Overview of Offshore Wind Development in the Northeast Region

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NEFMC Skate Committee and Advisory Panel
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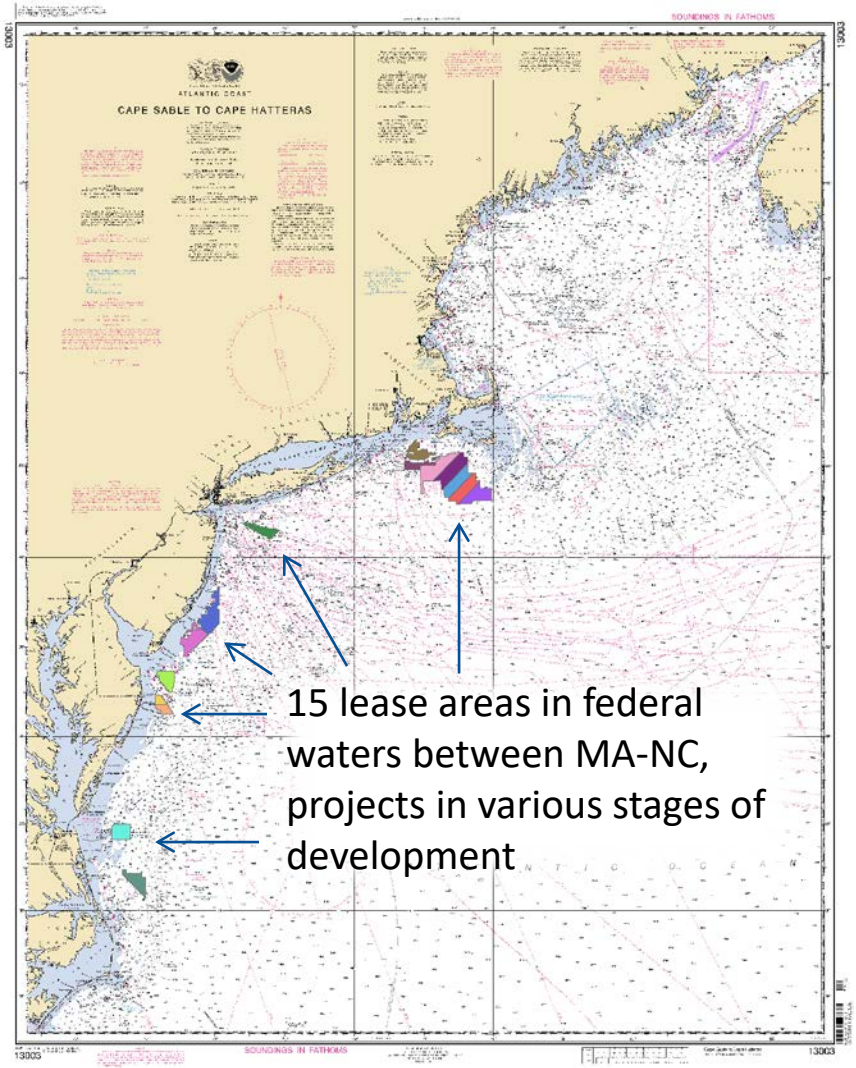
New England
Fishery Management Council

