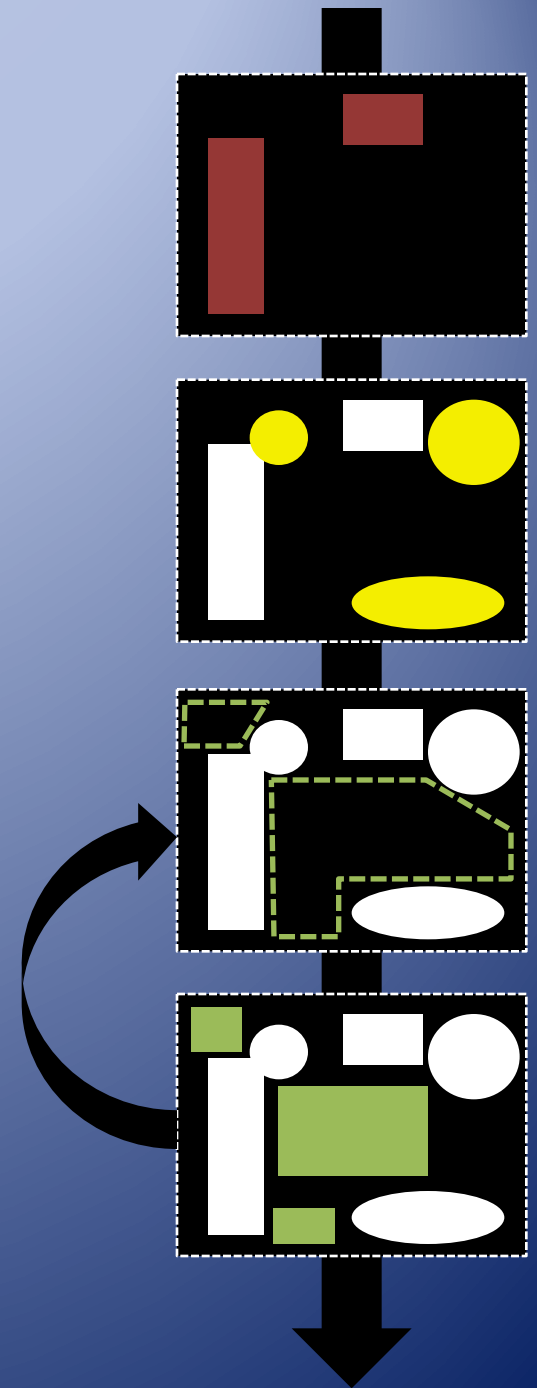


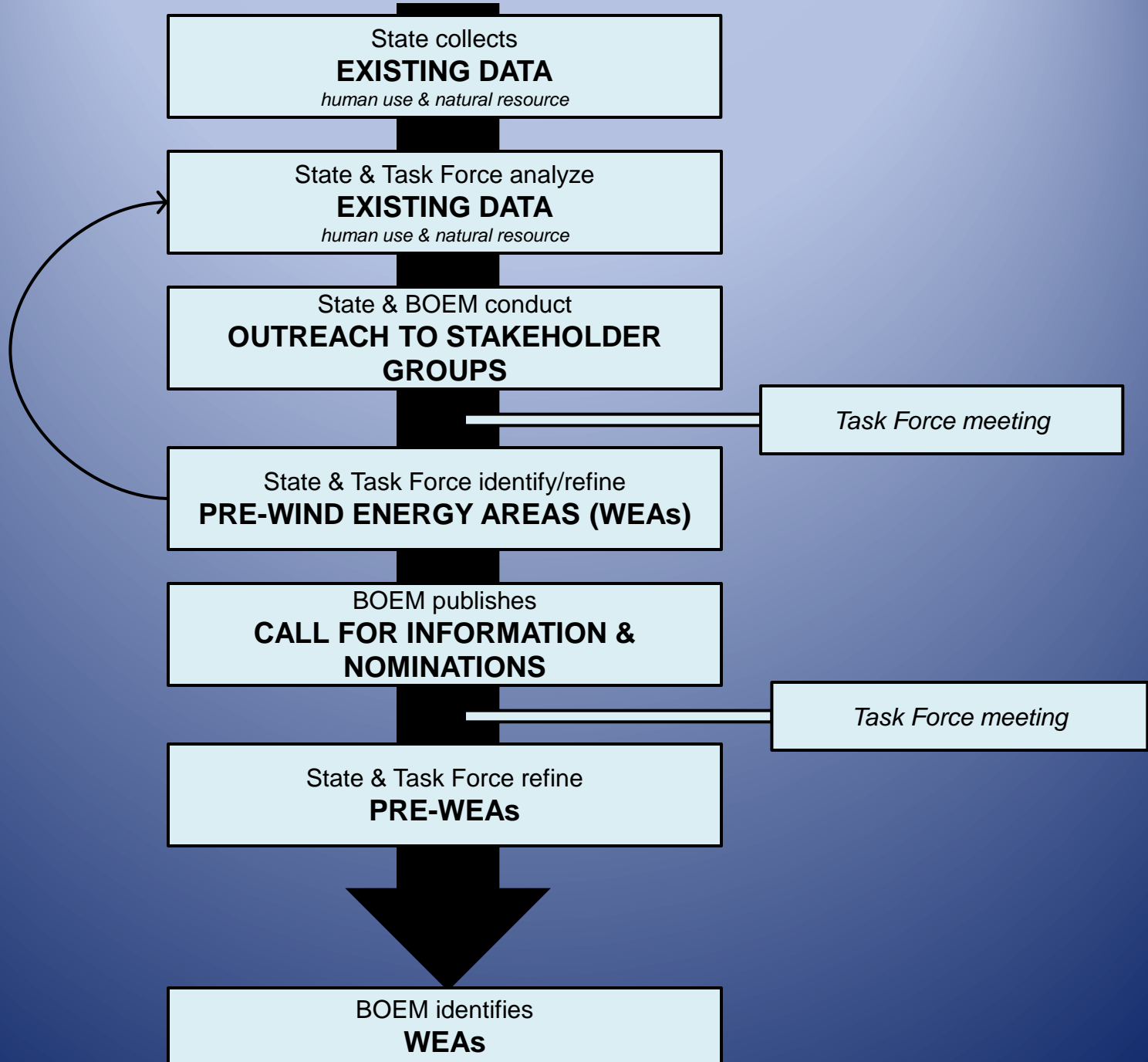
Analysis of Site Suitability for Offshore Wind Energy Development

