



NYSERDA

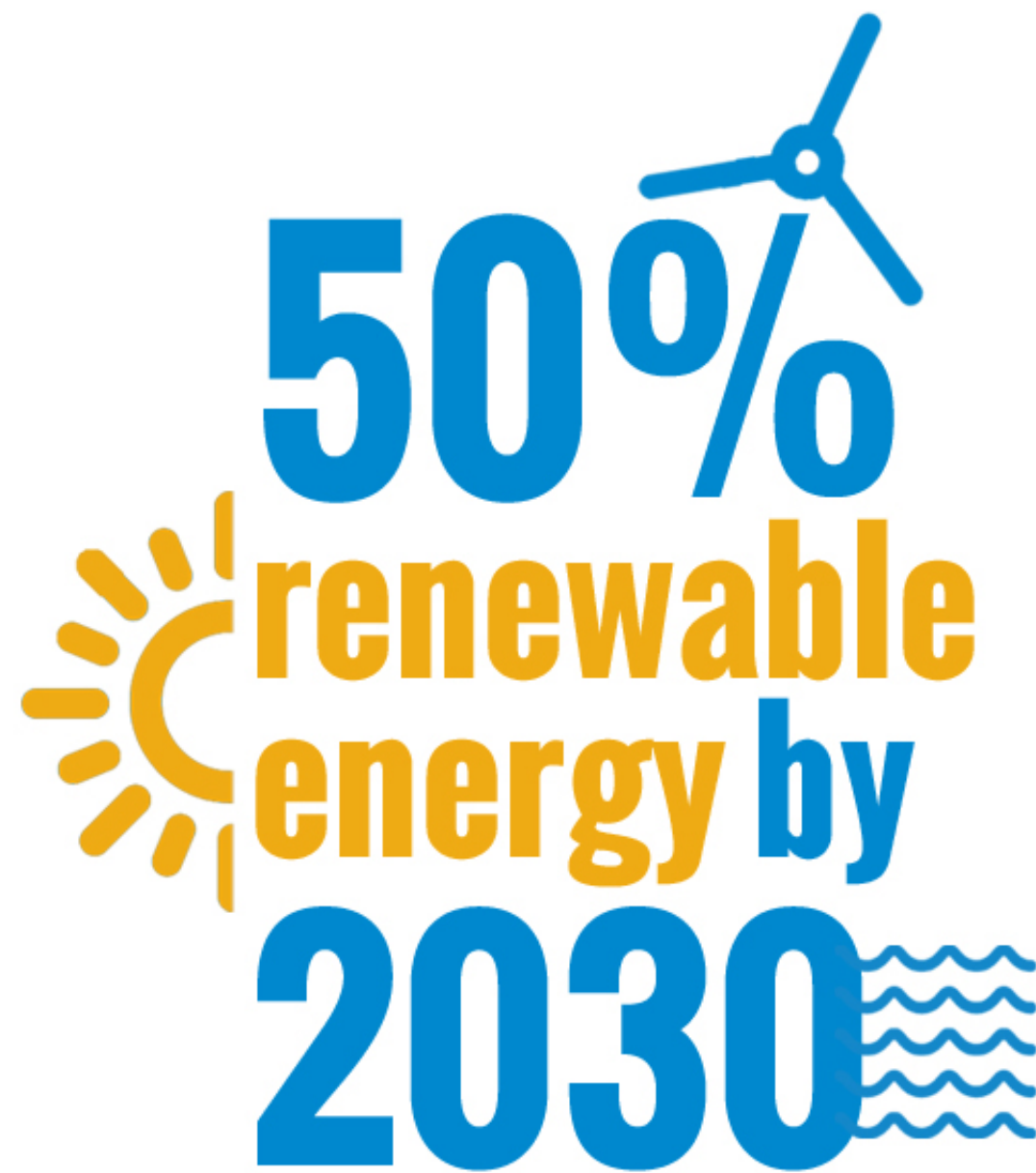
New York State Offshore Wind: Progress on the Master Plan

May 2018



New York Clean Energy Standard

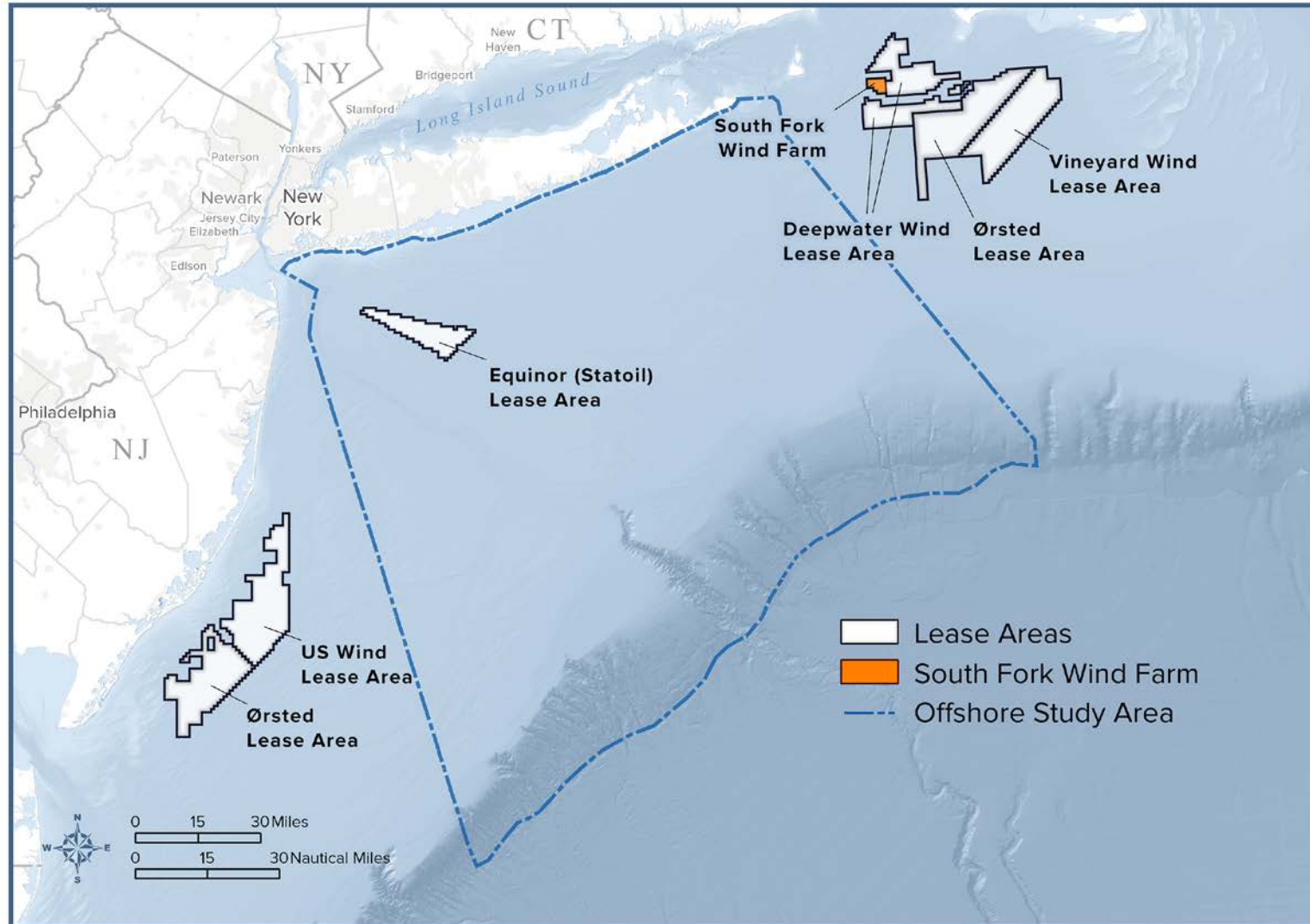
50%
renewable
energy by
2030



New York State will commit to building:

**up to 2,400 megawatts of offshore
wind power by 2030, which will
generate enough power for up to
1.2 million homes.**

Existing Regional BOEM Lease Areas



Offshore Wind Master Plan

A comprehensive state roadmap for advancing development of offshore wind in a cost-effective and responsible manner

Key Elements

- Identifies the most favorable areas for potential offshore wind energy development
- Describes the economic and environmental benefits of offshore wind energy development
- Addresses mechanisms to procure offshore wind energy at the lowest ratepayer cost
- Analyzes costs and cost-reduction pathways
- Recommends measures to mitigate potential impacts of offshore wind energy development
- Identifies infrastructure requirements and assesses existing facilities
- Identifies workforce opportunities



NEW YORK STATE OFFSHORE WIND MASTER PLAN

**Charting a Course to 2,400 Megawatts
of Offshore Wind Energy**

Master Plan Supporting Studies and Surveys

Environmental

- Marine Wildlife Survey
- Analysis of Multibeam Echo Sounder and Benthic Survey
- Birds and Bats
- Environmental Sensitivity Analysis
- Fish and Fisheries
- Marine Mammals and Sea Turtles
- Preliminary Wind Resource Assessment
- Sand and Gravel Resources
- Consideration of Potential Cumulative Effects

Social and Regulatory

- Aviation and Radar Assets
- Health and Safety
- Shipping and Navigation
- Cultural Resources
- Cable Landfall Permitting
- Marine Recreational Uses
- Visual Threshold Study

Economic and Infrastructure

- Pipelines, Cable, and Other Infrastructure
- Ports and Supply Chain
- Workforce Opportunities in New York
- Jones Act Compliant Vessels
- Project Cost Projections
- Offshore Wind Injection Assessment

Outreach and Engagement

- Commercial and Recreational Fishing
- Consumer Advocates
- Elected Officials
- Labor and Business
- Long Island and New York City Communities
- Non-Governmental Organizations
- Offshore Wind Energy Industry
- State and Federal Agencies
- Submarine Cables and Offshore Infrastructure Owners

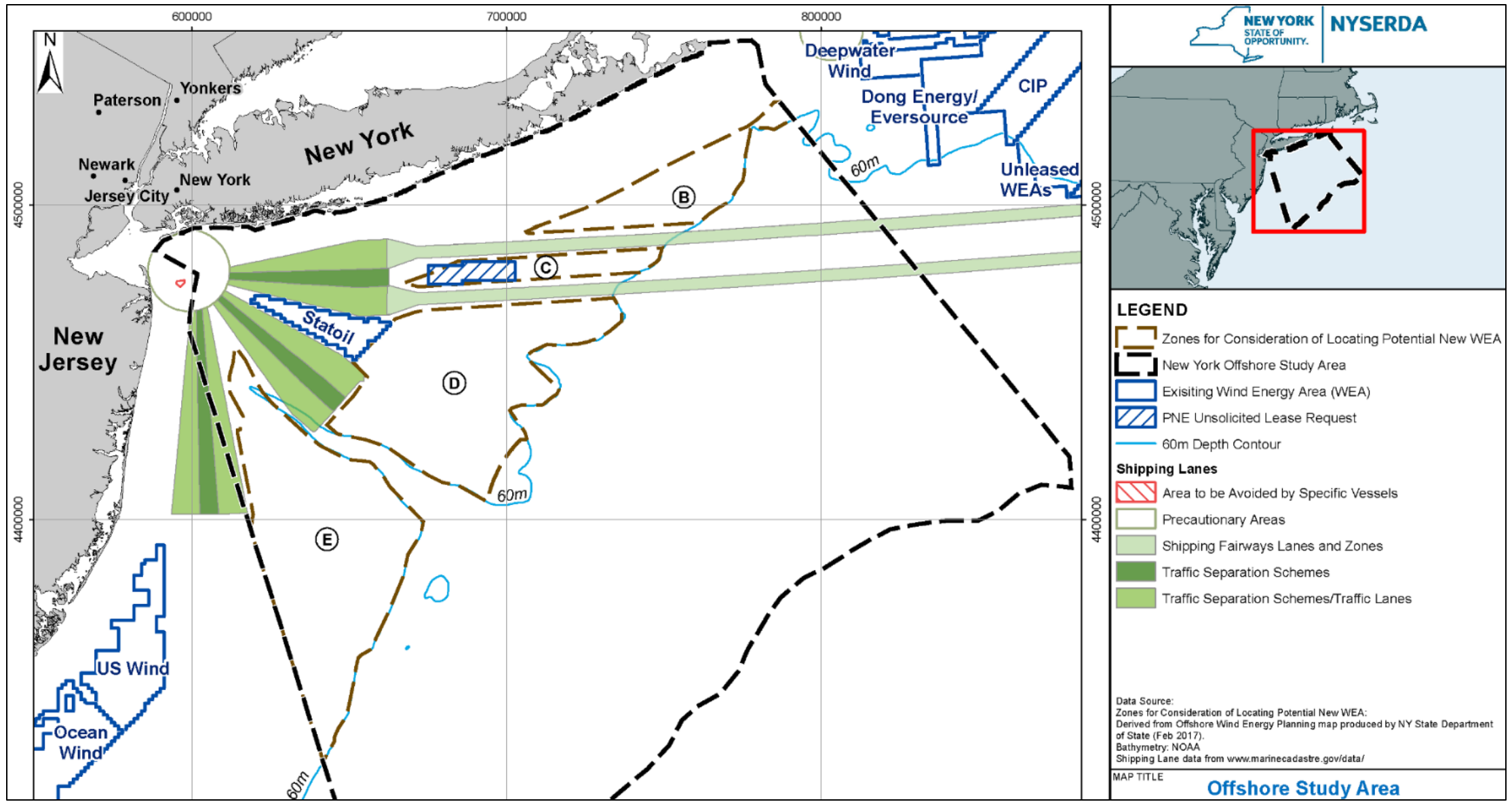


Master Plan Updates

1. Identifying Additional Areas for Responsible and Cost-Effective Development
2. Offshore Wind Economics and Opportunities for New York State
3. New York State's Ongoing Activities to Advance Offshore Wind

