

Marine Spatial Planning

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Marine Spatial Planning

- **What is it?**
- **Why is it different?**
- **Where is it currently being employed?**
- **What is happening in the U.S.?**



What is Marine Spatial Planning?

- **A tool**
- **Proactive**
- **A practical way to create and establish a more rational organization of the use of marine space and the interactions between its uses, to balance demands for development with the need to protect marine ecosystems, and to achieve social and economic objectives in an open and planned way.**
- **Key Questions:**
 - **Where do we want to be?**
 - **What do we want our coasts and oceans to look like?**
 - **What is our future?**
 - **How do we decide?**

Who can say no?

- Do you have (or expect) human activities that adversely affect important natural areas of your marine area?**
- Do you have (or expect) incompatible human activities that conflict with one another in your marine area?**
- Do you need to streamline policies and licensing procedures affecting the marine environment?**
- Do you need to decide on what space is most suitable for the development of new human activities such as renewable energy facilities or offshore aquaculture?**
- Do you need a vision of what your marine area could or should look like in another 10, 20, 30 years from now?**

What might MSP produce?

- **Sustainable marine development**
- **More efficient permitting processes**
- **Safe, clean, healthy, productive, biologically diverse oceans**
- **More societal benefits**
- **Preparation for climate change**
- **Co-existing of different activities by proactive space planning**
- **Species and their habitats recognized and protected (MPAs)**

Early Marine Spatial Planning: Battle Plan for Bunker Hill (1775)

Image from the collections of the Massachusetts Historical Society. Not to be reproduced without permission.



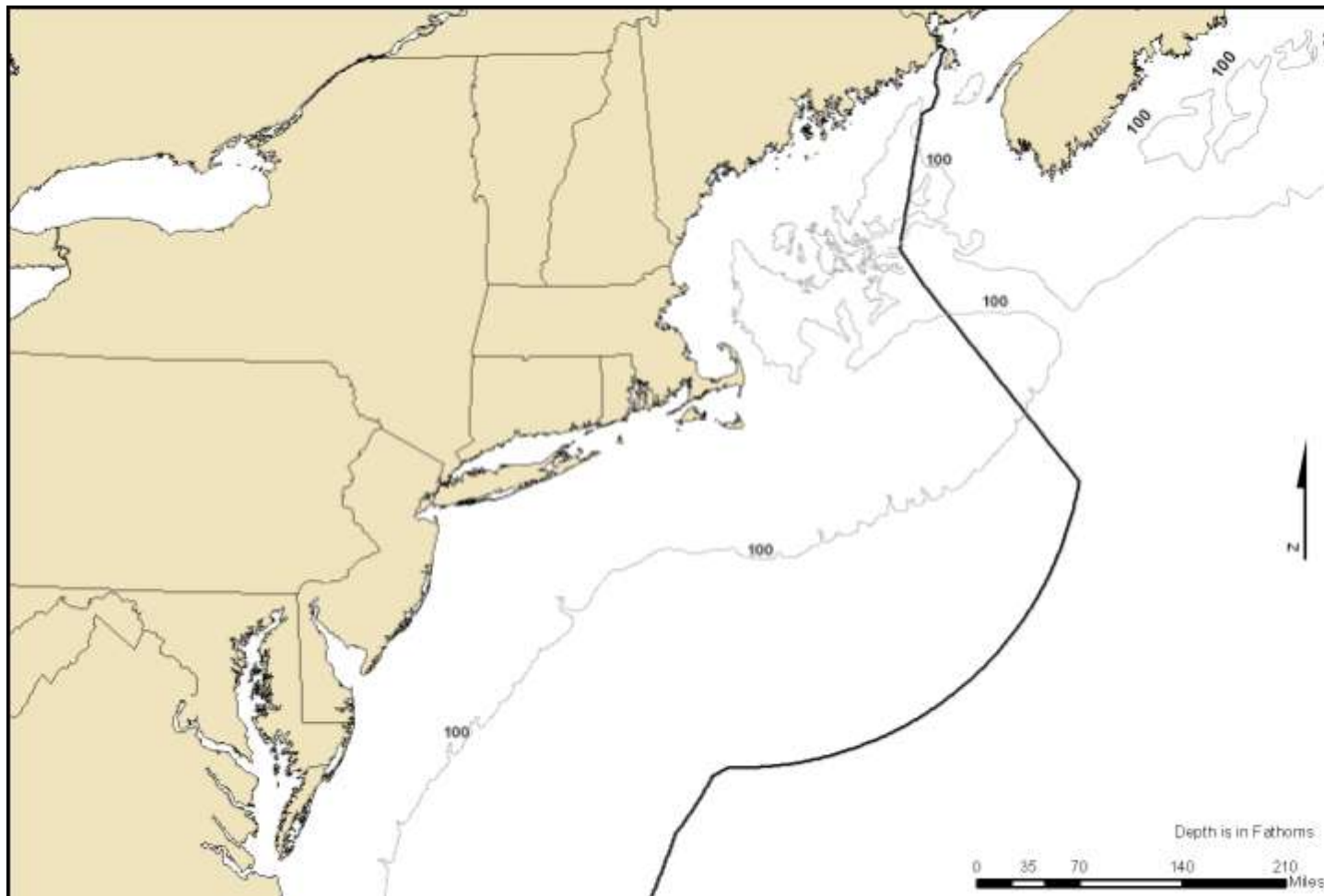
The following Description of the Action near Boston, on the 17th of June, is taken from a Letter written by General Burgoyne to his Nephew Lord Viscount...

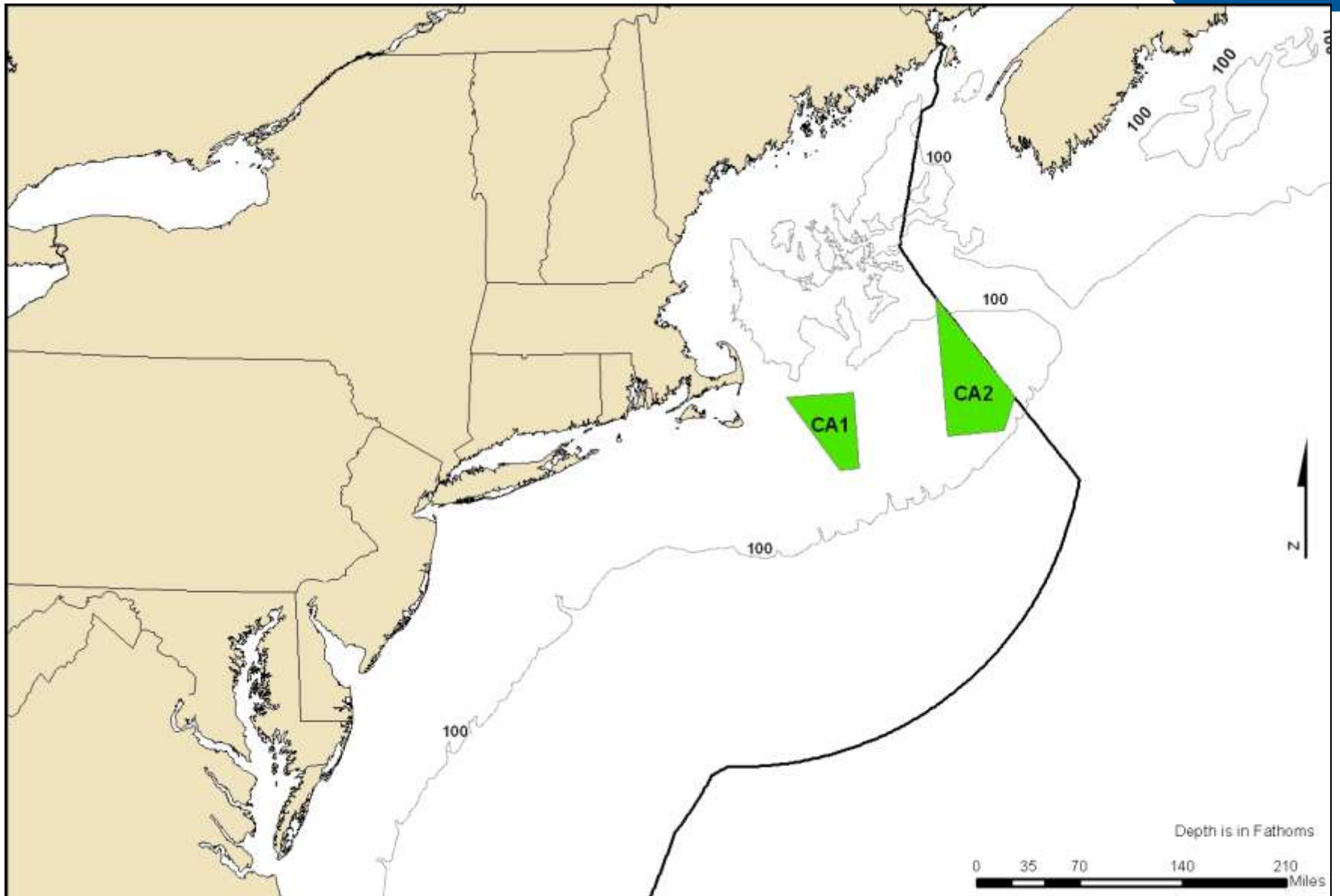
THE PLAN is a position, which the army had only by a narrow neck, between the hills and the water, (the hills being to the north, and the water to the south) and the other side of the neck, on the north, is the town of Boston, and on the south, is the harbor. The British, who were on the north side of the neck, had a large force of land, consisting of about 12,000 men, and the Continental Army, who were on the south side, had a force of about 11,000 men. The British were in a strong position, and the Continental Army was in a weak position. The British were able to fire on the Continental Army from the hills, and the Continental Army was unable to fire back. The British were able to capture the fort of Bunker Hill, and the Continental Army was forced to retreat. The British then moved on to the town of Boston, and the Continental Army was forced to evacuate the city. The British then moved on to the harbor, and the Continental Army was forced to evacuate the city. The British then moved on to the harbor, and the Continental Army was forced to evacuate the city.

