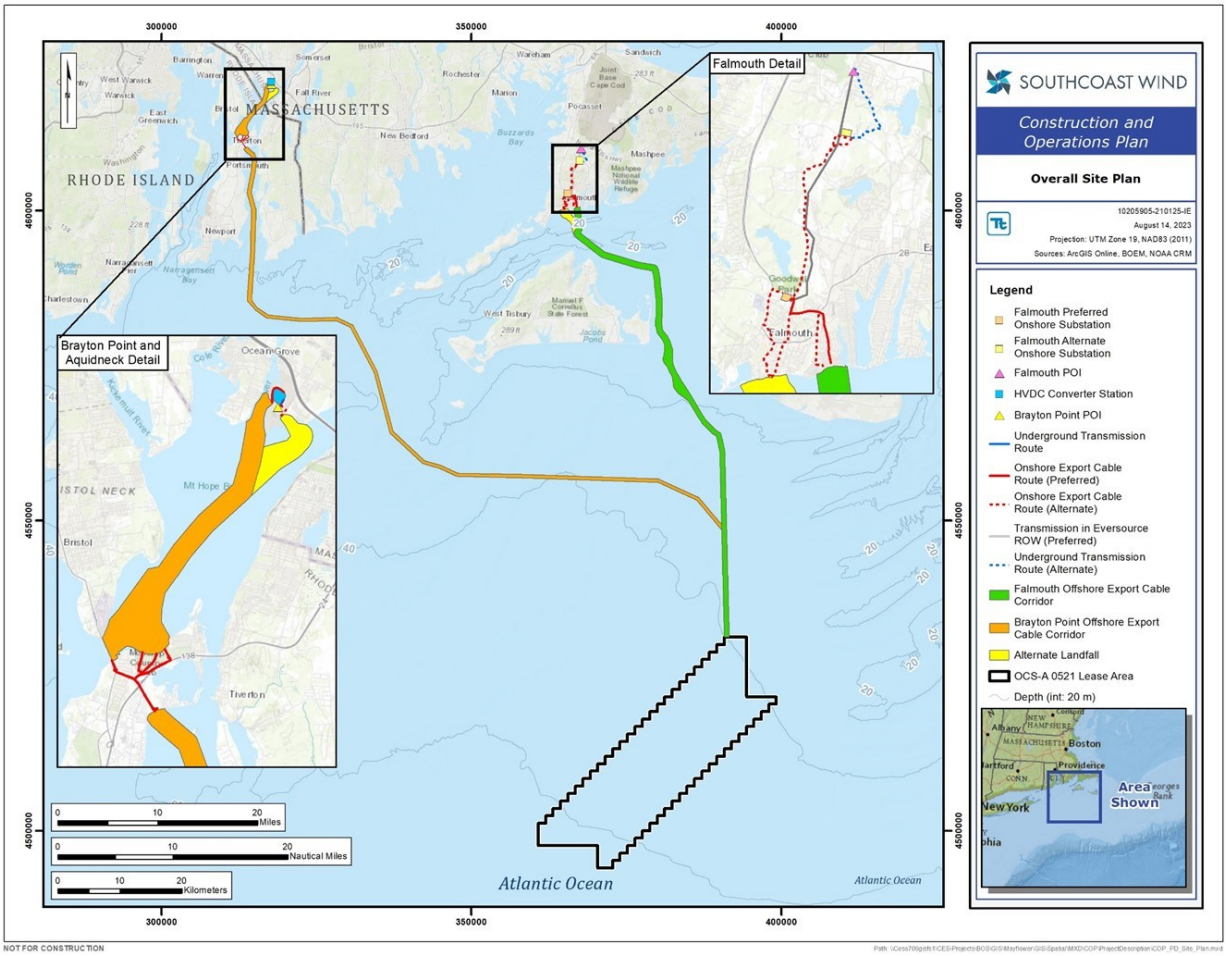

Figure 1. SouthCoast Wind Lease Area and export cable routes. Source: SouthCoast Wind.

The Wind Lease Area (WLA) for SouthCoast Wind (OCS-A 0521) is outside of Rhode Island state waters and the 2011 and 2018 Rhode Island Geographic Location Description areas (GLDs). The WLA lies in federal waters, roughly 25 nautical miles south of Nantucket and 51 nautical miles southeast of the Rhode Island coast, and has a footprint of 516 km^2. The Export Cable Corridor (ECC) to Brayton Point is 156 km in length (148 km of which lie outside the WLA), and runs from the northern edge of the WLA first to the north and west across Rhode Island Sound, then up the Sakonnet River to its landing location at Brayton Point in Somerset, MA. A second Export Cable Corridor is included in SouthCoast Wind's federal permits as a variant option and runs from the WLA to Falmouth, MA. The Falmouth variant option is only located in federal and Massachusetts state waters and therefore is not considered further

in this assessment. SouthCoast Wind plans to develop the WLA in two phases (Project 1 and Project 2), each with its own export cable bundle. SouthCoast Wind's preferred approach is to use the Brayton Point ECC for both Project 1 and Project 2. The focus of this assessment is on the portion of the Brayton Point ECC that overlaps with RI State Waters, most of which lies within the Sakonnet River.

The Brayton Point ECC is at maximum 700 m wide and represents the corridor within which the cables will be located; it has no physical significance in the context of fisheries impacts. Only portions of the narrow, 180 m wide Export Cabe Area (ECA) centered on the export cables themselves may be disturbed in the process of burying and decommissioning the cables.

The state waters portion of the Brayton Point ECC lies entirely in NOAA Northeast Marine Fisheries Information System (NEMFIS) Statistical Reporting Area 539 (Figure 2). In the Sakonnet River, the Brayton Point ECC transects portions of Rhode Island Shellfish Harvest Areas 4A, 4B, 4C, 4D, and 17 (Figure 3).

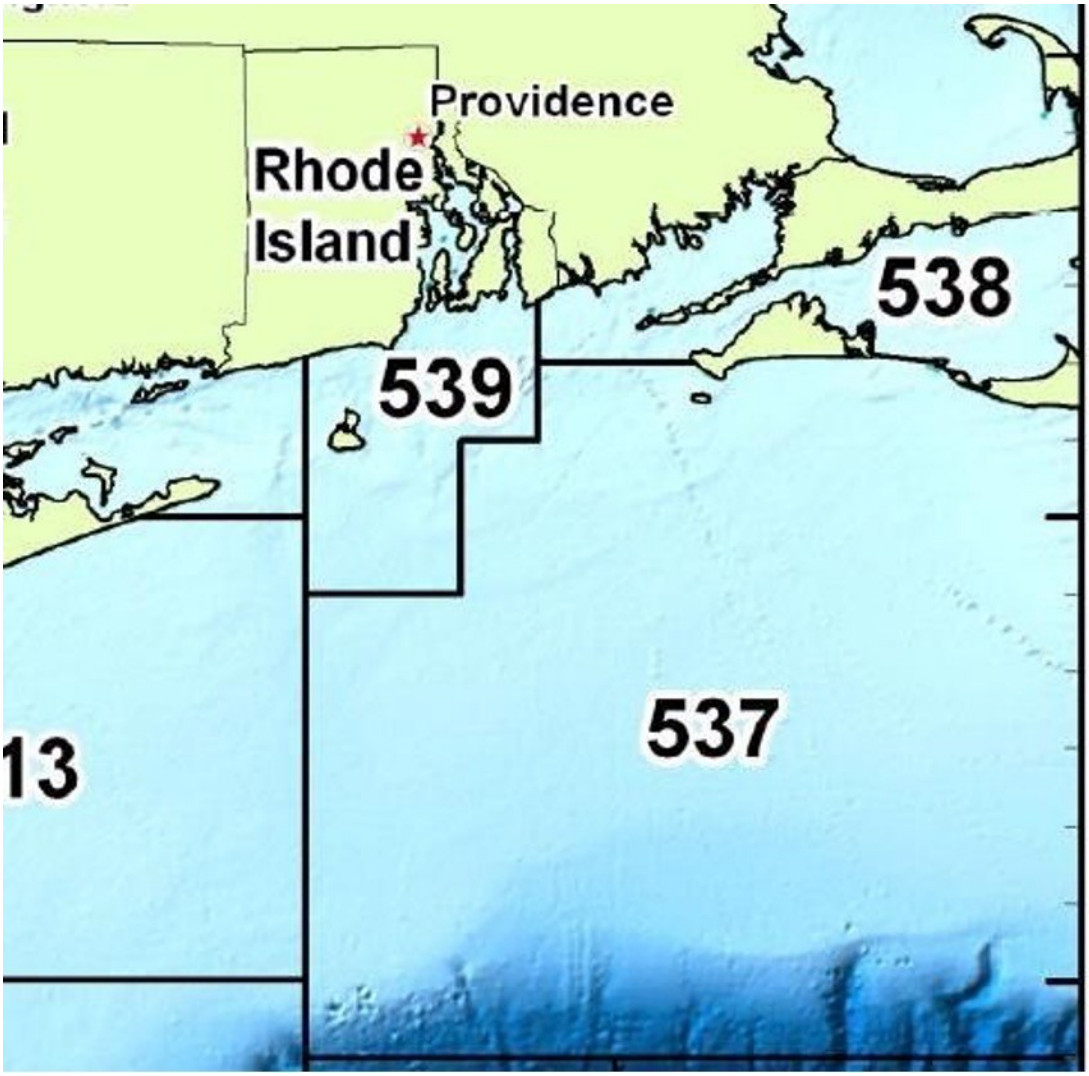

Figure 2. NOAA Fisheries Statistical Reporting Areas. Source: ACCSP (2021).