Objectives

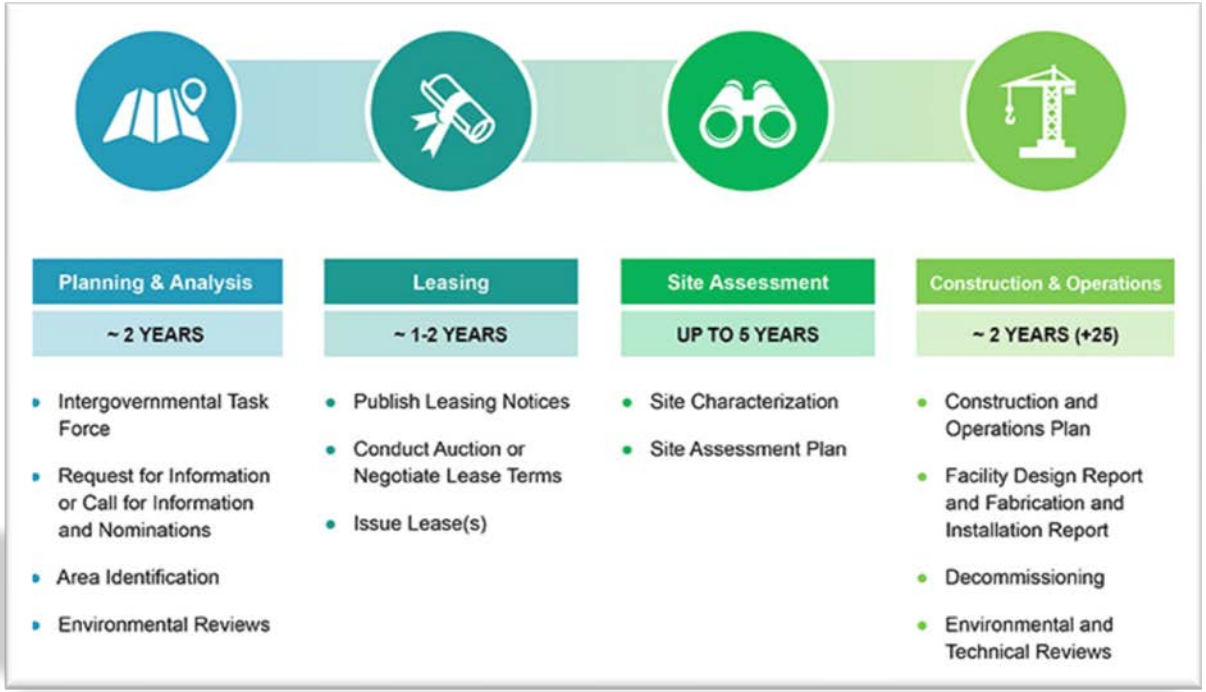
- High-level overview of offshore wind energy in the region
- Briefly explain the permitting process and opportunities for engagement
  - Federal (BOEM)
  - States
  - Fishing organizations
  - Developer initiatives
- Summarize potential effects and concerns related to fisheries, as well as science questions and initiatives
- Describe the Council's activities related to offshore wind
- Introduce Fisheries Liaisons



Offshore Wind in the Northeast Region

- Bureau of Ocean Energy Management (BOEM) = lead federal agency responsible for leasing and permitting
- Additional lease areas are being considered in the NY Bight
- Planning is now underway for Gulf of Maine through the GOM Regional Task Force
- For more information: www.boem.gov/renewable-energy

BOEM Process, in brief



Planning & Analysis	Leasing	Site Assessment	Construction & Operations
~ 2 YEARS	~ 1-2 YEARS	UP TO 5 YEARS	~ 2 YEARS (+25)
• Intergovernmental Task Force • Request for Information or Call for Information and Nominations • Area Identification • Environmental Reviews	• Publish Leasing Notices • Conduct Auction or Negotiate Lease Terms • Issue Lease(s)	• Site Characterization • Site Assessment Plan	• Construction and Operations Plan • Facility Design Report and Fabrication and Installation Report • Decommissioning • Environmental and Technical Reviews

BOEM's permitting/NEPA process

- BOEM consults with NOAA Fisheries as a cooperating agency
- BOEM is not required to formally consult with the Council, but we are engaged due to concerns about effects on fish, fish habitats, and fisheries
  - Council often sends letters during public comment periods (link)
  - Generally encourage open, participatory development, fisheries engagement
  - NEFMC offshore energy policies guide our comments (link)
- NOAA Fisheries, MAFMC, and NEFMC share information/updates via NOAA regional wind team