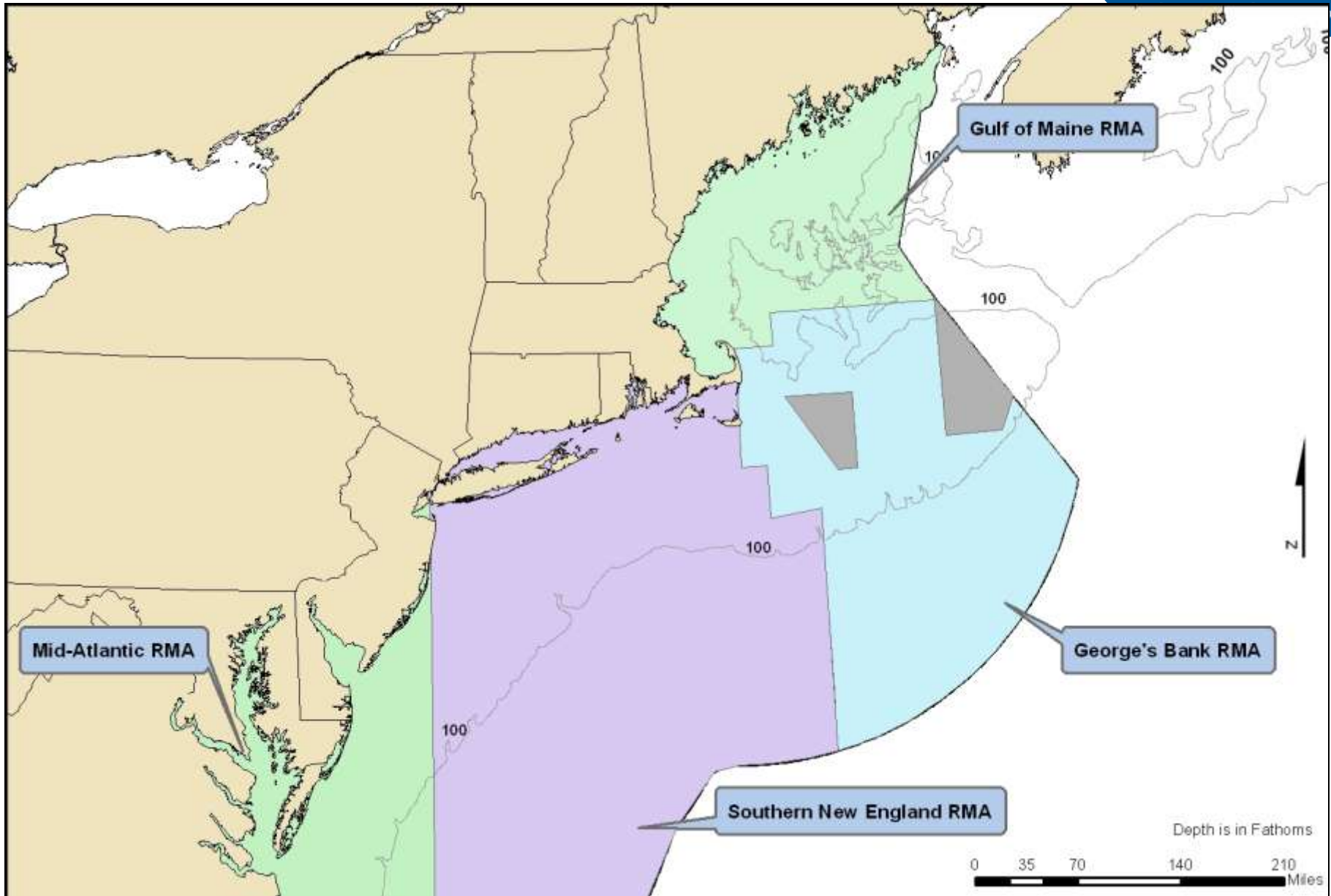
What if we do nothing?

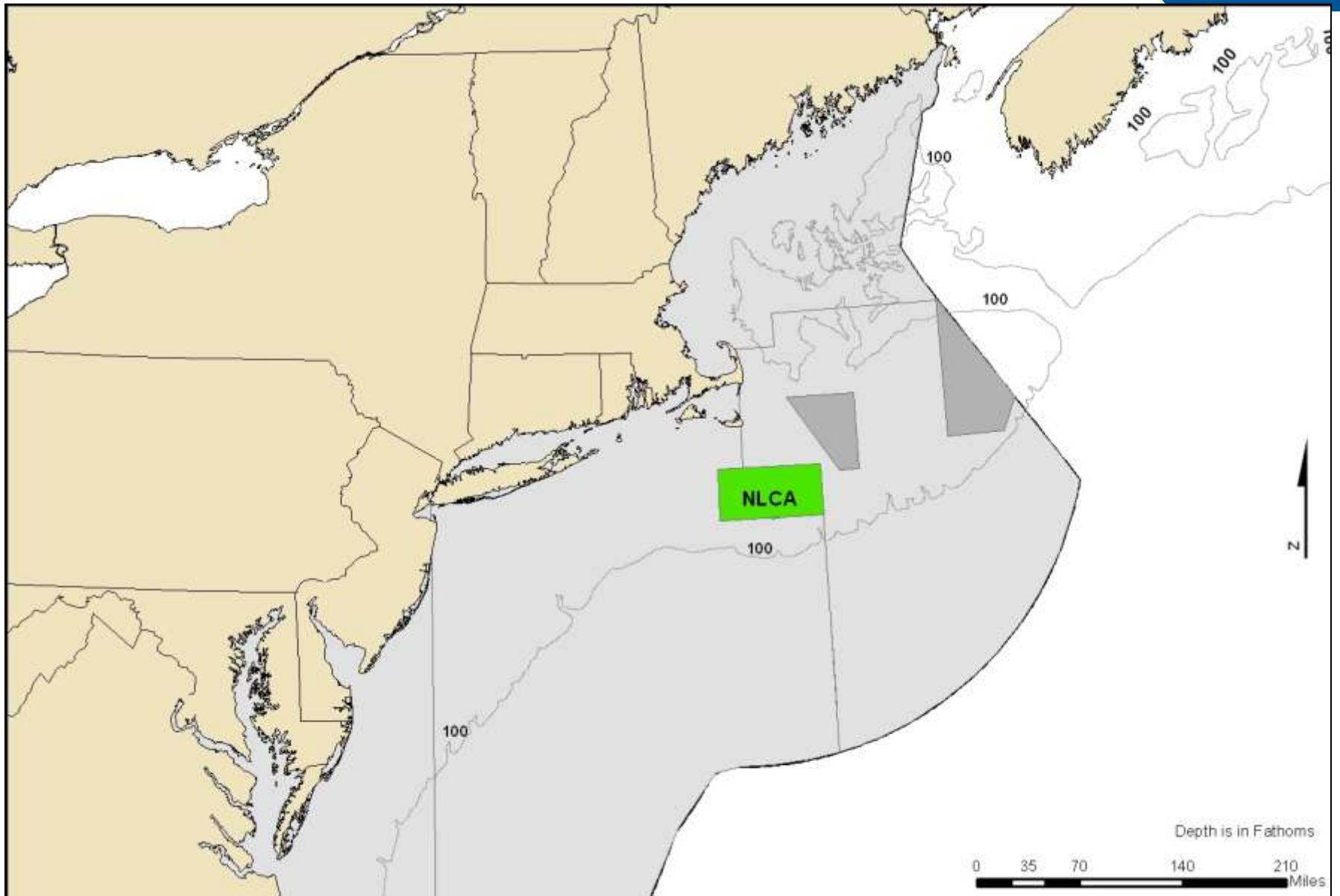
- In the next 20 years, human activities in many areas of the ocean will have increased significantly. Traditional uses, such as marine transportation, sand and gravel mining, and marine recreation will continue to grow in importance.
- Oil and gas development will continue to push further and deeper offshore with many of its operations occurring only underwater.
- Fisheries, will continue to exist, but at lower levels, due to the diminished stocks, and in more restricted areas because of competition for ocean space.
- New uses of the ocean, e.g., offshore renewable energy and offshore aquaculture, will compete with traditional uses for space.
- Climate change will have modified species distributions and habitats; increasing ocean acidification will raise new concerns about the survival of some species.
- In many areas, increasing public concern about the health of the ocean will lead to significant areas set aside for nature conservation.
- Conflicts among human activities will increase, e.g., collisions of ships with wind turbines might occur, as might conflicts between wave parks and surfers and sailors.

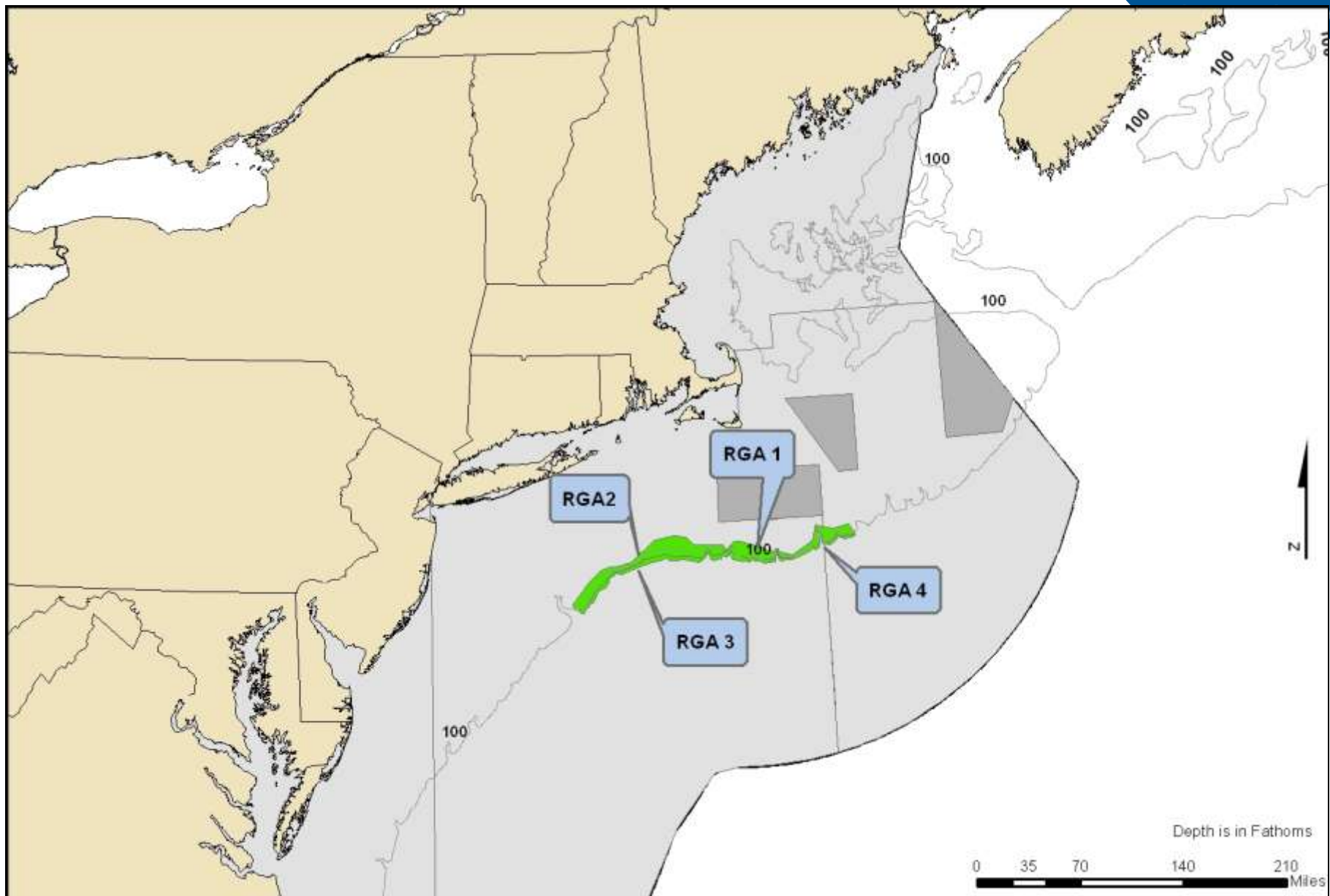
Marine Resource Management (not using MSP tool)

