NTAP Full Panel Meeting

January 19, 2023

Center Updates

FUNDING UPDATE

OPERATIONS MANUAL UPDATE

BOTTOM TRAWL SURVEY UPDATE

BOTTOM LONGLINE SURVEY UPDATE

OTHER NEWS

- **Northeast Cooperative Research Summits: January 31st (VA); February 15th (RI)**
  - Over 250 scientists, industry, and managers registered
  - 25 oral presentations, 36 poster presentations, 4 small group discussions
  - Small Group Discussions:
    - Role of cooperative research in offshore wind
    - Applying cooperative research data and results to stock assessments
    - The past, present, and future of industry-based surveys
    - Needs and priorities in conservation gear engineering
- **Miller chainsweep study published**

NCRS Northeast Cooperative Research Summits 2023

Questions?

Bottom Trawl Survey Update

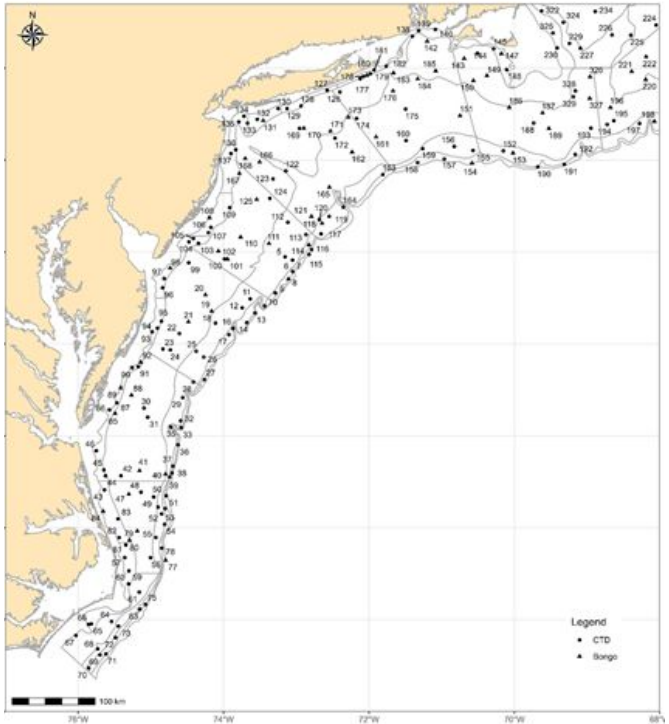
Autumn 2022

- Multiple cases of COVID-19 impacted legs 1 and 2, resulting in the loss of 14 sea days.
- Completed 308 of 377 planned stations
- Completed 95 of 116 planned plankton samples (BONGOs)
- Most reductions were in Georges Bank and Gulf of Maine due to timing of impact

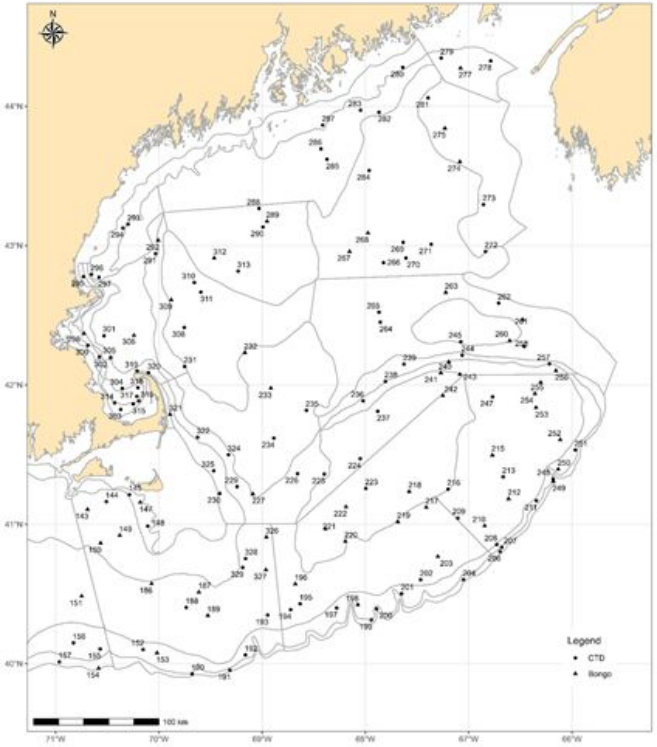
Spring 2023

- Bigelow is currently in shipyard dry dock in Norfolk, VA
- The period of performance has been extended 3 days
- We are planning to stage and begin the survey out of Norfolk, VA to avoid delaying the start of the survey

2022 Autumn Trawl Locations Mid-Atlantic - Southern New England



2022 Autumn Trawl Locations Georges Bank - Gulf of Maine



Gulf of Maine Bottom Longline Survey Update

Stations:

- Completed 100% of stations in spring and fall 2022
  - 90 stations total - see map

Highlights:

- High barndoor skate, red hake, and cusk catches
- High white hake catches, especially large individuals
- Propeller in habitat video footage

Lowlights:

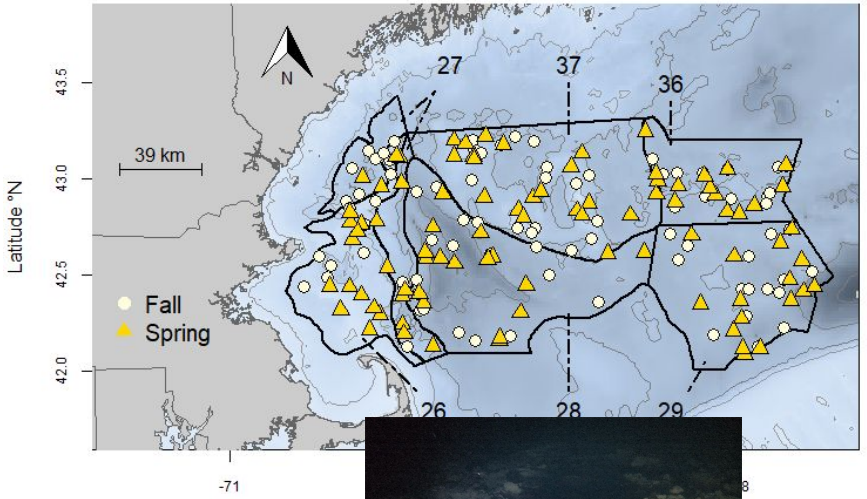
- Low cod catches
- Low haddock catches in fall, but higher catches in spring

Blogs (for more info!):

- Most Wow-Worthy 2022 Bottom Longline Survey Moments
- Props to Another Bottom Longline Survey Trip in the Books!