State procurement

State	Goal (12/05/19)	Awards
ME		(1) New England Aqua Ventus I (test floating), 12 MW
MA	3,200	(1) Vineyard Wind I, 800 MW (2) Mayflower Wind, 804 MW
RI	1,000	(1) Block Island Wind Farm, 30 MW (2) Ørsted Revolution Wind, 400 MW
CT	2,300	(1) Ørsted Revolution Wind, 200 MW (2) Vineyard Wind Park City, 804 MW
NY	9,000	(1) Ørsted South Fork Wind Farm, 132 MW (2) Equinor Empire Wind, 816 MW (3) Ørsted Sunrise Wind Farm, 880 MW
NJ	7,500	(1) Ørsted Ocean Wind, 1100 MW
MD	1,568	(1) Ørsted Skipjack Offshore Wind, 120 MW (2) U.S. Wind MD, 248 MW
VA	2,500 (by E.O.)	(1) Ørsted Coastal Virginia Offshore Wind (test), 12 MW
TOTAL	**27,068**	

- States have procurement goals (with target dates) and then use an RFP process to identify specific projects
- This process runs in parallel to BOEM's permitting process

State advisory groups and CZMA consistency

- States generally have advisory groups to provide fisheries-related expertise and advice related to offshore wind. For example:
  - RI Coastal Resources Management Commission Fishermen's Advisory Board
  - MA Fisheries Working Group of Offshore Wind Energy
- Under the Coastal Zone Management Act (CZMA), under certain conditions states review projects to ensure they are consistent with their coastal zone management plans

https://coast.noaa.gov/czm/consistency/

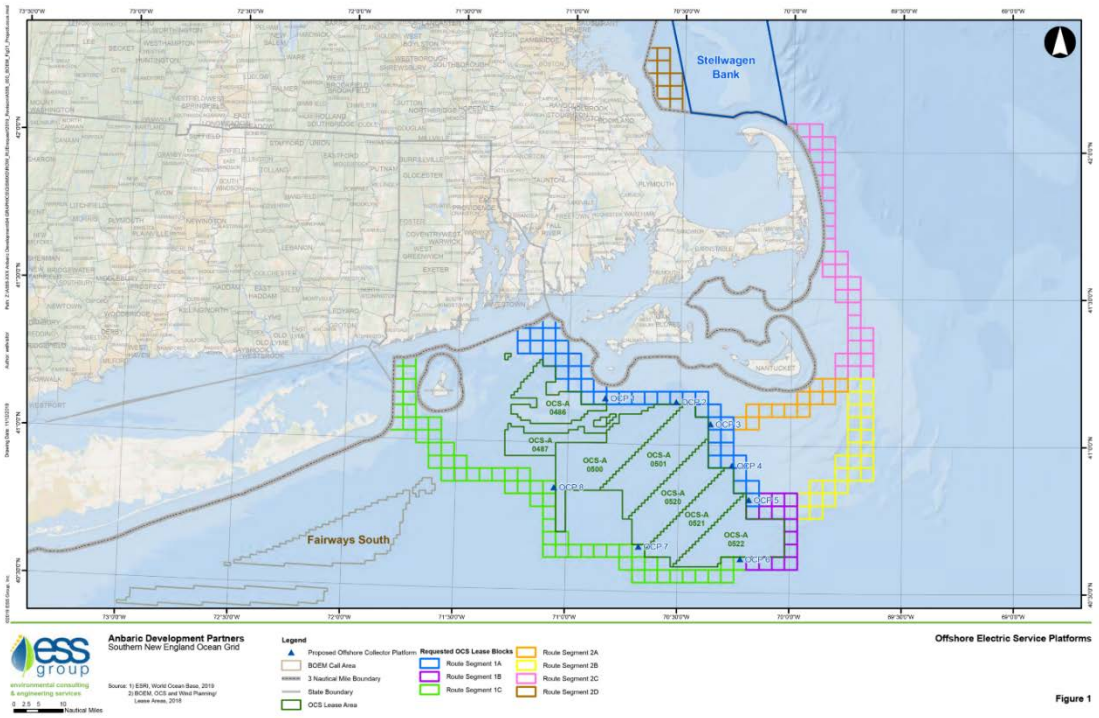
http://www.crmc.ri.gov/windenergy.html

https://www.mass.gov/service-details/fisheries-working-group-on-offshore-wind-energy

https://www.mass.gov/orgs/massachusetts-office-of-coastal-zone-management

Coordinated transmission

- General approach has been to combine generation and transmission, but could take a coordinated approach as well, if allowed under state procurement/RFPs
- Anbaric filed unsolicited lease/right of way requests off NJ/NY and MA during 2019
- Potential for fewer cables, less seabed disturbance, fewer chances for fishery interactions
- More upfront coordination required



https://anbaric.com/press-release-anbaric-files-with-boem-to-develop-independent-oceangrid-for-southern-new-england/