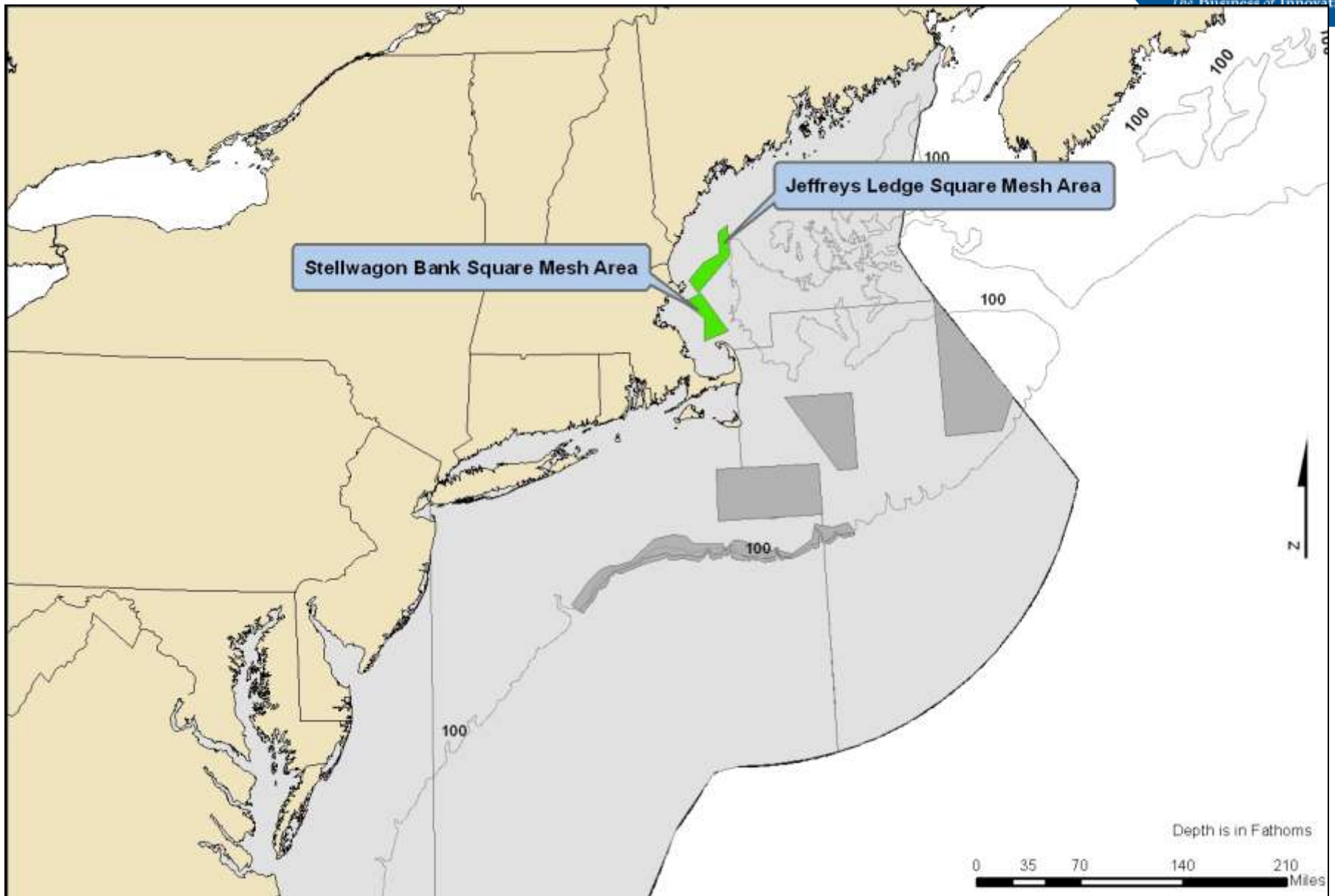


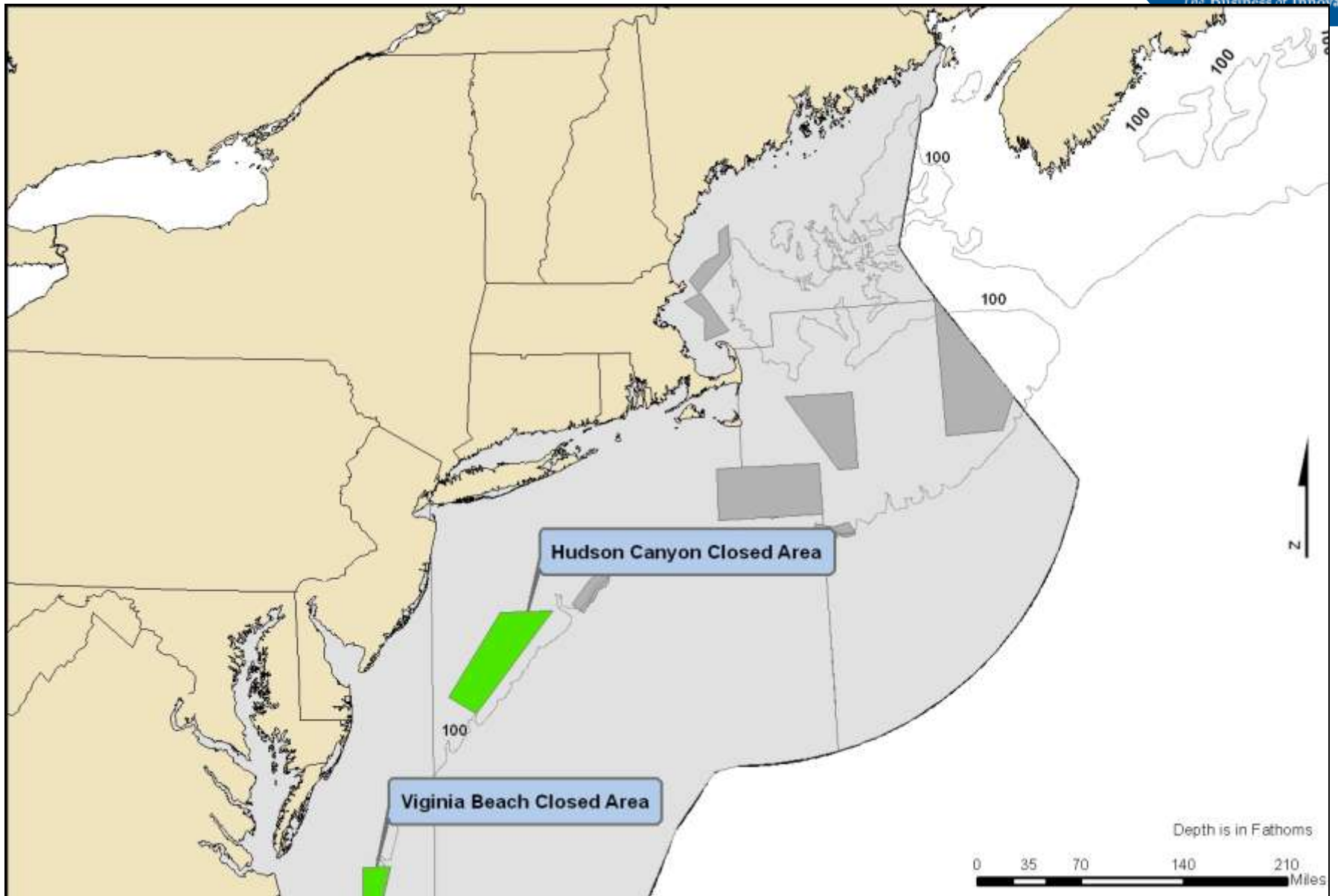


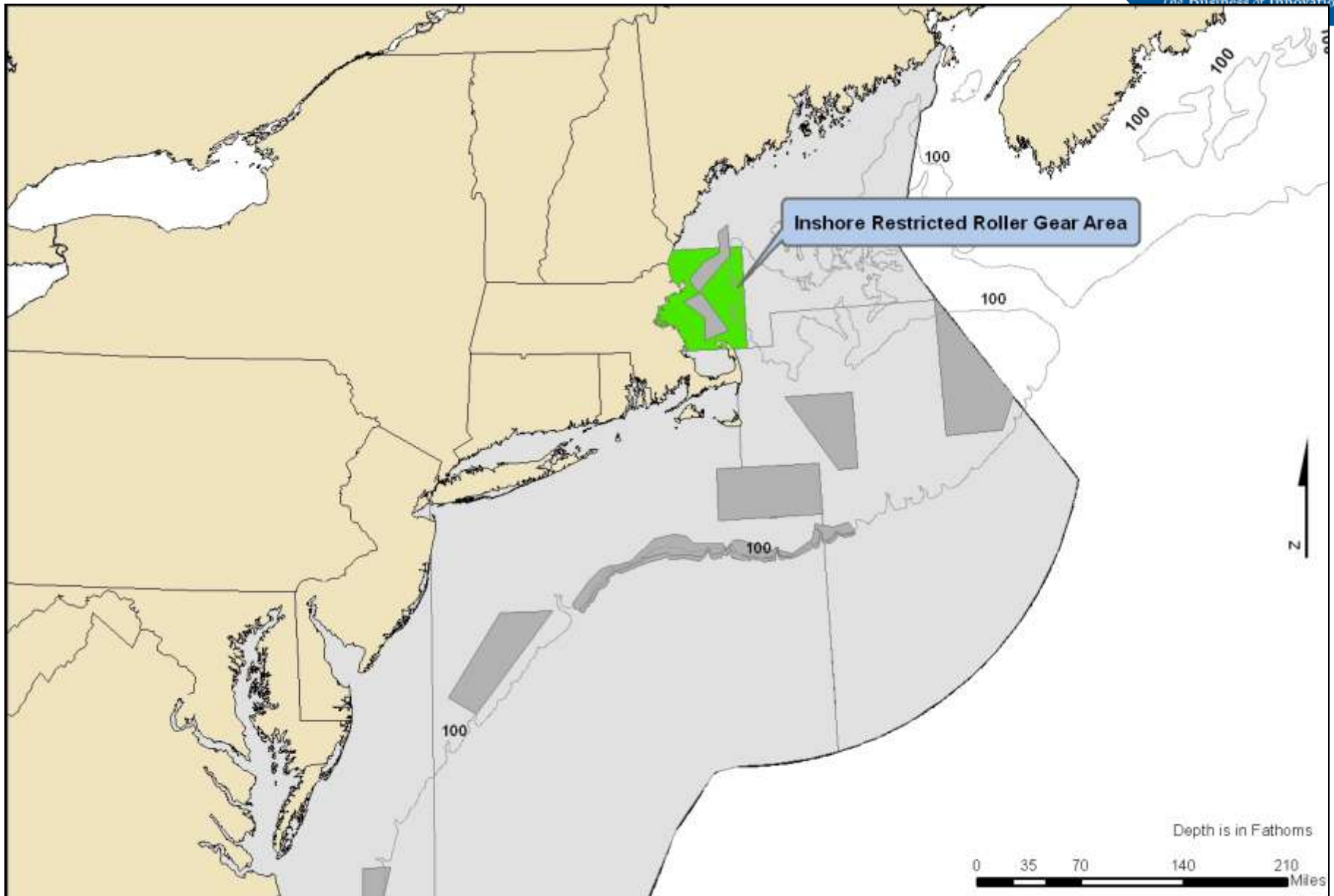


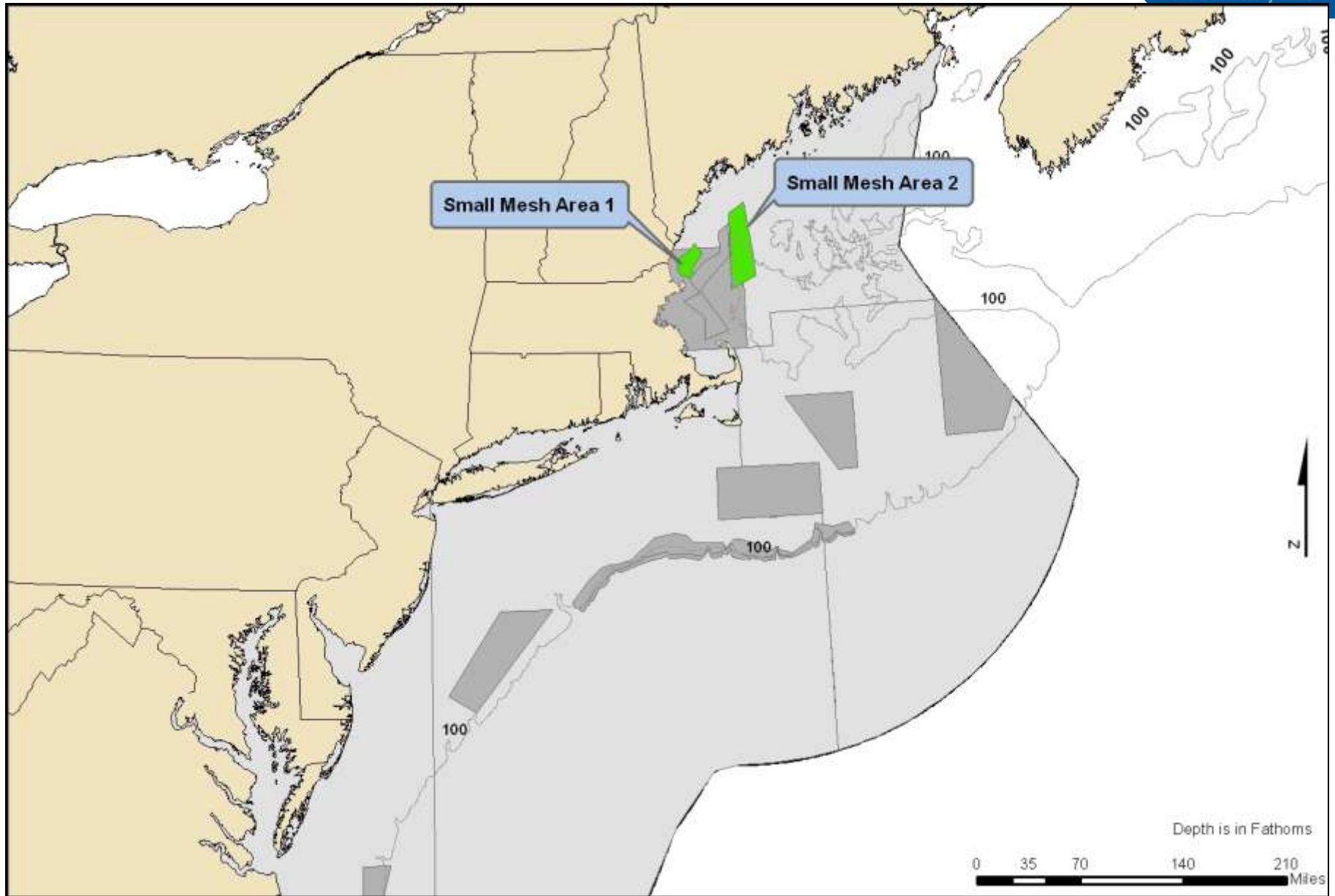


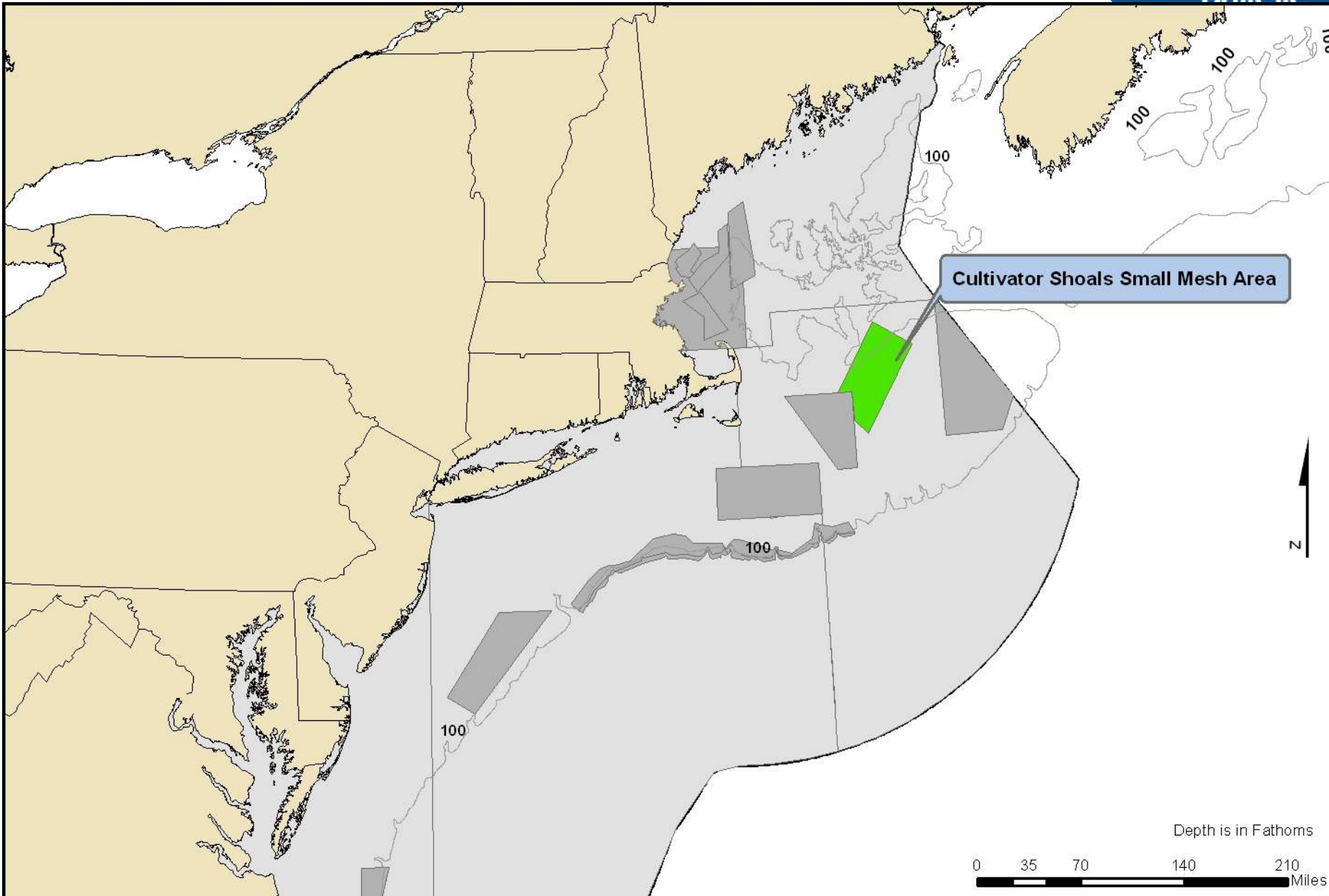










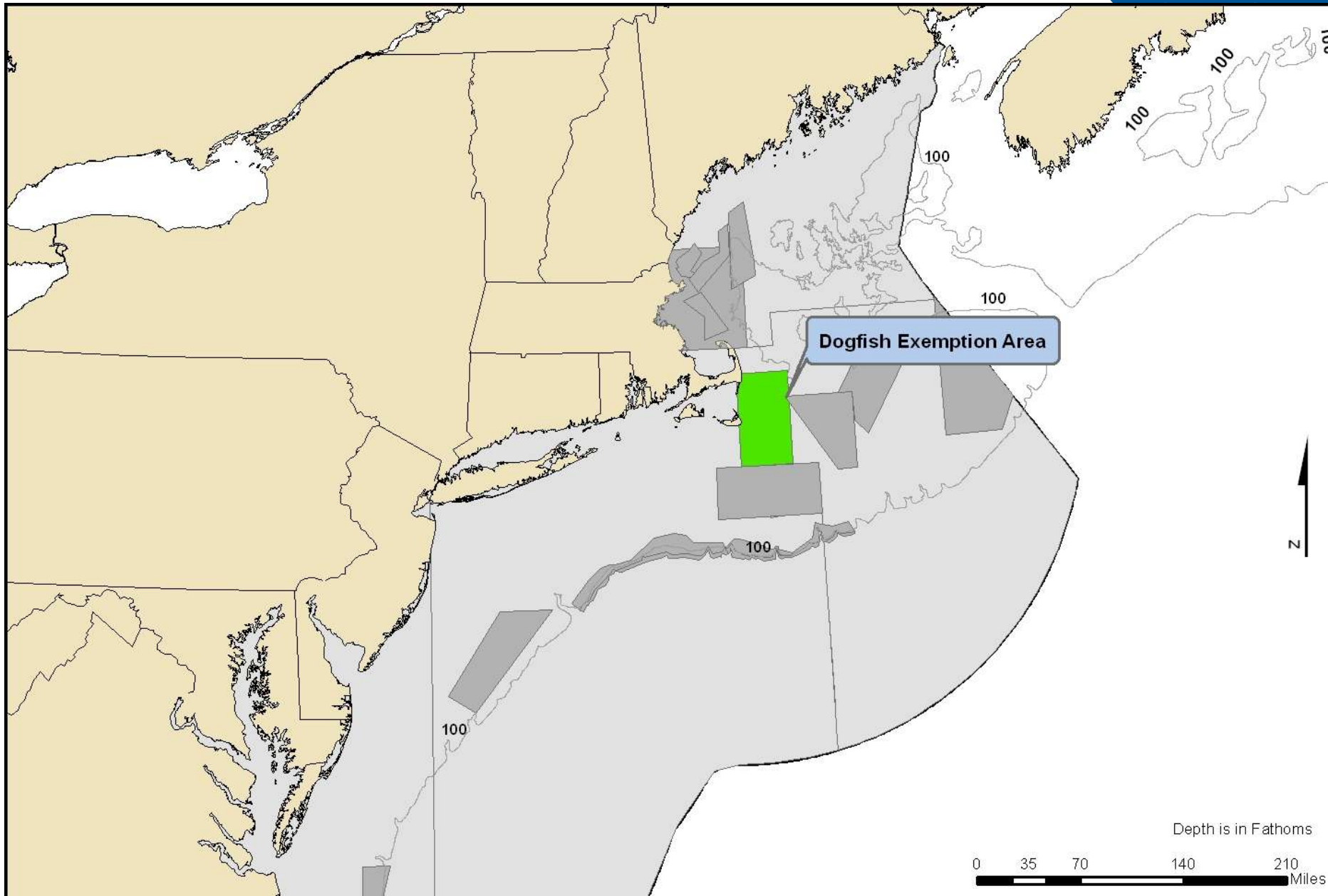


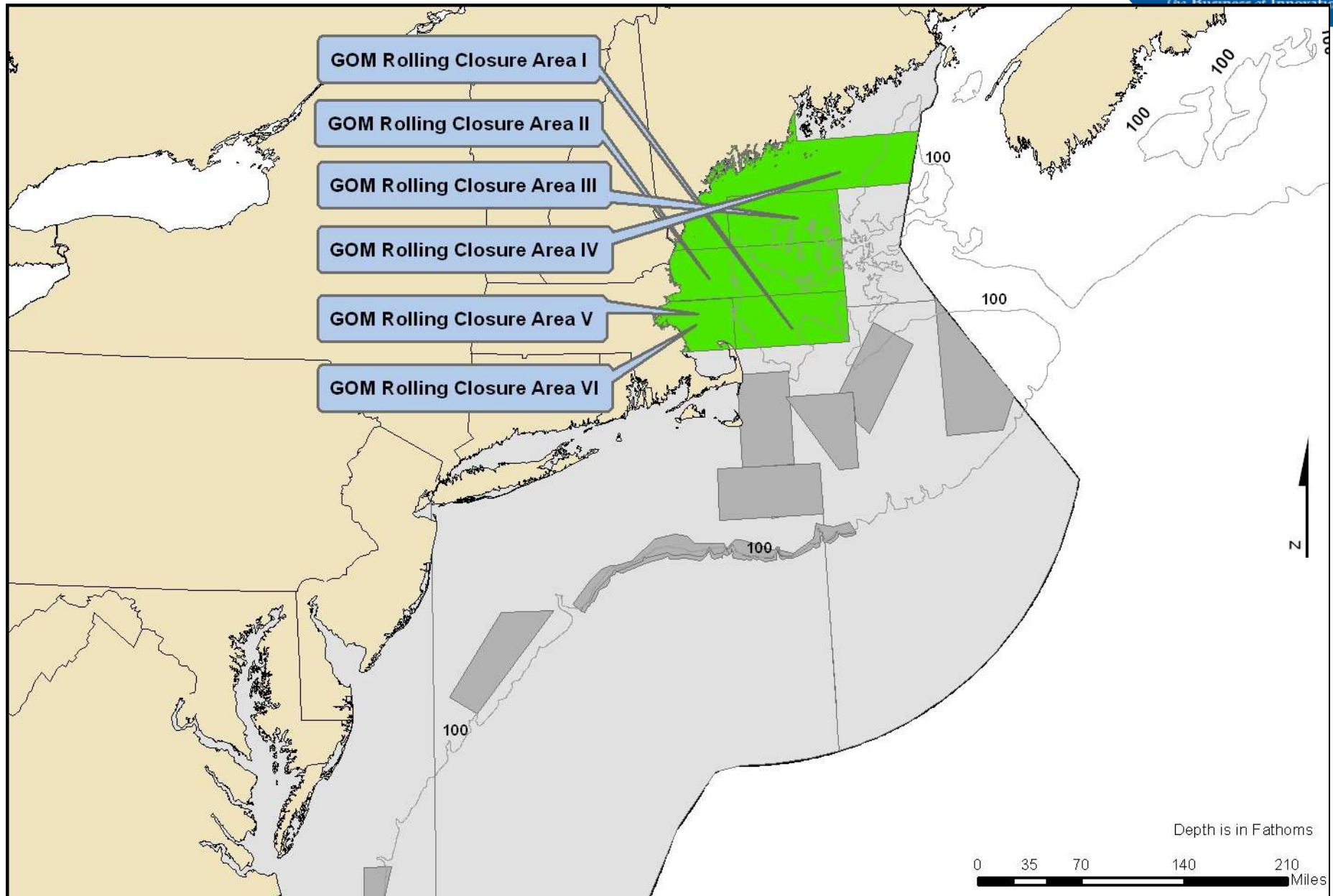
Cultivator Shoals Small Mesh Area

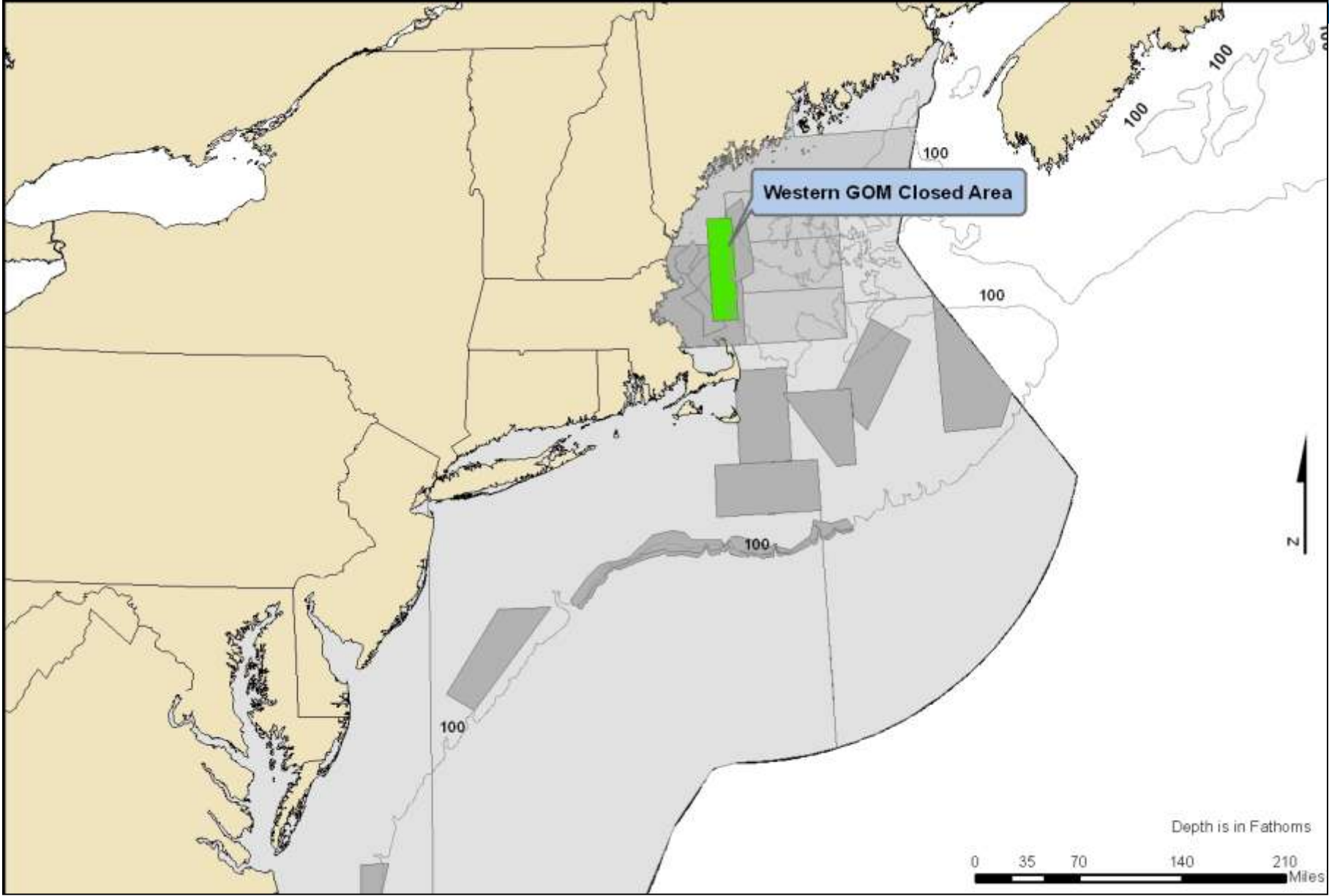
Depth is in Fathoms

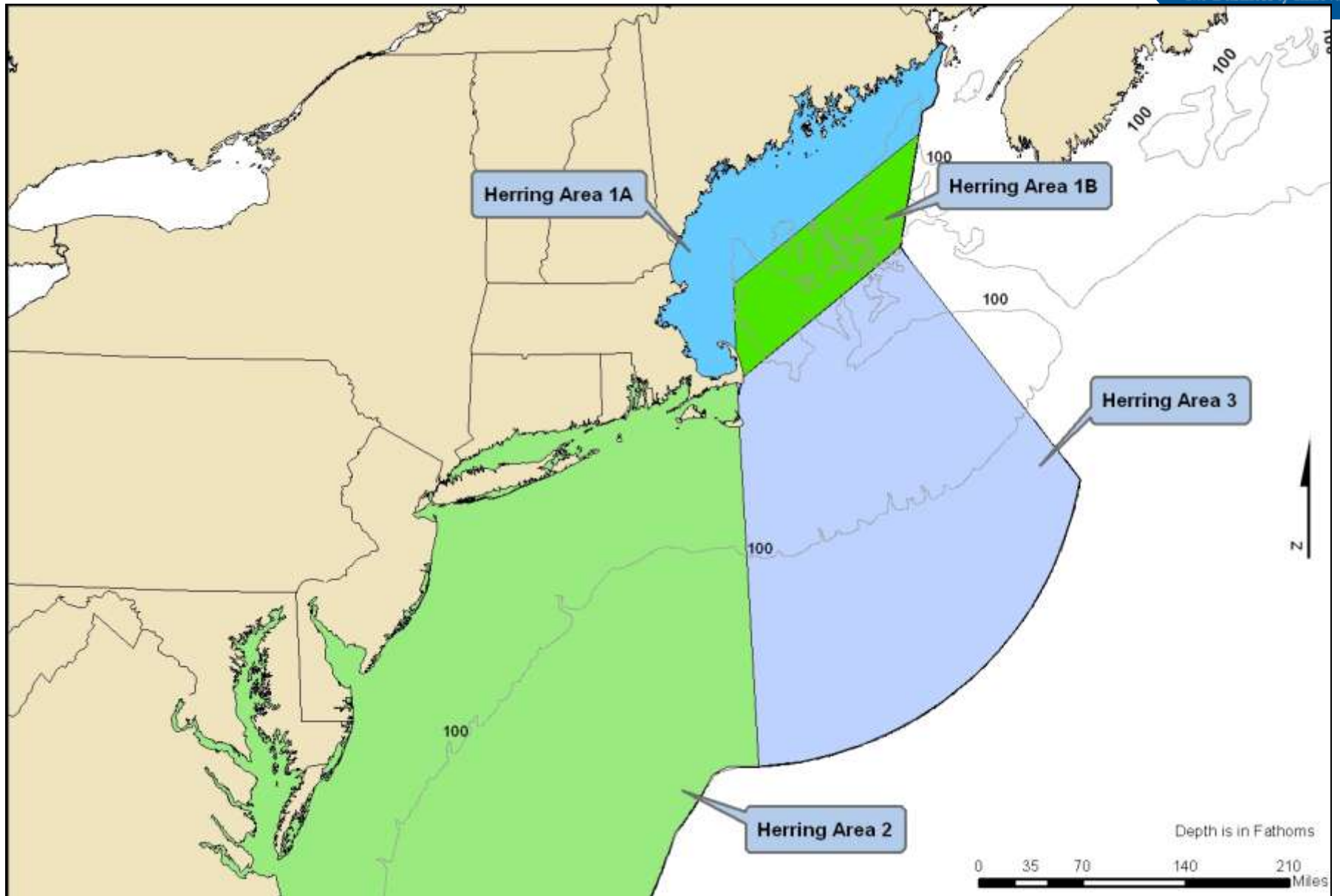
0 35 70 140 210 Miles

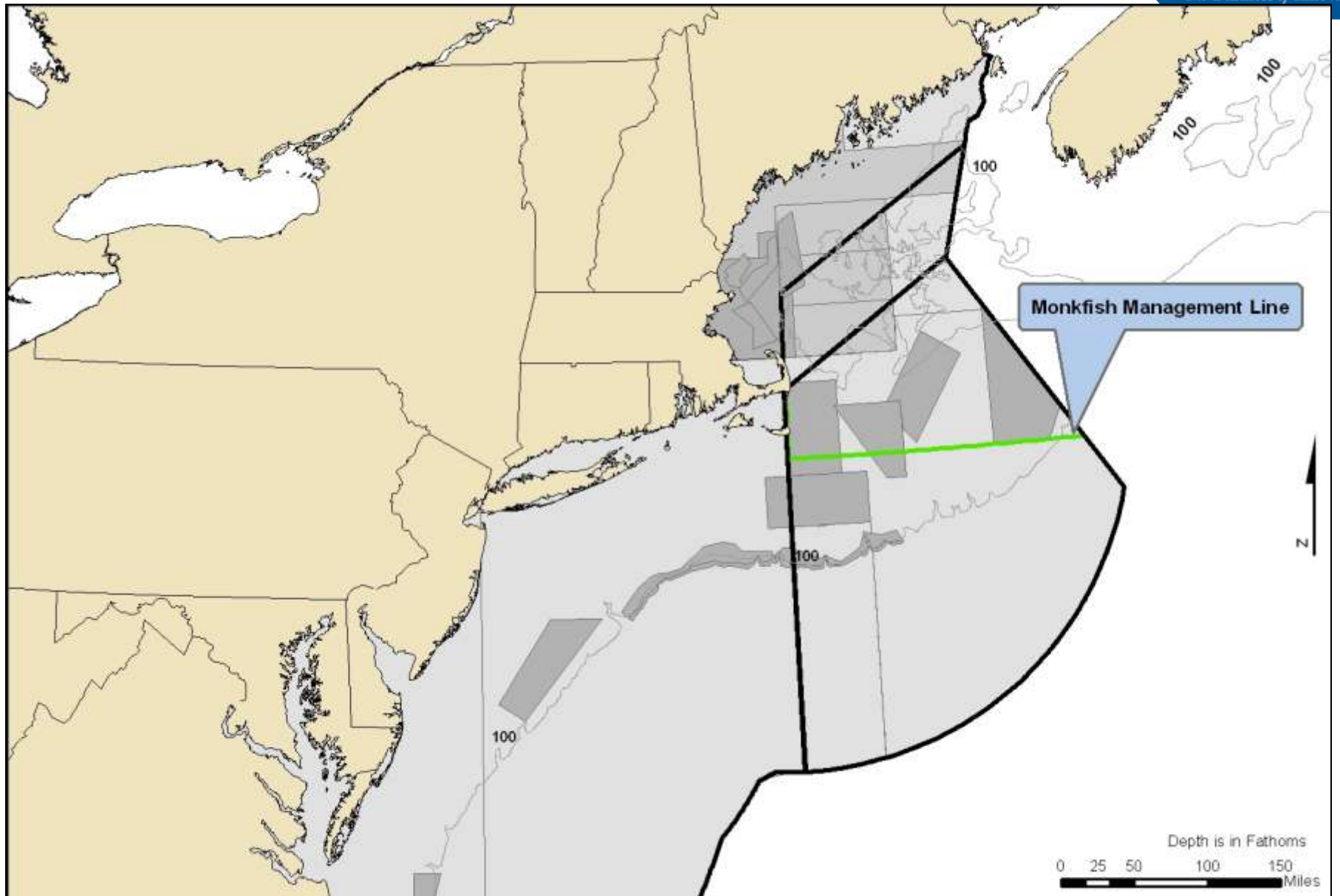


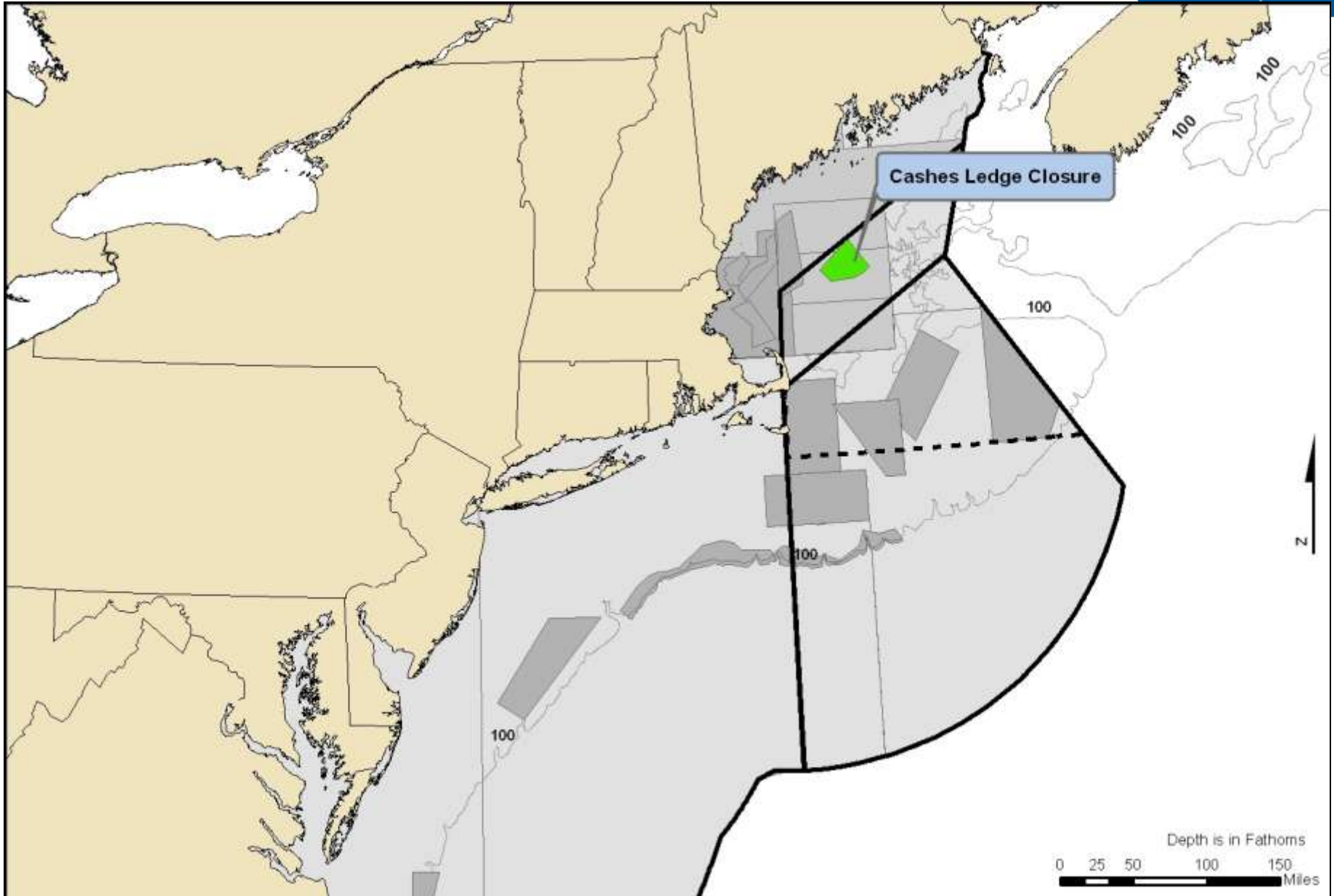


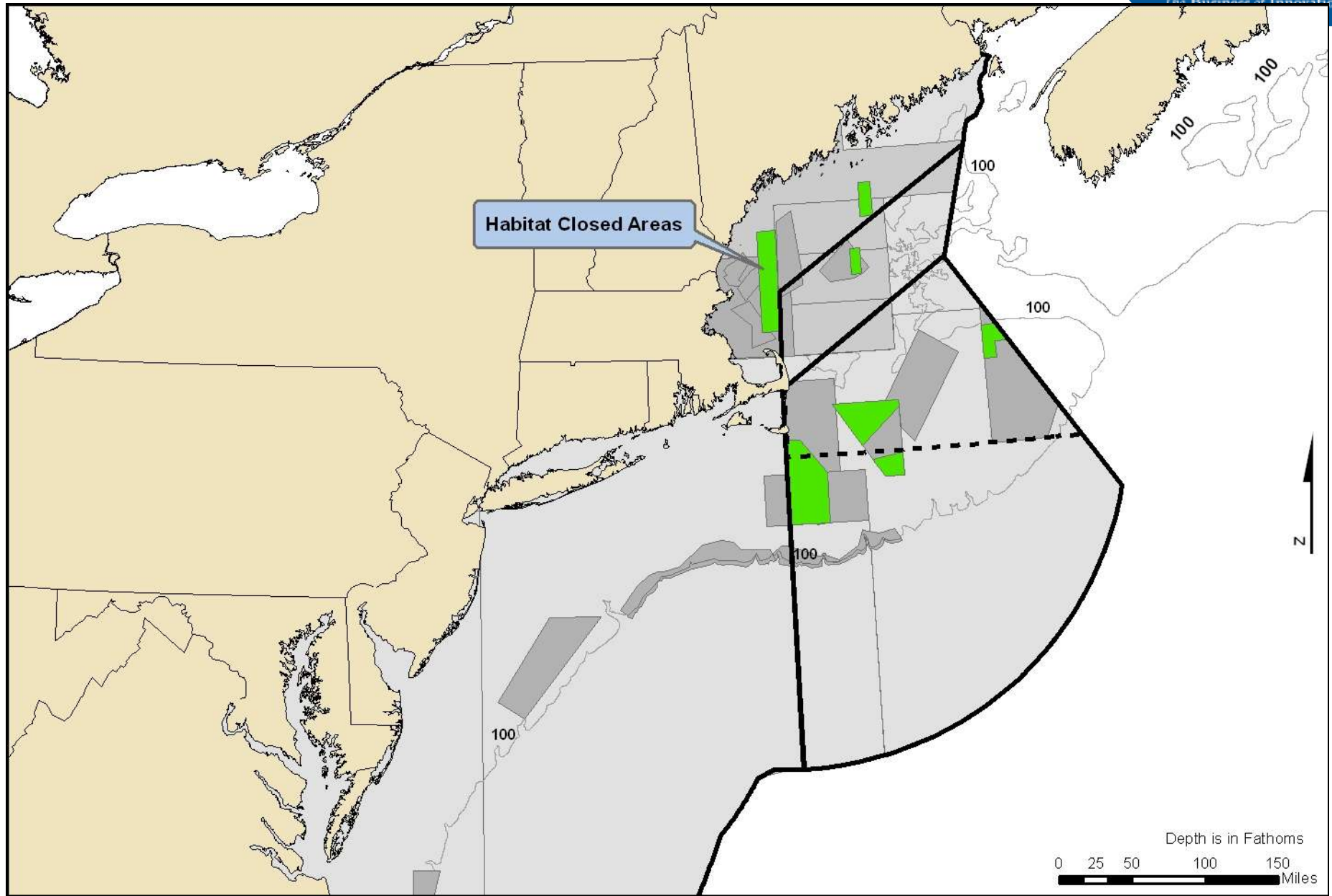










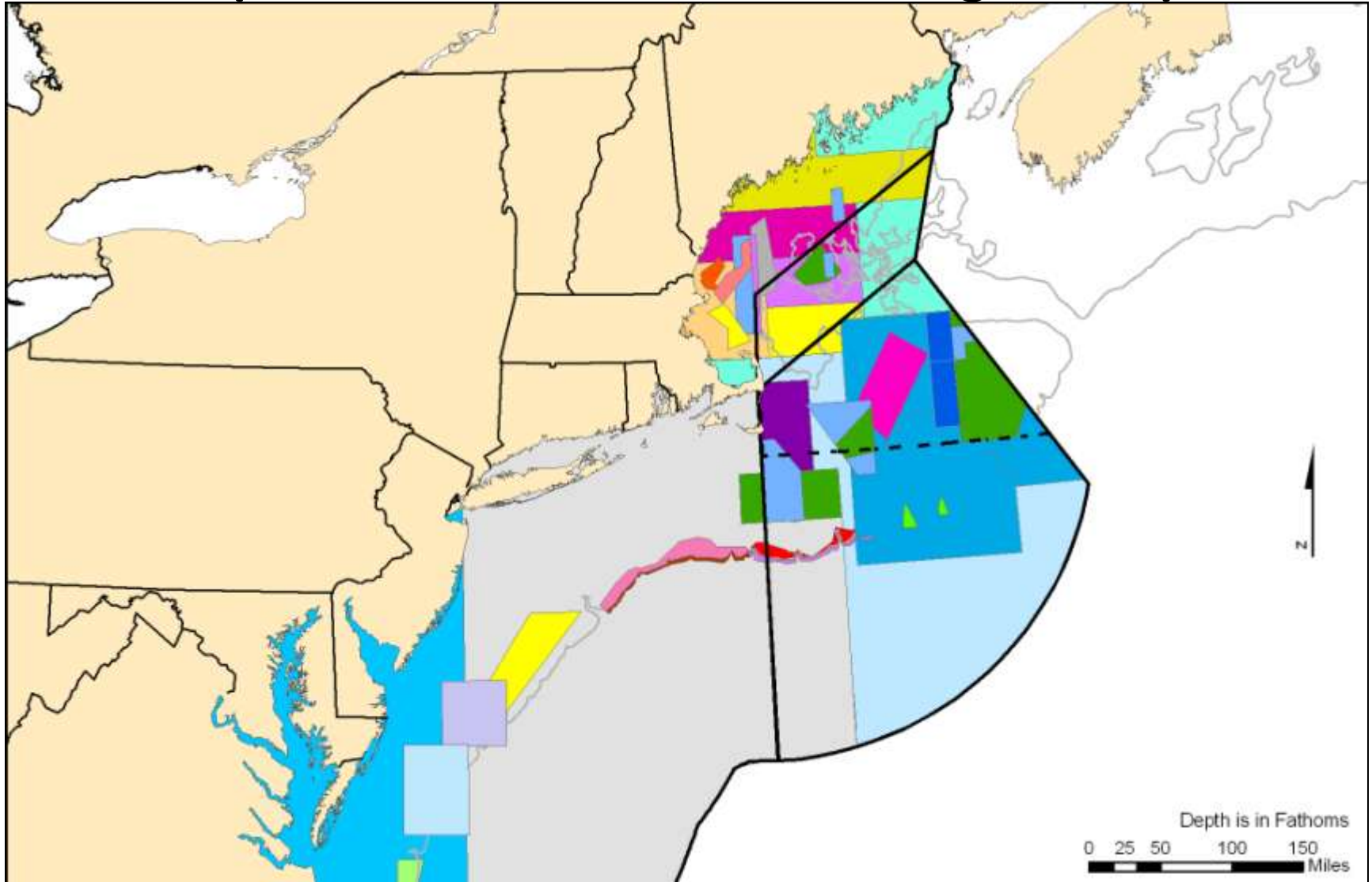








Current Single Use Planning (Area-Based Fisheries Management)