COVID Impacts:

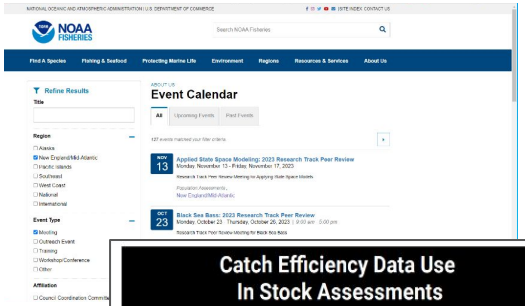
- One COVID case on fall 2022 BLLS, but did not spread.

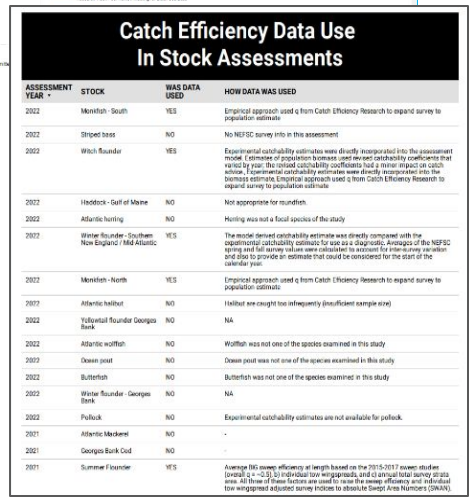


Communication updates

COMMUNICATING NTAP RESEARCH WITH ASSESSMENT SCIENTISTS

- NRCC 2022-2026 Stock Assessment Schedule
- The NOAA Fisheries Event Calendar
- Individual Research track Stock Assessment webpages
- NEFSC NTAP Team reviews it monthly
- 2023 Research Track Steering Committee meetings TBD check the webpage





Catch Efficiency Data Use In Stock Assessments

ASSESSMENT YEAR	STOCK	WAS DATA USED	HOW DATA WAS USED
2022	Monkfish - South	YES	Empirical approach used q from Catch Efficiency Research to expand survey to population estimate
2022	Striped bass	NO	No NEFSC survey info in this assessment
2022	Witch flounder	YES	Experimental catchability estimates were directly incorporated into the assessment model. Estimates of population biomass used revised catchability coefficients that varied by year; the revised catchability coefficients had a minor impact on catch advice. Experimental catchability estimates were directly incorporated into the biomass estimate. Empirical approach used q from Catch Efficiency Research to expand survey to population estimate
2022	Haddock - Gulf of Maine	NO	Not appropriate for roundfish
2022	Atlantic herring	NO	Herring was not a focal species of the study
2022	Winter flounder - Southern New England / Mid Atlantic	YES	The model derived catchability estimate was directly compared with the experimental catchability estimate for use as a diagnostic. Analogue of the NEFSC spring and fall survey values were calculated to account for inter-survey variation and also to provide an estimate that could be considered for the start of the calendar year.
2022	Monkfish - North	YES	Empirical approach used q from Catch Efficiency Research to expand survey to population estimate
2022	Atlantic halibut	NO	Halibut are caught too infrequently (insufficient sample size)
2022	Yellowtail flounder Georges Bank	NO	NA
2022	Atlantic wolffish	NO	Wolffish was not one of the species examined in this study
2022	Ocean pout	NO	Ocean pout was not one of the species examined in this study
2022	Butterfish	NO	Butterfish was not one of the species examined in this study
2022	Winter flounder - Georges Bank	NO	NA
2022	Pollock	NO	Experimental catchability estimates are not available for pollock.
2021	Atlantic Mackerel	NO	-
2021	Georges Bank Cod	NO	-
2021	Summer Flounder	YES	Average BG sweep efficiency at length based on the 2015-2017 sweep studies (overall $q = \sim 0.5$); individual tow wingspreads, and d) annual total survey strata area. All three of these factors are used to raise the sweep efficiency and individual tow wingspread adjusted survey indices to absolute Swept Area Numbers (SWAN).

HOW NTAP RESEARCH IS USED IN ASSESSMENTS

- Dashboard for NTAP research in assessments

Restrictor rope research

LUNCH

WE’LL BE BACK AT 12:30

Offshore Wind

1. Update on current activities
2. Overview of terminology and stages of construction
3. Description of 2 projects that have started construction (South Fork and Vineyard Wind)
4. Timelines
5. Contact information
6. Other resources
7. Discussion of NTAP role in offshore wind

Beyond 2030/ Planning Area Acreage

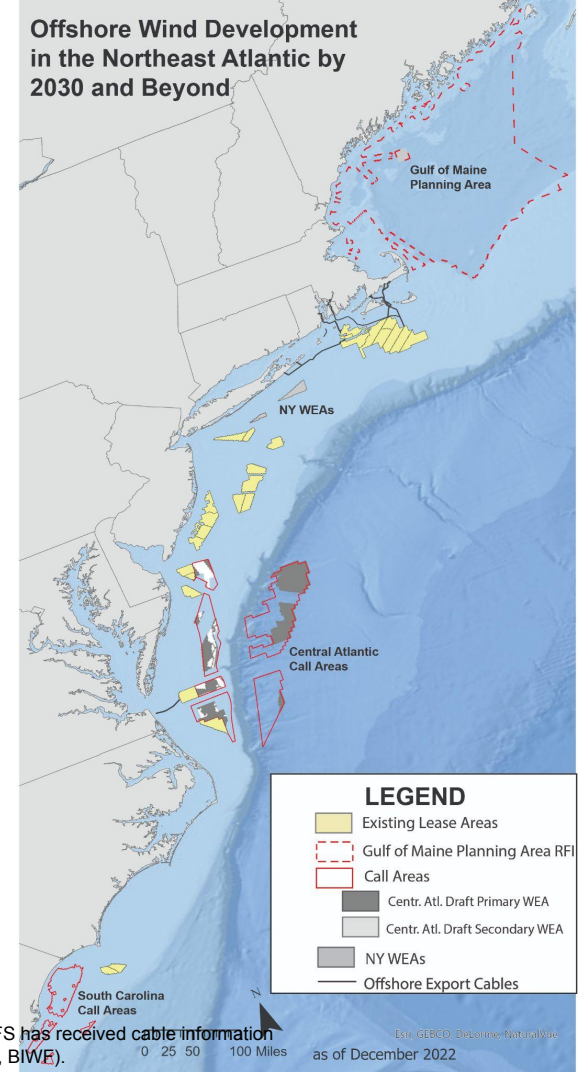
FACT SHEET: Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy

BRIEFING ROOM › STATEMENTS AND RELEASES

Departments of Energy, Interior, Commerce, and Transportation Launch Initiatives on Floating Offshore Wind to Deploy 15 GW, Power 5 Million Homes, and Lower Costs 70% by 2035

Floating Wind

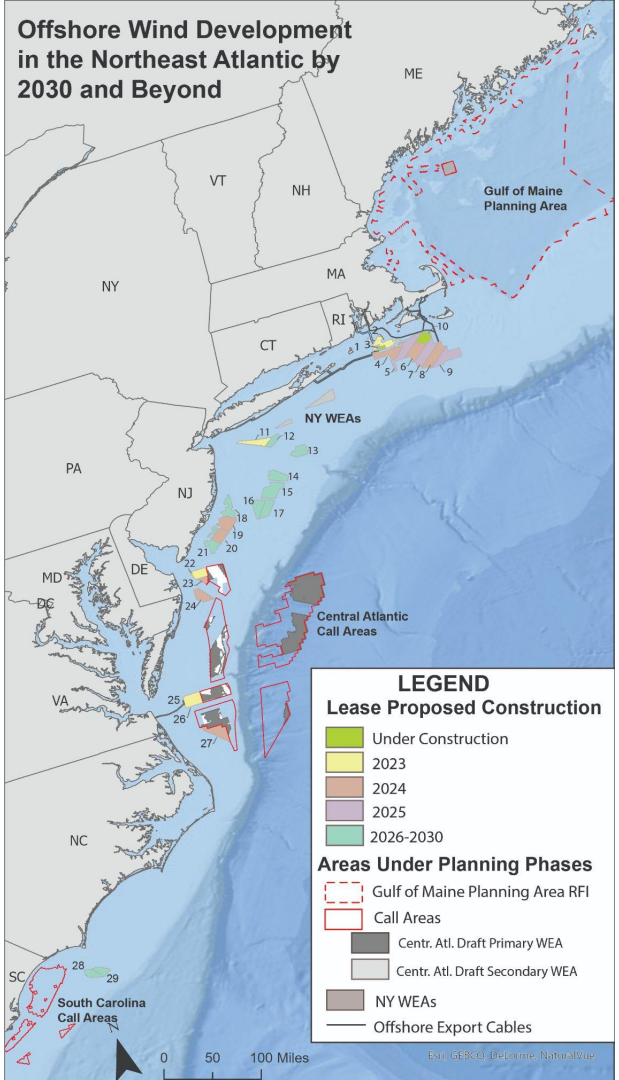
- Biden-Harris goal of 15GW by 2035
- All wind areas proposed by 2030 are fixed foundations ~2.3 million acres
- Floating Wind proposed for:
  - Gulf of Maine ~13.7 million acres
  - Central Atlantic Call Areas off the shelf break ~2.5 million acres



Additional Areas Undergoing BOEM's Leasing Process	
Region/Stage of Leasing Process	**Acres**
NY Bight	
NY Bight WEA (Fairways N & S)	**112,032**
Gulf of Maine (Leasing in 2024)	
State Research Lease- RFCI	68,373
Gulf of Maine Planning Area RFI	**13,724,531**
Central Atlantic (Leasing in 2023)	
Call Area	**4,185,705**
Draft Primary WEA	1,434,010
Draft Secondary WEA	311,949
Southern Atlantic	
SC Call Areas (full)	**853,769**
TOTAL planning (as of Dec 2022)	**18,876,037***

Final lease area for Gulf of Maine is anticipated to be significantly less than this planning area total (as of December 2022). Each area is under different stages of BOEM's siting process

Note: Export cables shown on map only represent the 5 projects NMFS has received cable information or to date (Southfork, VW1, Revolution, Mayflower, CVOW-Research, BIWF).