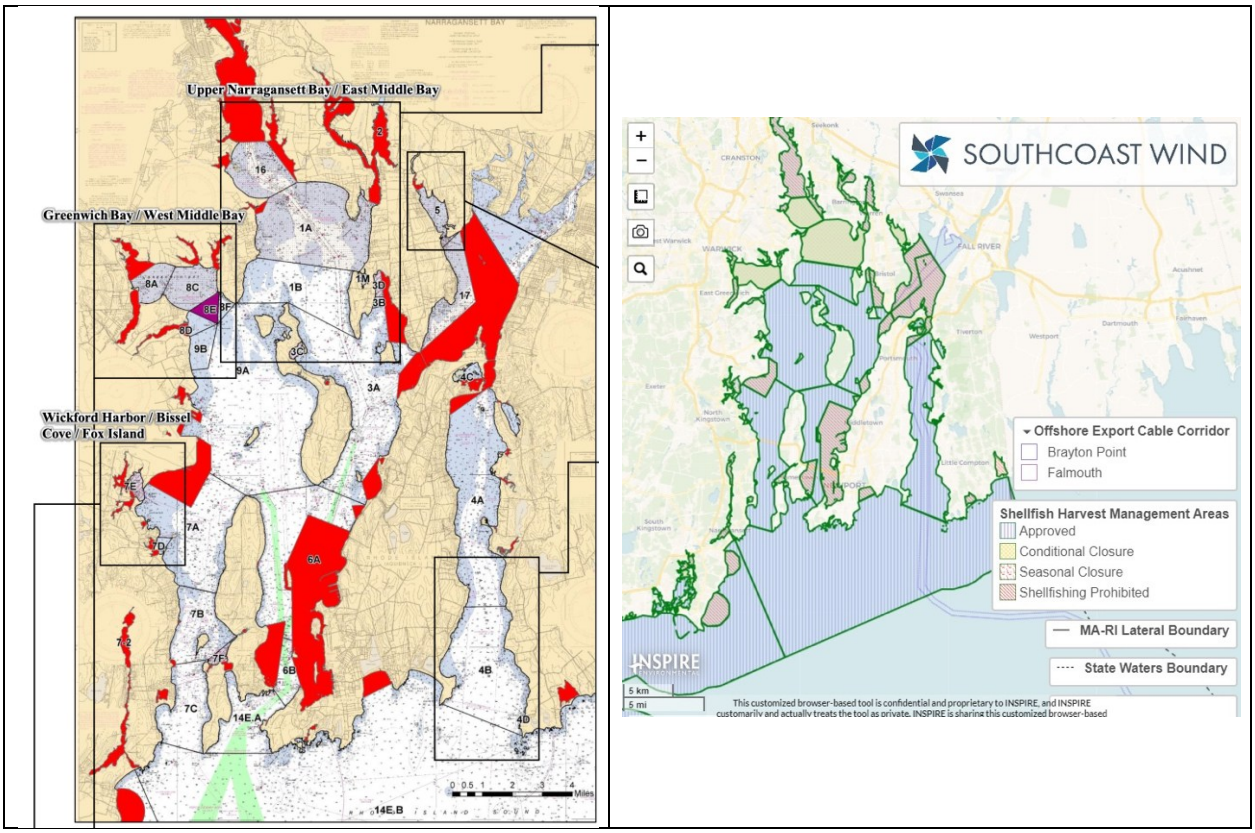

Figure 3. Rhode Island Shellfish Harvest Areas and SouthCoast Wind ECC. Shellfishing is prohibited in areas shown in red. Sources: RIDEM, SouthCoast Wind.

Table 1 shows the approximate length and area of the relevant features for the SouthCoast Wind Project. In the sections that follow, fishery landings and values for the Export Cable Route are estimated and reported for the 180 m wide Export Cable Area, as defined above.

Table 1. SouthCoast Wind area parameters

Wind Lease Area (WLA) footprint (km^2)	516
Brayton Point Export Cable Route length (km)	156
of which in Rhode Island state waters (km)	34
Footprint of 180 m Export Cable Area in RI state waters (km^2)	6.1

Methodology

There are two sources of data on commercial fisheries landings from the SouthCoast Wind project areas. The first is a dataset on landings and landed value from NOAA's National Marine Fisheries Service. This dataset uses modeled representations of federal Vessel Trip Report (VTR) and clam logbook fishing trip data to produce an accurate spatial allocation of landings from each fishing trip (DePiper 2014; Benjamin *et al.* 2018). It is used among others by BOEM (2023) for its assessment of fisheries landings from the SouthCoast WLA, and represents the most comprehensive source of commercial fisheries data for federal waters. This dataset does not include landings associated with state permits, and therefore underestimates the landings and landed value from the state waters portion of the ECA.

To address this issue, we use a second dataset on landings from the Rhode Island Department of Environmental Management (RIDEM) on fisheries landings from NOAA Fisheries Statistical Reporting Area 539 (Figure 2) for the years 2008 to 2021. The RIDEM data are compiled as the total yearly pounds landed, by species. We use data from NOAA on prices by species to estimate the landed value associated with the RIDEM reported landings. RIDEM also reports shellfish harvest by harvest areas within Rhode Island state waters (Figure 3); we use this information to supplement the Area 539 landings data. Annual landings reported in each of these datasets vary from year to year; we use the average landings and landed value from 2008 to 2021 as indicative of what the area may yield in the future.

During a meeting on May 5, 2025 of the RI Coastal Resources Management Council (CRMC), RI CRMC's Fishermen's Advisory Board (FAB), SouthCoast Wind, and WHOI, members of the FAB raised concerns about the mantis shrimp fishery centered in Mt. Hope Bay not being explicitly reflected in the RIDEM data used in the baseline assessment. In response to these concerns, we have worked closely with RIDEM to obtain data on mantis shrimp landings for recent years and included this in our analysis.

Once we establish the baseline values, we then estimate the fraction of this annual value that may be at risk ("exposed") due to SouthCoast Wind Export Cable Route development in Rhode Island waters, based on the nature and schedule of installation activities, operating plans, and decommissioning plans.

The effect of offshore wind farm construction and operation on marine ecosystems, fish stocks and fish behavior, and fishery landings is an area of ongoing research. Given the current state of knowledge about the effects of wind farm construction and operation on fish stocks and fishery landings (Hogan *et al.* 2023), we consider five categories of possible exposure for Rhode Island fishing activity from the SouthCoast Wind Export Cables:

- Transient effects on species availability due to installation activities
- Transient effects due to constrained access to certain areas during installation
- Changes in fishing during operations
- Transient effects due to constrained access to certain areas during decommissioning
- Transient effects on species availability due to decommissioning activities

We also consider transient effects on the for-hire charter fishing industry due to installation and decommissioning of the export cables. To the extent that for-hire charter fishing vessels use the ECA, it is possible that their activities may be affected during construction and decommissioning. We consider it unlikely that SouthCoast Wind development will negatively affect the personal recreational or subsistence fishing activities.

As we document below, there has been considerable variability in annual landings from these areas over the past decade. Some of this variability reflects normal year-to-year fluctuations in stocks and fishing effort; and some reflects long-term shifts in stocks due to changing environmental conditions. We take these factors into account in estimating what the areas are likely to yield in the future. Throughout this report, we use "landed value" to refer to the direct value of fisheries landings, "impact" to refer to the economic activity generated by fisheries, including indirect and induced effects (see below), and "exposure" to refer to the portion of landed value or impacts that may be at risk due to wind farm development.