“Marine Spatial Planning: A Step-By-Step Approach Toward Ecosystem-Based Management” (May 2009)

Ocean Visions/UNESCO
<http://ioc3.unesco.org/marinesp>



MSP Steps

1. Identifying need and establishing authority
2. Obtaining financial support
3. Organizing the process through pre-planning
4. Organizing stakeholder participation
5. Defining and analyzing existing conditions
6. Defining and analyzing future conditions
7. Preparing and approving the spatial management plan
8. Implementing and enforcing the spatial management plan
9. Monitoring and evaluating performance
10. Adapting the marine spatial management process



Task 1

Projecting Current Trends

- This is akin to the No Action alternative in NEPA
- What is likely to happen if you do not interfere in the management of the area
- Looking for patterns and trends
- Determine timeframe for forecasting
- Map the project of each human use so spatial and temporal implications are visualized to the extent possible



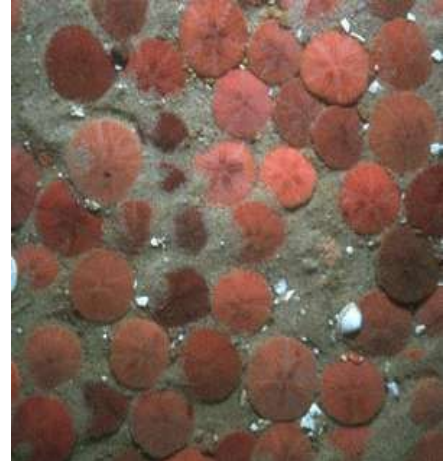
Task 2 - Estimating Spatial and Temporal Requirements for New Demands of Ocean Space

- **Closely related to new technologies**
- **Based on government policies, licensing applications or proposals**
- **Should be integrated into the outcome of Task 1**
- **This will give you an idea of what your area will likely look like at the end of your timeframe without management intervention or planning**