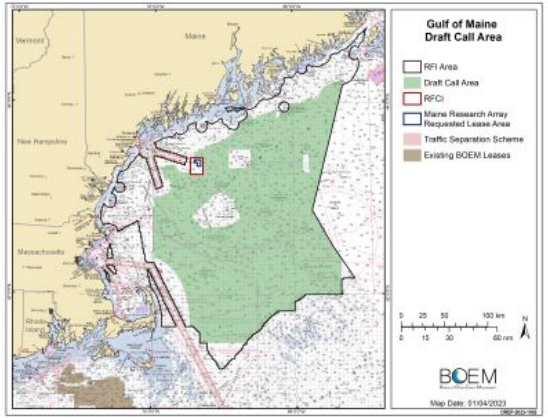
Individual Project Totals

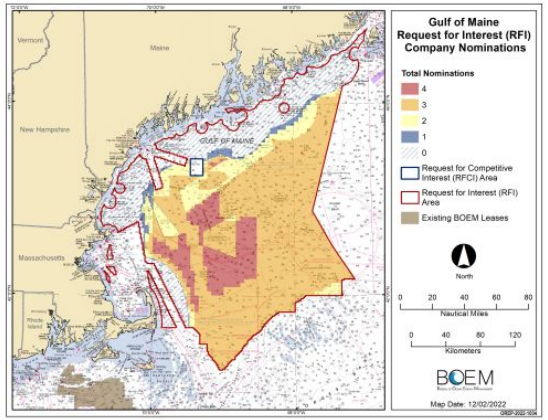
Estimated Constr. Schedule		Map #	PROJECT NAME/LEASE # (PPA State)	Project Acres	Gen. Capacity (MW)	Foundations (#)	Offshore Export Cable (miles)	Inter-array Cable (miles)	Total Cable (Offshore + Inter)
Built	-	1	Block Island Wind Farm	8,320	30	5	28	2	30
		25	Coastal VA Offshore Wind Research	2,137	12	2	27	9	36
Under Const.	2022-2023	10	Vineyard Wind 1/OCS-A 0501 (MA)	65,321	800	63	98	171	269
	2022-2023	3	South Fork/OCS-A 0517 (NY)	13,699	130	13	139	24	163
2023	2023-2024	2	Revolution/ OCS-A 0486 (CT&RI)	83,802	880	102	100	155	255
	2023-2027	11	Empire Phase 1 & 2/OCS-A0512(NY)	36,308	816	174	76	299	375
	2023-2030	22	GSOE/ OCS-A 0482 (DE & NJ)	70,153	1,080	102	-	-	-
	2023-2027	26	CVOW-C/OCS-A 0483	112,886	3,000	208	417	301	718
2024	2024-2028	8	Mayflower/OCS-A 0521 (MA)	128,862	804	149	744	497	1,241
	2024-2025	20	Ocean Wind 1/ OCS-A 0498 (NJ)	69,220	1,100	101	194	190	384
	2024	23	Skipjack/ OCS-A 0519	26,325	120	81	40	30	70
	2024	4	Sunrise/ OCS-A 0487 (NY)	109,959	1,122	103	130	186	316
	2024-2026	6	New England/OCS- A 0534 (CT/MA)	91,298	2,304	125	145	296	441
	2024-2027	19	Atlantic Shores/OCS-A 0499	102,186	1,510	210	342	584	926
	2024-2030	24	U.S. Wind/ OCS-A 0490	79,769	1,500	98	190	151	341
	2024-2030	27	Kitty Hawk Wind/OCS-A 0508	122,502	2,482	193	312	298	610
2025	2025-2026	7	Beacon Wind/ OCS-A 0520	128,862	1,2300	106	120	163	283
	2025-2030	5	Bay State Wind/OCS-A 0500	73,683	1,092	93	120	172	292
	2025-2030	7	TBD/OCS-A 0520 Remainder	-	4,200	323	480	505	985
		5	TBD/OCS-A 0500 Remainder	96,564					
		-	TBD/OCS-A 0487 remainder	11,015					
		9	Vineyard Northeast/OCS-A 0522	132,440					
2026-2030	2026-2030	21	Ocean Wind 2/OCS-A 0532	85,017	1,554	113	120	173	293
	2026-2030	18	Atlantic Shores North/OCS-A 0549	81,182	2,198	160	99	249	348
	2026-2030	13	OW Ocean Winds East/OCS-A 0537	71,513	1,200	102	120	157	277
	2026-2030	14	Attentive Energy/OCS-A 0538	84,347	1,044	88	120	130	250
	2026-2030	15	Bight Wind Holdings/OCS-A 0539	125,998	1,584	134	120	205	325
	2026-2030	16	Atl. Shores OW Bight/OCS-A 0541	79,384	1,068	90	120	133	253
	2026-2030	17	Invenergy Offshore/ OCS-A 0542	84,006	1,176	99	120	147	267
	2026-2030	12	Vineyard Mid-Atlantic/OCS-A 0544	43,061	756	64	120	95	215
	-	28	Total Energies Renew./OCS-A 0545	54,878	650	-	-	-	-
	-	29	Duke Energy Renew./OCS-A 0546	55,103	650	-	-	-	-
TOTAL by 2030				**2,372,867**	**37,352**	**3,101**	**4,641**	**5,322**	**9,963**

Note: Export cables shown on map only represent the 5 projects NMFS has received cable information for to date (Southfork, VW1, Revolution, Mayflower, CVOW-Research, BIWF).

Offshore Wind Current Activities

- Gulf of Maine Call Area released
- Offshore construction starts this spring
- SSEEP Year 1 Final Report expected soon
- Survey Mitigation Implementation Strategy (press release, final strategy)
    - Survey Specific Mitigation Plans, regional monitoring
- *RODA, BOEM, NMFS Synthesis of Science* expected to be published by end of this month
- *"Science Priorities for Offshore Wind and Fisheries Research in the Greater Atlantic Region: Perspectives from Scientists at NOAA Fisheries"* Marine and Coastal Fisheries In press
- NEFSC submitted 3 proposals to BOEM Environmental Studies
- NYSERDA $2.5 million for environmental studies, proposals due Mar 13
- ROSA Exec Dir position open: ROSA research priorities database