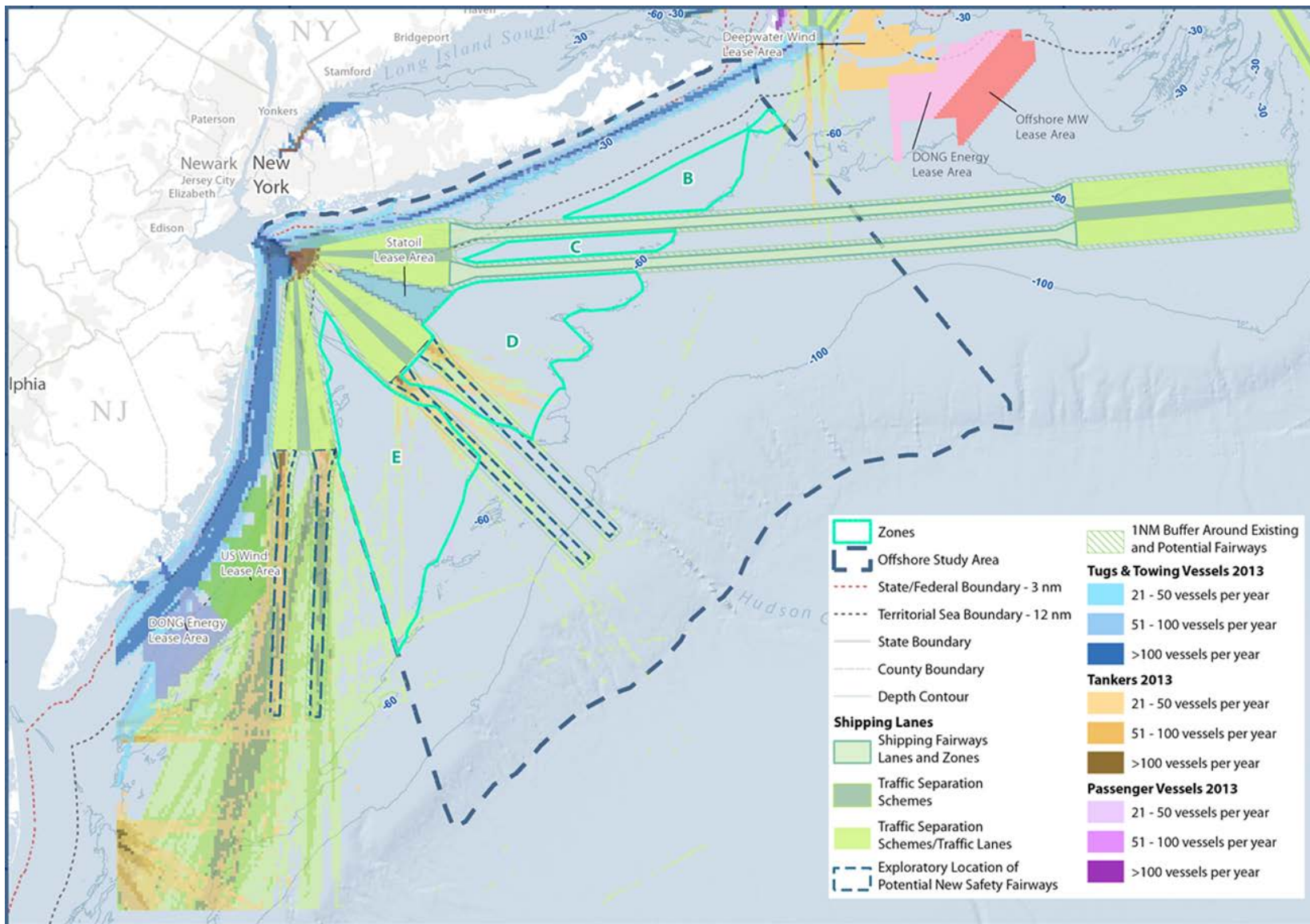
Identifying Additional Areas for Responsible and Cost-Effective Development

Initial Offshore Wind Zones for Consideration



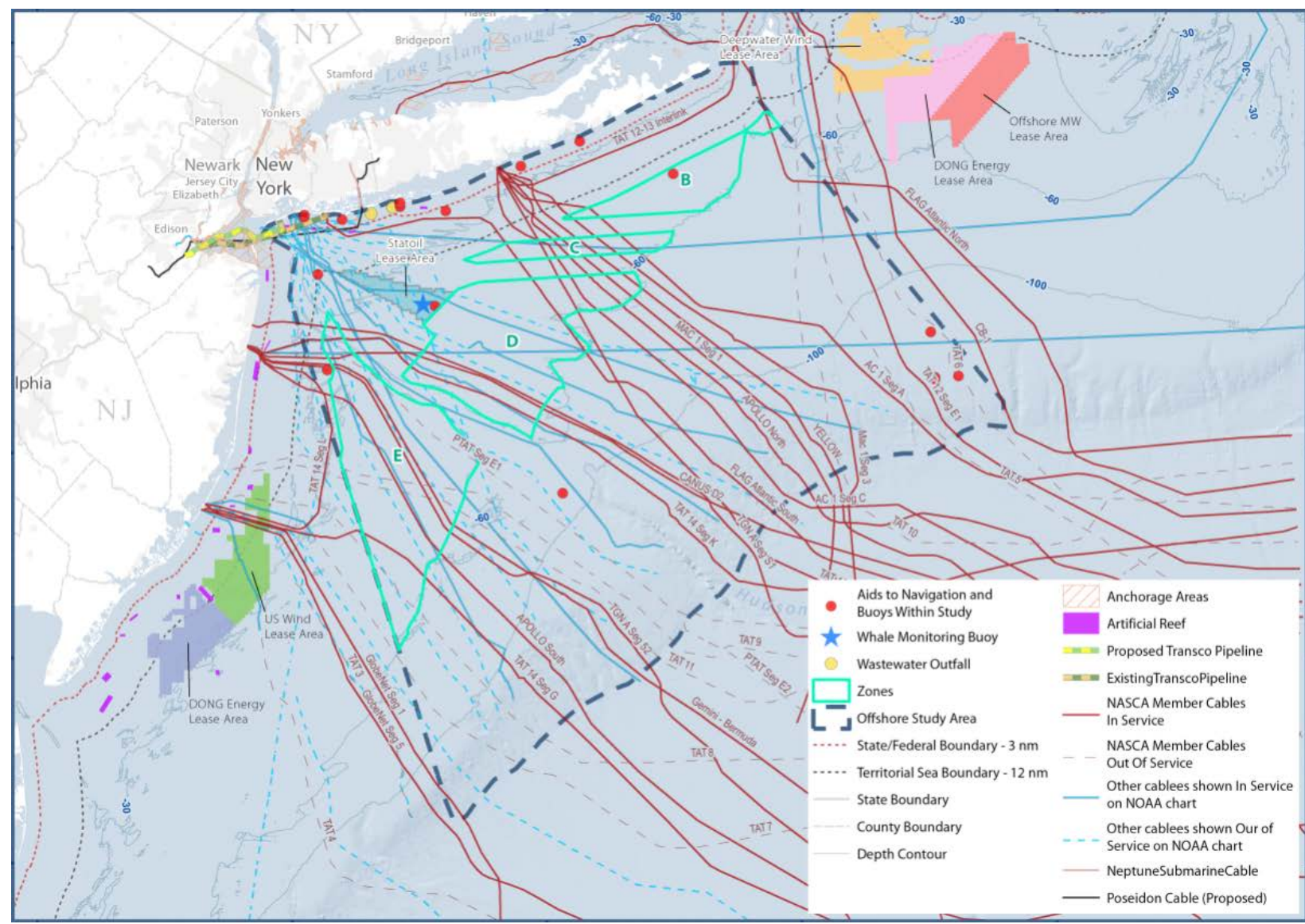
NY's Area for Consideration: Supporting Studies and Surveys

- The Master Plan provides the supporting justification for New York's recommended Area for Consideration
- The Master Plan includes more than 20 technical and scientifically supported studies addressing:
 - ✓ Environmental considerations
 - ✓ Social and Regulatory issues
 - ✓ Economic and Infrastructure requirements
- Master Plan also informed by robust engagement

