



Maine Offshore Wind Update and Interests

Gulf of Maine Intergovernmental Renewable Energy Task Force
May 19, 2022

Dan Burgess, Director
Celina Cunningham, Deputy Director
Governor's Energy Office



GOVERNOR'S
Energy Office

Maine's Climate and Clean Energy Targets

REDUCE MAINE'S
GREENHOUSE GAS EMISSIONS

45%

BELOW 1990 LEVELS
BY 2030

80%

BELOW 1990 LEVELS
BY 2050

RENEWABLE PORTFOLIO
STANDARD REQUIREMENTS

80%

BY 2030

100%

BY 2050

ACHIEVE CARBON
NEUTRALITY BY

2045





Maine Offshore Wind Initiative

Offshore Wind is an
Opportunity for Maine to:



Fight Climate
Change



Harness Renewable
Energy



Create Jobs & Economic
Growth



Sustain Maine's Maritime
Heritage



About the Initiative

Planning & Stakeholder Engagement

- Maine Offshore Wind Roadmap
- Ports Studies & Stakeholder Group

Research & Innovation

- University of Maine Demonstration Project
- Gulf of Maine Research Array
- Maine Offshore Wind Research Consortium

Policy & Legislation

- Bipartisan legislation supporting Research Array, Research Consortium, and prioritizing federal waters for commercial OSW

Partnerships

- University of Maine
- Regional Wildlife Science Consortium for OSW
- National Offshore Wind R&D Consortium
- Responsible Offshore Science Alliance
- Business Network for Offshore Wind
- MOU with United Kingdom



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Maine Offshore Wind Roadmap

Led by Governor's Energy Office with Support from Other State Agencies



Advisory Committee

GEO, Working Group Co-Chairs
and Other Public, Private and Non-
Governmental Leaders



Working Groups:

Technical knowledge and subject matter
expertise



Supply Chain,
Workforce, Ports &
Marine Transportation



Renewable
Energy Markets &
Strategy



Fisheries



Environment &
Wildlife

Focus on Economic
Opportunities and
Socioeconomic Impacts

Focus on Research/Data Gaps
and BOEM Process



Economic Impact of Maine's Commercial Fishing Industry

- 2021 Landings: \$890M
- 2021 Lobster Landings: \$733M
- Licensed Maine Fishermen: 16,000+
- Total Economic Impact: \$3 billion
- Home to 30% of all commercial fishing trips on the entire eastern seaboard

Lobster landings are 82% of Maine's total and represent 80% of the total U.S. lobster catch. It is the second most valuable ocean species harvested in the U.S.



How Maine is Creating a Roadmap

The Maine Offshore Wind Roadmap is supported by a \$2.16 million federal Economic Development Agency Grant awarded to GEO in 2020.

96

Members of Working Groups and the Advisory Committee building the Roadmap

50+

Working Group and Advisory Committee meetings from July 2021 - April 2022

Technical Studies

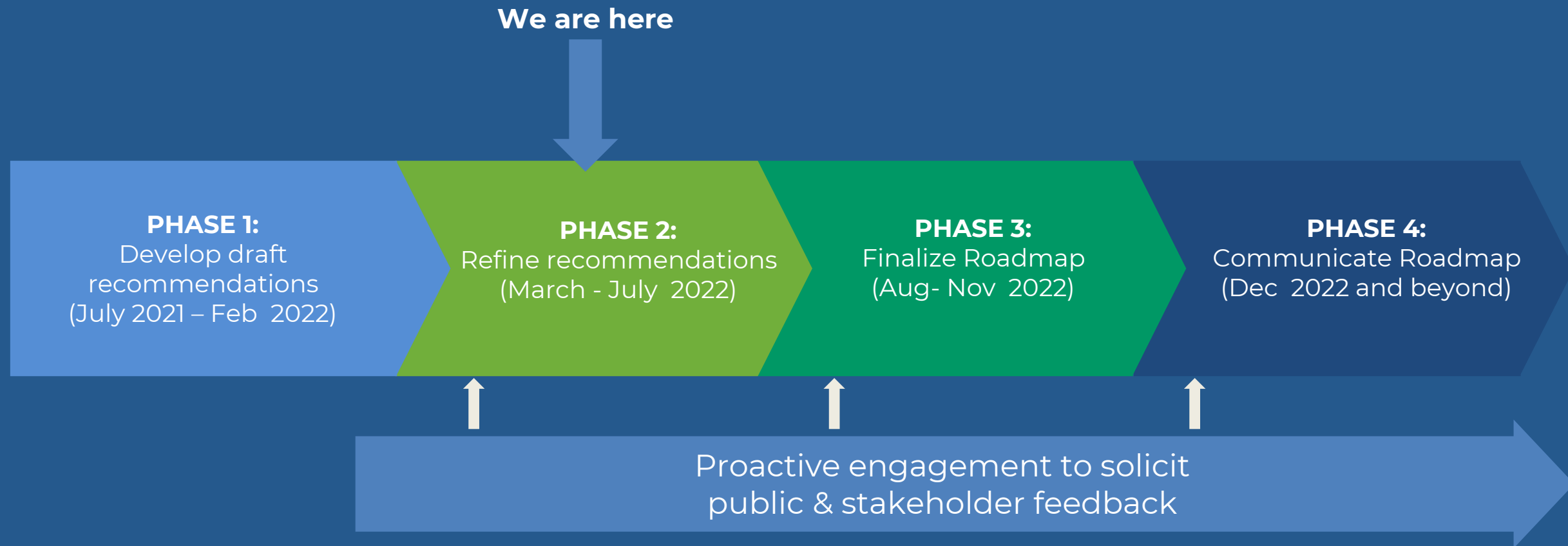
- Supply Chain Opportunity Assessment
- Maine and New England Energy Analysis
- Ports Infrastructure Studies
- Workforce Development
- Socioeconomic Analysis
- Transmission Analysis