We presented preliminary baseline results at a Rhode Island CRMC/FAB meeting on May 5, 2025. Based on feedback received from FAB members and subsequent discussions with RIDEM and CRMC, we revisited and updated our baseline analysis, with particular focus on whelk and mantis shrimp fishing, and on oyster aquaculture operations. The values in this report reflect that updated analysis.

Baseline commercial fishery landings and values

The RIDEM Area 539 commercial landings quantity statistics come in two separate data sets. The first set includes mainly finfish species measured in "hail weight" pounds, and the second includes shellfish species measured in "live weight" pounds. We assume RIDEM "hail weight" and "live weight" are consistent with NMFS landed weight and live weight designations, respectively. In addition, a third data set obtained from RIDEM includes shellfish species harvested from Areas 4A, 4B, 4C, 4D and 17 (Figure 3).

The Area 539 data are based on Vessel Trip Reports (VTRs) and state logbook entries. RIDEM does not currently provide revenue or price data associated with these landings, because neither VTRs nor state logbooks include price data. We use the price by species data from NOAA (described below) to estimate the revenues for landings from Area 539. For the three shellfish species measured in live weight, we use annual prices (in $/live pound) reported by the Maine Department of Marine Resources[1] because this is the most detailed and consistent such dataset for the Northeast.

Some fraction of lobster and Jonah crab landings are sold directly from boats at dockside, at a price above that reported in the dealer information on which the NOAA values above are based. Neither the fraction of landings sold in this way nor the price premium is known exactly. Based on information provided by a group of Rhode Island fishermen (pers. comm., 24 Nov. 2020), we estimate that a 15% premium on the landed value adequately captures this dockside sales effect for Rhode Island landings.

The resulting average annual landings and estimated landed value for selected species from Area 539 during the period from 2008 to 2021 are shown in Table 2. See Table A1 in the appendix for complete list.

[1] https://www.maine.gov/dmr/fisheries/commercial/landings-program/historical-data.html

Table 2: Baseline average annual landings and landed value (2008-2021) for Area 539, selected species, estimated from data provided by RIDEM, NOAA.

Species/group	**Landings** (million lbs/year)	**Value** (2024$ millions/year)
Skates, Rajidae (Family)	4.77	12.45
Flounder, Summer	0.63	2.99
Lobster, American	0.31	2.30
Skate, Little	0.74	1.95
Whelk, Channeled	0.20	1.90
Squid, Longfin Loligo	0.86	1.46
Scup	1.03	0.87
Goosefish	0.34	0.87
Scallop, Sea	0.05	0.71
Bass, Black Sea	0.11	0.58
Bass, Striped	0.09	0.51
Herring, Sea, Atlantic	2.82	0.49
Flounder, Winter	0.16	0.49
Hake, Silver	0.66	0.43
Flounder, Yellowtail	0.15	0.37
Others… (see Appendix)		
Whelk, Knobbed	0.01	0.01

The values in Table 2 likely understate landings and landed value for some species, because confidentiality requirements (such as the "rule of three") prevent RIDEM from disclosing data that could allow a specific harvester's landings to be identified. As a result, some landings are excluded from the species-level data we received from RIDEM. We are not able to adjust for this with species-specific factors, but we can make approximate adjustments based on annual totals, as follows. Table 3 shows the total annual value for all Area 539 landings from the "finfish" dataset in column 2, the sum of landings reported at the species level in column 3, and the fraction of landings (by weight) not captured in the species-level data in column 4. The final column shows our estimate of the landed value for the Area 539 data, adjusting for the fraction not captured at the species level, and for dockside sales of lobster and Jonah crab as discussed above. All values are shown in 2024 dollars (see discussion below on inter-annual price adjustments). The resulting average annual landed value from 2008 to 2021 for all species in the Area 539 "finfish" dataset is $48.8 million (2024$).

Table 3: Annual value and landings of commercial fisheries from Area 539. Source: RIDEM.

Year	**Total landings*** (million lbs)	**Sum of landings by species**** (million lbs)	**Percentage of total landings not captured in species-level data**	**Value***** (2024$ millions)
2008	18.0	14.8	18%	40.6
2009	23.7	21.6	9%	30.0
2010	18.1	13.4	26%	31.9
2011	28.0	19.9	29%	54.5
2012	34.7	20.1	42%	86.2
2013	39.6	18.5	53%	88.8
2014	32.7	24.8	24%	51.6
2015	27.4	18.7	32%	46.0
2016	24.8	14.9	40%	57.1
2017	19.5	11.0	43%	47.4
2018	18.0	12.4	31%	51.6
2019	18.0	13.2	26%	39.7
2020	16.1	14.0	13%	25.2
2021	17.3	11.8	31%	33.1
avg. 2008-21	**24.0**	**16.4**	**30%**	**48.8**

* RIDEM reported hail weight. We assume RIDEM hail weight = NMFS landed weight.

** Sum of RIDEM reported weight by species. Species-level data do not include landings subject to the rule-of-three restrictions.

*** Price by species data is from NMFS. Based on RIDEM species-level landings, adjusted for fraction not captured in this data set (column 4) due to confidentiality requirements.

As noted above, RIDEM provides a separate dataset for shellfish landings from Area 539. Annual value estimates for these landings are shown in Table 4. According to RIDEM (pers. comm. Sept. 2024), their reported landings in this dataset understate the total landings on average by 0.5% due to confidentiality rules. We therefore adjust the average annual landings from 2008 to 2021 by 0.5% to obtain an average annual value of $7.23 million (2024$). Because we have more location-specific information about shellfish harvest for the state waters areas in the immediate vicinity of the Brayton Point Export Cable Route from Rhode Island Shellfish Harvest Area data (see below), we do not use the Area 539 data on shellfish in our calculations, but include the information here for reference.

Table 5 shows annual landings reported by RIDEM, and our estimates of annual value, for shellfish from Rhode Island Shellfish Harvest Areas 4A, 4B, 4C, 4D, and 17 – the Harvest Areas intersecting with the Brayton Point Export Cable Route. According to RIDEM (pers. comm. Sept. 2024 and May 2025), their reported landings understate the total landings on average by 14% and for whelk by up to 20% due to confidentiality rules and inconsistent reporting. We therefore adjust whelk landings up by 20% and other landings for these Harvest Areas from 2008 to 2021 by 14% to obtain an average annual value of $2.45 million (2024$).

Table 4: Annual landings of "other commercial shellfish" from Area 539. Source: RIDEM, NMFS.

Year	**Landings*** (million lbs)	**Value**** (2024$ millions)
2008	4.11	5.89
2009	3.47	4.52
2010	4.21	5.14
2011	4.70	6.39
2012	6.47	9.10
2013	5.69	7.94
2014	5.80	8.50
2015	5.16	9.19
2016	5.06	9.37
2017	4.13	7.60
2018	3.82	7.58
2019	3.71	8.10
2020	2.61	4.71
2021	2.59	6.72
average	**4.39**	**7.20**
adjusted +0.5%* **	**4.42**	**7.23**

* Species include "Clam, Quahog, Northern," "Soft-Shell Clam," and "Oyster" in the RIDEM data.

** Price by species data is from NMFS.

*** See text above for details on 0.5% adjustment.

Table 5: Annual landings from RI Shellfish Harvest Areas 4A, 4B, 4C, 4D, and 17. Source: RIDEM, NMFS.

Year	**Landings*** (million lbs)	**Value**** (2024$ millions)
2008	0.48	0.64
2009	0.49	0.69
2010	0.50	0.56
2011	1.13	2.62
2012	1.05	2.70
2013	1.03	1.93
2014	0.89	1.71
2015	0.68	1.60
2016	0.82	3.44
2017	0.92	3.05
2018	1.02	3.66
2019	0.99	3.00
2020	0.77	2.16
2021	0.24	1.54
average	**0.79**	**2.09**
adjusted* **	**0.90**	**2.45**

* Species include "Clam, Quahog, Northern", "Soft-Shell Clam", "Oyster", " Whelk, Channeled", and "Whelk, Knobbed" in the RIDEM data.

** Price by species data is from NMFS.

*** See text above for details on whelks (20%) and other species (14%) adjustment.

We build our estimate of total (all species) landed value from the Rhode Island state waters along the Brayton Point Export Cable Route from the combined values from the Area 539 "mainly finfish" dataset (Table 3) and the RI Harvest Area shellfish dataset (Table 5). The only overlap between the two is whelks, which contribute an estimated $2.29 million per year in Area 539 ($1.91 million plus 20% to account for loss of capture due to confidentiality). Subtracting this from the annual average from Table 3, and using the Area 539 footprint of 2,550 km^2, we obtain an average landed value density of $18,200/$km^2$/year for the Area 539 "finfish" dataset. The footprint of RI Harvest Areas 4A/B/C/D and 17 is 55.8 km^2, so average landed value density for those data, based on the adjusted values in Table 5, is $43,800. Assuming conservatively that the shellfish value density extends to the areas south of the RI Harvest Areas as well, we therefore estimate the total landed value density along the Export Cable Route in Rhode Island state waters to be $62,000/$km^2$/year.

