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Eastern Long Island Sound Supplemental EIS (SEIS) Preliminary Zone of Siting Feasibility and GIS Screening for Candidate Alternative Dredged Material Disposal Sites

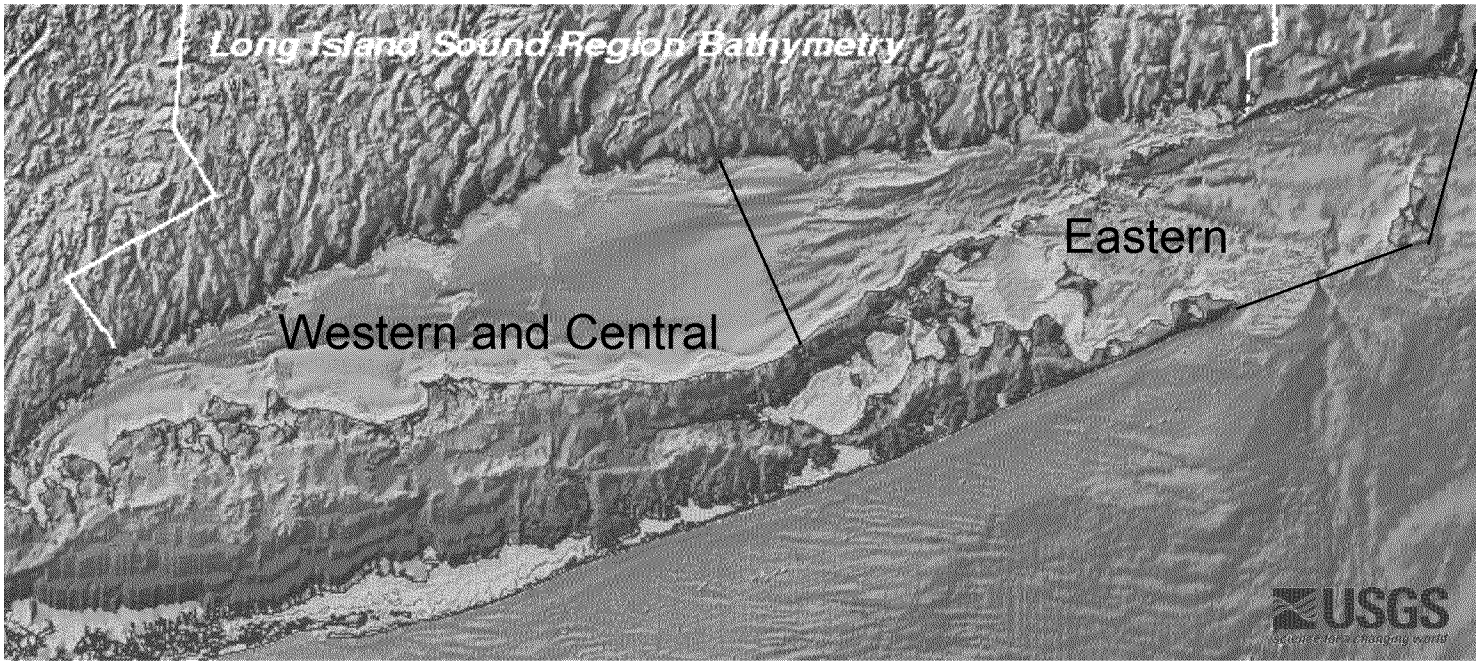
Interagency Meeting at CTDOT

January 8, 2013

ED_001437D_00000678-00001

Zone of Siting Feasibility

- The SEIS will address the eastern region of LIS which was deferred during the earlier review of the western and central regions.
- It focuses on the remaining portion of the original ZSF that was not reviewed.