- The Responsible Offshore Development Alliance
  - *"A broad membership-based coalition of fishing industry associations and fishing companies committed to improving the compatibility of new offshore development with their businesses."*
- Projects
  - Industry Knowledge Trust
  - Joint Industry Task Force
  - Wind Area Vessel Transit

For more information: https://rodafisheries.org/

Layout and transit

- On 11/19/19, the five leaseholders in the MA and MA/RI WEAs announced a uniform turbine layout proposal with 1 nm spacing

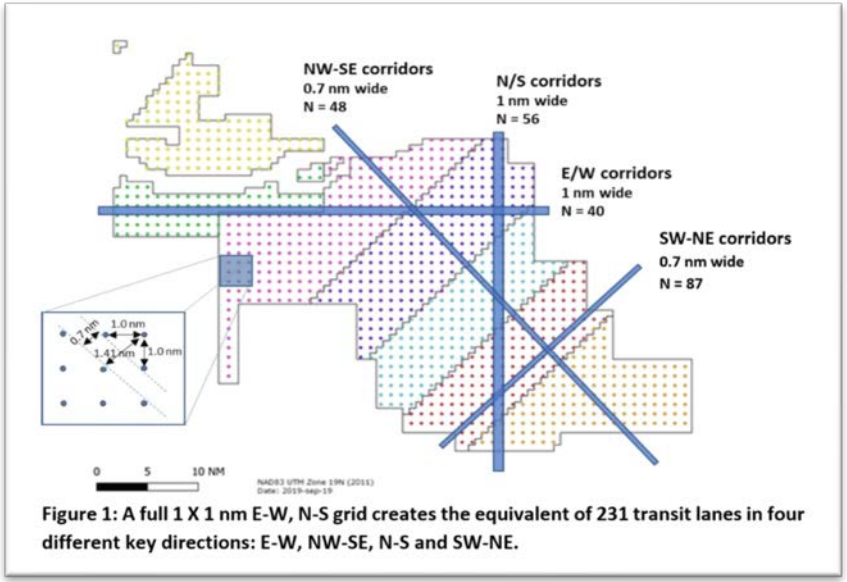
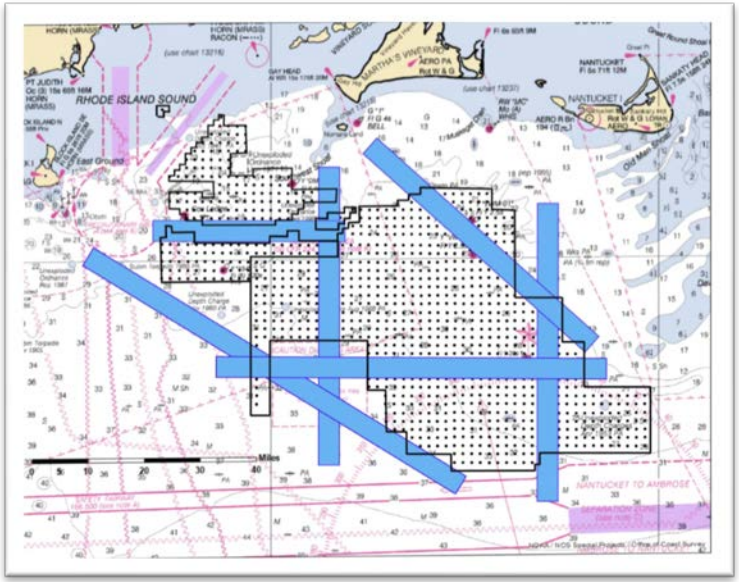


Figure 1: A full 1 X 1 nm E-W, N-S grid creates the equivalent of 231 transit lanes in four different key directions: E-W, NW-SE, N-S and SW-NE.