There are several oyster aquaculture lease areas along the shorelines of the Sakonnet River, some within about 300 m of the boundaries of the ECA. Production from these shellfish farms is not included in the landed value data we described above. During the May 5, 2025 meeting of RI CRMC, the FAB, SouthCoast Wind, and WHOI, some questions and concerns were raised about potential impacts of cable installation on aquaculture operations, specifically around sediment deposition and exposure to potentially contaminated sediment suspended in the water column. As discussed in that meeting as well as the following meeting of the FAB on May 22, 2025, SouthCoast Wind has thoroughly analyzed hydrodynamics surrounding sediment dispersal and deposition in the Sakonnet River and Mt. Hope Bay through a modeling effort led by a third-party subject matter expert in support of state and federal permitting processes[2]. That report indicated that sediment dispersion and deposition will be limited to the immediate vicinity of cable installation activities, will not extend outside of the Export Cable Corridor, and will be limited in duration (i.e., on the order of minutes to hours). It was also noted during meetings with the FAB that sediment sampling of parts of Mt. Hope Bay within MA state waters showed that there were no contaminant levels that exceed any Massachusetts Contingency Plan (MCP) reportable levels[3] established by MA Department of Environmental Protection (MA DEP), and that a similar sediment sampling effort will occur in RI waters prior to the start of cable installation as a condition of SouthCoast Wind's RI 401 Water Quality Certificate and Marine Dredge Permit issued by RIDEM. Due to the localized spatiotemporal nature of sediment transport during cable installation and acknowledging that aquaculture operations in the Sakonnet River are sited outside of the SouthCoast Wind export cable corridor, impacts to aquaculture operations are not anticipated. Therefore, farmed shellfish from aquaculture operations are not included in the baseline or exposure assessment.

As noted above, we consider separately the fishery for mantis shrimp in Mt. Hope Bay. RIDEM (pers. comm. May 2025) reports mantis shrimp landings of 27,711 lbs for Area 539 in 2023, and an average price of $11.82/lb (2022-24), for an estimated annual value of $327,544 (2024$). Based on discussion with RI fishermen (pers. comm. May 2025), we understand that the fishery is heavily concentrated in the RI portion of Mt. Hope Bay, bounded by a line between Common Fence Point and Mt. Hope Point in the southwest and the Massachusetts-Rhode Island state line in the northeast – an area of about 13 km^2,

[2] See Attachment L to SouthCoast Wind RI Category B Assent application: https://www.crmc.ri.gov/windenergy/southcoast/SCW_CatBAppAttachmentsRed.pdf

[3] https://app.box.com/s/0f5hd9sbss8m6mkrib8hgz0q6l6bb5u7

and encompassing about 4 km of the Export Cable Route. To be conservative, we assume that all of the Area 539 mantis shrimp value is landed from this area, for an annual landed value of $25,196/km^2.

Applying the per unit area value estimated above to the Rhode Island state waters footprint of the Brayton Point ECA (6.1 km^2) and its footprint in the mantis shrimp fishing grounds in Mt. Hope Bay (4km * 180m = 0.72 km^2) results in total annual value for Rhode Island landings from the state waters portion of the 180 m Brayton Point ECA of $398,000 (2024$).

Inter-annual price adjustments

We use the Bureau of Labor Statistics' Producer Price Index (PPI) for "unprocessed and prepared seafood"[4] to convert ex-vessel value of fish landings, because this index is specifically for the fishery sector. PPI is a family of indexes that measures the average change over time in selling prices received by domestic producers of goods and services; they measure price change from the perspective of the seller. In contrast, the Bureau of Economic Analysis' general Gross Domestic Product (GDP) deflator[5] measures changes in the prices of goods and services produced in the United States, including those exported to other countries, and captures price changes across all economic sectors.

We report all values in 2024$ for consistency, using for example a 15% upward adjustment to account for price changes from 2021 to 2024. These values can be easily adjusted to any other-year dollars by applying the appropriate index adjustment. Landed value may be adjusted using the PPI index. For impact values, including upstream and downstream effects (see below), it is more appropriate to use the GDP deflator to adjust, because the multipliers capture economy-wide impacts.

Estimated indirect and induced economic impacts

Economic impact multipliers reflect the linkages between economic activity in different sectors of the economy. For example, when landings increase in the commercial fishing sector, there is an associated increase in the purchases of ice and other supplies in the region, and an increase in onshore transportation and processing of seafood. The resulting increases in economic activity in the commercial fishing supply and transportation and processing sectors are indirect effects of increased landings. In addition, because fishermen and workers in the supply, transportation, and processing industries earn greater income as a result of this increased activity, and spend some of that extra income on local goods and services, there is also an induced effect of greater spending in other sectors. The multipliers capture the combined effect of indirect and induced spending that results from higher commercial landings.

We have developed regional economic models for Rhode Island using the IMPLAN model software (IMPLAN 2004) and data for 2021. IMPLAN software and data are commercial products widely used by researchers and management agencies to perform economic impact analyses for a user specified study region (IMPLAN 2004; Steinback and Thunberg 2006; Hoagland *et al.* 2015; UMass Dartmouth 2018; Cape Cod Commission 2020). IMPLAN was initially developed for the US Forest Service. It is a modular input-output model that works down to the individual postal zip code level for most zip codes in the United States. The IMPLAN database consists of two major parts: (1) a national-level technology matrix

[4] https://www.bls.gov/ppi/#data
[5] https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey

and (2) estimates of sectoral activity for final demand, final payments, gross output, and employment for each zip code. This 546-sector gross-domestic-product-based model divides the US economy into sectors based on North American Industry Classification System codes[6], and is based on the US Commerce Department's national input-output studies, the national income data, and related Federal economic surveys. In IMPLAN, national average technology coefficients are used to develop the direct coefficients for sectors at local levels. As noted, we use 2021 IMPLAN data for Rhode Island for our analysis. Based on the 2022 model and data, the upstream output multiplier for the commercial fishing industry in Rhode Island is 1.341.

Our analysis is limited to economic activity and impact in Rhode Island; and this multiplier reflects upstream economic activity that takes place in Rhode Island, not in other states. Its value depends in part on how much of their inputs (fuel, ice, bait, etc.) Rhode Island fishermen purchase from local versus out-of-state suppliers. Because those purchase decisions can change from year to year, this multiplier can change over time.

We have also taken into account downstream economic activity, such as seafood processing, that may take place at Rhode Island businesses as a result of commercial fisheries landings. This linkage is less direct than the upstream activities, because not all seafood landed in a state is processed in the state, and seafood processors may import more seafood from elsewhere for processing when in-state landings fall short. Nonetheless, we add a downstream adjustment of 0.586, using 2022 IMPLAN data, to the multiplier for Rhode Island landings, bringing the combined multiplier to 1.927, to account for both upstream effects and downstream effects to seafood processors.

The economic impact multiplier captures the linkages between the fishing industry sector and other sectors in the Rhode Island economy. While we use a single output multiplier for the entire commercial fishing sector in a given state, we recognize that the multiplier may in fact vary across specific fisheries, species, and gear, due to differences in factor inputs for fishing operations and post processing of fish landed. We use a single multiplier for the entire commercial fishing sector, reflecting an average across all gear types and species. Economy-wide inflation affects all sectors in the economy but usually does not alter the general structure of the economy. Therefore, although the baseline economic values increase with rising prices, the multiplier does not. We also recognize that other types of multipliers, such as those focusing on employment effects, have been used in other analyses. We maintain that the output multipliers we use provide a robust and accurate measure of indirect and inducted effects averaged across the fishing sectors.

Using these multipliers, and including the lobster and Jonah crab adjustment described in the previous section, we estimate the average annual total economic impact from commercial fishing activity in the Rhode Island state waters portion of the Brayton Point ECA to be about $766,000 (2024$) in Rhode Island.

Rhode Island-based charter fishing

To obtain data on for-hire charter fishing activity in the SouthCoast Wind Lease Area and Export Cable Corridor, we conducted an online survey of Rhode Island- and Massachusetts-based charter vessel

[6] https://www.census.gov/naics/

operators. The survey asked operators to identify their fishing locations on a chart, and report for each location:

- the total number of annual for-hire fishing trips that vessel took in each of the years 2017-2021,
- the average number of passengers onboard for-hire trips in each of the years 2017-2021, and
- the average amount of time spent targeting highly migratory species (HMS) relative to bottom fishing or trolling for other species during for-hire trips.