- **Can show the demand for space vs. the available area or conflicting uses and needs**



Task 3 - Identifying Possible Alternative Futures

- **Dependent on importance you give to certain goals or objectives**
 - Ecology and biodiversity
 - Economy
 - Society and culture
- **Illustrates human uses differently over space and time**
- **Sets the stage for the direction you want your area to develop over space and time**



Task 3 - Identifying Possible Alternative Futures

- **Decision Rules** – fixed rules or constraints that need to be considered when locating human uses or non-uses
- **Conservation** can be considered a “use” (embedded in your goals and objectives)
- **Spatial Sea Use Scenarios**
 - Places of concentration
 - Areas for special protection
 - Areas for development
 - Spatial relations between areas



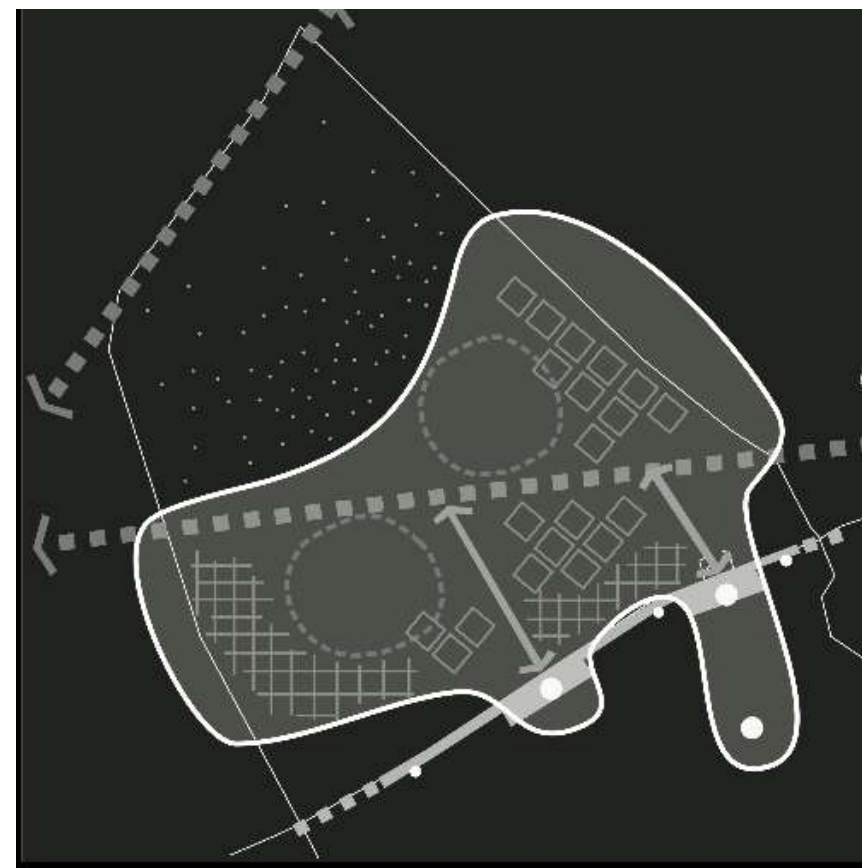
Task 4 - Selecting the Preferred Spatial Sea Use Scenario

- Evaluate each of your spatial sea use scenarios – “visions”
- Similar in concept to NEPA alternative for which depending on overall goal (e.g. end overfishing) and varying objectives (e.g. maintain existing fleet proportion characteristics), criteria are applied and a preferred alternative emerges
 - Leading toward results: effectiveness
 - At least cost: efficiency
 - C/B distributed equitably: equitability