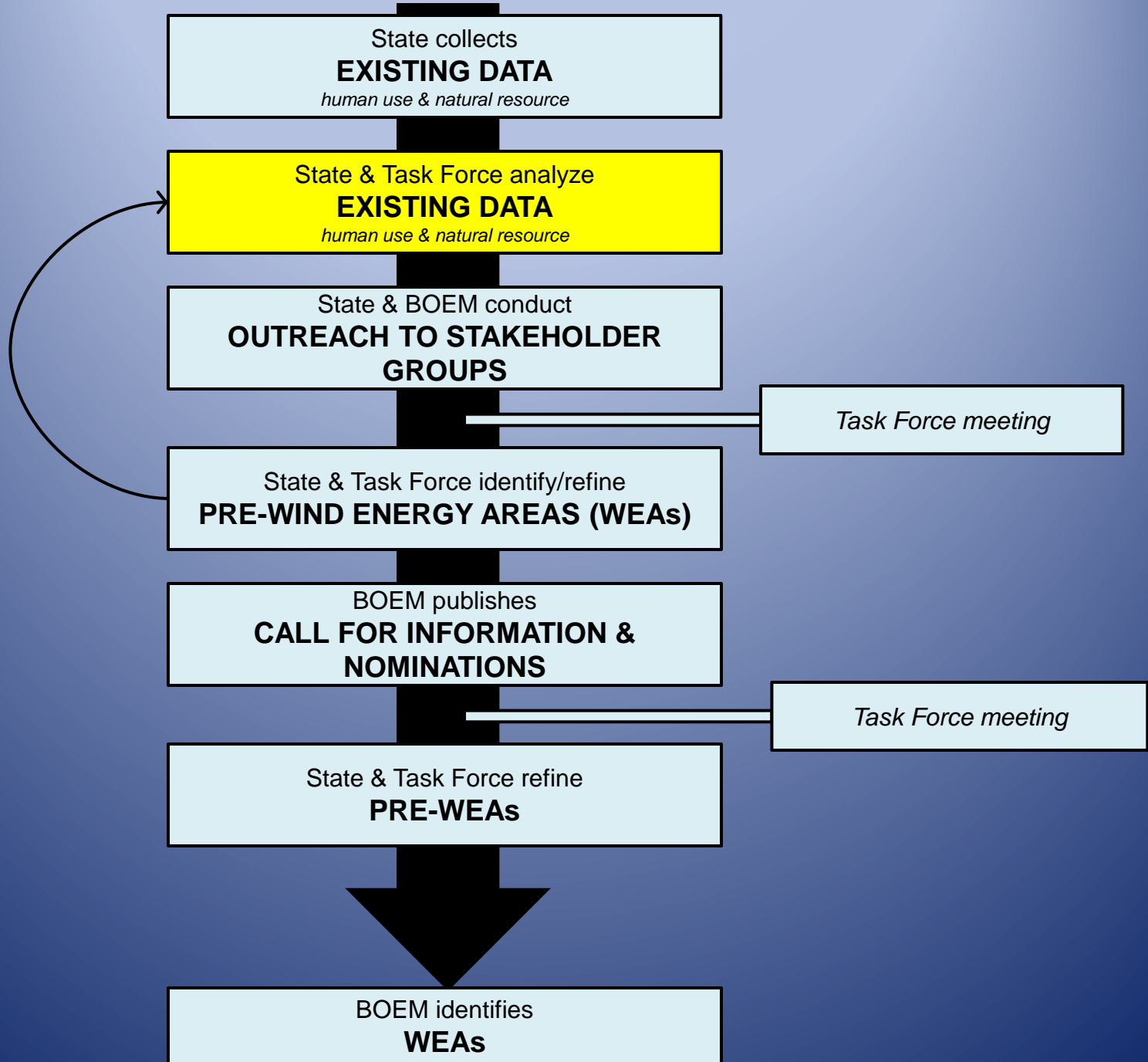
Mike Snyder
September 26, 2013



DOS's Offshore Planning Summary

- Purpose:
 - Site offshore wind to meet energy needs, promote economic development
 - Protect areas important to New York's industries
- Products:
 - Offshore Atlantic Ocean Study
 - Maps showing potentially suitable offshore wind lease areas (Wind Energy Area(s) or WEAs)
 - Ocean-focused amendment (Routine Program Change) to the New York Coastal Management Program





Important Considerations

- This is a planning exercise to inform BOEM's leasing process, which will include a full NEPA analysis.
- The result is a pre-screening, not a pre-clearance, of potential project sites in the planning area.
- The siting criteria are expected to change over time as technology matures, our understanding of the ocean increases, and public attitudes & policies evolve.

Process for Identifying “pre-WEAs”: Data Analysis

- **Areas to be excluded** (no development)
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Baseline Criteria

Focus on wind generation, substation/conversion facilities

Based on current technological limits, known/expected use constraints

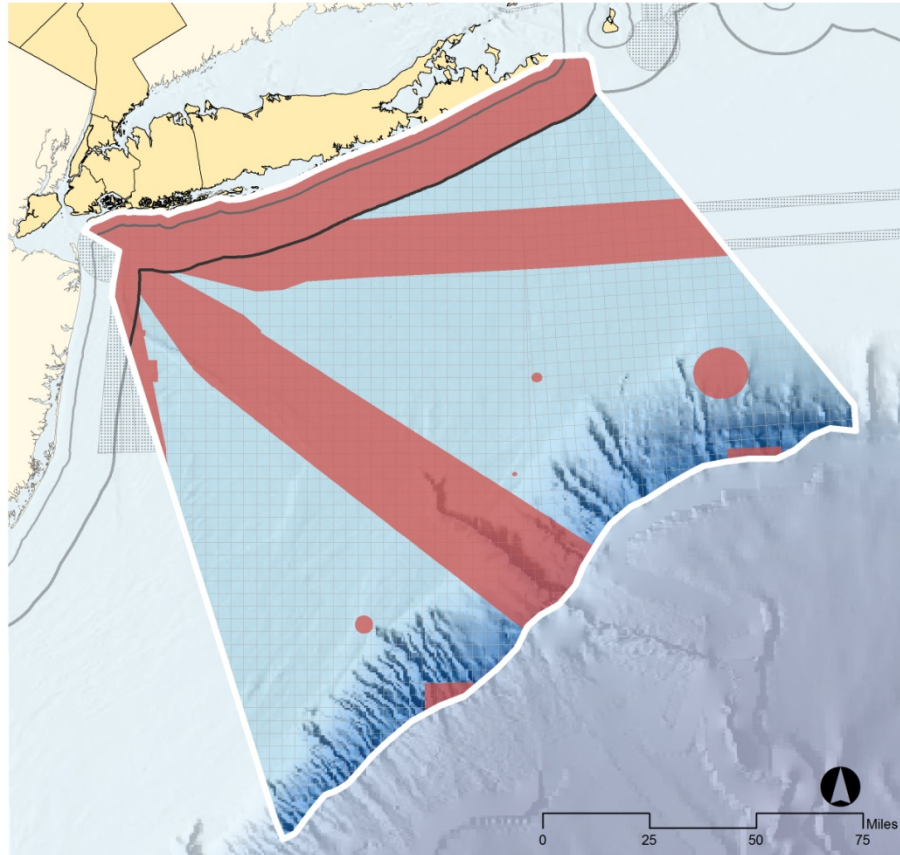
- Areas greater than 60 meters / 180 foot depth (turbines only)
- Areas within established navigation lanes and:
 - their “logical extensions”
 - 1 nautical mile buffer around the lanes
 - areas between inbound/outbound lanes of the same fairway
 - areas based on further information from the US Coast Guard, eg ACPARS

Based on expected use constraints

- Areas within 12 nm from shore (turbines only) Airport approaches, tug/barge traffic, recreational activity, aesthetic concerns
- Areas within hazardous material disposal sites

Preliminary Wind Energy Planning

EXCLUSION AREAS | New York Offshore Planning Area



-  Offshore Planning Area
-  Exclusion Areas
-  Federal Territorial Sea
-  State Territorial Sea
-  Shipping Lanes



Produced by New York State Department of State (September 2013)

Data Sources: US Marine Cadastre; US Coast Guard ACPARS Interim Report (July 2012)

Process for Identifying “pre-WEAs”: Data Analysis

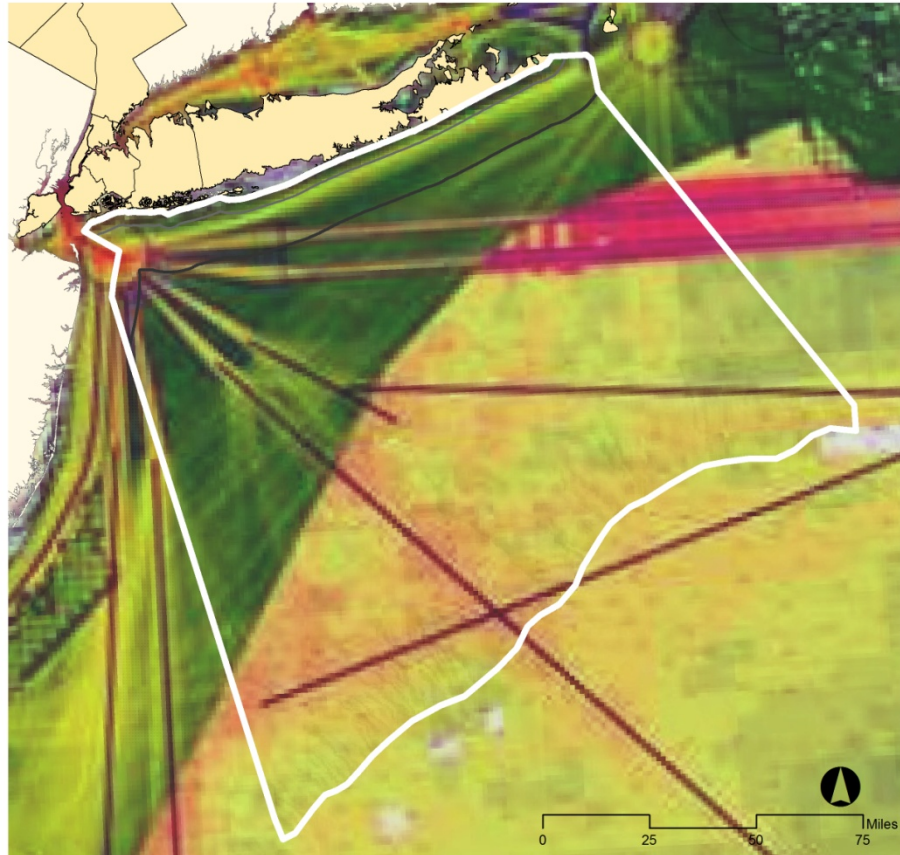
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Offshore Industries