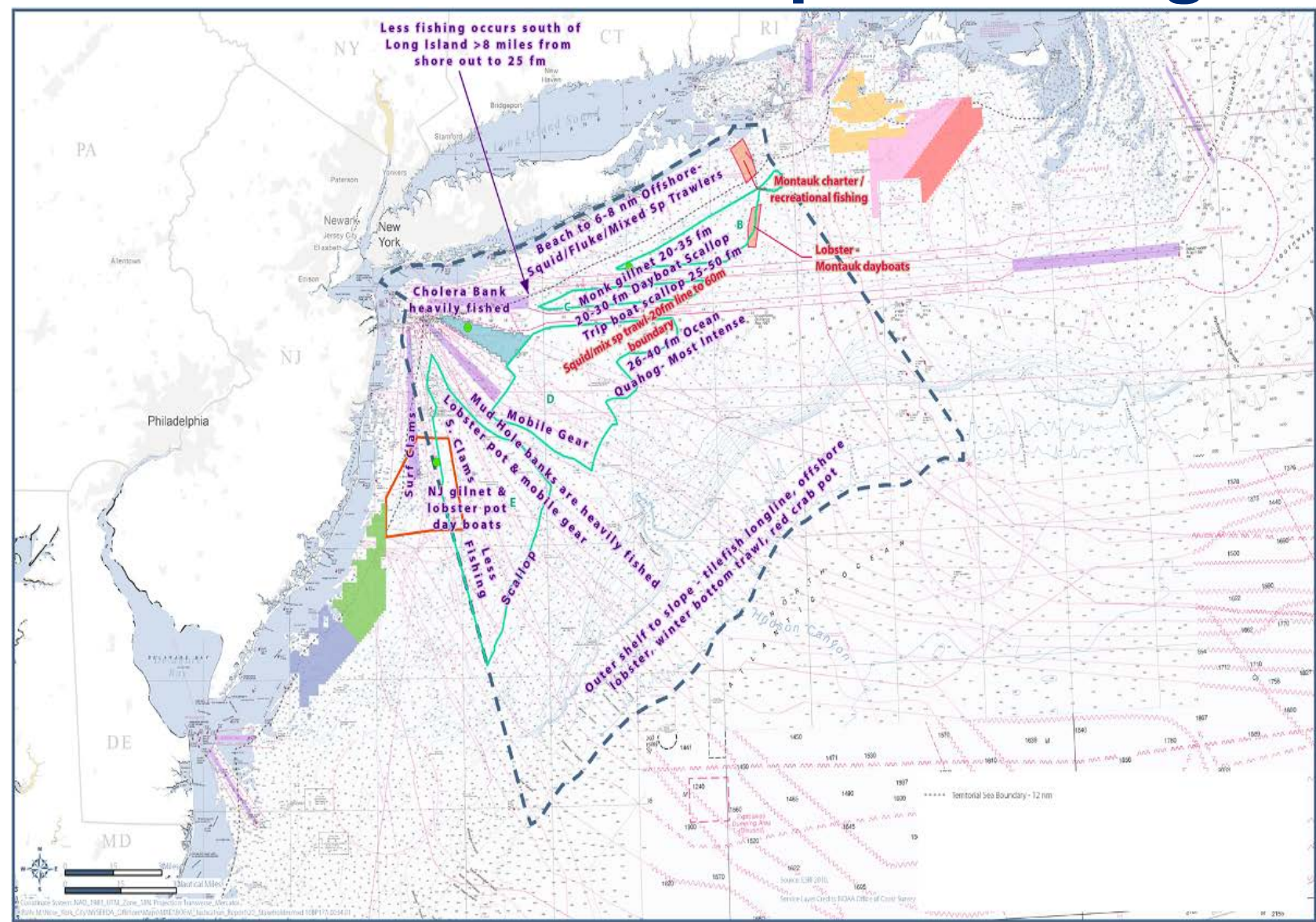


Area for Consideration Example: Shipping and Navigation

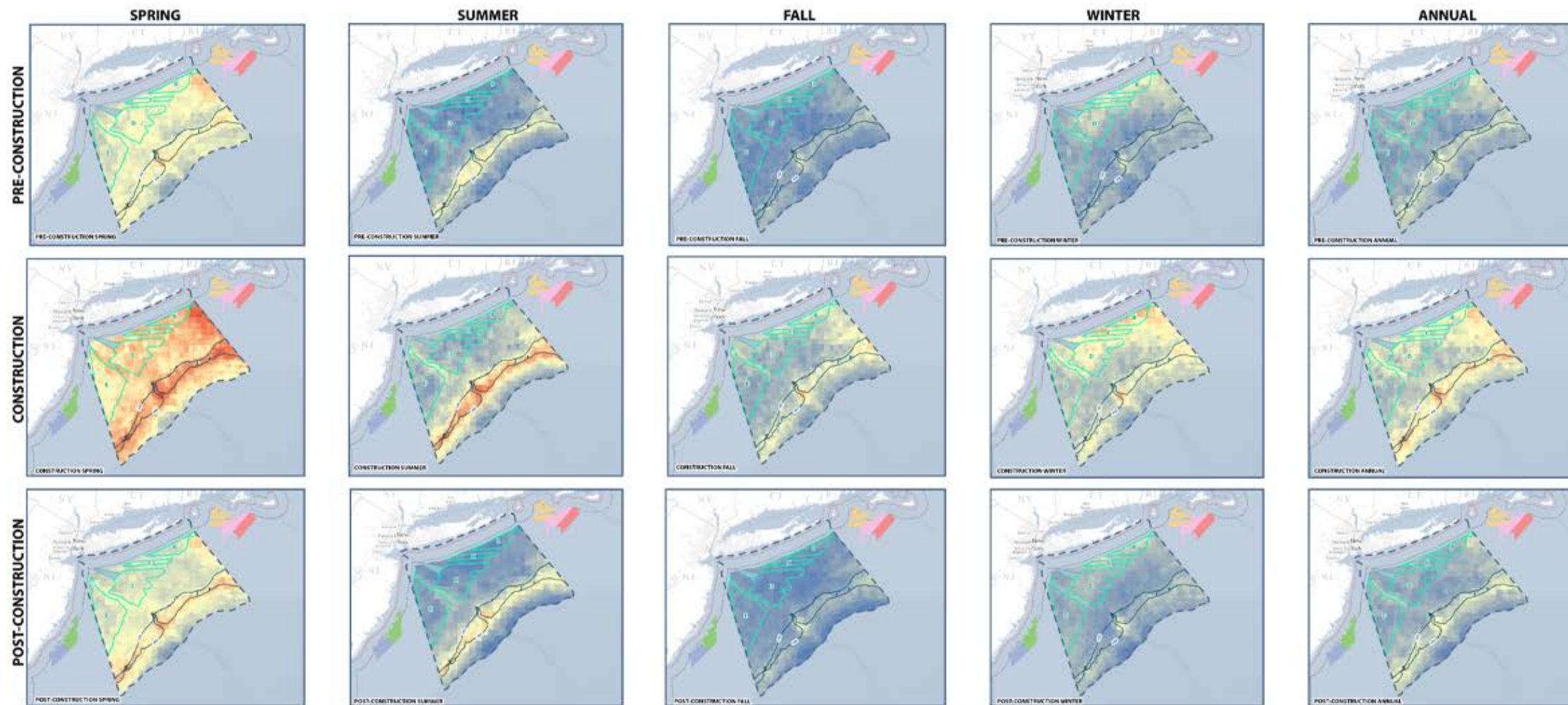
Area for Consideration Example: Undersea Cables