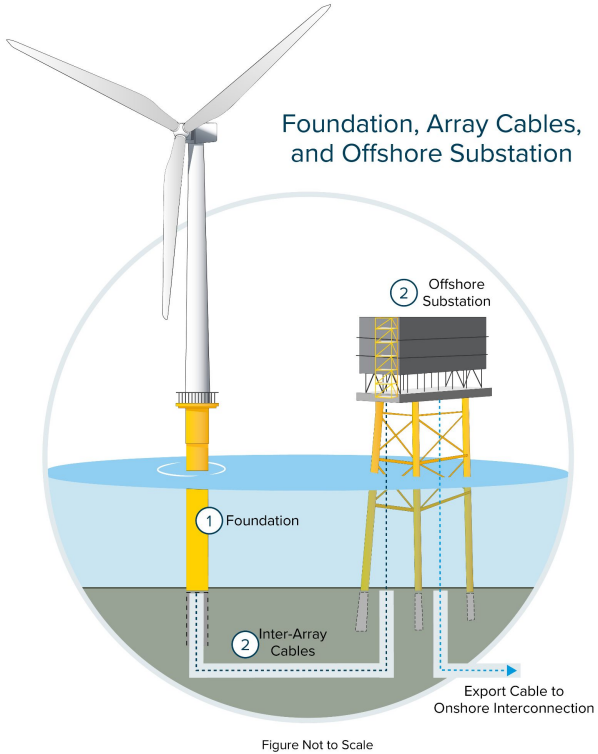




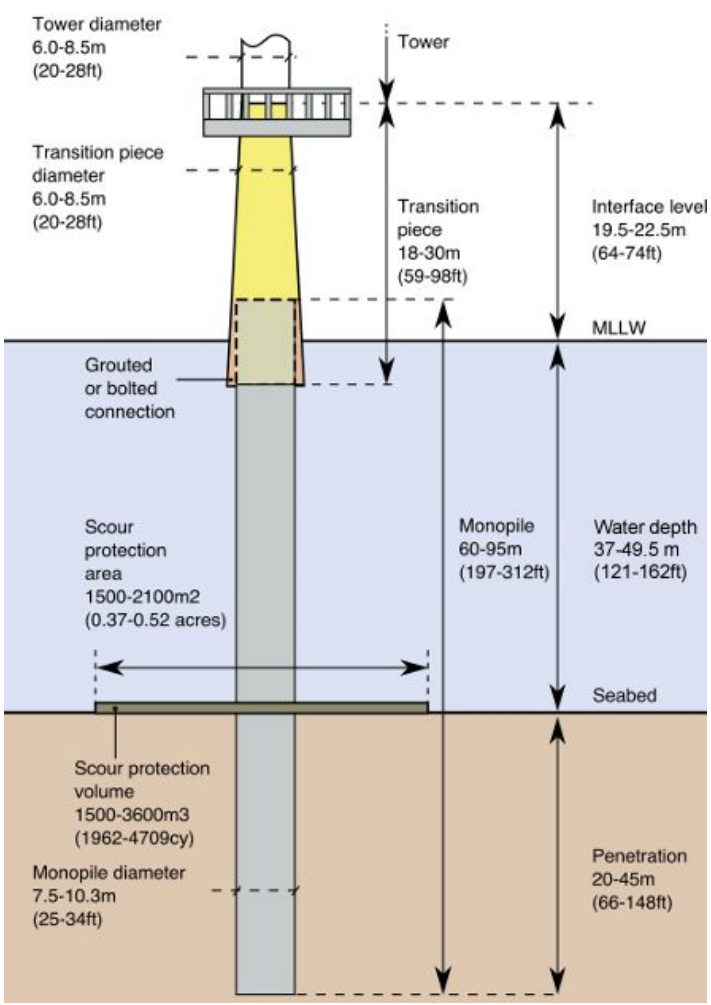
Offshore Wind Construction

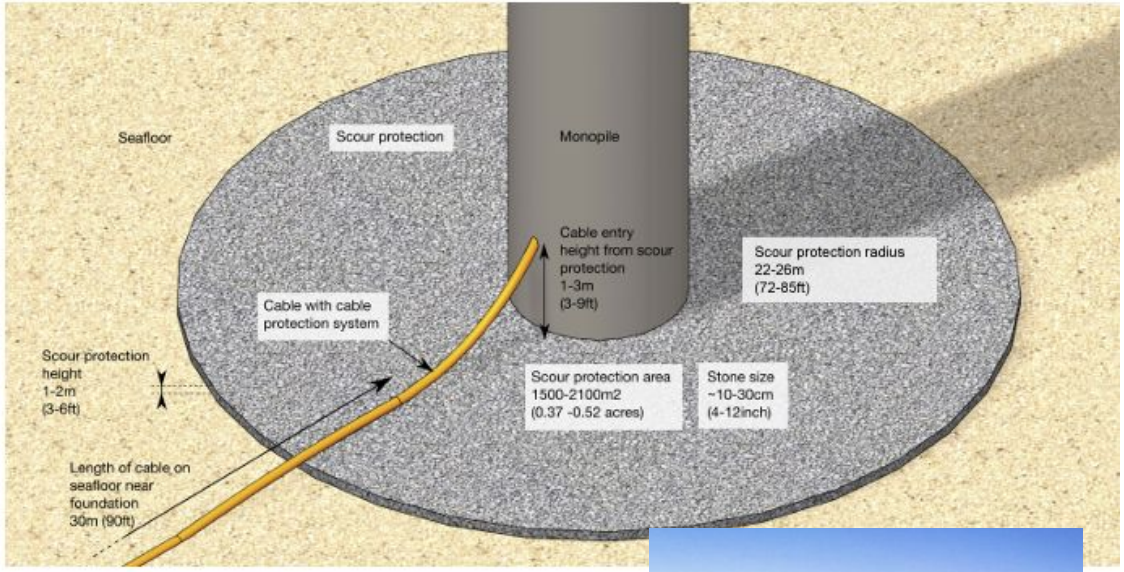
Terminology

1. Offshore export cable
2. Interarray cable
3. Scour protection
4. Turbine foundation (monopiles for VW)
5. Transition piece
6. Wind turbine (includes tower, nacelle and blades)
7. Electrical service platform (ESP)



https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/About-Offshore-Wind/Offshore-Wind-101





Vineyard Wind Construction and Operations Plan

Stages of construction

1. Survey work, identify obstacles (including Unexploded Ordinance)
2. Offshore export cable laying
    a. Pregrapnel run
    b. Boulder removal
    c. Laying of cable protection mattresses as needed
    d. Cable laying
        i. Burying cable - happens coincidentally with cable laying OR is a separate step
3. Placement of scour protection
4. Foundation installation
5. Installation of transition pieces
6. Installation of wind turbines

Other information

- 500 meter safety zone around each installation vessel for foundations, ESP and turbine installs, cable vessels too – all advisory, no Coast Guard intervention
- Charting after construction - process unknown at this point, NOAA NOS in the loop
- On-water conflicts there is a 24-hour hotline
- Main port is New Bedford for Vineyard Wind
- Main port is New London for South Fork

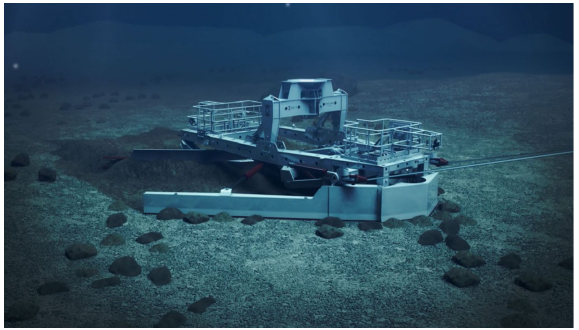
Timelines

- Vineyard Wind
  - Now - offshore export cable installation
  - Mar-Apr 2023 - scour protection in offshore wind development zone (base of each turbine)
  - mid-May 2023 to mid-May 2024 - installing turbine foundations (the monopiles get hammer drilled into the seafloor)
  - mid-Jun 2023 to mid-Jun 2024 - turbine installation, blades only turning for short commissioning periods; each turbine takes 2-3 days to install
  - Aug 2023-Aug 2024 - array cable installation
  - Fall 2024 - full commissioning - blades spinning - power generation expected
  - Note: there is also one Electrical Service Platform (ESP) also being installed in the offshore wind development zone
- South Fork
  - Oct 2022 - Boulder relocation w boulder grab and pre-cable lay mattress installation
  - Nov 2022 – Feb 2023 - HDD Installation
  - Feb – Mar 2023 - Boulder relocation w boulder plow
  - May 2023 - Offshore substation, foundation and array cable installation:
  - Jul 2023 – Aug 2023 - Scour Installation
  - May – Aug 2023 - Offshore substation and hook-up and commissioning
  - Aug – Sept 2023 - Wind Turbine Generator installation
  - mid-Fall 2023 - Final testing and commissioning

Boulder Removal South Fork

Late September – November 2022 for boulder moving (grab and plough) and pre-lay mattress installation.