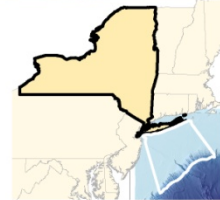
- Data from the Offshore Atlantic Ocean Study
 - USCG Port Access Route Study (shipping)
 - NOAA NMFS (commercial fishing)
 - Cornell (commercial fishing)
- Data from online data portals
 - MARCO, Multi-purpose Marine Cadastre
- Ongoing analysis, discussions with commercial fishing, shipping interests

Preliminary Wind Energy Planning

US COAST GUARD ACPARS DATA | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea

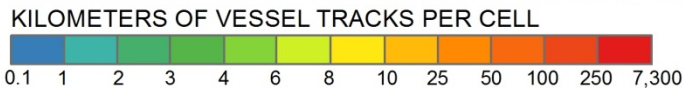
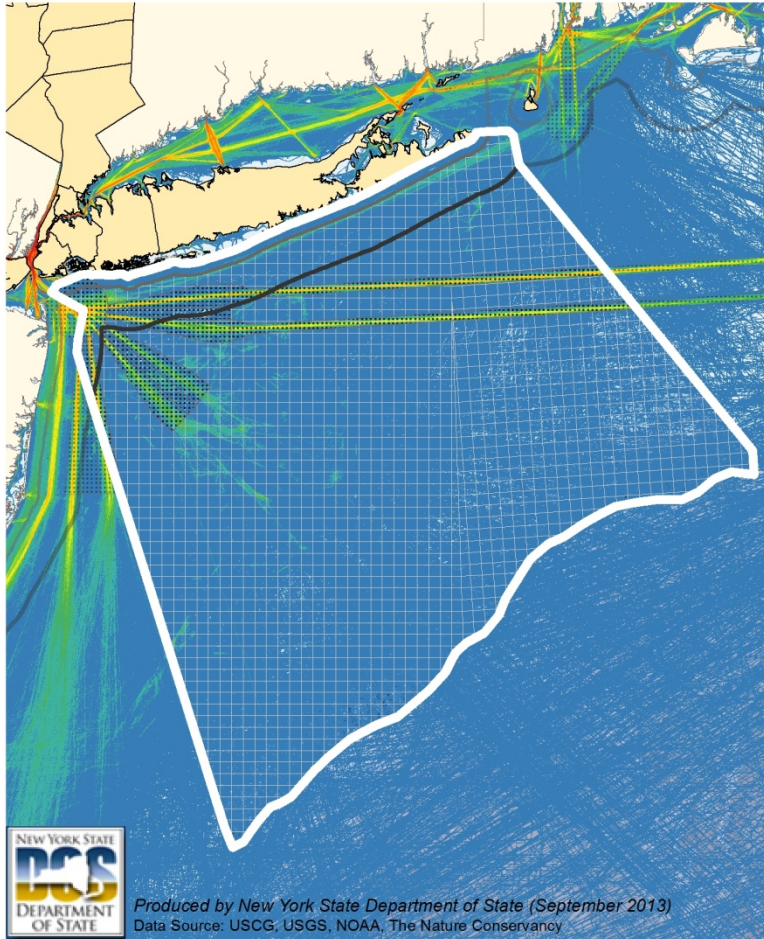


Produced by New York State Department of State (September 2013)
Data Sources: US Coast Guard ACPARS Interim Report (July 2012)

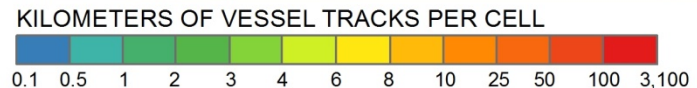
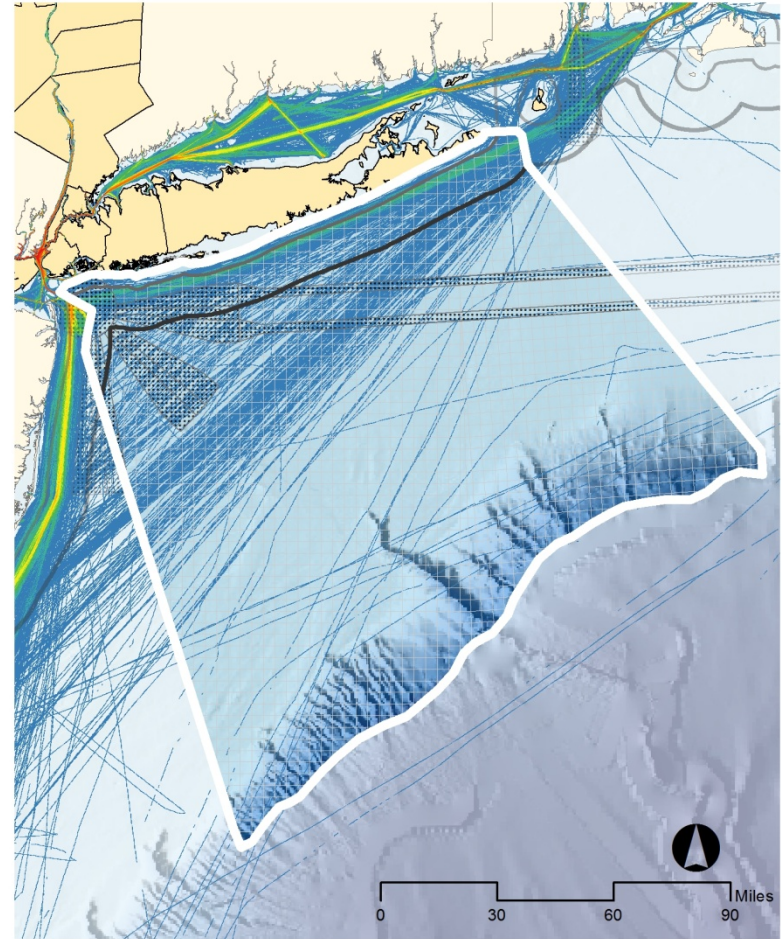
Preliminary Wind Energy Planning

AIS SHIPPING DATA | New York Offshore Planning Area

All Vessels (2011)



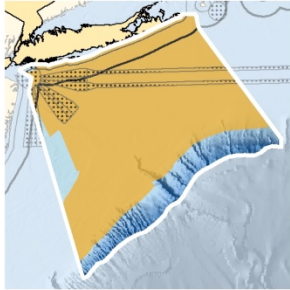
Tug Tow Vessels (2011)



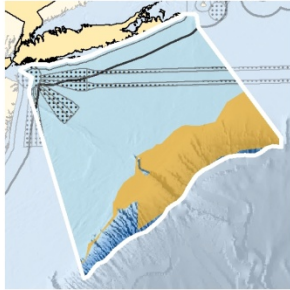
NEW YORK COMMERCIAL FISHING DATA (annual)

Gear Type Distribution

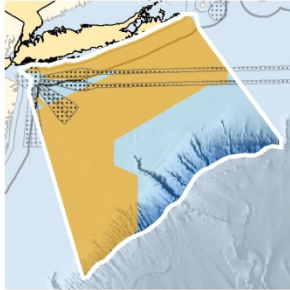
TRAWLERS (n=66*)



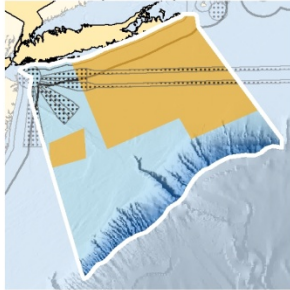
LOONGLINE (n=5*)



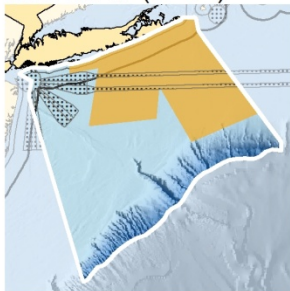
DREDGE (n=7*)



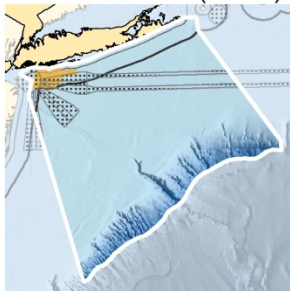
POTS (n=7*)