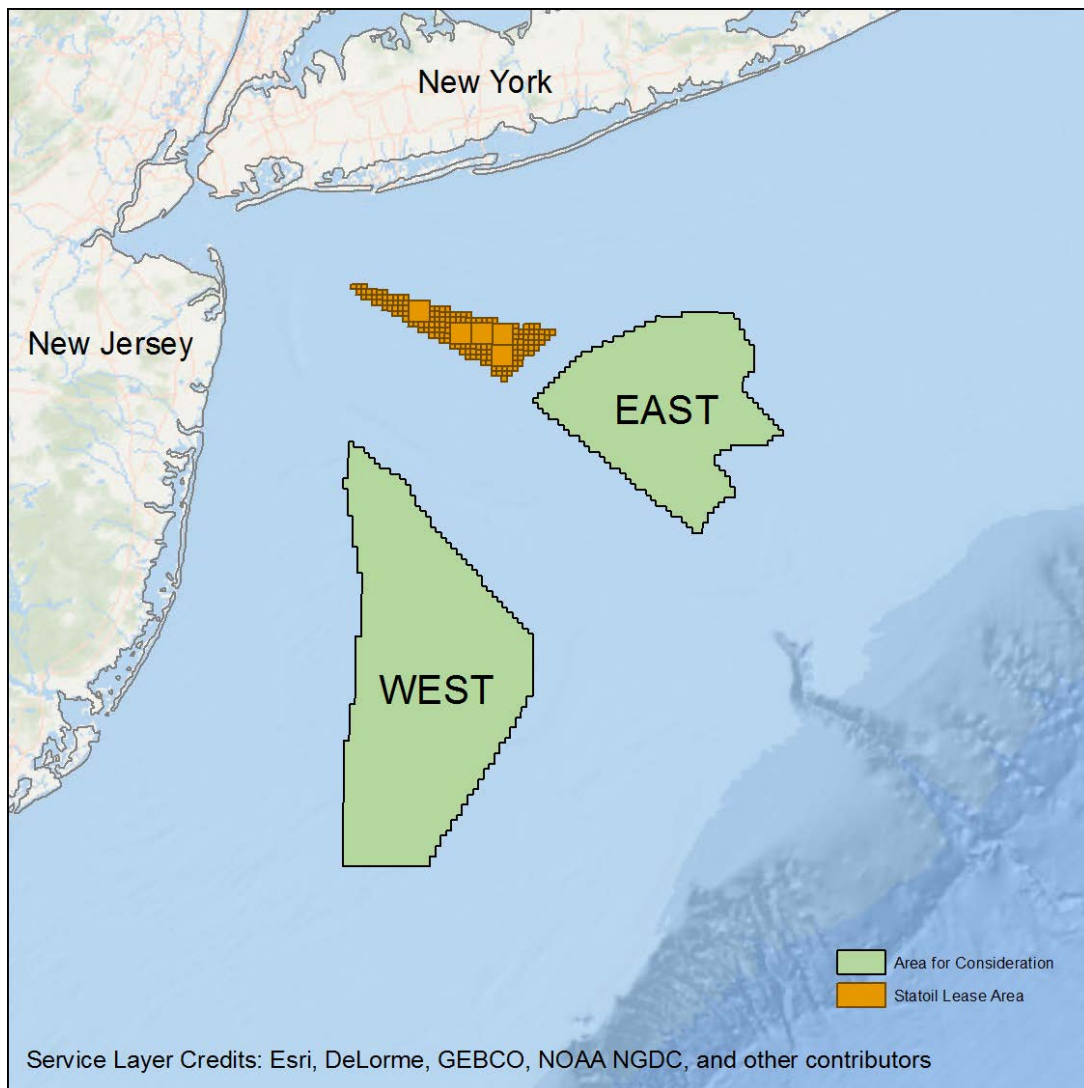
Area for Consideration Example: Fishing Outreach