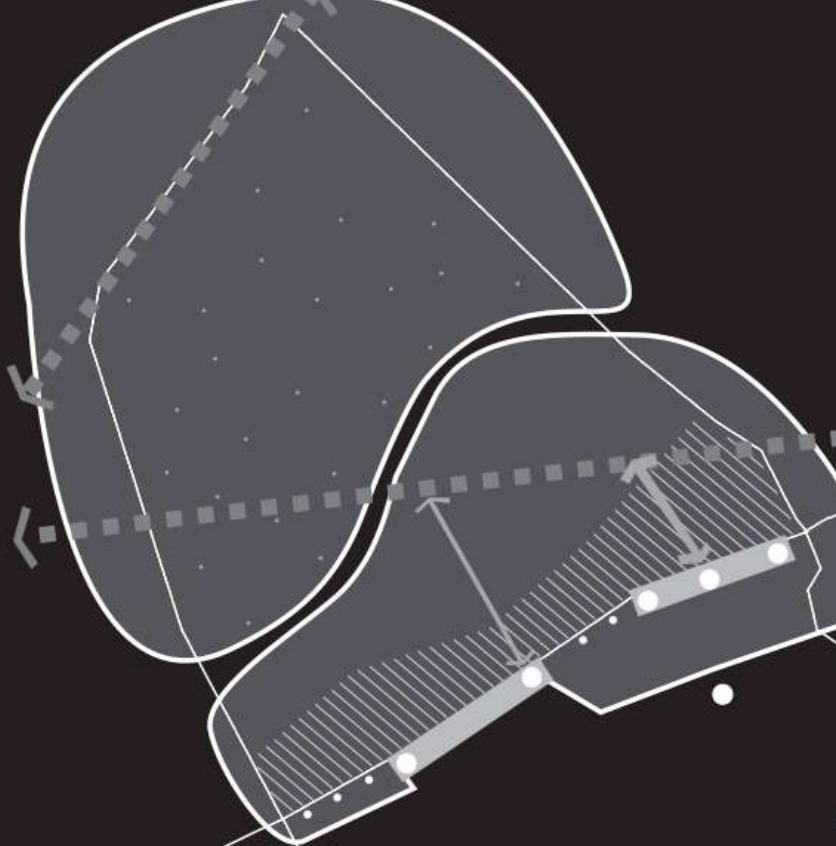


Sea Alternative Ocean Future Scenarios

“Rich” Ocean



“Natural” Ocean



Case Study

Dutch National Water Plan

- **Goal: safe, healthy and productive ocean**
- **Three alternative use scenarios with a 10-year time horizon**
- **Three Steps**

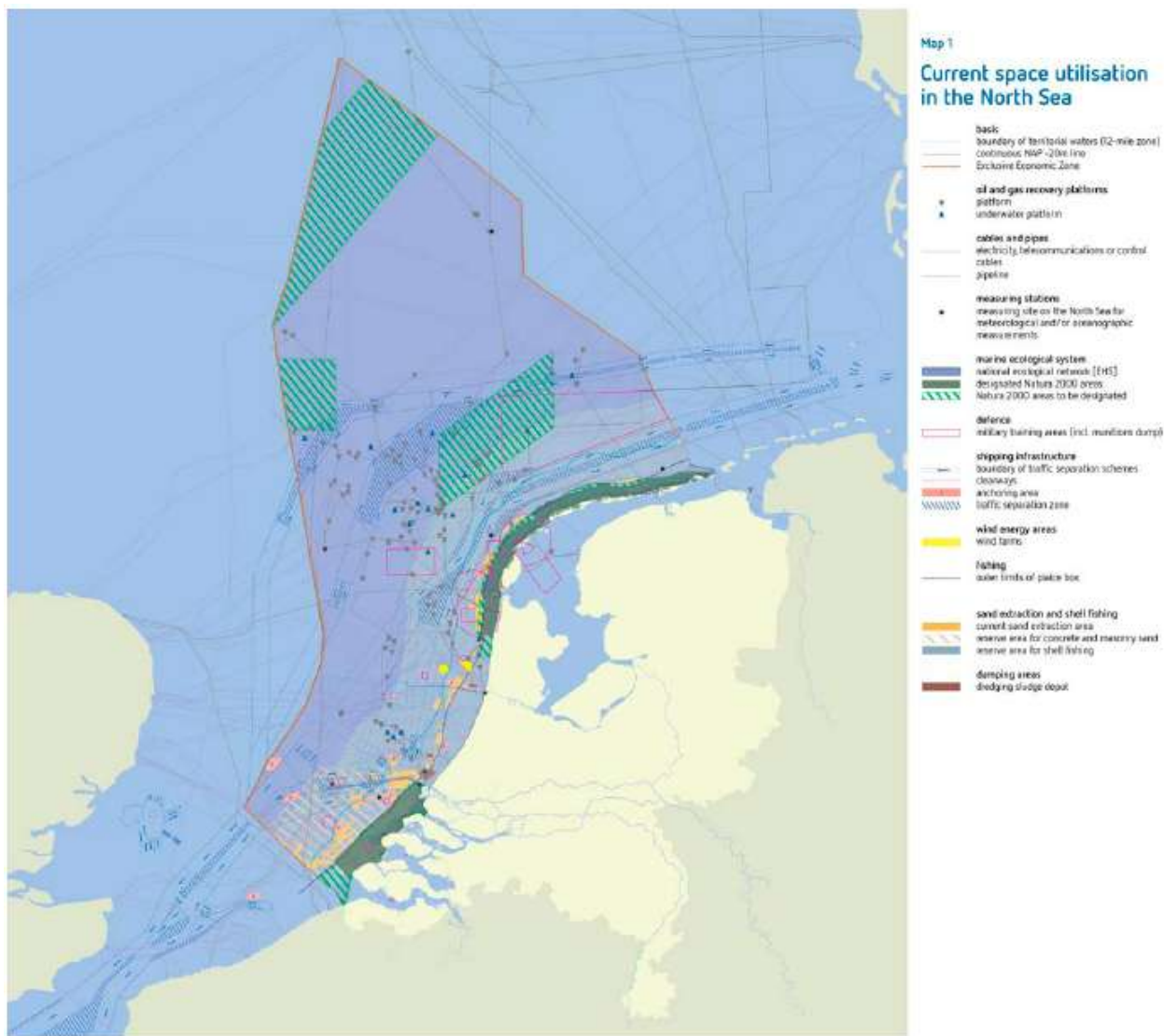


Dutch Case Study

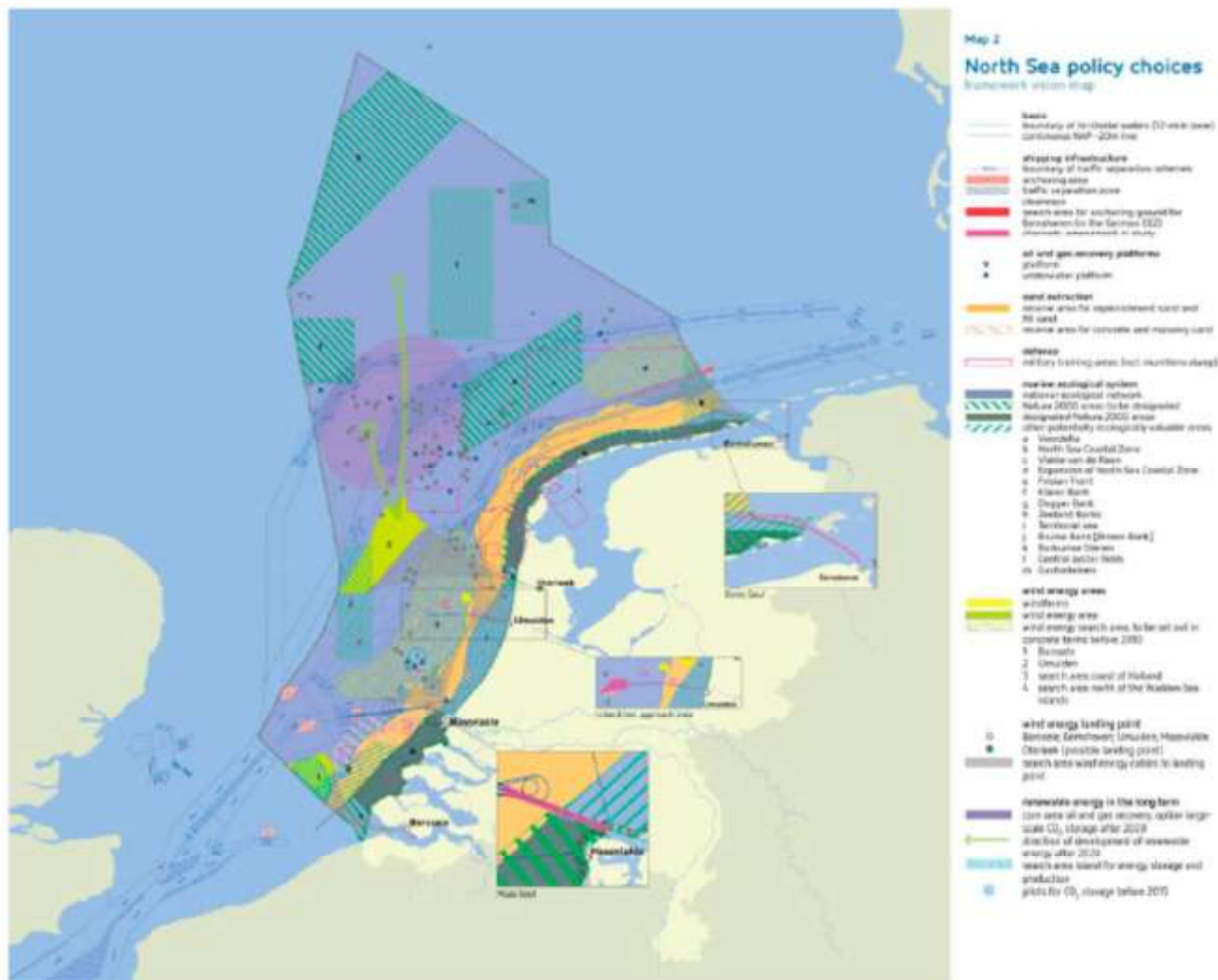
- **Estimate of each activity in area (expectations) and the spatial requirements before and after 2015**
- **Economic evaluation (direct and indirect)**
- **Spatial and temporal implications of each growth scenario (max, mod, min)**



North Sea Space Utilization



North Sea Policy Choices



Where is Marine Spatial Planning Currently Employed?

- **U.S.:** Early attempts at MSP are taking place in Massachusetts, Rhode Island, California and Oregon.
- **International:**
 - Canada/Eastern Scotian Shelf
 - Norway/Barents Sea
 - Ireland/Irish Sea
 - Germany, Netherlands, Denmark/Wadden Sea
 - Netherlands/North Sea
 - Australia/Great Barrier Reef



What kind of skill sets are needed?

Functional Role	Knowledge & General Aptitudes	Programmatic Skills	Administrative Skills
Program Management	Strategic Thinking about Space and Time	Strategic Planning Financing Project Implementation	Organizational Management
Authority	Knowledge of Spatial Implications of Legislation	Legal Analysis	
Analysis	Analytical Thinking about Space and Time	Spatial Database Management GIS	
Planning	Conceptualization Spatial Systems Thinking	Problem Assessment Strategy Design Plan Development	Coordination
Implementation	Conflict Resolution	Negotiation	
Monitoring and Evaluation	Cause-And-Effect Thinking	Monitoring Planning Assessment Methods	Evaluation
Communications	Strategic Communications	Product Planning Product Development	Routine Communications



What is happening with Marine Spatial Planning in the U.S.?

- **National Ocean Policy Framework**
- **Expected Presidential Executive Order**
- **Emphasis on Coastal and Marine Spatial Planning**
- **Emphasis on Ecosystem Services and Valuing Ecosystem Services**
- **Conservation is increasing considered a “use”**
- **Industry is taking notice (World Ocean Council)**



America's Living Oceans

CHARTING A COURSE FOR SEA CHANGE

FINAL REPORT

Pre-Publication Copy



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AN OCEAN BLUEPRINT

FOR THE 21ST CENTURY

U.S. COMMISSION ON
OCEAN POLICY

UNITED STATES COMMISSION ON

OCEAN POLICY

U.S. OCEAN ACTION PLAN



DECEMBER 17, 2004

Thank You!

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