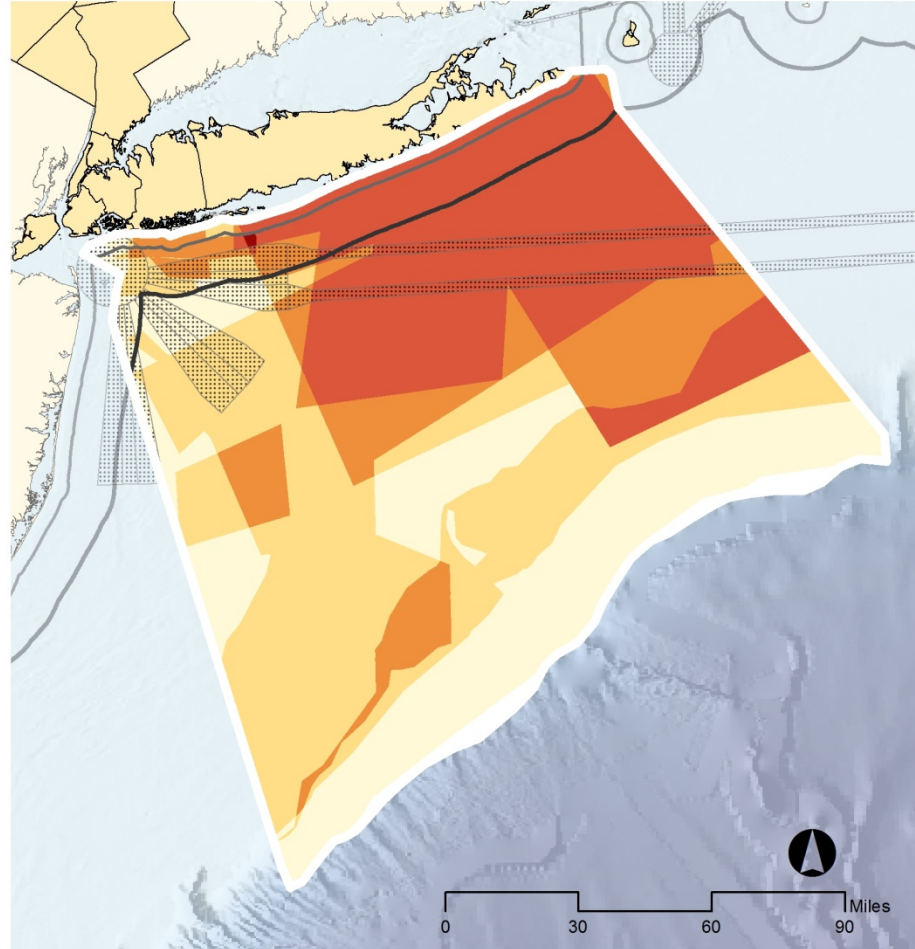
GILLNET (n=4*)



ROD & REEL (n=3*)



Number of Overlapping Gear Types



NUMBER OF OVERLAPPING GEAR TYPES



Data Source: Cornell Cooperative Extension 2012

*refers to number of records; does not necessarily represent number of fishing vessels



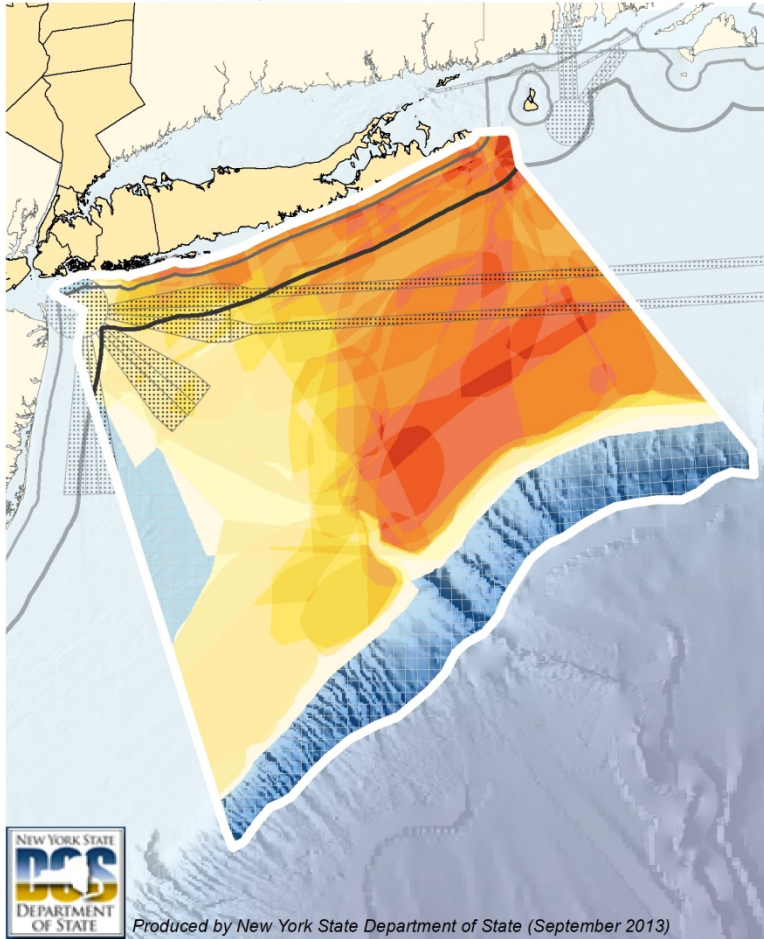
COMMERCIAL FISHING DATA: trawl (annual)

New York Fishers (n=66*)

Data Source: Cornell Cooperative Extension 2012

Total Landings (lbs) Between 2001 & 2010

Data Source: NMFS VTR

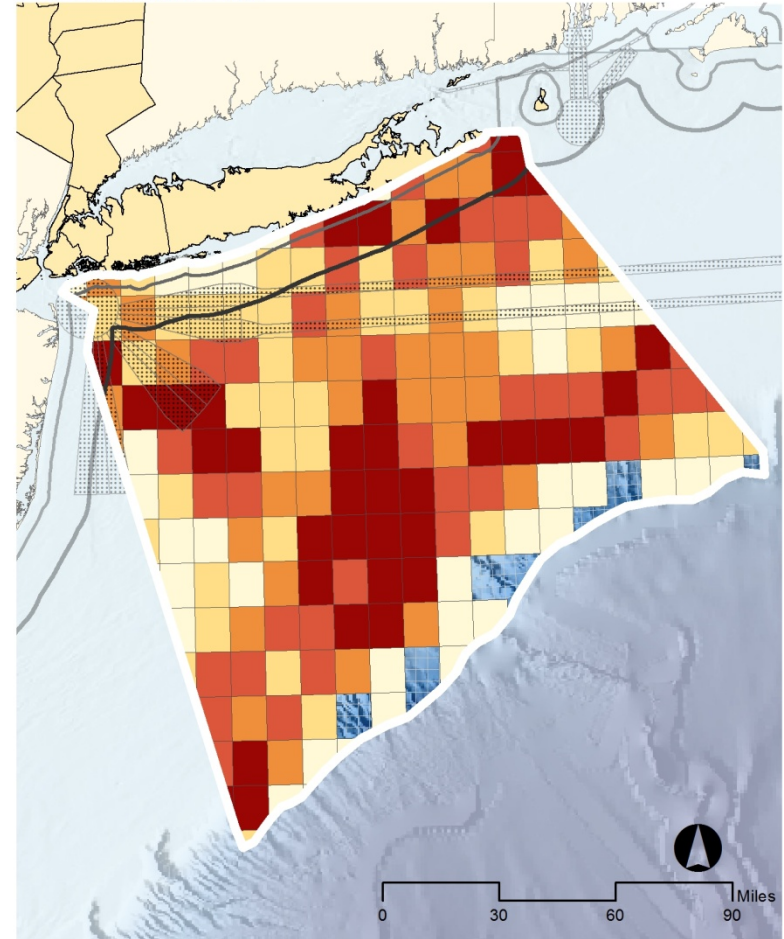


Produced by New York State Department of State (September 2013)

NUMBER OF OVERLAPPING FISHING AREAS*



*refers to number of records; does not necessarily represent the number of fishing vessels