maineoffshorewind.org



Where we are in the Process

Roadmap Timeline and Milestones



maineoffshorewind.org/working-group-recommendations



Maine Ports Studies and Stakeholder Process



Portland

Searsport

Eastport

*Agencies: MaineDOT, Maine Port Authority
Consultant: Moffat and Nichol*

Research and Innovation

- University of Maine Demonstration Project
- Gulf of Maine Research Array
- Maine Offshore Wind Research Consortium



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UMaine Demonstration Project

- Single turbine project to advance 1st of its kind floating platform technology from the University of Maine.
- A public-private partnership that is supported with funding from U.S. DOE.
- Poised to be 1st full-scale floating offshore wind turbine deployed in U.S.

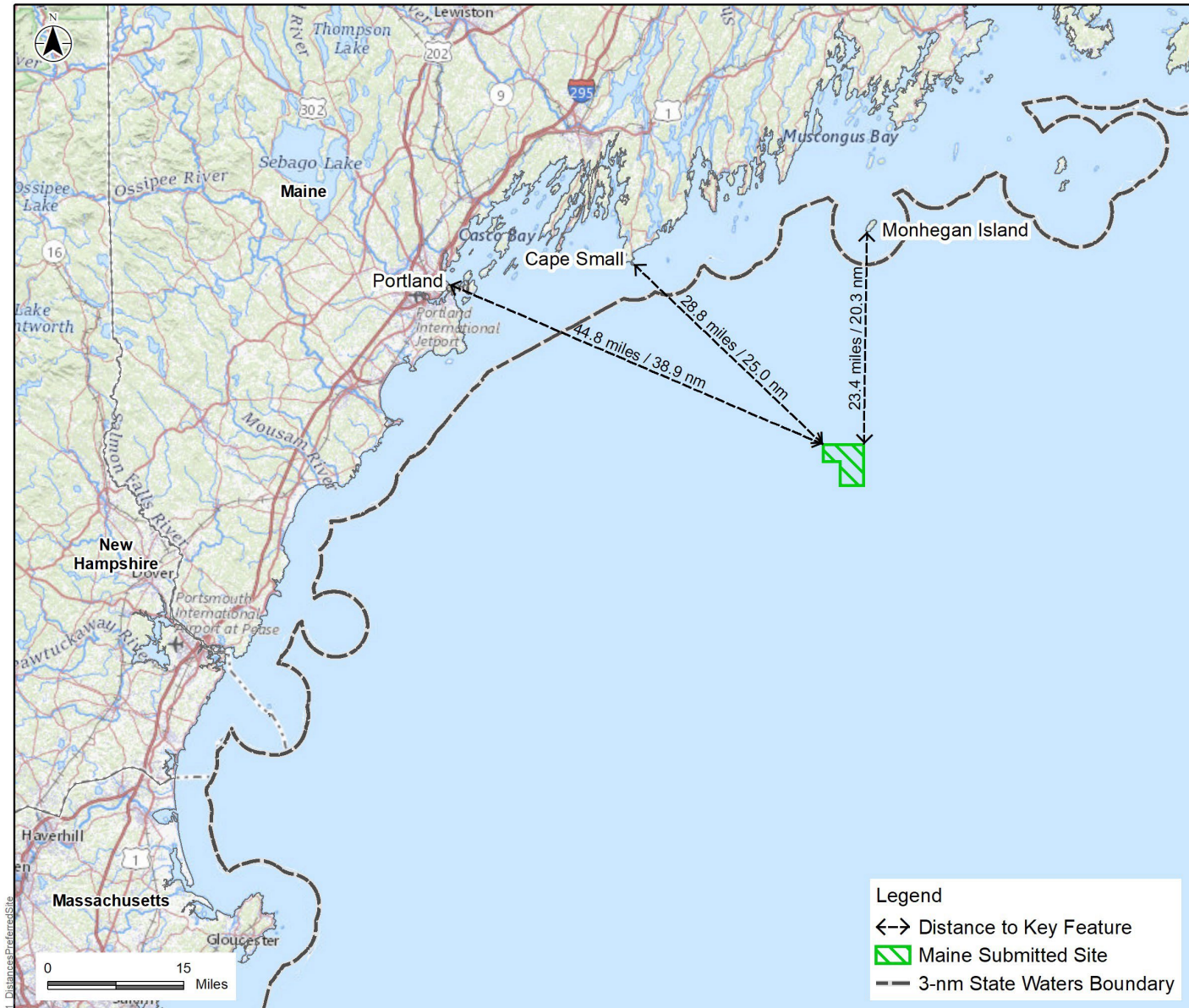


Latitude and Longitude of Site

Northern Boundary	43° 43' 18.231"