The survey was first distributed on April 18, 2022 through email lists maintained by Rhode Island Department of Environmental Management (RIDEM), Rhode Island Coastal Resources Management Council (RICRMC) and Massachusetts Division of Marine Fisheries (MADMF), and also via email by for-hire fishing industry representatives, including the Rhode Island Party and Charter Boat Association. The survey was active from April 18, 2022 until May 14, 2022.

The survey received 91 total responses from for-hire charter owners and/or operators. Sixty-six of these respondents (72%) reported that they fish in the area depicted in Figure 4. These 66 respondents reported 62 unique vessels, and reported effort data for 29 of those vessels across the five-year period of 2017-2021 (black dots in Figure 4).

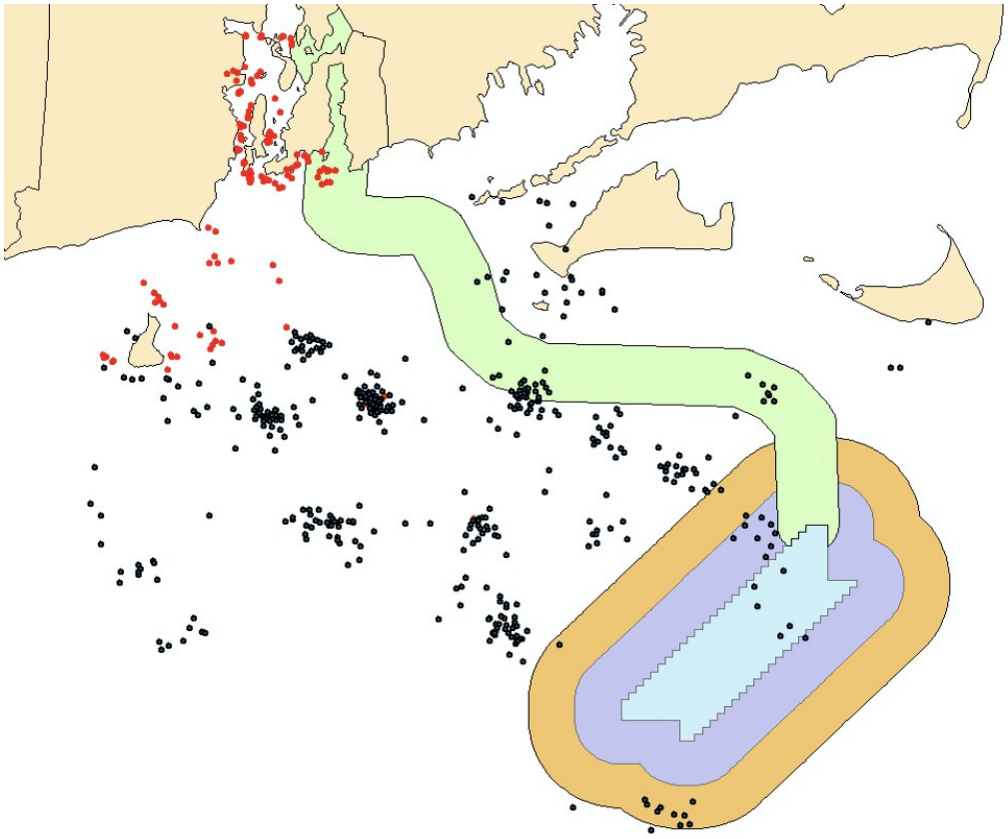

Figure 4. Charter fishing locations, 2017-2021, identified in survey responses. WLA is shown in light blue; 10 km wide Export Cable Route Area (ECRA) in light green.

To capture for-hire effort focused specifically within Narragansett Bay, a second survey was conducted in October 2022 distributed among 17 for-hire charter captains known to fish primarily in Narragansett Bay as identified by members of the for-hire industry. This survey received a total of four responses reporting activity for four unique vessels not captured in the first survey wave (red dots in Figure 4). The second survey design was identical to that of the first wave with the addition of charts for Narragansett Bay. Combined results for the two surveys are shown in Table 6.

Table 6. For-hire charter fishing survey summary statistics.

Description	**Number**
Fished in the area and responded to the survey	66
Provided vessel names	62
of which based in Rhode Island	24.5
Provided annual vessel trip numbers	31
Observations with vessel trips reported (2017-2021)	142
Total trips per year	1 – 235
Average total trips per year	47.30
Passengers per vessel trip	2 – 25
Average passengers per vessel trip	5.41
Identified fishing locations on maps	29
of which based in Rhode Island	10.5

Similar studies published in the peer-reviewed academic literature using paper mail, email, or mixed mode survey distributions typically have survey response rates around 20-30% (e.g., Dalton *et al*. 2020, Carr-Harris and Steinback 2020). Based on discussions with for-hire industry representatives, approximately 100 vessels actively engage in for-hire fishing activity in the waters depicted in Figure 5, suggesting the fishing reported by survey respondents accounts for about 33% of the total. The combined response rate for the primary population of interest is within an appropriate range to consider our survey distribution a success. An important note to also consider is that there are vessels in our sample that require the submission of federal VTRs. A common trend identified in the data was that some respondents did not provide data for their vessels that require VTRs. This is not a problem for this analysis as this effort data is already accounted for by the NOAA databases and summary reports used as a baseline for our subsequent analyses.

The number of anglers per year is estimated by multiplying the vessel trip number in a year and the average number of anglers per trip in that year for each vessel, and the results are then summed across vessels by area. Table 7 show the annual vessel trips and angler counts in the survey responses for charter vessels based in Rhode Island.

Table 7. Number of Rhode Island-based vessel trips and anglers by year, Brayton Point ECRA.

Year	Vessel Trips	Anglers
2017	22	77
2018	16	56
2019	18	58.5
2020	17	51
2021	10	30
Average	**16.6**	***54.5***

Table 8. Export Cable Route Area for-hire vessel revenue estimates. Sources: NMFS 2023a and 2023b.

Year	**Revenue per angler** (2024$)
2009	115.18
2010	95.99
2011	164.55
2015	139.01
2016	109.69
2018	95.99
Average	**120.07**

Note: Data from NOAA NMFS are used as a proxy for the SouthCoast project area, since revenue data specifically for the SouthCoast ECRA are not available.

We use the revenue per angler estimates from NOAA shown in Table 8 for our revenue calculation. We recognize that the per angler revenue from charter boats may be an order of magnitude larger than that from party boats. Party boats, or head boats, are certified by the U.S. Coast Guard to carry more than six passengers, allowing them to offer lower per angler fishing rates relative to other charter vessels, which are limited to carrying at most six passengers. There could be as many as 100 passengers on a single party boat trip. The data in Table 8 represent an average across both sectors, influenced by the fact that many more people participate in party boat fishing than in charter fishing. There is no per-angler revenue data specific to the SouthCoast Wind WLA available from NOAA as of the writing of this report. We therefore rely on estimates from nearby lease areas (Starboard Wind [formerly Bay State Wind] and Vineyard Wind 1) as a proxy of what we expect SouthCoast Wind WLA revenues to be.

For vessels in inland and nearshore waters, the cost and revenue estimates are significantly lower than those in offshore waters, primarily because fishing locations in close proximity to shore usually require significantly less fuel for the round trip. Also, vessels fishing inshore waters are often smaller than those fishing offshore, further reducing fuel consumption. We estimate the average revenue in the nearshore water at $90.05 per angler trip, which is 75% of the revenue assumed for the SouthCoast WLA ($120.07 per trip). We consider this estimate to be very conservative. An estimated 10 to 30 for-hire charter vessels operate in these nearshore waters. Given the sample of 5 respondents from the inland waters,

we scale up the data collected during the survey to better reflect actual fishing effort using low- and high- scale factors of 2 and 6. Finally, an economic impact multiplier is used to reflect the overall economic impacts associated with the charter fishing direct revenue. As with commercial fishing, we recognize that this multiplier will in fact vary with different types of charter fishing (e.g. sport fishing charters versus party boats). The multiplier we use is calculated using data in the NOAA report by Lovell *et al*. (2020), and reflects an average across different types of charter fishing. The Lovell *et al.* study is based on data from NOAA's 2016-2017 National Marine Recreational Fishing Expenditure Survey; we are not aware of any more recent data on the for-hire charter fishing industry. The results are shown in Table 9.

Table 9. Annual revenue and economic impact from RI-based charter fishing in RI state waters.