Proposal and associated report

- On 01/03/20, RODA provided an alternative layout adding a series of 4 nm transit lanes, given previous work with their members



https://rodafisheries.org/wp-content/uploads/2020/01/200103-MA_RI-layout-proposal.pdf

United States Coast Guard role

- Per Memo Of Agreement with BOEM, USCG contributes to NEPA process as Cooperating Agency identifying potential impacts on:
  - Coast Guard missions (SAR, Environmental Protection, Security),
  - Navigation safety for the entire maritime community, and
  - Traditional uses of the waterway (Marine Transportation System).

FORMAL	INFORMAL
• Issue PATON permit for Site Assessment Plan (Buoy). • Provide BOEM an evaluation of Navigation Safety Risk Assessment (Key document in Environmental Impact Statement).	• Facilitate conversations with affected mariners. • Participate in work groups/task forces as requested by BOEM. • Sectors encourage active discussion about navigation safety impacts at Harbor Safety Committees. • Participate in topic specific meetings with appropriate stakeholders engaged.

MA-RI Port Access Route Study

- Announced March 26, 2019, scoping and comment period in April/May 2019
- Draft study released January 2020 with comments accepted through March 16
- Objectives:
  - Determine what if any navigational safety concerns exist with vessel transits in the study area
  - Whether to recommend changes to enhance navigational safety by examining existing shipping routes and waterway uses, as development proceeds
  - Evaluate need for establishing vessel routing measures
- Recommendations
  - That the MA/RI WEA's turbine layout be developed along a standard and uniform grid pattern with at least three lines of orientation and standard spacing to accommodate transits, fishing, and SAR operations. If such a pattern is adopted by BOEM, USCG will not pursue vessel routing measures at this time
  - That mariners desiring to transit the area should use extra caution, ensure proper watch, and assess risk prior to entering the WEA
- Link to comments on regulations.gov; 05/28/19 comments; 03/16/20 comments