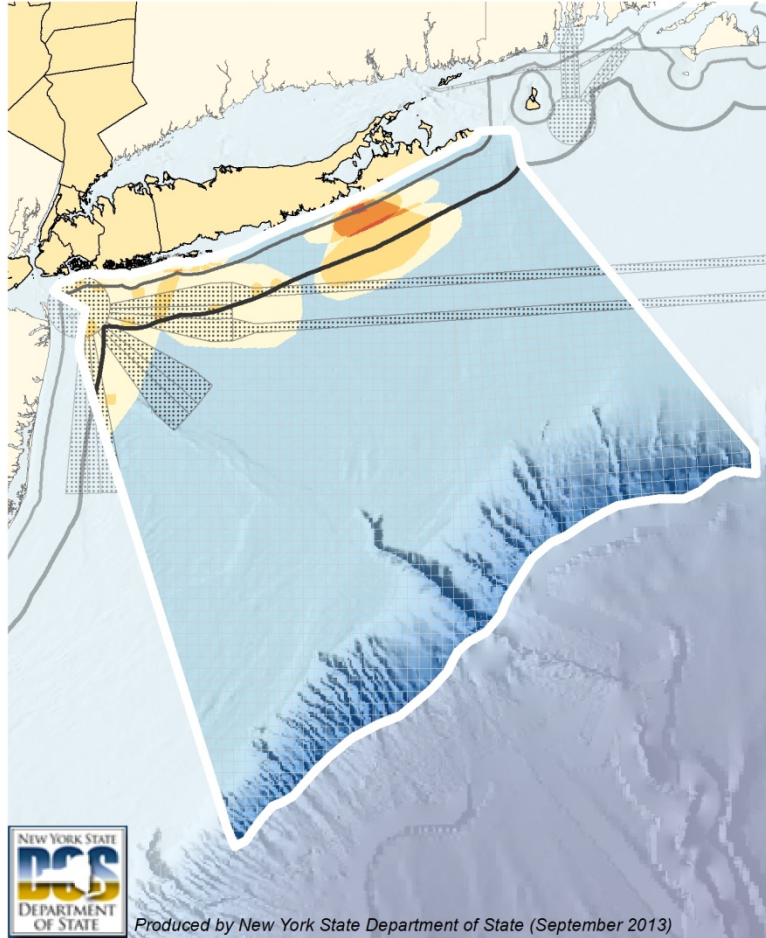
TOTAL LANDINGS BETWEEN 2001 & 2010 (millions of lbs)



FOR HIRE RECREATIONAL FISHING DATA (annual)

New York Fishers (n=18*)

Data Source: Cornell Cooperative Extension 2012



Produced by New York State Department of State (September 2013)

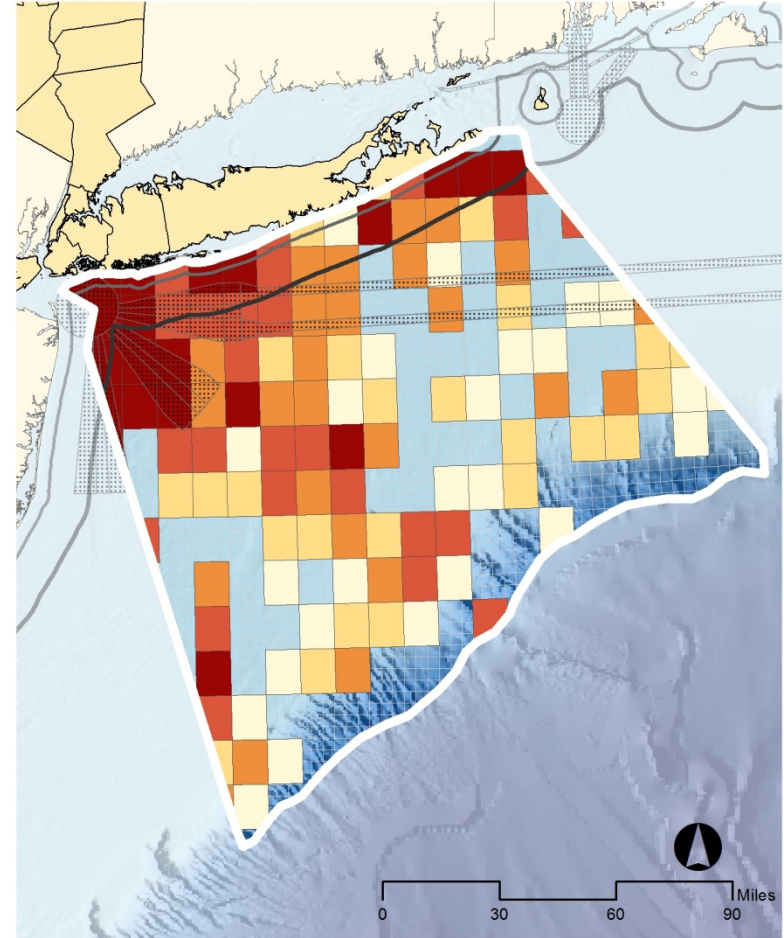
NUMBER OF OVERLAPPING FISHING AREAS*



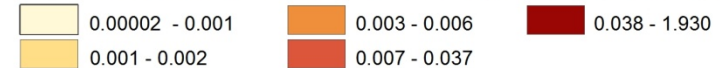
*refers to number of records; does not necessarily represent the number of fishing vessels

Total Landings (lbs) Between 2001 & 2010

Data Source: NMFS VTR



TOTAL LANDINGS BETWEEN 2001 & 2010 (millions of lbs)

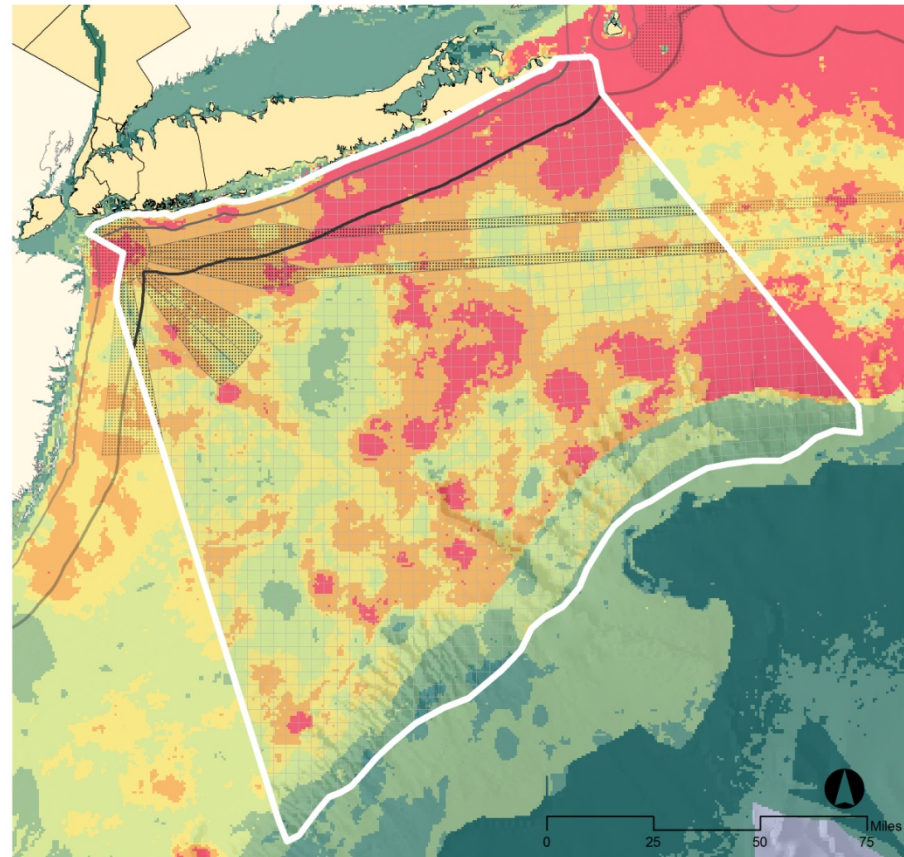


Natural Resources

- Data from the Offshore Atlantic Ocean Study
 - NOAA NCCOS (seabirds, corals/sponges)
 - URI/New England Aquarium (marine mammals, turtles, large pelagic fish)
 - Stone Environmental (groundfish)
- Initial analysis by NYS Offshore Habitat Workgroup

Preliminary Wind Energy Planning

SEABIRD SPECIES DIVERSITY | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea
- Shipping Lanes