Area	Annual anglers	Revenue per angler (2024$)	Scale factor	Annual revenue (2024$)	Impact multiplier	Annual impact (2024$)
Brayton Point ECRA,	54.5	$90.05	2	$9,816	1.622	$15,921
RI state waters	54.5	$90.05	6	$29,446	1.622	$47,762

As shown in Table 9, our estimates of total annual economic impact from charter fishing in the RI state waters sections of the 10km-wide Brayton Point Export Cable Route Area range from approximately $16,000 to $48,000 per year (2024$).

Exposure of commercial fishery resources and fishing

SouthCoast Wind plans to carry out all work associated with installation of each export cable in Rhode Island waters within a 66-day period in the mid- and late-fourth quarter of the project calendar year (November and December). At the time of this report, the project construction schedule has not been finalized, so we assess a range of years for the cable installation scenarios, and report a range of values for exposure that reflect Project 1 export cable installation dates during the time period between 2027 and 2031 and Project 2 cable installation dates between 2030 and 2034, discounted to 2024$ at 5%.

Table 10 summarizes the baseline values and footprint assumptions on which the commercial fishing exposure calculations are based.

Table 10. Baseline values for commercial fishing exposure calculations.

Category	Baseline landed value ($2024/km^2/year)	Export Cable route length (km)	180 m ECA footprint (km^2)	1.6 km ECRA footprint (km^2)
Finfish (Area 539)	$18,200	34	6.12	54.4
Shellfish (Harvest Areas)	$43,800	34	6.12	54.4
Mantis shrimp (Mt. Hope Bay)	$25,200	4	0.72	6.4

For access constraints, we assume conservatively that all commercial fishing is prevented during the two months of cable installation in 20% of the 1.6 km ECWA, and in all of the 180 m-wide ECA. In 2024, the associated landed value is $171,000, including $48,000 from Finfish, $115,000 from Shellfish, and $8,000 from mantis shrimp.

The habitat disruptions that impact non-mobile benthic species are likely to extend on average no more than 5-10 m on either side of the immediate cable route – at most 12% of the ECA and 2% of the ECWA area. To be conservative, we assume a 20% reduction in landings of all shellfish (including mantis shrimp) for two years from the ECA (availability). In 2024, the associated landed value (forgone landings in 2025 and 2026) is $106,000, including $99,000 from Shellfish and $7,000 from mantis shrimp.

We do not expect any constraints on fishing along the export cable during SouthCoast Wind project operations. As discussed during the May 5, 2025 and May 22, 2025 meetings of RI CRMC, RI FAB, SouthCoast Wind, and WHOI, the target cable burial depth within the export cable corridor is 4 to 6 ft below seabed, which means that fishing above the cable route can continue as before. There may be limited, localized areas where the export cable needs to cross existing pipelines in the Sakonnet River and target burial depth may not be achieved – in these areas, the preferred secondary protection method is use of articulating cable mattresses with tapered edges. Cable mattress design, in tandem with other industry best practices, will ensure the cable is protected from external forces and will reduce the risk of potential gear hangs for mobile bottom tending fishermen operating in the area.

After approximately 35 years of operations, SouthCoast Wind plans to decommission the project and remove the export cables. Because removal of the cable involves less disruption of the seabed, we model the same type of constrained access and availability exposure as during installation, but with half the exposure impact.

In 2024, the resulting exposure estimate is $277,000 in landed value from cable installation and $25,000 from cable decommissioning (2024$). Because the dates of Project 1 construction and cable installation are not yet known, we show in Table 11 results in 2024$ for cable installation taking place in Q4 of each year from 2027 to 2031. Table 12 shows corresponding values for the Project 2 cable.

Table 11. Project 1 cable commercial fishing exposure estimates.

Cable installation year[1]	**Exposure landed value** (2024$)	**Indirect and induced value** (2024$)	**Total exposure impact** (2024$)
2027	$260,832	$241,792	$502,624
2028	$248,412	$230,278	$478,690
2029	$236,583	$219,312	$455,895
2030	$225,317	$208,869	$434,186
2031	$214,588	$198,923	$413,510

Notes: 1/ Cable installation is anticipated to take approximately two months. Because of uncertainty in the SouthCoast Wind construction schedule, we calculate the present value of exposure for a range of cable installation scenarios.

Table 12. Project 2 cable commercial fishing exposure estimates.

Cable installation year[1]	**Exposure landed value** (2024$)	**Indirect and induced value** (2024$)	**Total exposure impact** (2024$)
2030	$ 225,317	$ 208,869	$ 434,186
2031	$ 214,588	$ 198,923	$ 413,510
2032	$ 204,369	$ 189,450	$ 393,819
2033	$ 194,637	$ 180,429	$ 375,066
2034	$ 185,369	$ 171,837	$ 357,206

Notes: 1/ Cable installation is anticipated to take approximately two months. Because of uncertainty in the SouthCoast Wind construction schedule, we calculate the present value of exposure for a range of cable installation scenarios.

Exposure of for-hire charter fishing

We assume that for-hire charter fishing activity along the Rhode Island portion of the SouthCoast Export Cable Route is disrupted during two months of cable installation and decommissioning. Using the high-end estimate of charter fishing revenue (Table 9) of $29,400/year, we obtain the Project 1 cable exposure values for charter fishing shown in Table 13, and the Project 2 cable values in Table 14.

Table 13. Project 1 cable for-hire charter fishing exposure estimates.

Cable installation year[1]	**Exposure landed value** (2024$)	**Indirect and induced value** (2024$)	**Total exposure impact** (2024$)
2027	$ 4,616	$ 2,871	$ 7,488
2028	$ 4,397	$ 2,735	$ 7,131
2029	$ 4,187	$ 2,604	$ 6,792
2030	$ 3,988	$ 2,480	$ 6,468
2031	$ 3,798	$ 2,362	$ 6,160

Notes: 1/ Cable installation is anticipated to take approximately two months. Because of uncertainty in the SouthCoast Wind construction schedule, we calculate the present value of exposure for a range of cable installation scenarios.

Table 14. Project 2 cable for-hire charter fishing exposure estimates.

Cable installation year[1]	**Exposure landed value** (2024$)	**Indirect and induced value** (2024$)	**Total exposure impact** (2024$)
2030	$ 3,988	$ 2,480	$ 6,468
2031	$ 3,798	$ 2,362	$ 6,160
2032	$ 3,617	$ 2,250	$ 5,867
2033	$ 3,445	$ 2,143	$ 5,588
2034	$ 3,281	$ 2,041	$ 5,322

Notes: 1/ Cable installation is anticipated to take approximately two months. Because of uncertainty in the SouthCoast Wind construction schedule, we calculate the present value of exposure for a range of cable installation scenarios.

Conclusions

Baseline commercial landed value from Rhode Island state waters around the SouthCoast Wind Brayton Point Export Cable include an estimated $18,200/km^2/year from finfish, $43,800/km^2/year from shellfish in Rhode Island Shellfish Harvest Areas, and $25,200/km^2/year from mantis shrimp in the Rhode Island portion of Mt. Hope Bay (all values in 2024$).

Baseline Rhode Island-based for-hire charter fishing revenue from the SouthCoast Brayton Point Export Cable Area is estimated to be up to $29,400/year (2024$).

Based on an approximate two-month cable installation schedule for the sections of the SouthCoast Wind Project 1 Brayton Point Export Cable in Rhode Island waters, we estimate conservatively a total exposure of Rhode Island commercial landings present value (2024$) of $215,000 (2031 cable installation) to $261,000 (2027 cable installation). The corresponding values for charter fishing revenue are $3,800 and $4,600.

Including indirect and induced (onshore) effects, total exposure impact from the Project 1 cable is estimated to be $414,000 (2031 cable installation) to $503,000 (2027 cable installation) for commercial fishing, and $6,200 to $7,500 for charter fishing.

Similarly, based on an approximate two-month cable installation schedule for the sections of the SouthCoast Wind Project 2 Brayton Point Export Cable in Rhode Island waters, we estimate conservatively a total exposure of Rhode Island commercial landings present value (2024$) of $185,000 (2034 cable installation) to $225,000 (2030 cable installation). The corresponding values for charter fishing revenue are $3,300 and $4,000.

Including indirect and induced (onshore) effects, total exposure impact from the Project 2 cable is estimated to be $357,000 (2034 cable installation) to $434,000 (2030 cable installation) for commercial fishing, and $5,300 to $6,500 for charter fishing.

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Appendix

Table A1. Species landed in Area 539, "finfish" dataset, average annual value and pounds 2008-2021.