Area for Consideration Example: Environmental



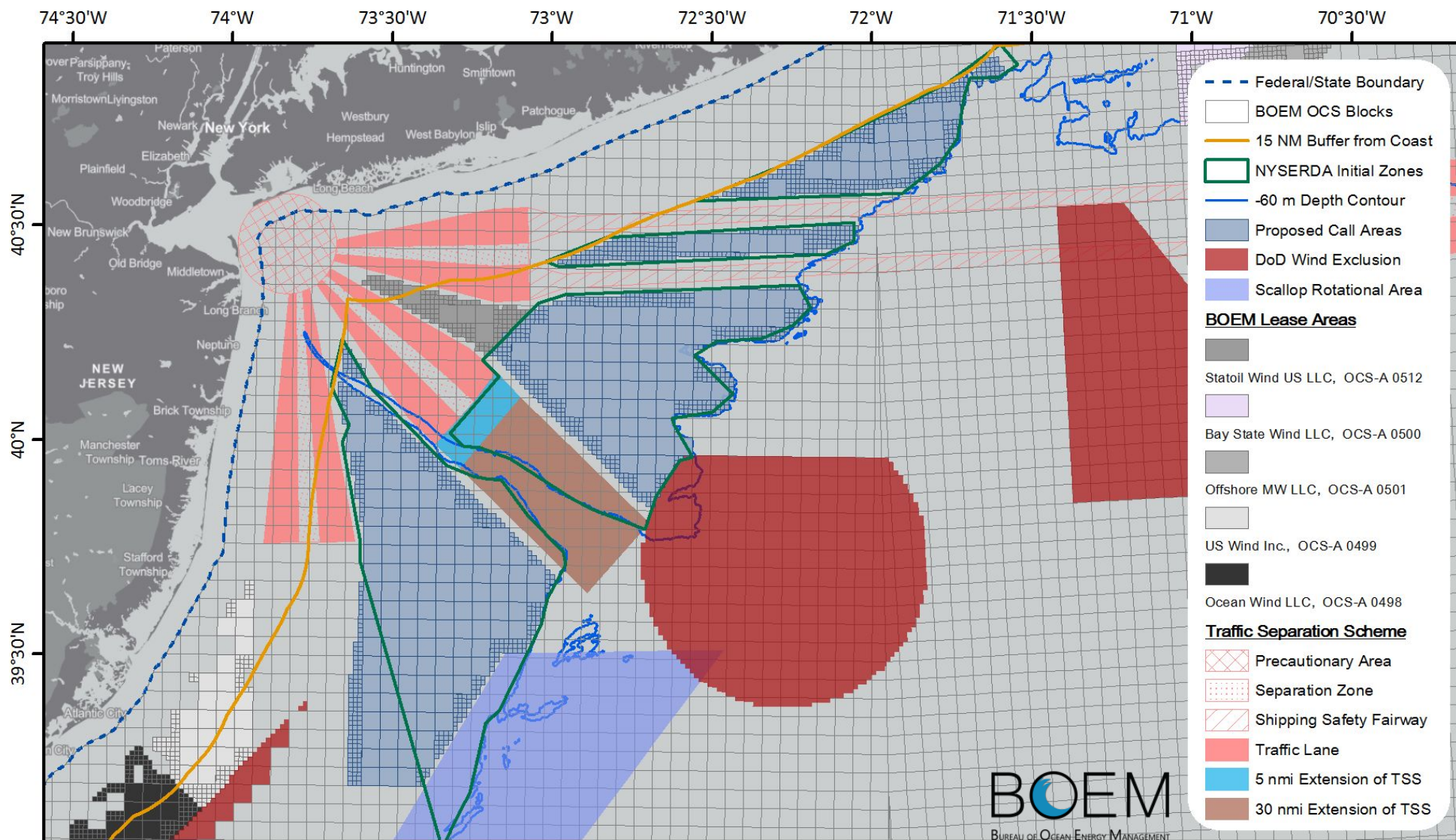
Area for Consideration



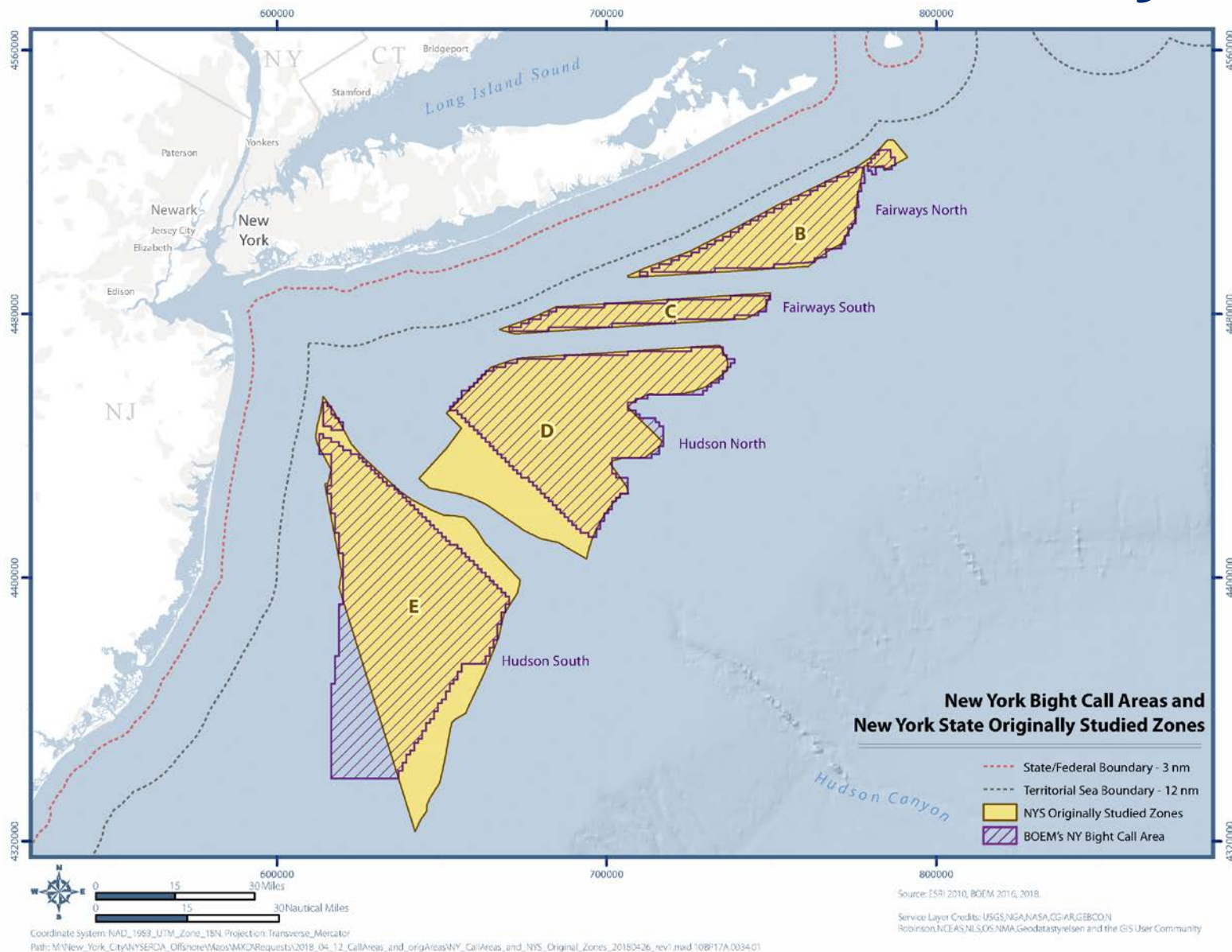
October 2017

New York State identified an **Area for Consideration** and requested that the federal Bureau of Ocean Energy Management identify and lease at least four new Wind Energy Areas within the area, each capable of supporting at least 800 MW of offshore wind.