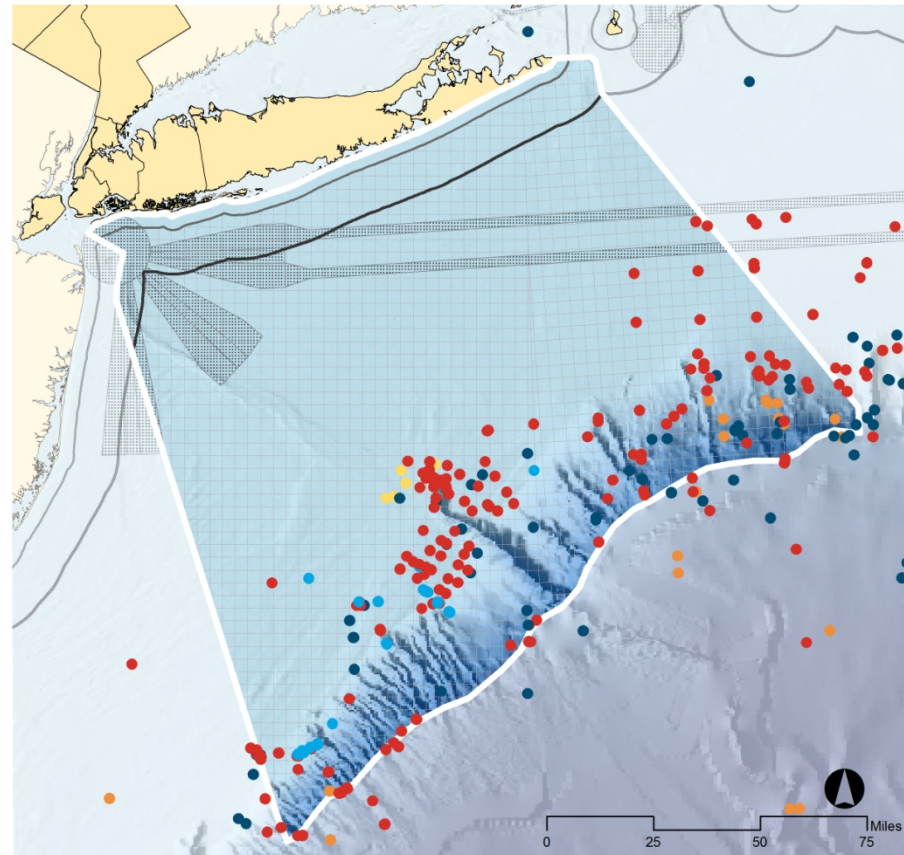


Produced by New York State Department of State (September 2013)

Data Sources: NOAA National Centers for Coastal and Ocean Science; Manomet Bird Observatory

Preliminary Wind Energy Planning

CORAL & SPONGE DISTRIBUTIONS | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea
- Shipping Lanes

DEEP-SEA CORALS & SPONGES (order)

- Porifera
- Gorgonacea
- Pennatulacea
- Scleractinia
- Zoanthidea

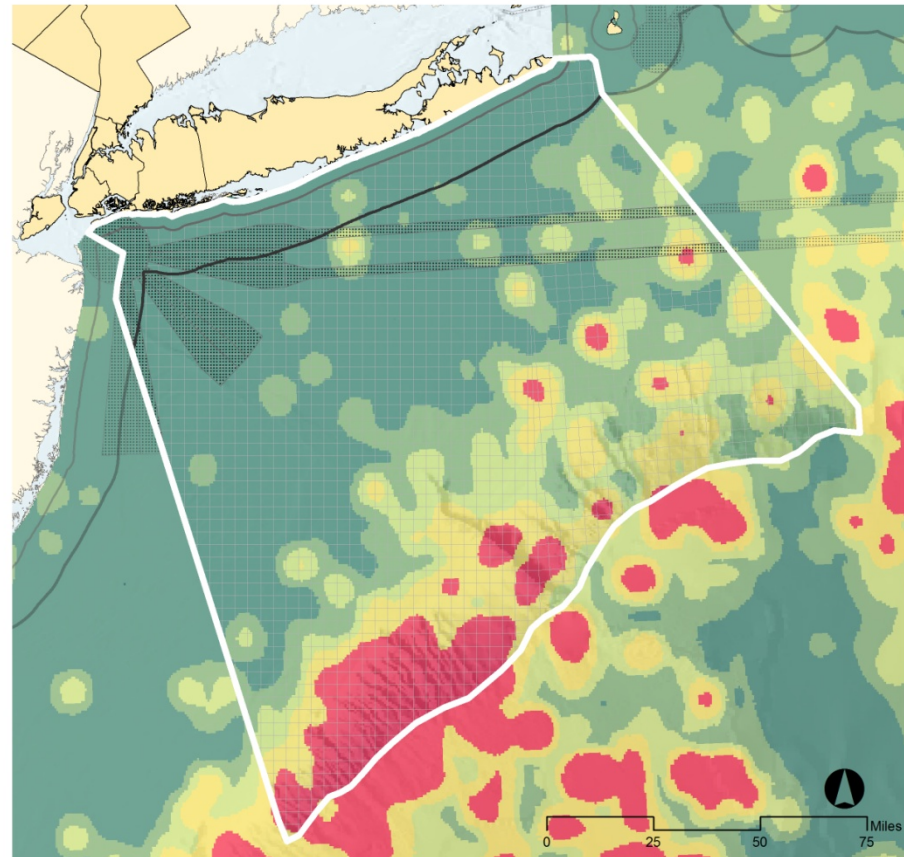


Produced by New York State Department of State (September 2013)

Data Sources: NOAA National Centers of Coastal and Ocean Science, Biogeography Branch

Preliminary Wind Energy Planning

CETACEAN DISTRIBUTION | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea
- Shipping Lanes

ANNUAL RELATIVE ABUNDANCE (thousands)

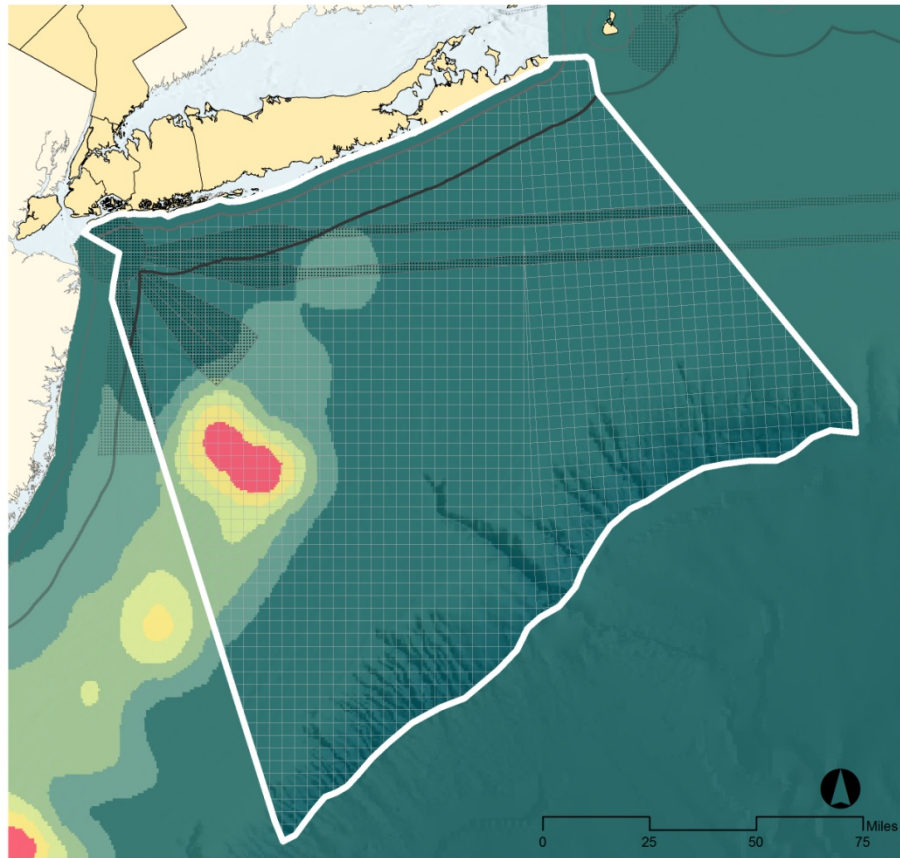
0	0.0003	0.1	0.3	0.7	1.5	27.7
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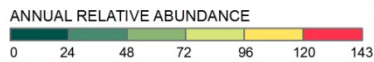
Produced by New York State Department of State (September 2013)
Data Sources: University of Rhode Island; New England Aquarium

Preliminary Wind Energy Planning

SEA TURTLE DISTRIBUTION | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea
- Shipping Lanes