Species	Value (2024$/year)	Landings (lbs/year)
SKATES, RAJIDAE (FAMILY)	12,451,802	4,768,040
FLOUNDER, SUMMER	2,990,152	625,922
LOBSTER, AMERICAN	2,304,823	308,682
SKATE, LITTLE	1,951,038	738,134
WHELK, CHANNELED	1,901,474	196,196
SQUID, LONGFIN LOLIGO	1,464,872	862,705
SCUP	871,524	1,029,575
GOOSEFISH	868,701	340,187
SCALLOP, SEA	707,556	54,795
BASS, BLACK SEA	584,665	111,497
BASS, STRIPED	513,874	91,254
HERRING, SEA, ATLANTIC	492,320	2,820,082
FLOUNDER, WINTER	486,074	157,428
HAKE, SILVER	432,297	655,257
FLOUNDER, YELLOWTAIL	370,870	150,149
COD, ATLANTIC	229,327	63,459
BLUEFISH	170,207	187,631
BUTTERFISH	163,863	176,955
CRAB, JONAH	113,464	117,299
MACKEREL, ATLANTIC	97,812	274,436
TAUTOG	74,975	18,518
SHARK, DOGFISH, SPINY	64,754	233,414
HAKE, RED	62,009	168,822
SKATE, WINTER	57,656	279,180
BONITO, ATLANTIC	24,907	8,006
CRAB, ROCK, ATLANTIC	17,905	25,268
CRAB, HORSESHOE	15,089	8,601
SHARK, DOGFISH, SMOOTH	11,962	15,051
WHELK, KNOBBED	8,241	2,241
MENHADENS	5,262	14,947
EEL, CONGER	4,812	5,576
SEAROBINS	3,689	9,239
FLOUNDER, WITCH	2,774	848
TRIGGERFISHES	2,440	926
TRIGGERFISH, GRAY	2,425	1,302
FLOUNDER, WINDOWPANE	2,190	2,961
CRAB, GREEN	1,706	642

CUNNER	1,214	437
HADDOCK	1,032	787
CRAB UNKNOWN	788	300
SEATROUT, WEAKFISH	694	266
HAKE, WHITE	615	503
SEAROBIN, STRIPED	551	206
TUNA, YELLOWFIN	548	205
TILEFISH, GOLDEN	493	220
RAVEN, SEA	356	194
EEL, AMERICAN	285	221
COBIA	243	63
SHAD, HICKORY	210	297
TUNA, BIGEYE	137	52
DOLPHINFISH	85	57
KINGFISH, NORTHERN	82	68
SEATROUT, SPECIES NOT SPECIFIED	74	121
DORY, AMERICAN JOHN	73	93
DRUMS	60	23
TUNA, ALBACORE	39	23
SQUID, SHORTFIN ILLEX	19	37
POLLOCK	16	11
MACKEREL, SPANISH	6	2
MACKEREL, ATLANTIC CHUB	2	3

SOUTHCOAST WIND PREHEARING DISCLOSURE ATTACHMENTS

ATTACHMENT C
GUILFOOS REPORT

SouthCoast Wind Cable Corridor Fisheries Economic Impact (Draft)

May 3, 2026

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Summary

This report addresses the economic exposure estimates produced by report by Kite-Powell et al. (2025), called the WHOI report hereafter, of cable construction in Rhode Island state waters for the SouthCoast Wind Project. There are six sections of this report. A discussion of the overall methods and estimates of the WHOI report. Supplemental data and estimates of economic exposure from cable construction that differ from the WHOI report. A discussion of timing estimates for boulder clearing, cable laying, and surveying. An estimate of recreational fishing impacts. A discussion of additional risks that are difficult to estimate, and a conclusion. There are two projected cable construction projects that will go through Rhode Island state waters, with impacts felt in two different years. The total impact of both construction projects is estimated to be $2,318k based on inflation projections.

1 Review of the WHOI Report:

The basis of economic estimates from the WHOI report uses annual catch estimates in AREA 539 and specific adjustments are made for finer scale information in conjunction in consultation with the RI DEM. The report uses a 5% discount rate to bring impacts to a common 2024-dollar value using averages of past catch in state waters. Further, the report scales impacts of activities to a construction impact of 2 months along the cable route, 180m around the cable, and a broader impact of 20% decrease in landings1600m in distance from the planned cable.

WHOI estimates of average annual value of commercial landings from Rhode Island State waters are reproduced here in Table 1

Table 1. WHOI Commercial Two Month Estimates in Cable Corridor in RI State Waters ($2024).

	Cable Direct Impacts (ECA & ECRA)	Total (Direct, Induced, & Indirect)
Finfish	$ 47,854	$ 92,214
Shellfish Harvest Areas	$ 214,480	$ 413,302
Mantis Shrimp	$ 14,518	$ 27,975
Total	$ 276,851	$ 533,491

Annual exposure estimates are scaled for 2 months during the year of construction on the cable route, defined as a 180m wide lane surrounding the export cables, then an additional broader

impact in the Export Cable Route Area 1,600m. This produces the estimates in Table 1 column 1. The methodology is sound for fisheries that do not have an oversized spatial representation in the cable corridor, such as whelk and mantis shrimp and in which fishing methods are not impacted by congestion around the cable and other physical features, such as islands in Mount Hope Bay.

I find elements of the WHOI report that are reasonable in my estimation. Such as the impact on charter business, which is supported with a survey. The estimation of finfish exposure, while I disagree with the methodology as discussed above based on seasonality and spatial distribution, I do think the estimates are reasonable. The methodology and estimates of upstream and downstream economic impacts are both reasonable. Additionally, based on discussions with RI DEM, WHOI adjusted shellfish estimates reasonably to account for their spatial concentration in the Sakonett River.

The fisheries that I believe to be underrepresented in the report are mantis shrimp and recreational fishing. I discuss below and provide supplemental estimates for these fisheries in section 2.

I believe that having estimated impacts for commercial and charter fisheries but not for recreational fisheries is inconsistent. Looking at the academic literature for recreational fishing value there are many variables that suggest location is key to the value of recreational fishing (McConnell, 1995; Hunt, 2008). Both studies and many other fishery studies use location as a key component in valuation of visiting a site for recreational value. The limitation of locations therefore should have some economic value. Location is a key metric that is used to value one site over another as it is related to the availability of targeted species and the opportunity cost to travel to the area.

From personal communications (FAB member interviews) that Mantis Shrimp for one vessel in Mount Hope Bay along the cable corridor can result in ~$3,500 for one trip in October, I find the estimates in the WHOI report to be an underestimation of impacts for this species.

2 Supplemental Estimates:

Two of the specific fisheries that are most likely to be impacted are the mantis shrimp fishery, whelk based on location. The spatial distribution of effort in these fisheries is concentrated in the cable corridor. As discussed before the seasonality of the fisheries is important, October and November being very productive months for both of these species. Using the assumption that work will take place after October 15th and take 2 months we can estimate similar baseline estimates to those of the WHOI report. I only provide estimates for mantis shrimp below in supplement as I agree with the adjustments made for whelk by the WHOI report- without considering timing of impacts.

Mantis Shrimp:

Based on the latest reporting from RI DEM (2025 mantis shrimp landings) and taking into consideration there is underreporting of at least 40% (6 vessels reported landings while at least 10 vessels fish mantis shrimp) I estimate 2025 annual landings $580,975 in RI State waters. In consultation with the RI FAB (RI FAB interview) the fishery experienced a relatively poor year, making this estimate which suggests it is a lower bound. The majority of this value is landed in Mount Hope Bay and ~50% of this is landed in September and October and around ~15% is landed in November to December. Assuming that construction runs from October 15th to December 15th this leads to weighted exposure of 27.5% of the annual catch. I assume 80% of catch comes from Mount Hope Bay, and that 75% of the landings are lost due to loss of access in the Bay. The loss of access is based on the patterns of mobile gear fishing that will be greatly disrupted while boulder removal and cable laying occur. In 2024 dollars given spatial restrictions I estimate $93,068 is directly impacted by cable construction due to loss of access to the area in late October through December (2 months).

Commercial Adjustments:

Adopting the IMPLAN (IMPLAN, 2004) combined multiplier of 1.927 to the direct impacts of mantis shrimp discussed above I provide a comparison of total estimates (direct + induced + indirect) in Table 2.

Table 2. Adjusted Two Month Exposure Estimates in the Cable Corridor in RI State Waters ($2024).