Eastern Boundary	69° 20' 16.759"
Southern Boundary	43° 42' 15.436"
Western Boundary	69° 17' 39.544"



Gulf of Maine Floating Offshore Wind Research Array



Why A Floating Research Array?

- **Advance** phased approach to floating technology as seen worldwide
- **Research** the effects of multiple floating turbines on marine life, fishing and more
- **Maximize** research and innovation in floating offshore wind to help grow U.S. floating supply chain
- **Support** UMaine's public-private partnership
- **Work** with fishing, environmental and other marine interests to answer important questions
- **Use** the experience to inform the work of the offshore wind roadmap and future projects, including lowering the cost of floating wind in the Gulf of Maine

Research Array Siting & Timeline

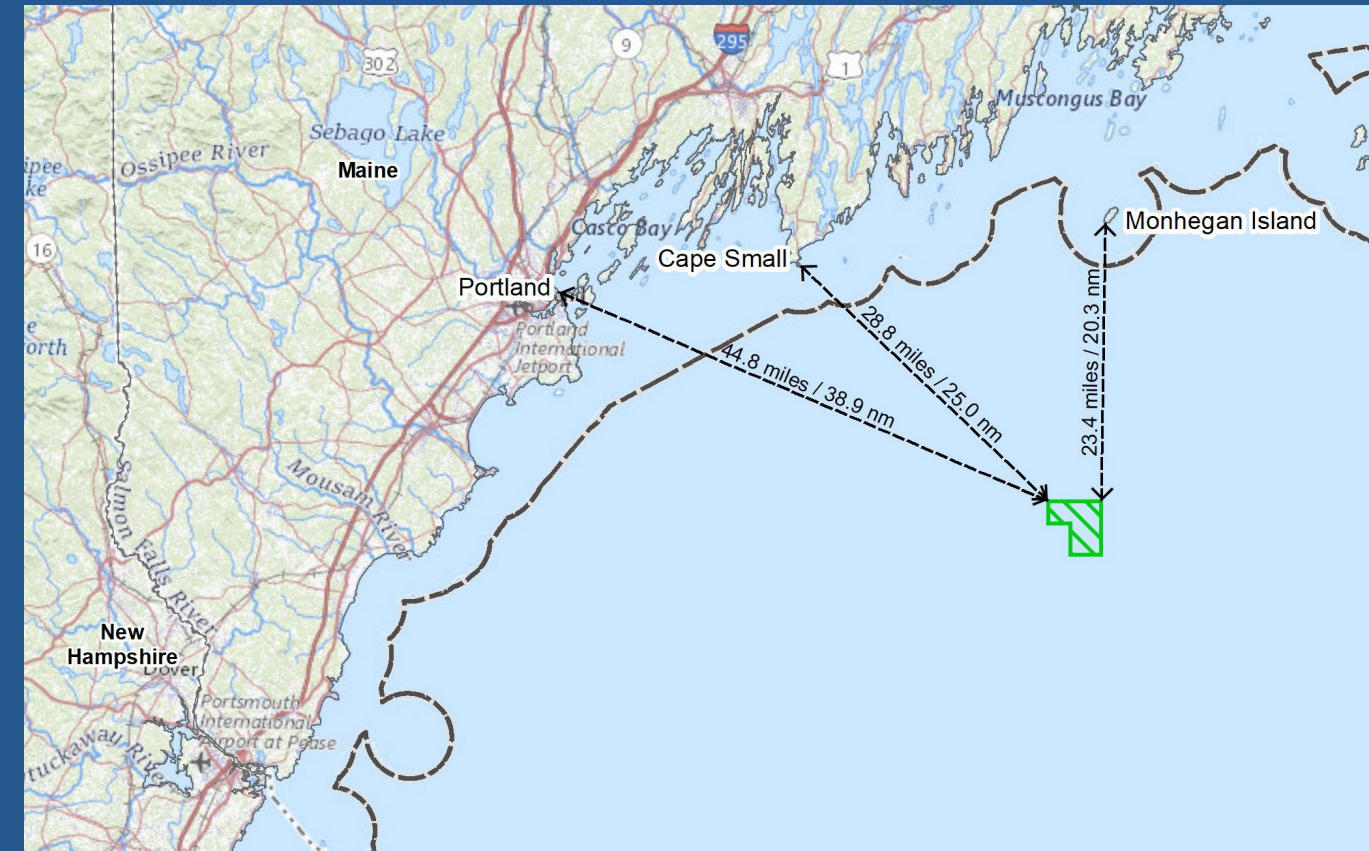
November 2020: State announces intention to pursue research lease for array.