BOEM Call Area and NY Initial Study Zones



BOEM Call Area and NY Initial Study Zones



Renewable Energy Process: From Call to Auction

Call for Information and Nominations



Area Identification *Wind Energy Areas*



COMMENTS DUE TO BOEM MAY 29, 2018



Potential Task Force Meetings/Webinars



Call



Area ID

Leasing Document Development



Environmental Assessment Process & Public Involvement



Proposed Sale Notice

60 days



Final Sale Notice

1

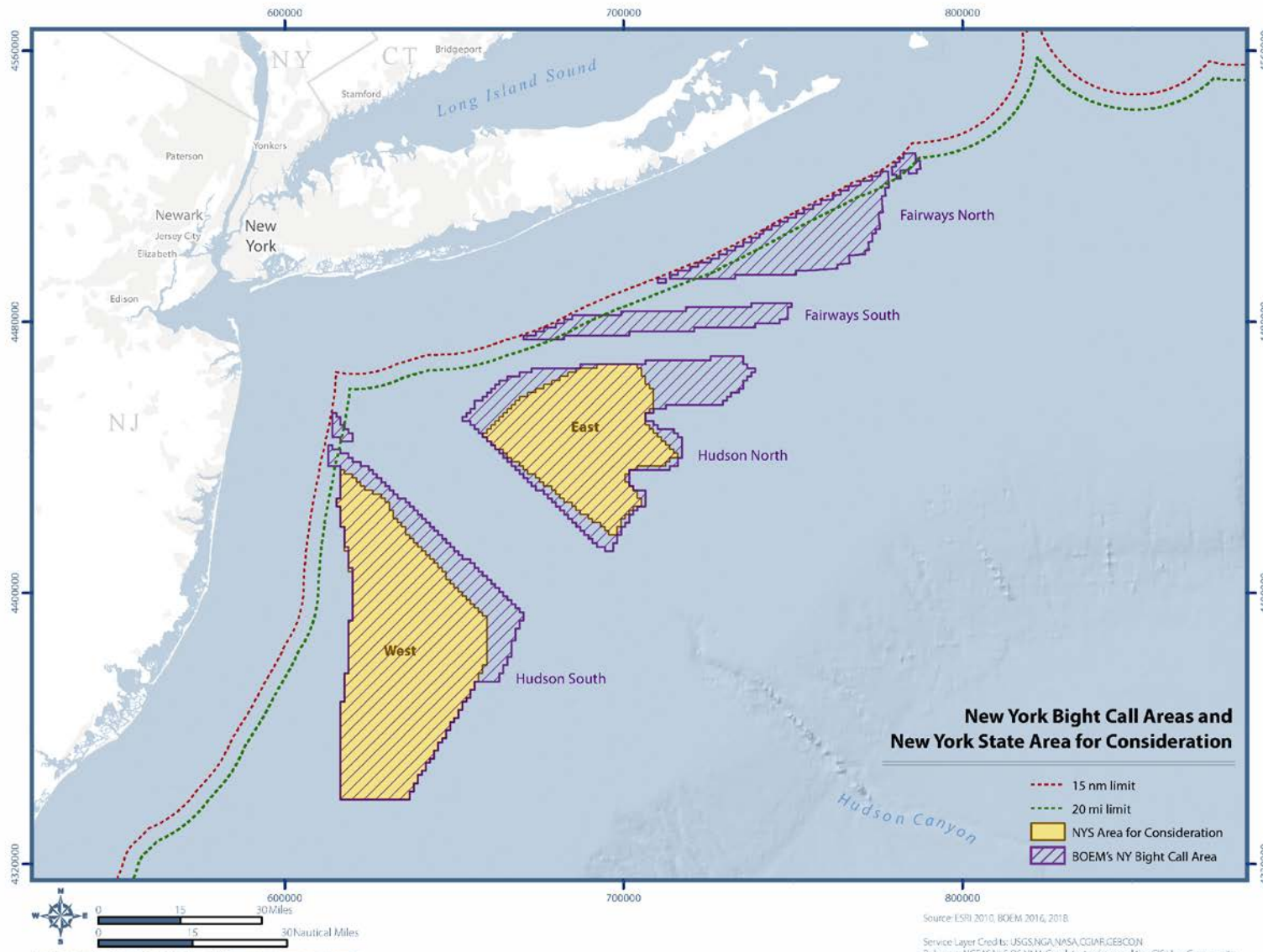


PSN

Auction



BOEM Call Areas and NY's Area for Consideration



Comments on the New York Bight Call Areas can be provided to BOEM online at: <https://www.boem.gov/NY-Bight/>

Comments are due May 29th

Offshore Wind Economics and Opportunities for New York State

Offshore Wind Supply Chain

Manufacturing



- Blades are the world's largest fiberglass component cast in one piece
- Scale of blades, nacelles, towers and foundations requires manufacturing at portside facilities

Staging



- Components are held at a staging area for loading onto the installation vessel
- To manage installation costs, staging area should be located close to wind energy areas

Installation






- Various types of installation vessels are used, including jack-up, support and cable lay vessels
- Towers are typically transported vertically, creating air draft constraints

Operation & Maintenance



- Ports must be located close to wind energy areas to react quickly to system failures
- Vessels visit the site daily to perform scheduled and unscheduled maintenance
- Oversight includes turbine components as well as all electrical components

Next Steps in Advancing New York's Supply Chain

-  **Workforce Development** – New York universities, technical schools, trade programs, and organized labor groups will work together to determine how to best prepare New Yorkers for the industry's near-term needs.
-  **Manufacturing** – NYSERDA is creating an inventory of New York companies and organizations that may be able to contribute to the offshore wind industry. This will be a public resource to help global companies develop local partnerships.
-  **Port Infrastructure** – NYSERDA is taking a closer look at what existing New York port facilities are best suited to serve the O&M, manufacturing, and installation phases of an offshore wind project. This will be a tool for the offshore wind industry as it seeks logistics solutions in the Northeast region.

Fostering offshore wind by investing

\$15 Million

in Workforce Development and
Infrastructure Advancement



Issue solicitations in 2018 and 2019 to develop

at least

800 MW

of offshore wind projects



NEW YORK
STATE OF
OPPORTUNITY

NYSERDA

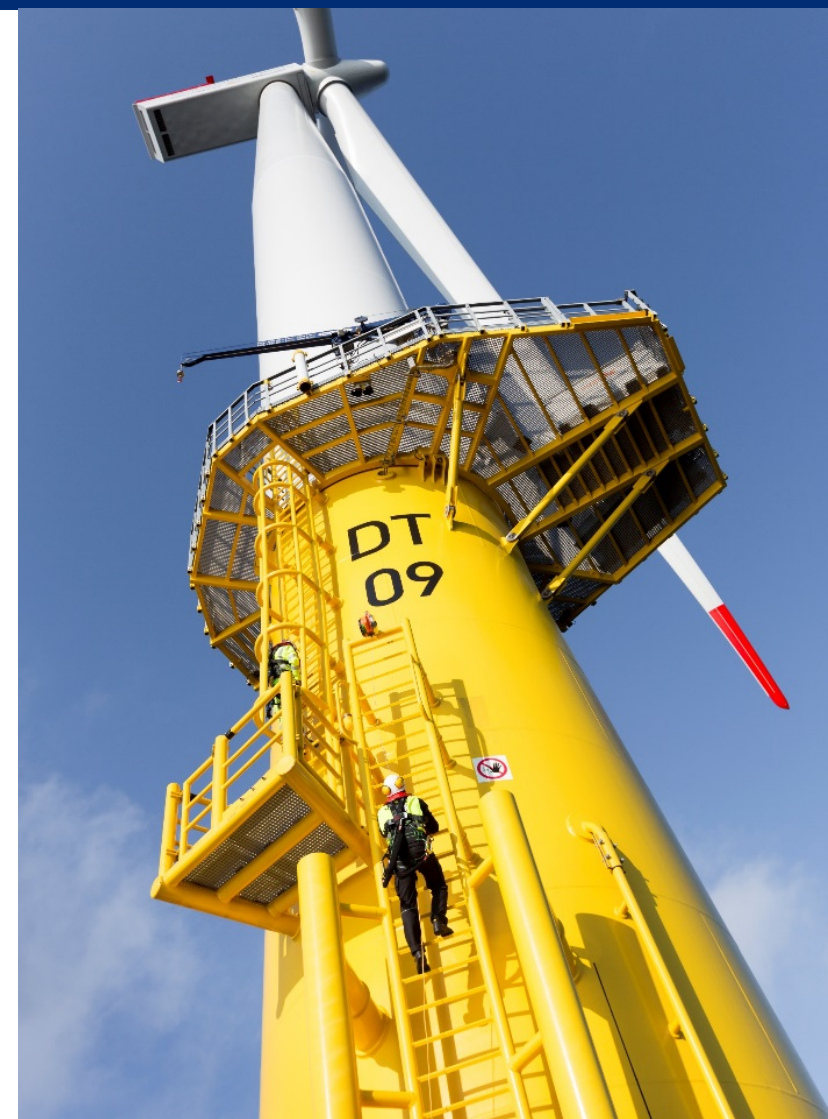
Delivering the 800 MW Goal

NYSERDA has provided the New York Public Service Commission (PSC) with options on a wide range of policy issues to successfully deliver the first phase (800 MW) of offshore wind energy to New York.

The PSC is expected to issue an Order selecting solutions to these policy issues later this year. The PSC welcomes public feedback, with the public comment period ending **June 4**.

The open comment period focuses on questions such as:

- Who should buy the power?
- How should project risks be shared?
- How will the projects be evaluated?
- How are costs shared?



New York State's Ongoing Activities to Advance Offshore Wind

Future Studies and Analysis

Metocean



- Improve characterization of the wind, wave and ocean current environment.
- Useful in refining project layouts and reducing project uncertainty.

Air Quality



- Explore undertaking a detailed assessment of the air quality and health impacts of achieving New York's 2030 goals.
- Refine the understanding of the hourly impacts of offshore wind generation in relation to the demands of the grid.

Wildlife



- Collaboration with appropriate federal and state agencies, universities and scientists to collect baseline data.
- Map seasonal patterns to assist the identification of important habitat areas and predict future areas of high use.

Supply Chain

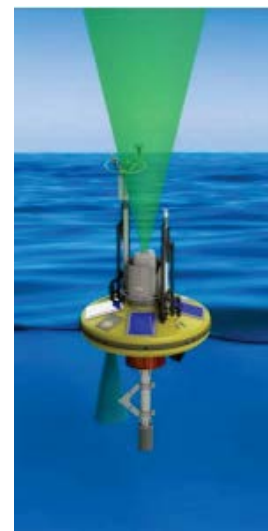


- Collaborate with industry to study how New York can best support the OSW supply chain.
- Analyze technical challenges to envision a path forward for the broader US industry.