	WHOI Total Impacts	Guilfoos Total Impacts
Finfish	$ 92,214	$ 92,214
Shellfish Harvest Areas	$ 413,302	$ 413,302
Mantis Shrimp	$ 27,975	$ 179,343
Total	$ 533,491	$ 684,860

3 Recreational Fisheries:

As mentioned before, the WHOI report assumes that there is no impact to recreational fisheries because there are alternative sites to visit during construction. While time of year restrictions may reduce the impact, I disagree that alternative recreational sites lead to no impact on recreational fishers. Given the expected construction would take place in October – December time frame there would be impacts to recreational fishers targeting species in that season. While a full study of the recreational fisheries is needed to get the most accurate estimate of impacts, that is not possible here. I use aggregate data to form a rough estimate of impacts on the recreational fishers. There are an estimated 1,018,088 annual trips on average using private or rental boats in Rhode Island state waters from 2014-2024 based on Marine Recreational Information Program (MRIP) data (NOAA Fisheries (A), 2026). I leverage the survey on charter boats done by WHOI, which I assume to be highly correlated with recreational fishing trips. Roughly 8% of trips in the WHOI survey intersected with the Brayton Cable corridor. This

suggests 81,000 trips are impacted annually in the cable corridor. Using estimates of 2 months of disturbance for construction and discounting trips by 50% given the time of year I estimate 6,787 impacted trips. Based on the 2023 NOAA estimates of Value-added economic impact per trip (NOAA Fisheries (B), 2026) this suggests a $135,000 total economic exposure to the recreational fishery in 2024 dollars. This estimate is very sensitive to time of year and types of fish targeted. For instance, if construction (boulder clearing and cable laying) is limited to January and February this estimate may be an overestimate. Yet, if impacts are felt in September, then this may be an underestimation.

4 Timing Concerns:

When these impacts occur is incredibly important to fisheries. Dredging permits are issued for work starting October 15th on this project. If impacts occur through surveying or boulder moving before October 15th this would substantially impact on these estimates of exposure to fisheries.

Why this is particularly important to this area is that mantis shrimp fishery catches 50% of its annual landings from mid-September to mid-October (FAB Interview). Whelk are harvested primarily in October and November making up 44% of the annual landings (RIDEM 2021). October is the most prosperous month for both fisheries. Estimates of one vessel-day for a vessel targeting mantis shrimp are approximately $3,500 in mid-October (RI FAB Interview). There are approximately 10 vessels that primarily target mantis shrimp and another 10 vessels that participate in the fishery on a part-time basis. A vessel targeting whelk can expect $1,500 per day in mid-October (RI FAB Interview). The depression of price has decreased the value of whelk landings compared to previous years. There are approximately 93 vessels that reported whelk landings in 2020 (RI DEM, 2021) and an average $155 value of landings per trip.

Each additional day of fishing disruption could lead to substantially higher impacts to both these fisheries of ~$35,000/day for mantis shrimp and ~$15,000/day for whelk.

The WHOI report cites a 66-day window for cable related construction, which is meant to be a conservative estimate of fishery impacts. Using the case of the Revolution Wind cable construction that was installed in Fall 2024-Winter 2025 is useful to set a baseline of an actual timeline. It is recognized that this project construction may differ substantially from the Revolution cable installation. I have constructed from Mariner's Briefings the approximate timeline of impacts when the briefing mentions near shore and mid-shore restrictions on fishery vessels. The Mariner Briefings occur weekly. These briefings show that boulder clearing occurred from September 15 to October 31st for a 6-week period. Then cable laying and burying and secondary coverage occurred from December 10th to February 12th, for 8 weeks. After cable installation and secondary cover then, additional surveys occurred along the cable corridor. There were 3 to 4 months of fishery impacts, excluding the breaks between construction.

To adjust for the differences of timing I have included 1-week of additional impact in Table 3.

Table 3 summarizes the total impact of one construction disturbance for a cable construction and burial, with a comparison to the WHOI estimates in 2024 USD for comparison. In the next section I will consider the future value of projects by their expected closing dates.

Table 3. Total Impacts Crosswalk

		WHOI Total Impacts	Guilfoos Total Impacts
	Commercial ($2024)	$533,491	$684,860
	Recreational ($2024)	-	$135,000
	Charter ($2024)	$7,966	$7,966
	Decommissioning ($2024) Discounted 5% for 35 Years	$48,358	$62,079
Total	2-month impact	$589,816	$889,905
Guilfoos adjustment	2-month and 1 week	-	$1,001,144

Discounting:

The above values in Table 3 are in 2024 dollars. The WHOI report uses a 5% discount rate and projects decommissioning occurs 35 years after construction, which I also adopt. There are a series of Tables in WHOI report (Tables 11-14) that explore different timing of construction and discounted values of impacts. These discounted values assume that between 2024 and when construction occurs that impacts are discounted at 5% a year because impacts will be felt further in the future. While that element is true, it does not account for the value of money and who is holding the trust money during that time. The Fisherman's Viability Trust will be funded once the SouthCoast Wind projects receive all approvals at the local, state, and federal level. 2024 level impacts should be adjusted for inflation for when the trust is funded, which is when construction will occur.

The above only holds if money is transferred to the trust after approvals are made and then construction occurs upon approvals. I would agree to the analysis in the WHOI report if money is transferred in 2024 and the delay in impacts is felt further in the future, justifying discounting those impacts. Otherwise, fisherman lose out in the purchasing power of money lost through inflation as impacts will be felt at future prices and are penalized unnecessarily for time discounts.

To adjust these values to expected closing dates we must consider the expected dates of Project 1 and Project 2. Project 1 is for the first cable construction process that will occur sometime between 2027 and 2031- with a midpoint of 2029. Project 2 is for a second cable construction

process in the same cable corridor through the Sakonett River and Mount Hope Bay. Project 2 will occur between 2030 and 2034 with a midpoint of 2032. Since these are two separate construction events that happen at different expected times, they must be adjusted to their expected dates for inflation. I project inflation from 2024 to the midpoint dates for each project using actual inflation in 2025 (2.7%), current inflation for 2026 (3.3%)[1], and a 30 year long run average of CPI for the remaining years (which is 2.5%)[2].

Table 4. Inflation Adjustments

	Value
Total for Each Project ($2024)	$1,001,144
Project 1 - 2029 Approval	$1,115,873
Project 2 - 2032 Approval	$1,201,674
Sum of Project 1 & Project 2	$2,317,547

In Table 4 I report on the value of the two construction projects with inflation projections to their expected closing dates. Project 1 is valued at $1,115k and Project 2 is valued at $1,201k based on closing dates of 2029 and 2032. These projections inflate the values from 2024 to Jan 1st, 2029, and Jan 1st, 2032. With a long-term inflation adjustment of 2.5% these estimates would be an overestimate if closing occurred earlier and underestimate if closing occurred later, as payment to the Viability Trust would also change.

5 Additional Unquantified Risks:

Some additional risks that the commercial fishing industry assumes from this project which are difficult to quantify and are not included in the WHOI baseline exposure, presumably due to the difficulty in knowing the probability of occurring and uncertainty around construction details. Fouling of gear on unburied cables and secondary coverage is one such risk. It is expected that all mattress pads laid over exposed cables are trawlable. Yet risk of snags still exists which are costly to vessels in terms of time and damaged gear. Another long-term risk is how the bottom will change with moved boulders and changed habitat which may take adjustment to mobile gear fisheries. Well established 'runs' in Mount Hope Bay may be altered if the bottom changes significantly which could have long run impacts to the shrimp and scup fisheries. This may decrease the profitability of trips to that area in the future during operations. Construction activities could affect species distribution or health. An alternative site for mantis shrimp in the West Passage of Narragansett Bay has become unproductive after the cable construction (FAB Interview). It is unclear whether cable construction is responsible for this decrease.

[1] Inflation for 2026 is unknown but for March it is 3.3% and expected to increase in the near term. I use 3.3% for the year to recognize this inflationary pressure.

[2] I use the CPI all cities inflation index available form the Bureau of Labor Statistics between 1996 and 2026 to estimate long term expected inflation of 2.5%.

6 Conclusion:

The significant differences between my estimates and the WHOI report in expected impacts come from four sources: 1) the timing of payments 2) the exclusion of recreational fisheries, 3) mantis shrimp, and 4) the duration of fishery impacts.

My estimate of the impact of one cable construction period in 2024 dollars is $1,001k. Using inflation projections, the value of the two construction periods is $1,115k for Project 1 and $1,201k for Project 2 based on closing dates of 2029 and 2032. The total impact of both construction projects is estimated to be $2,318k based on inflation projections.

These estimates are made with the best information available and may be over/under estimates based on missing reported catch, changes in inflation, unprojected impacts to fishing during operations of the cable that are difficult to estimate or unknown at this time.

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