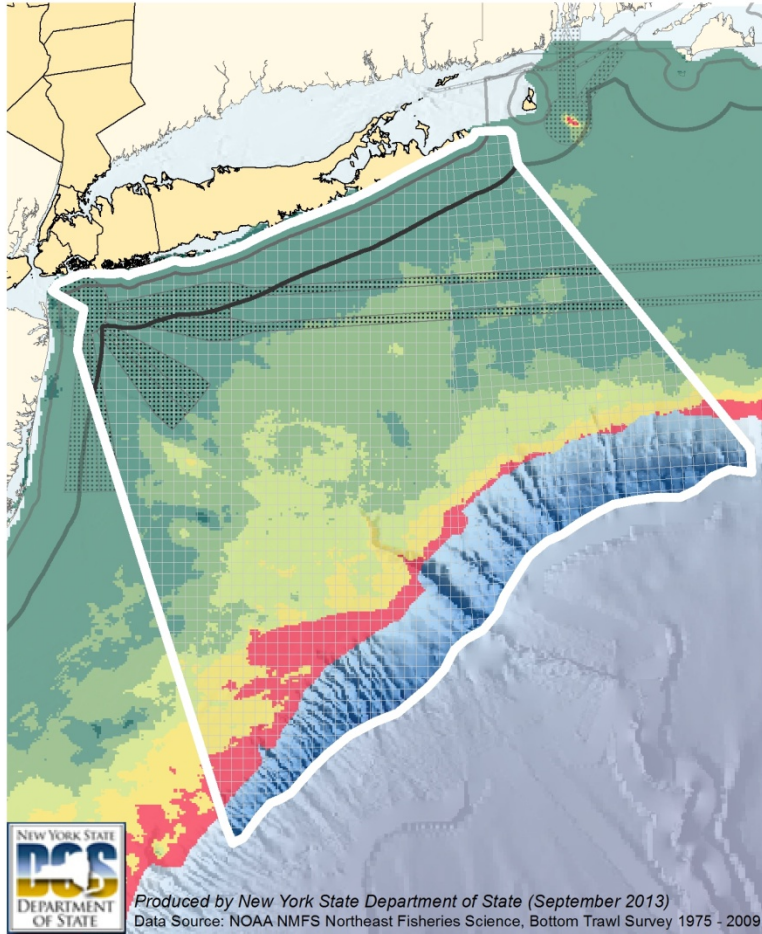


Produced by New York State Department of State (September 2013)
Data Sources: University of Rhode Island; New England Aquarium

Preliminary Wind Energy Planning

BLACK SEA BASS SEASONAL DISTRIBUTIONS | New York Offshore Planning Area

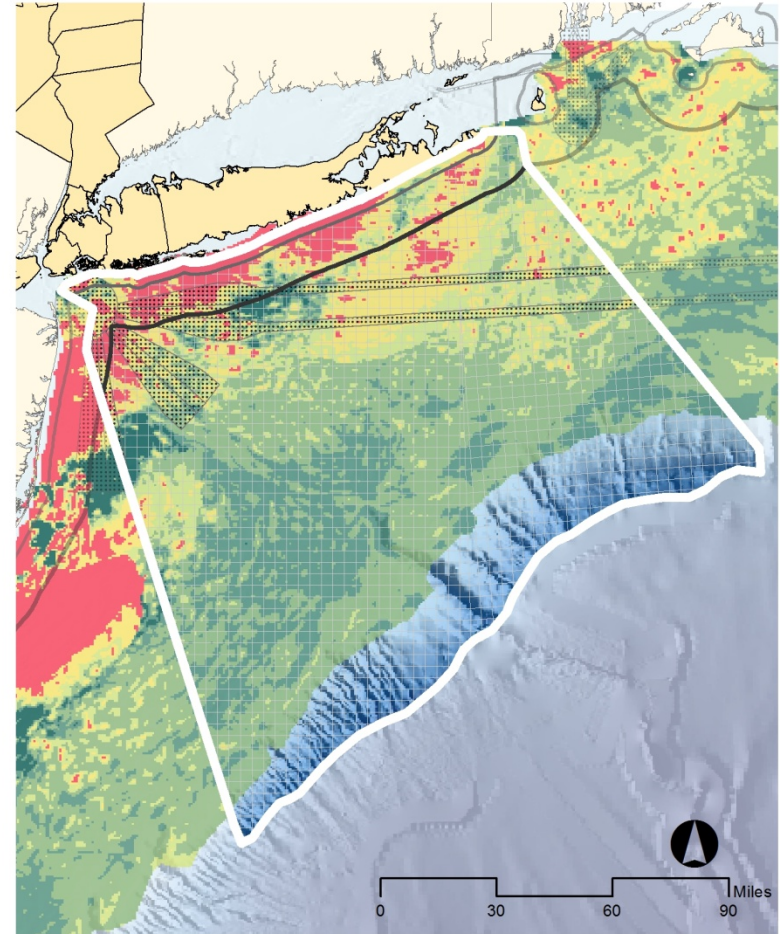
Spring Distribution (adults)



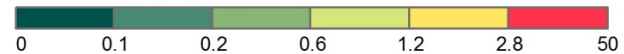
RELATIVE ABUNDANCE



Fall Distribution (adults)

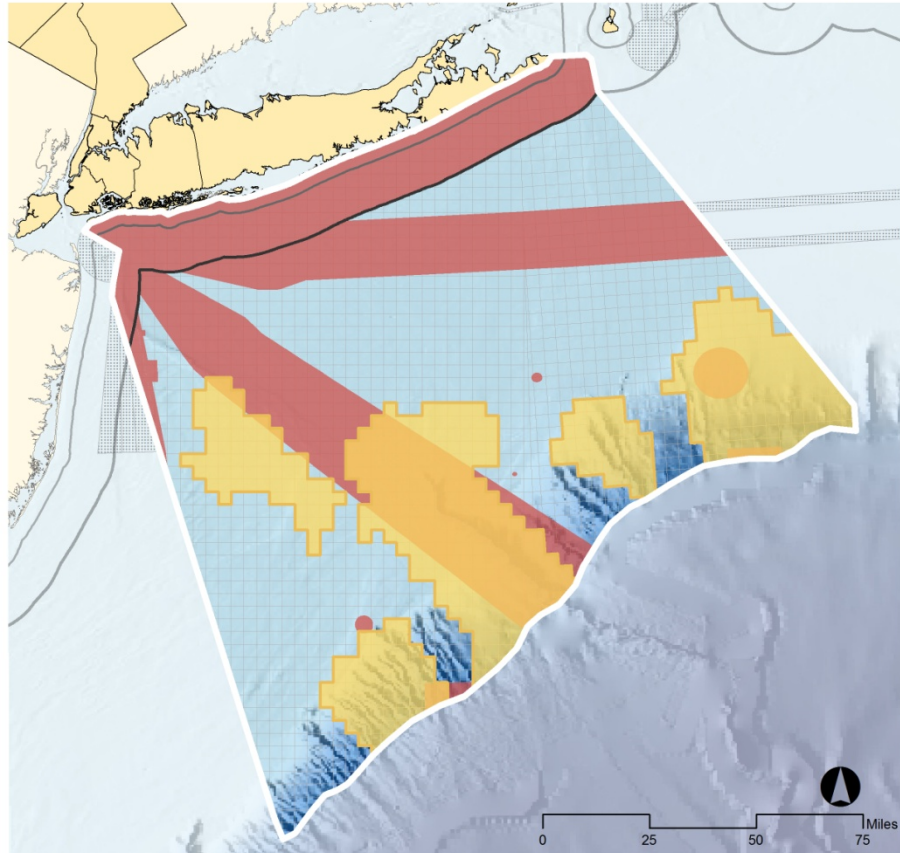


RELATIVE ABUNDANCE



Preliminary Wind Energy Planning

NATURAL RESOURCE INITIAL ANALYSIS | New York Offshore Planning Area



- Offshore Planning Area
- Federal Territorial Sea
- State Territorial Sea
- Shipping Lanes
- Avoided Areas - Natural Resources
- Exclusion Areas



Produced by New York State Department of State (September 2013)
Data Sources: NYS Habitat Workgroup