- 444 boulders moved from South Fork cable route and turbine area, mostly in turbine area

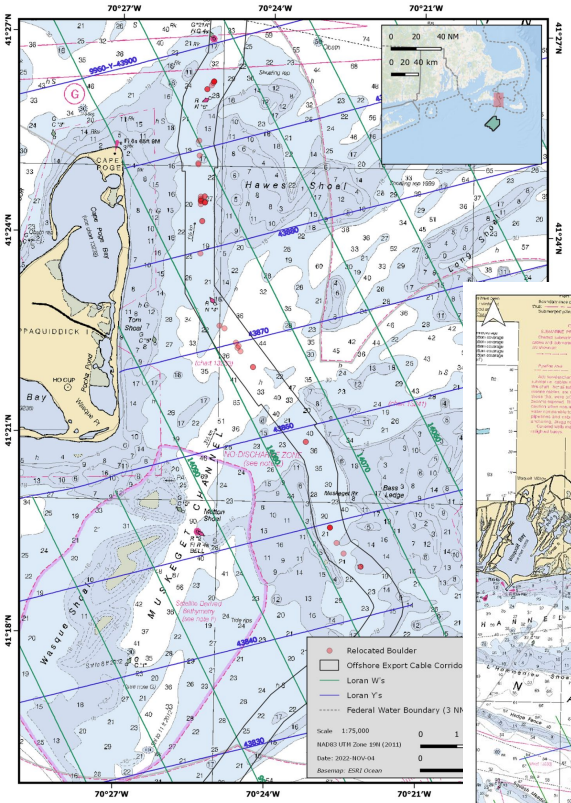


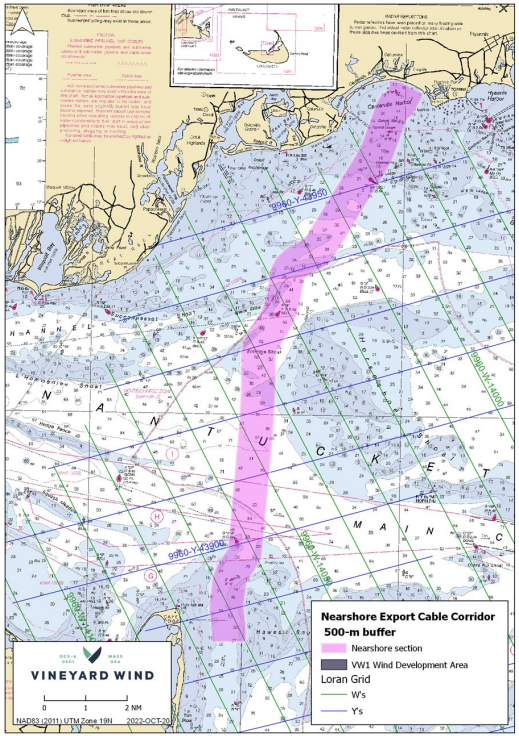
Boulder Removal VW

Boulder relocations with grab

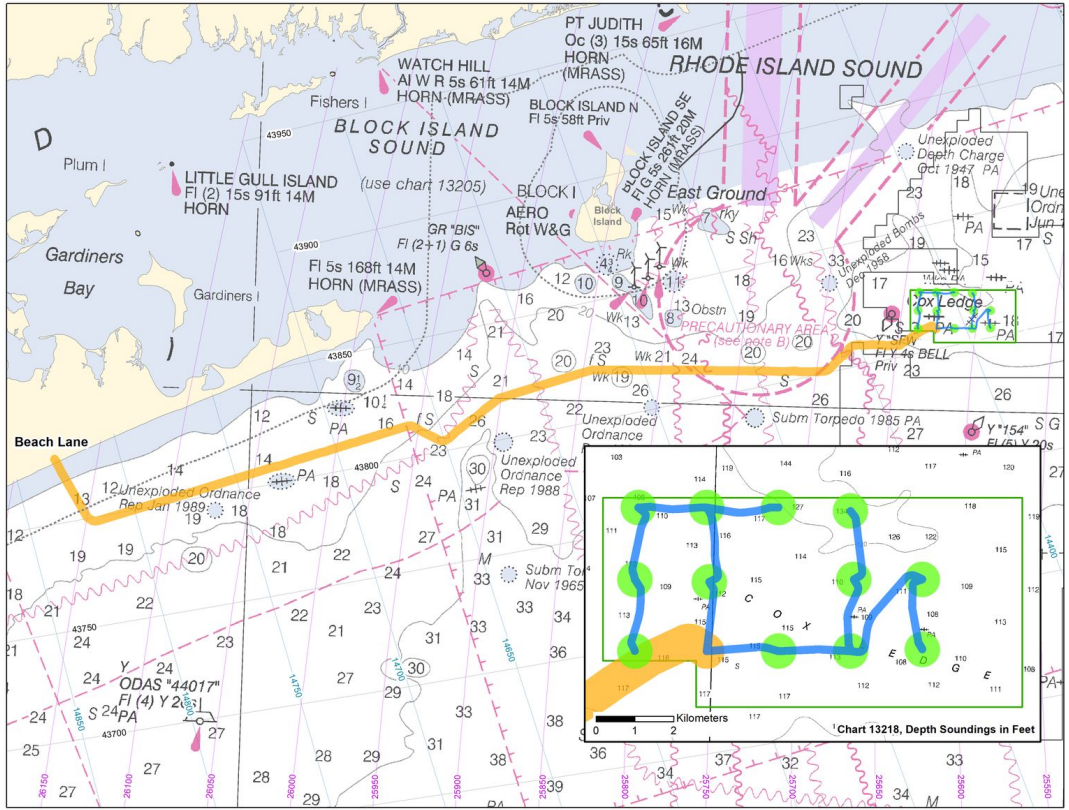
- Nov/Dec 2022 - 51 boulders relocated in Muskeget Channel