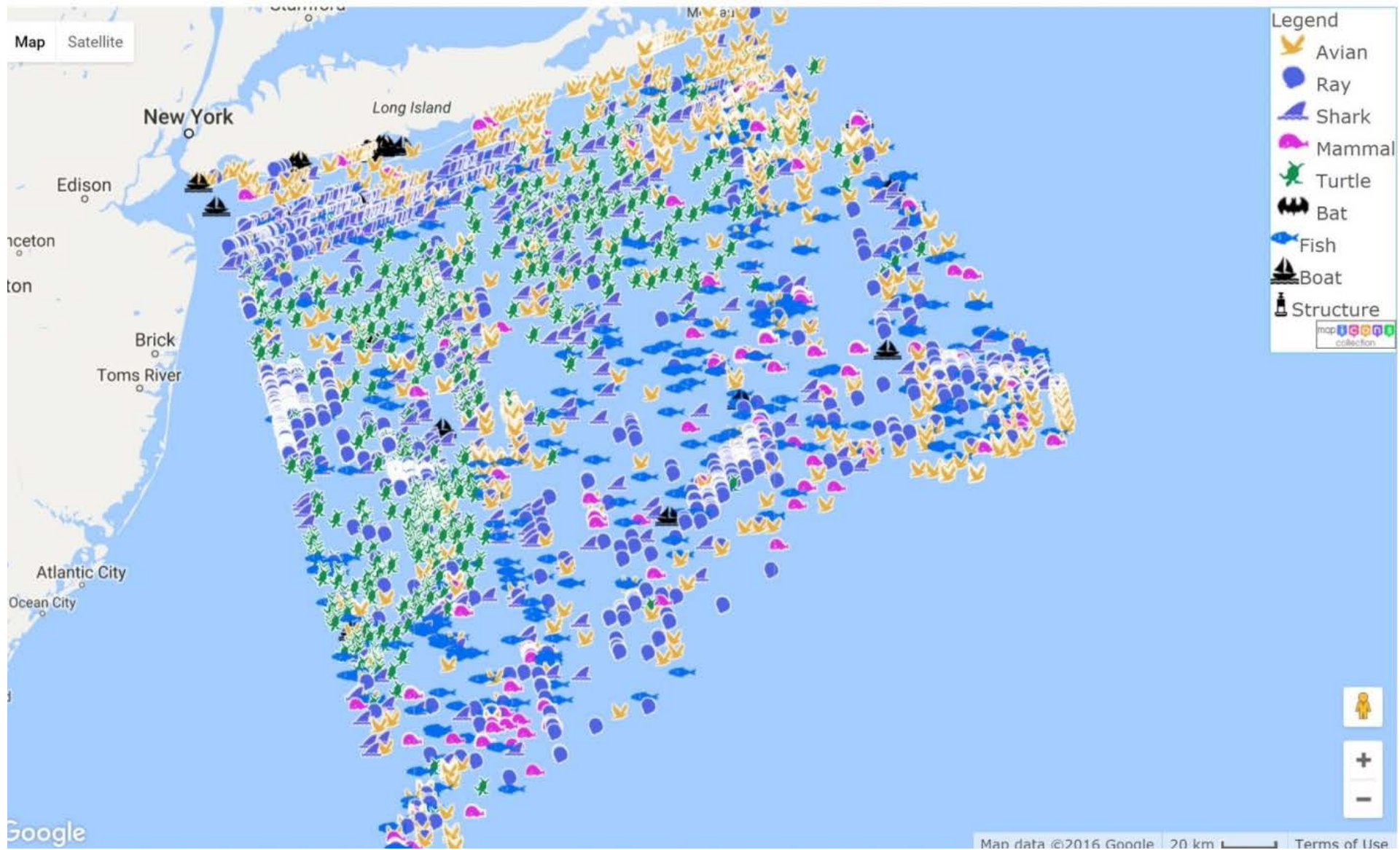
Metocean Measurements to Support Offshore Wind Energy Development

Collect wind speed and oceanographic measurements (for 2 or more years)

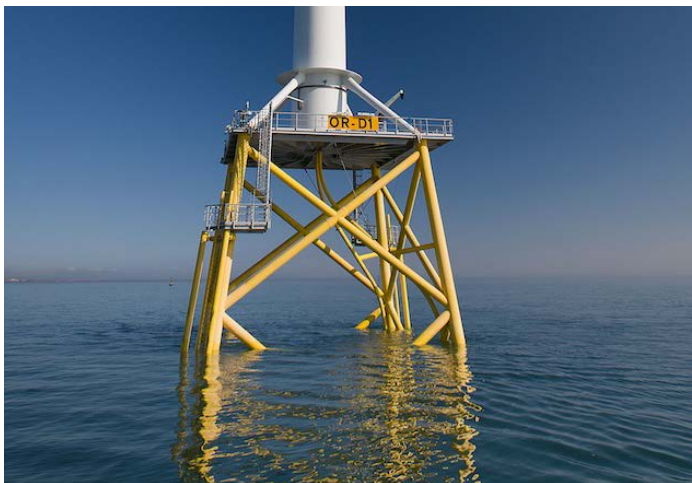
- NYSERDA is seeking proposals, and encouraging coordination with regional scientists
- Data will be made publicly available, some in real-time.



Marine Wildlife Aerial Survey



Research and Development



- Component design
- Systems design
- Operational controls
- Monitoring systems
- Manufacturing processes

- Seeking to invest \$20,000,000+
- Kicking off in 2018

Continued Outreach and Engagement

- NYS is remaining actively engaged with a wide diversity of interested stakeholder parties
- Hosting public quarterly webinars
- Hosting open house events:
 - May 7, Southampton, NY: Southampton Inn
 - May 8, Melville, NY: Long Island Association



Technical Working Groups

Environmental



- Development of Wildlife Best Management Practices.
- Coordination for adaptive management.
- Identification of research needs and coordination.
- Lead: NYSERDA

Commercial and Recreational Fishing



- Development of Fisheries Best Management Practices.
- Identification of research needs and coordination.
- Development of a framework for understanding commercial fishing impacts.
- Improved Communications
- Lead: NYS Dept. of Environmental Conservation (DEC)

Maritime



- Development of Maritime Best Management Practices.
- Define strategies that could help members engage effectively with OSW development.
- Commitment to smart development
- Lead: NYS Dept. of State (DOS)

Jobs and Supply Chain



- Facilitate the connection of local manufacturers with global OSW developers and equipment manufacturers.
- Ensure certification and training requirements are clear and readily available.
- Lead: NYSERDA

State and Federal Activities and Processes Status

Opportunities for Comment

- Submit comments on the BOEM NY Bight Call Area:
 - <https://www.boem.gov/NY-Bight/>
 - **Comments are due – May 29th**
- Submit comments on the NYS OSW Procurement Options or the DGEIS:
 - <http://documents.dps.ny.gov/> (Case #: 18 -E-0071)
 - **Comments on Procurement – due by June 4th**
 - **Comments on DGEIS – due by May 9th**
- Submit informal questions or comments to NYSERDA at:
 - <https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Contact>

Questions?

Contact Us:

Website: nyscrda.ny.gov/offshorewind

Email: offshorewind@nyscrda.ny.gov