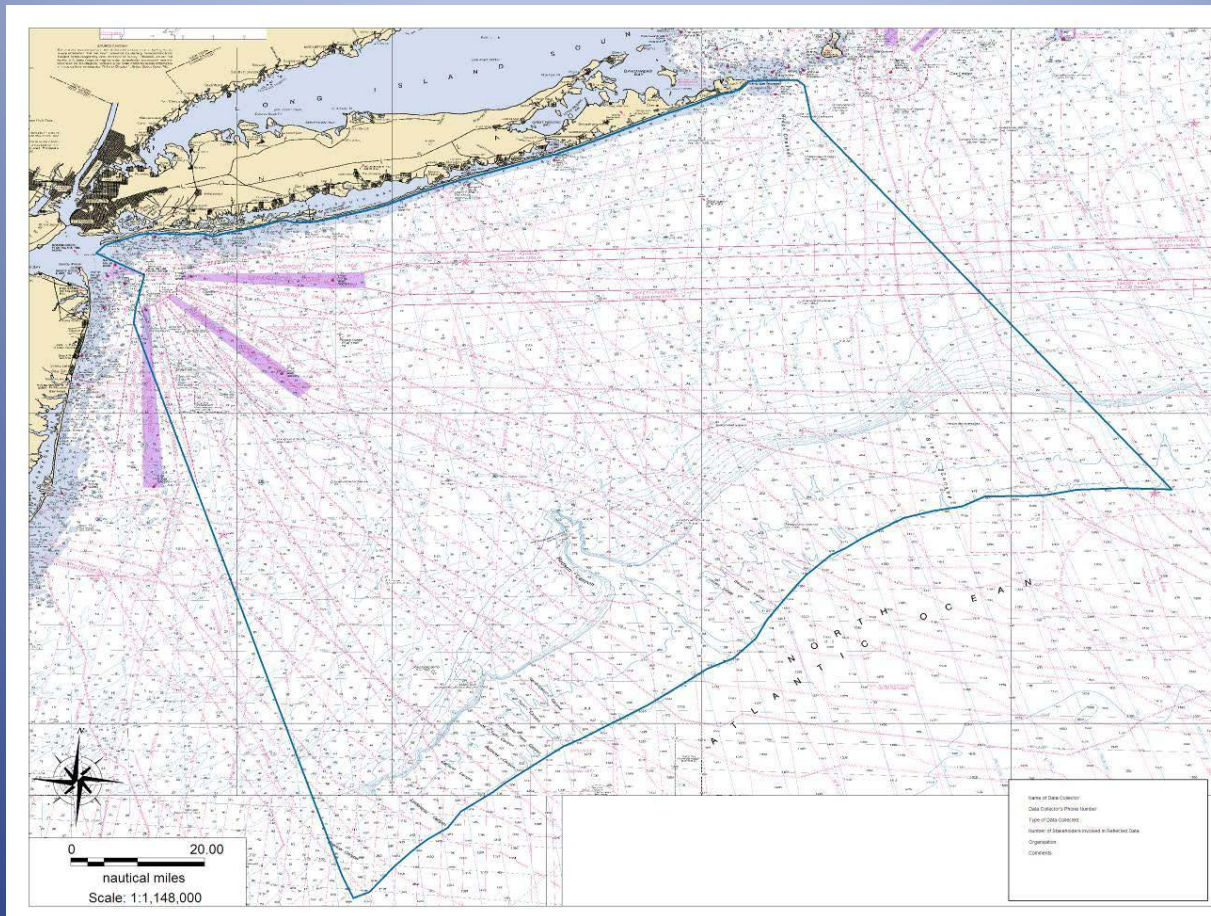
Process for Identifying “pre-WEAs”: Data Analysis

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Next Steps

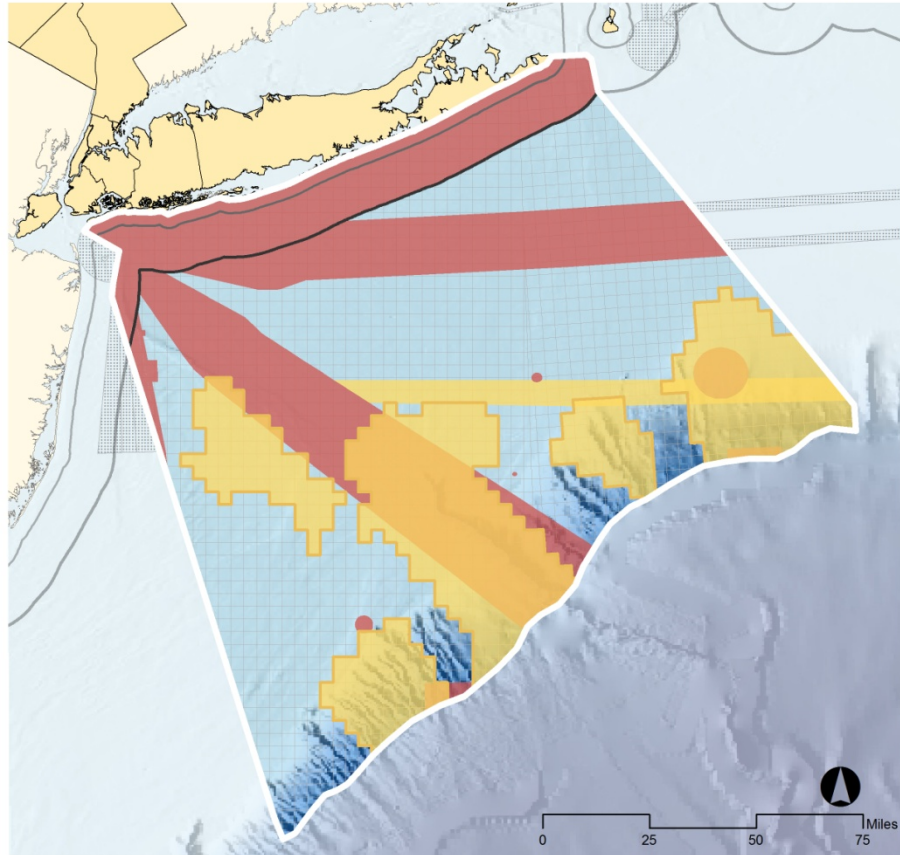
- Continue working with commercial fishing, shipping interests
- Identify data categories for additional spatial analysis
 - the list of additional uses and resources to be mapped within the planning area
 - analysis using available GIS data layers
 - identification of questions to be addressed through NEPA

Questions?



Preliminary Wind Energy Planning

NATURAL RESOURCE INITIAL ANALYSIS | New York Offshore Planning Area



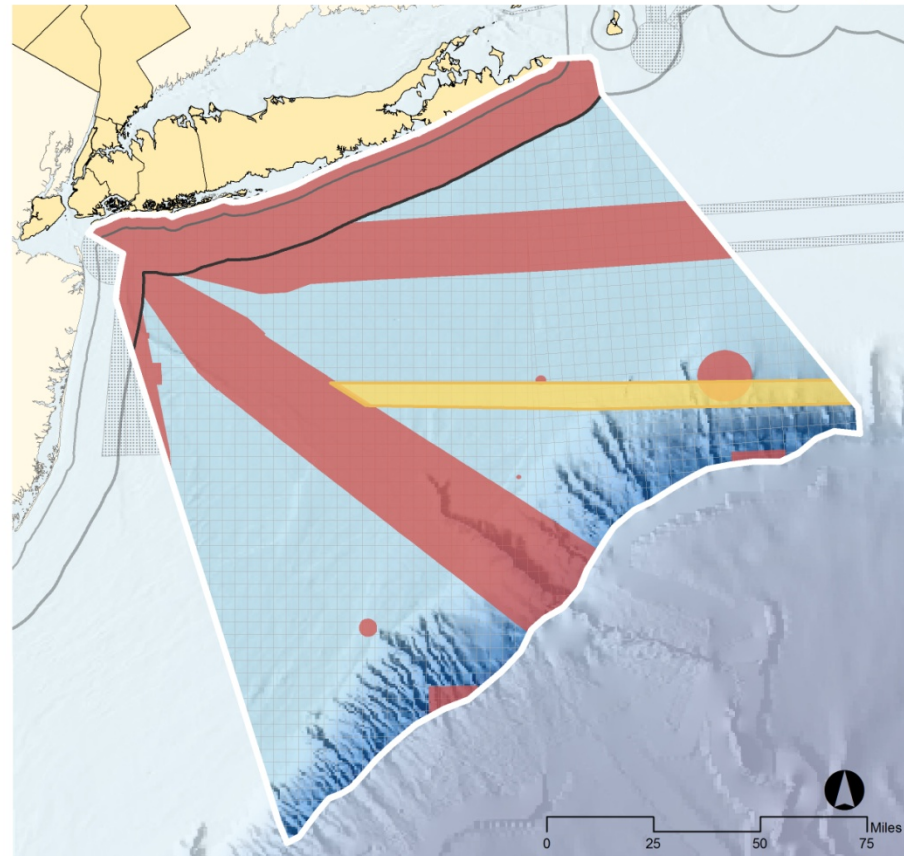
- Offshore Planning Area
- Avoided Areas - Natural Resources & High Intensity Shipping
- Federal Territorial Sea
- Exclusion Areas
- State Territorial Sea
- Shipping Lanes



Produced by New York State Department of State (September 2013)
Data Sources: NYS Habitat Workgroup

Preliminary Wind Energy Planning

HIGH-INTENSITY SHIPPING INITIAL ANALYSIS | New York Offshore Planning Area



- Offshore Planning Area
- High Intensity Shipping
- Federal Territorial Sea
- Exclusion Areas
- State Territorial Sea
- Shipping Lanes



Produced by New York State Department of State (September 2013)
Data Sources: US Coast Guard ACPARS Interim Report (July 2012)