Offshore export cable laying now

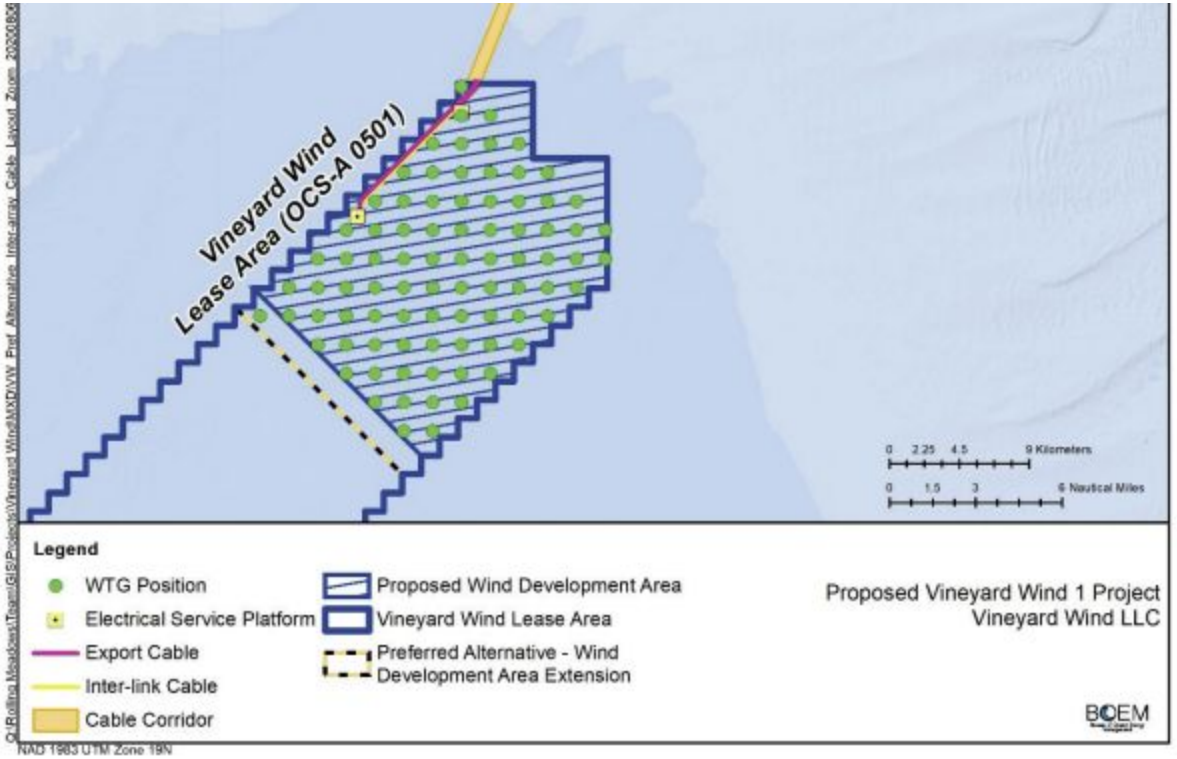




South Fork Wind Farm Map



Vineyard Wind 1 Map



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Contact for vessel simulator in Middletown, RI

https://www.usmrc.org/

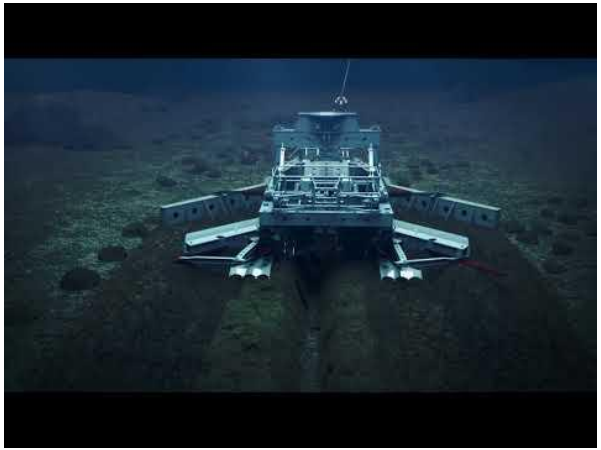
Resources

Siemens Gamesa video 4:05

North Sea Documentary 14:15

BOEM Vineyard Wind Construction and Operations Plan

Boulder plow video



Fisheries surveys

Vineyard Wind

- Otter trawl (NEAMAP protocol)
  - Winter (Jan-Mar) 2020, 2021, 2022
  - Spring (Apr-Jun) 2019, 2021 [2020 cancelled]
  - Summer (July-Sep) 2019, 2020
  - Fall (Oct-Dec) 2019, 2020
- Ventless trap, black sea bass, plankton
  - 2019, 2020
- Drop camera
  - 2020
- HMS
  - Summer 2022

South Fork

- Beam trawl
  - Started Oct 2020
- Ventless trap
  - Started May 2021
- Gillnet
  - Started May 2021
- Fish pot
  - Started Jun 2021

Discussion of NTAP role in offshore wind

Survey specific mitigation plans (written by NEFSC)

Fisheries surveys within wind farms (written by developers)

Regional monitoring (being discussed at ROSA)

Development of new monitoring tools

- Acoustics
- Trawls that can go inside wind farms
- Fixed gear
- Autonomous vehicles
- eDNA

NTAP priority research breakout sessions

GOAL: 3-5 titles of research projects NTAP would like to see funded

Background - 30 min

Breakout sessions - 1 hour

Discussion - 1 hour

Why are we talking about priorities

ACTION PLAN

- Review progress and accomplishments since it was re-established in 2015.
- Brainstorm concerns about the performance of trawl surveys relative to the reliability of scientific advice.
- Recommend data collection, analyses, and procedures to address priority concerns. Recommendations may include alternative methods of collecting fisheries independent information.

CHARTER OBJECTIVES

- Understanding the trawl gear performance and methodology
- Evaluate the potential to complement or supplement current NEFSC surveys
- Improving understanding and acceptance of NEFSC trawl survey data quality and results

How the information is used

- to influence, inform, and support Council projects and priorities
- to influence, inform, and support NEFSC projects and priorities
- as evidence of value for a given project, to increase likelihood of funding
- to influence other committees or organizations to fund or otherwise support NTAP priorities

Others?