December 2020: Stakeholder engagement and outreach to inform siting begins.

June 2021: Bipartisan legislation (LD 336) to authorize power purchase agreement to support research array for New England Aqua Ventus (partners RWE & Diamond Offshore Wind), create the Maine offshore wind research consortium, and prioritize offshore wind in federal waters.

July 2021: 15.2-square-mile area selected for state application for research array proposed site, based on extensive stakeholder input

October 2021: Initial stakeholder outreach ends as state submits application to BOEM for research lease area.



Research Array By The Numbers

Distance from mainland: **30 miles/25 nm**

Size of array: **12 turbines or fewer**

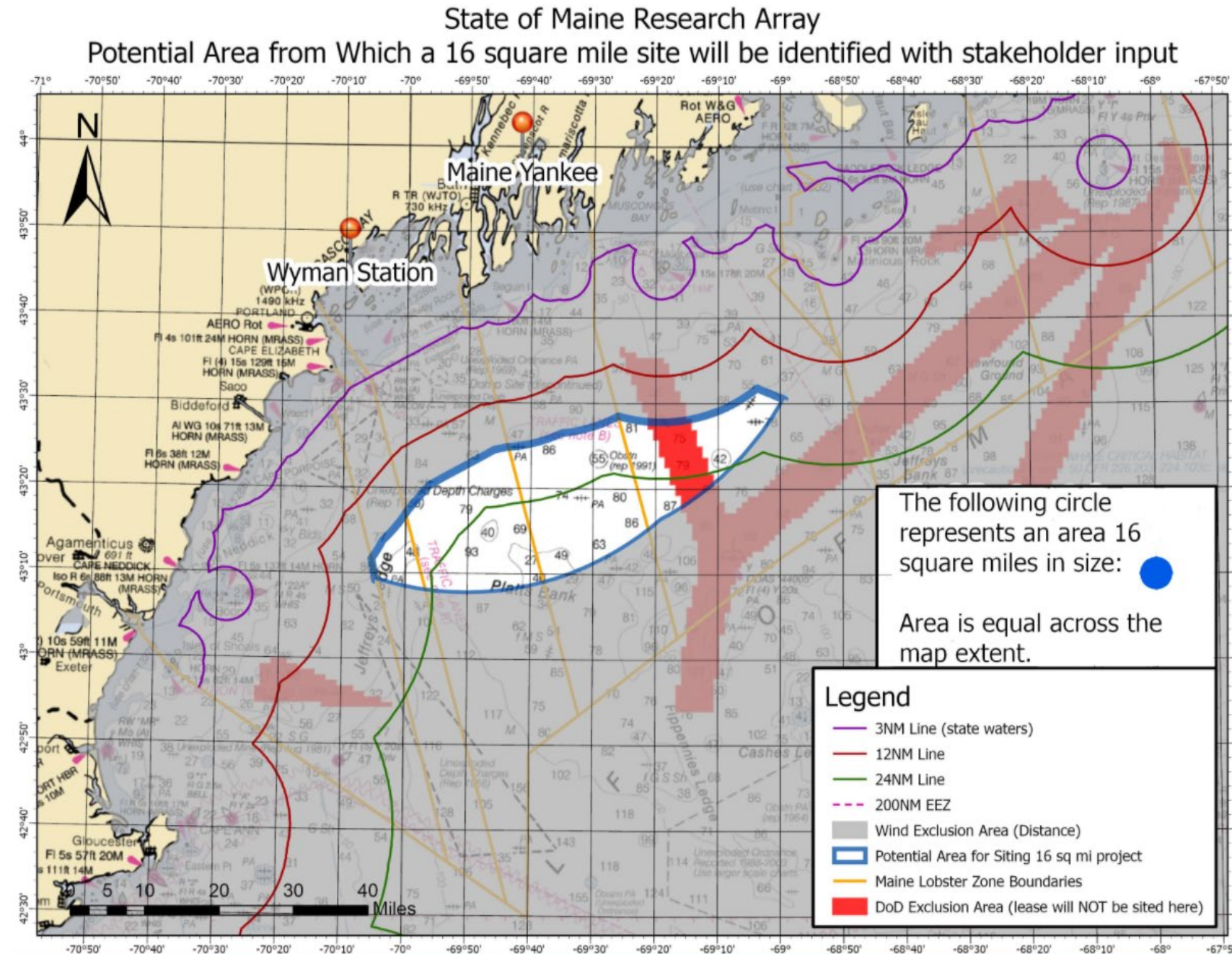
Power potential: **144 MW**

Size of proposed lease area: **15.2 square miles**

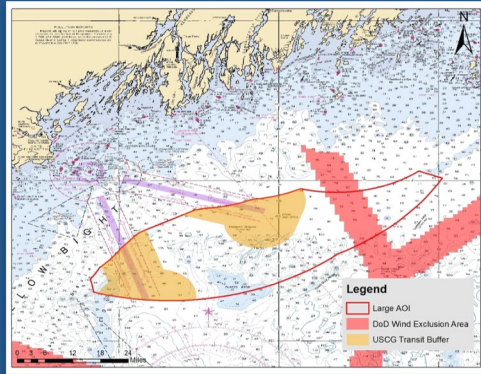
State Partners: **University of Maine Floating Technology and New England Aqua Ventus**