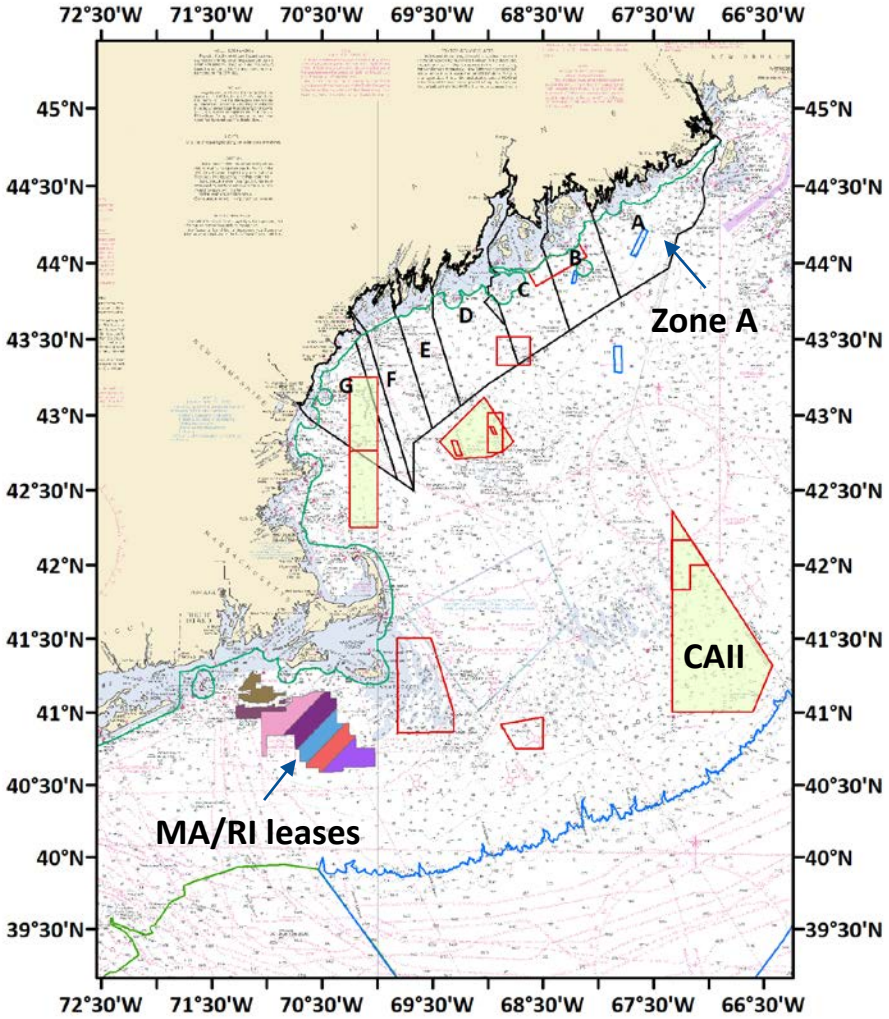
Fisheries operational concerns

- Reduced ability of fishing vessels to operate in wind farms depending on location and spacing of turbines
  - Could affect both fishing and transit
  - Fishing within floating arrays may be impossible given mooring lines between turbine and seabed and electrical cables between turbines
  - Potential for interaction with export cables on/in seabed; issue for trawls and dredges
  - Safety and radar issues: possibility of allision with turbines, implications for search and rescue
- Recreational fishing opportunities
  - Are wind turbines a positive or negative?

Image: Dennis Schroeder, NREL

A complex issue

- Fishing occurs throughout the region
  - Grounds and species shift in importance over time
  - Subject to many constraints – management, market
- Fishery management areas distributed throughout the region
  - Change in response to stock and environmental conditions
- Challenging to interpret past effort data given these complexities
- Long time horizon for OSW projects, which operate ~20-25 yr



Conservation concerns

- Protection of habitats, natural resources within spatial management areas.
  - Groundfish management and spawning areas, exemption areas
  - Habitat Management Areas, EFH generally
  - Deep-sea coral management areas
- Potential for sub-lethal effects on fish due to noise, mechanical disturbance, electromagnetic fields
- Habitat conversion from soft to hard bottom due to scour protection measures around foundations
- Changes to wind fields and oceanographic conditions
- Measuring changes in fish stocks is already challenging; installation of wind turbines will affect fisheries surveys, making this more challenging

Images: Peter Auster, Brian Skerry

OSW science and monitoring

- NEFMC supports
  - Effective pre- and post-construction assessment of fishery resources in lease areas
  - Robust analysis of impacts of OSW projects, including cumulative effects analysis
- Research priorities
  - Council has provided input on BOEM's science priorities through their Environmental Studies Program, and has identified some of its own research priorities related to OSW
  - Offshore wind research also happening at the U.S. Department of Energy, Wind Energy Technologies Office (WETO), National Renewable Energy Laboratory (NREL)
  - Substantial body of work from Europe; new ICES working group to explore shared lessons for fisheries
- Council will participate in ROSA activities

The Responsible Offshore Science Alliance (ROSA) is:

"a partnership formed by fishermen and offshore wind leaders, in collaboration with federal and state management experts, to enhance scientific understanding necessary to support the coexistence of wind energy development and sustainable fisheries"

NEFMC OSW coordination and outreach

- Coordinated through the Council's **habitat** program
- **BOEM** staff attend Council and other meetings
  - Provide updates, answer questions, and solicit feedback
  - Council will participate in BOEM's **Gulf of Maine Task Force** process
- Council interacts with **OSW developers** through public meetings, staff to staff
  - Developer presentations at Habitat Committee/Council meetings
  - Fisheries Liaisons attend advisory panel meetings across our FMPs
  - Councils post developer notices on joint wind website
- Council engages with **Responsible Offshore Development Alliance** through workshops, information sharing, publicizing RODA initiatives and events

Joint MAFMC-NEFMC Website

- Notices to fishermen
- Comment opportunities and meetings
- Links and resources
- Council comment letters

http://www.mafmc.org/northeast-offshore-wind

Ørsted Fisheries Liaisons

Corporate Fisheries Liaison
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Fisheries Liaison CT/NY
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Fisheries Liaison Mid-Atlantic
Kara Gross
kargr@orsted.com
***Start date: April 1st 2020**