Priorities discussion background

- March 2022 full panel meeting
  - list of study ideas & discussion about how to make recommendations
    - account for progress that has been made by NTAP and beyond; consider ranking the priority of each based on our ability to address that problem.
    - wind is a priority of NTAP, as it is a priority of the Councils.
    - co-chairs determine how to proceed

- July 2022 survey more focused on what does NTAP want to accomplish
  - Understanding the trawl gear performance and methodology -
    - no consensus on relative importance of availability over catch efficiency over survey operational performance
  - Evaluate the potential to complement or supplement current NEFSC surveys -
    - consensus that the goal here is to have intercomparable data between different surveys that are currently operating (e.g., NEAMAP and Bigelow); strong support for developing new surveys
  - Improving understanding and acceptance of NEFSC trawl survey data quality and results -
    - consensus that goal is to understand how assessments use trawl survey data (and ultimately how to make assessments better)

Summarizing information related to priorities

- Developed a description of all previous research done by NTAP and/or related to NTAP priorities (draft - part of orientation document drafting, will be part of appendix)
- Review of past NTAP meetings to create a priorities spreadsheet
  - Includes previous votes on research priorities
- Review of MAFMC and NEFMC priorities (these were added to the priorities spreadsheet)
- Started to examine Research Track priorities for 2022 RTs (Am. plaice, haddock, spiny dogfish)
- Developed a list of previous research ideas discussed by NTAP (handout for breakout sessions)

Handout

Topic 1 background

Understanding the trawl gear performance and methodology

1. To improve catchability correction factors to improve reliability of the data for assessments
    a. Catch efficiency: determine what proportion of fish the net catches such as spreading studies; sweep studies; and tow length or speed studies
    b. Availability: determine if fish are available to a survey - day/night position; gaps in sampling from fixed gear or offshore wind; availability due to climate change/seasons
2. Survey design work

Topic 1 background continued

- 2008-2009 Albatross IV-Bigelow calibration experiment
- 2009-2010 rockhopper - cookie sweeps catchability experiments with F/V Endurance, F/V Moragh K, F/V Mary K, and F/V Karen Elizabeth
- 2014 relative efficiency of different bridle lengths with F/V Karen Elizabeth
- 2015-2017 rockhopper-chain sweep catchability experiment with F/V Karen Elizabeth
- 2018-2019 door testing
- 2019 net spread experiment with F/V Karen Elizabeth

Also: there are two ongoing survey design projects connected to offshore wind (that can address NTAP concerns too) and ICES work (WGNAEO and WKUSER)

Topic 1 things to keep in mind

- What have we learned, what is outstanding?
- Survey design projects should address how to minimize impacts on the existing time series
- Target species the Bigelow gear is designed to capture

Topic 2 background

Evaluate the potential to complement or supplement current NEFSC surveys

1. To make assessments better by having intercomparable data between different surveys that are currently operating (e.g., NEAMAP and Bigelow)
2. To make assessments better by developing new surveys/data collections (e.g., flatfish; acoustics; video; fixed gear) for any reason (sampling in more seasons; increased sampling density; inability to use trawls in all areas; Bigelow survey failures; etc)

Topic 2 background continued

- 2013 pilot flatfish study F/V Mary K and F/V Yankee Pride
- 2014 comparison of F/V Hera to Bigelow
- 2022 restrictor rope experiment with F/V Darana R
- NEAMAP-Bigelow calibration was highly ranked by NTAP in 2020
- NEFSC writing “survey specific mitigation plans” for offshore wind
- Connects to offshore wind developer fisheries studies and regional monitoring

Topic 2 things to keep in mind

- These topics are increasing in importance (and potential resources) due to offshore wind
- Discussions on the use of commercial or research vessels as platforms for surveys should include costs and benefits
- Two avenues need to be explored: 1) trawl surveys (e.g., expanding NEAMAP or similar industry-based survey) and 2) novel surveys to capture more habitats and/or species
- Strong linkages to survey design work topic

Breakout session

Goal: have a list of 3-5 projects that NTAP would like to see happen

Logistics:

- Two groups, each discuss priorities/projects brainstorming for 1 hour: recommend focusing on one topic each
- Break
- Come back together to discuss each groups' list of projects
- Breakout group leads are Wes and Dan, they will do report outs
- Each group has a notetaker and a white board person

Breakout Group Assignments

Group 1 (main meeting room):

- **Wes Townsend** - *facilitator*
- **Kathryn Ford**
- **Vito Giacalone**
- **Dustin Gregg**
- **Emerson Hasbrouck**
- **Pingguo He**
- **Timothy Miller**
- **Sam Novello**
- **Christopher Parkins**
- **Mike Pol**
- **Peter Whelan**
- **Alex Dunn**
- **Andy Jones** - *note taker*
- **Hannah Hart** - *white board*

Group 2:

- **Dan Salerno** - *facilitator*
- **Terry Alexander**
- **Dan Farnham**
- **Jim Garland**
- **David Goethel**
- **Anna Mercer**
- **Bobby Ruhle**
- **Katie Burchard** - *note taker*
- **Phillip Politis** - *white board*

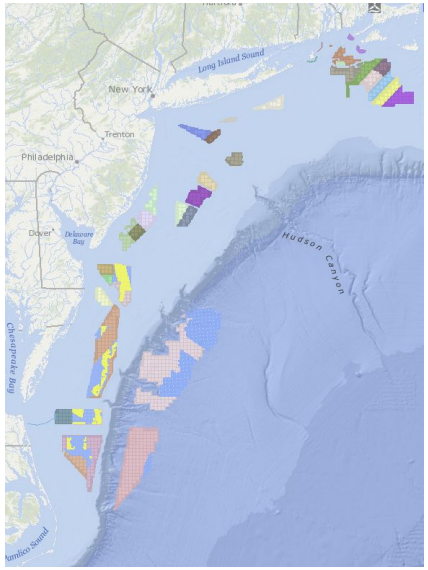
Breakout group instructions

1. Review the tables in the breakout group handout
2. Which study topics do you think are most compelling (and why)?
3. Consider potential projects more specifically - if you had to write a request for proposal, what would the title be?

Other leading questions on the handout

Discussion

- Breakout group report out
- Discussion - what are the 3-5 titles?
- Define next steps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