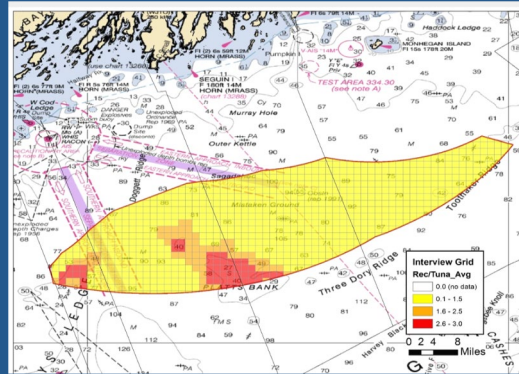
Research Array Initial Area of Interest



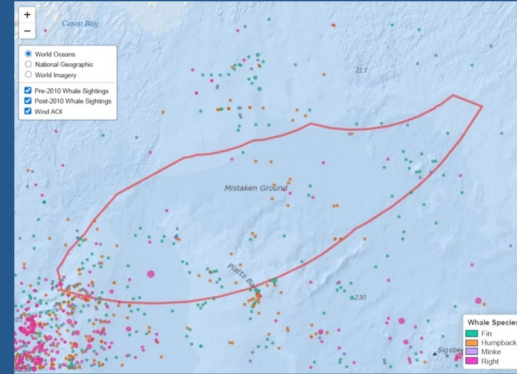
Siting Process



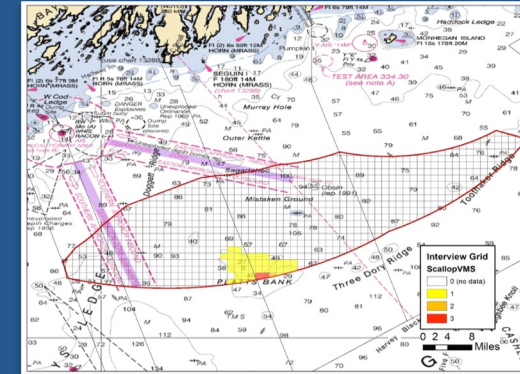
Constraints



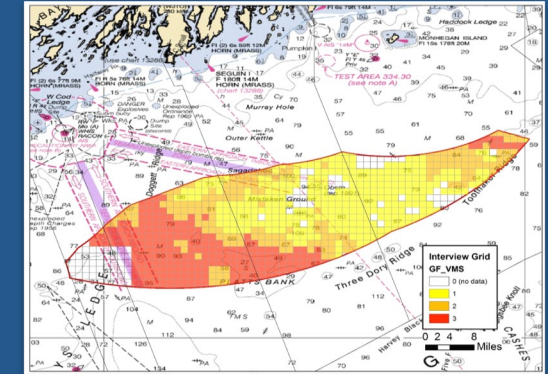
Recreational



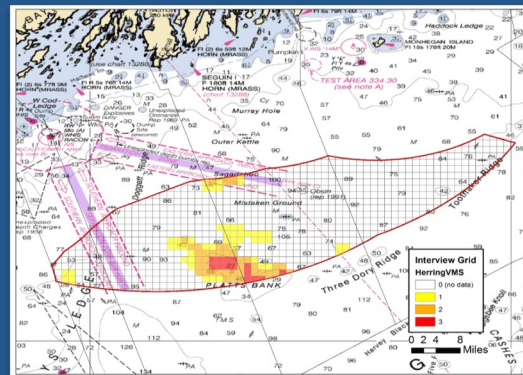
Mammals