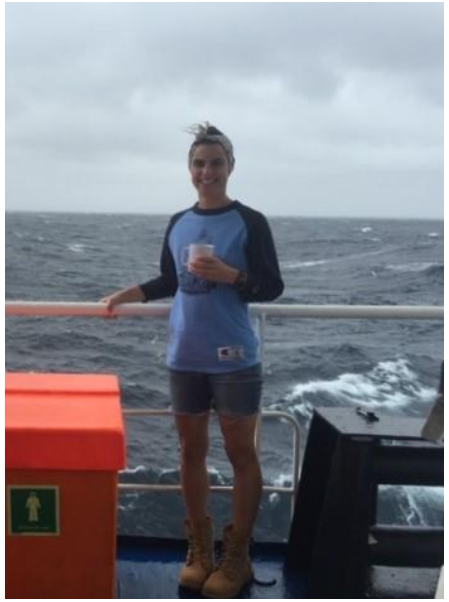
Virtual Port Hours

Due to COVID-19, Ørsted is offering Virtual Port Hours via Skype call-in
Monday, Wednesday and Friday 8 am -12 pm
1-(213)-458-8466
For CT/NY dial 96373488#
For MA/RI dial 832848832#

Ørsted

Equinor Fisheries Support

Equinor Wind is committed to coexistence with the commercial and recreational fisheries and aims to achieve this by proactively avoiding or minimizing impacts on fishing throughout all phases of the project life-cycle. Consultations with fishermen from Massachusetts to New Jersey are ongoing to receive their valuable feedback. Fisheries liaisons are always standing by.
https://www.equinor.com/en/what-we-do/empirewind.html



Elizabeth Ann Marchetti
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Over 20 years working with the commercial and recreational communities as a fisherman and field scientist.

Steve Drew
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Over 40 years working with the commercial fishing and sub-sea cable industries.

VINEYARD WIND

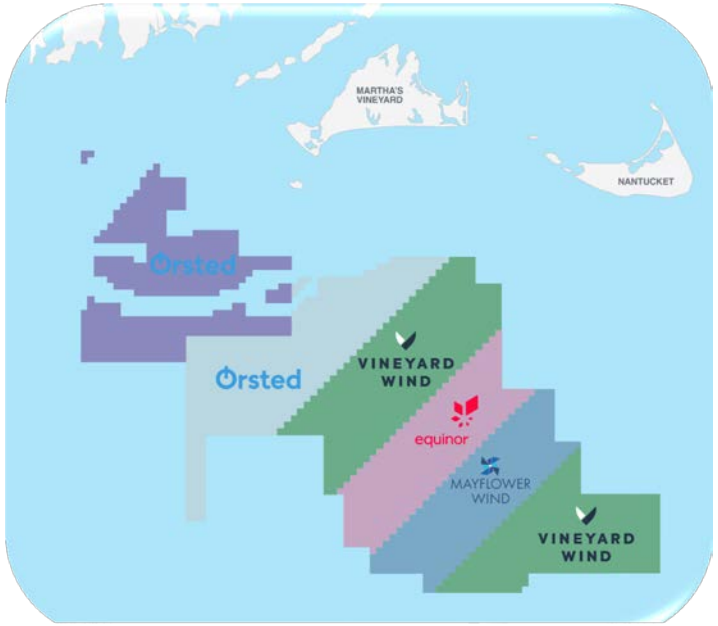
FISHERIES ENGAGEMENT

FISHERIES SCIENCE

Visit our website for our current fisheries research program:

- SMAST Trawl, Plankton, Ventless Trap, and Drop Camera Studies

- NEAq Highly Migratory Species Study



RESPOND TO ONLINE SURVEYS

Navigational Aids Survey –
Conducted in collaboration with RODA:
https://www.vineyardwind.com/fisheries/#fish-latest-updates

Highly Migratory Species Survey
www.vineyardwind.com/survey-for-south-of-the-vineyard-fishermen

FISHERIES LIAISONS

Please contact Vineyard Wind fisheries liaisons to learn more:

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SIGN UP FOR MARINER UPDATES:

www.vineyardwind.com/fisheries

Thank you!

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