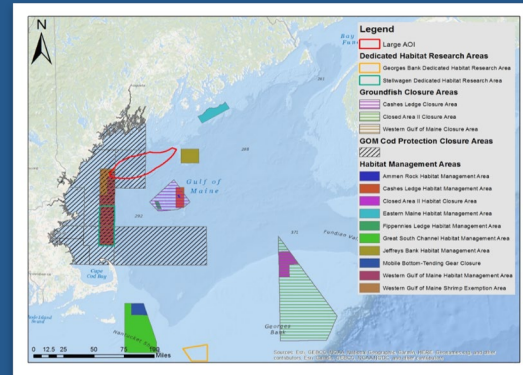
Scallops



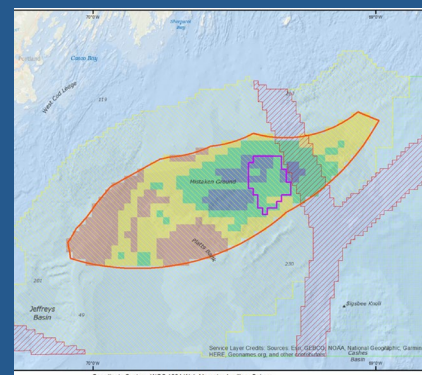
Groundfish



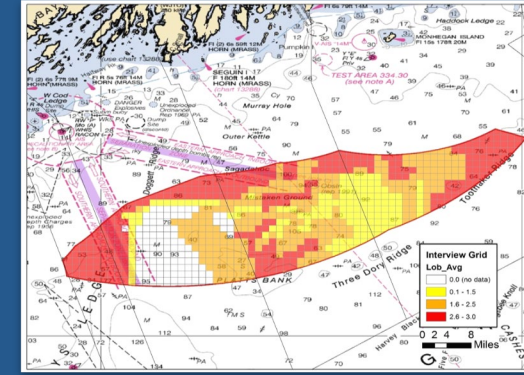
Herring



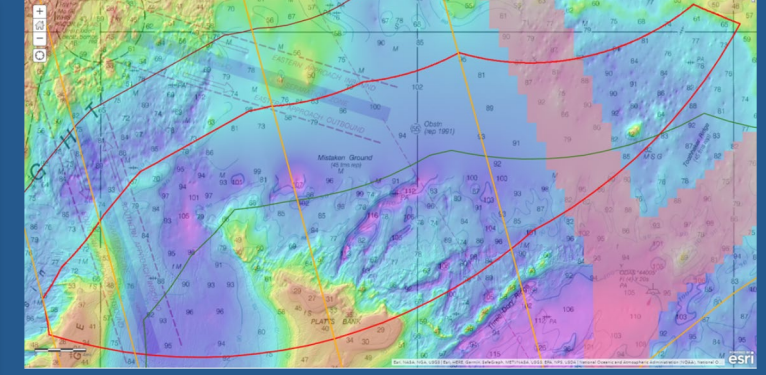
Federal Management



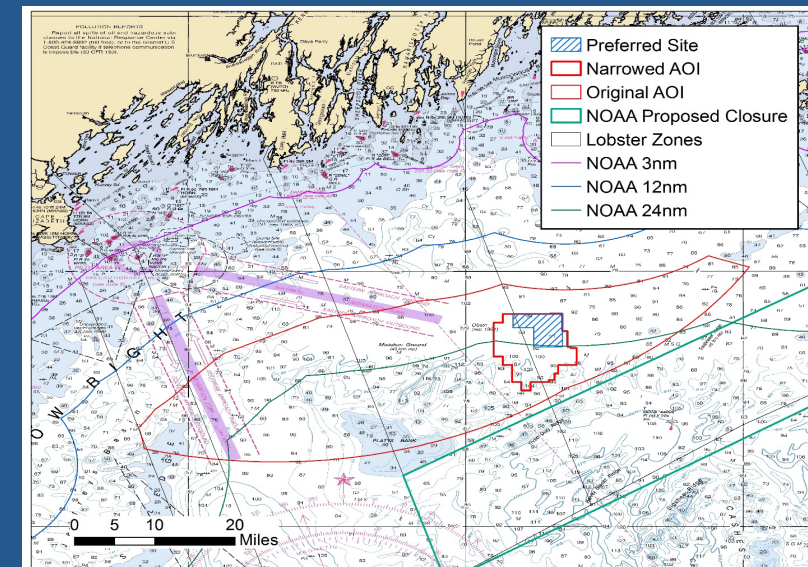
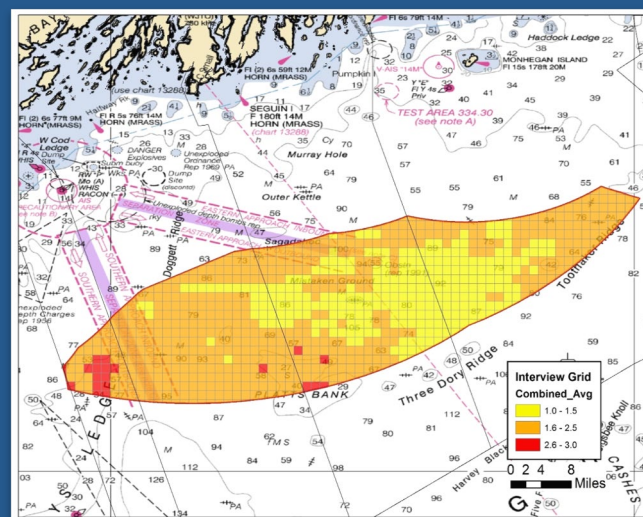
Wildlife

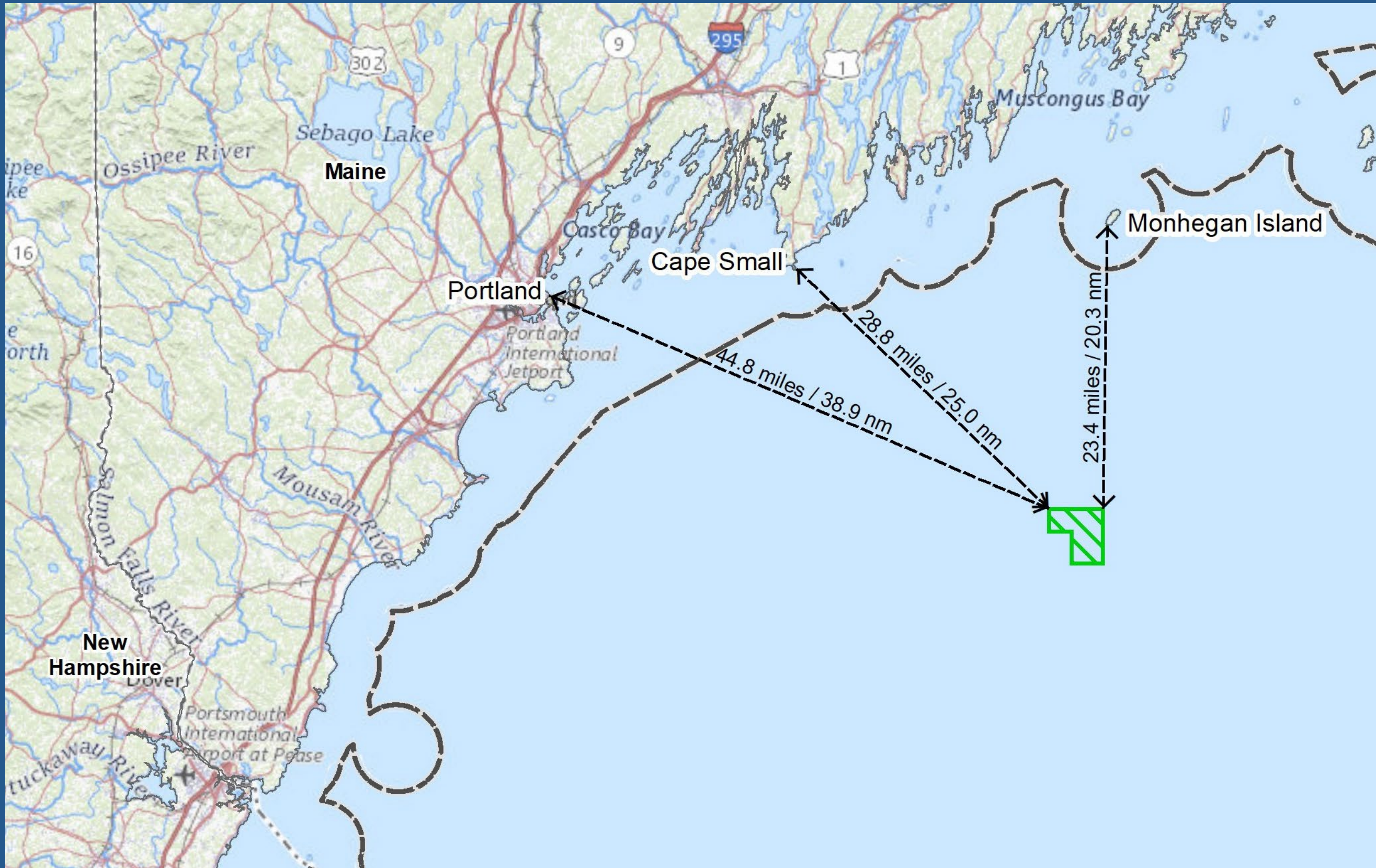


Lobster



Bathymetry





Maine Offshore Wind Research Consortium

- **The Research Array stakeholder process led to extensive understanding of proposed research priorities.**

Research interests cut across human, social, and ecological elements of the research array, including how to best support co-existence with fishing industry.

- **To manage research at the Research Array, bipartisan legislation signed into law in 2021 established and funded the Maine Research Consortium.**

The consortium will include representation from fishing industry, ocean experts, and others to inform research priorities, and will work to align with related regional and national efforts.



What We Need to Know to Understand the Interactions of Ecosystems with Floating Offshore Wind Energy

Species Occurrence & How it Changes Through Time



Stressors Introduced by the Turbines & Research Array and How They Can be Minimized



How to Optimize Co-Existence With Ecosystems



State Policies

P.L. 2021 ch 327 (LD 336)

- Signed into law June 2021.
- Authorizes the Maine Public Utilities Commission to negotiate a power purchase agreement for the array with UMaine's development partner New England Aqua Ventus

P.L. 2021 ch 407 (LD 1619)

- Signed into law June 2021.
- Prioritizes offshore wind projects in federal waters by prohibiting new projects in Maine's territorial waters within three miles of shore.
- Creates the Maine Offshore Wind Research Consortium to develop and oversee research priorities for the floating research array.



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Partnerships

The Maine Offshore Wind Initiative is overseen by the Governor's Energy Office (GEO), in close coordination with the Governor's Office of Policy Innovation and the Future and the Department of Economic and Community Development.

Other agencies that will play a key role in the development and regulatory process for offshore wind include the Department of Transportation, Department of Environmental Protection, the Department of Marine Resources, Maine Technology Institute, and Maine International Trade Center.

- University of Maine
- Gulf of Maine Task Force
- Regional Wildlife Science Consortium for Offshore Wind
- Responsible Offshore Science Alliance
- National Offshore Wind R&D Consortium
- Business Network for Offshore Wind
- Government of the United Kingdom



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Next Steps for Maine

- Continue to cultivate economic opportunities in offshore wind
- Continue stakeholder processes, including completing roadmap
- Identify data assets, gaps, and related needs for commercial leasing
- Advocate for further investment in baseline data
- Continue to work with fishing industry and stakeholders to understand perspectives and priorities
- Support BOEM's stakeholder engagement through Task Force process