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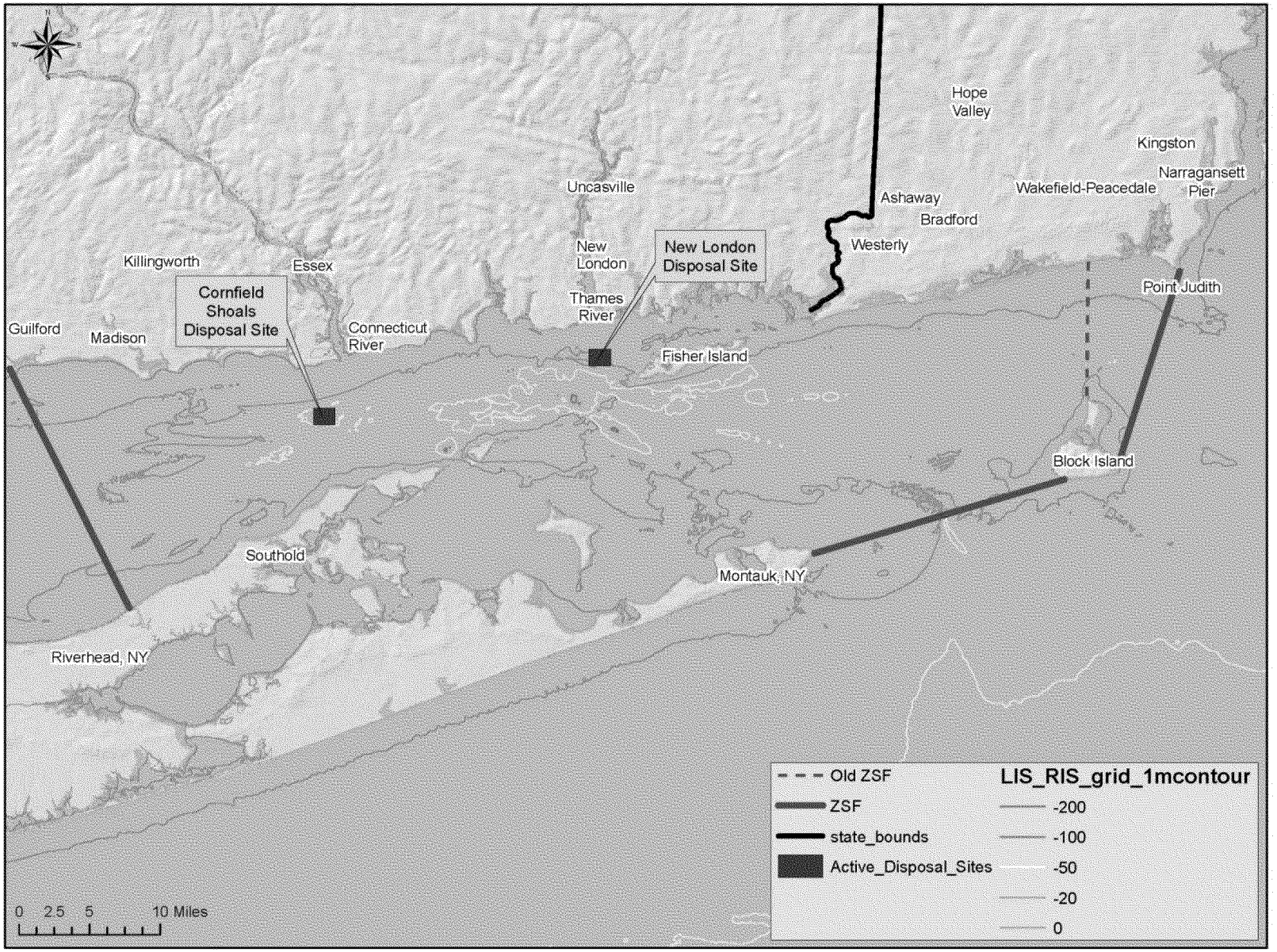
ZSF for Eastern LIS SEIS



Objectives of the Screening

- To identify areas within the revised ZSF acceptable for locating an open water disposal site designated under the Ocean Dumping Regulations
- To identify specific alternative disposal site(s) within the acceptable area(s) for further evaluation in the SEIS

Approach to Screening

- General Approach
  - Review Marine Protection, Research, and Sanctuaries Act of 1972 Criteria
    - 5 general (40 CFR 228.5) and 11 specific regulatory criteria (40 CFR 228.6) for ocean dredged material site designation.
  - Map previously defined LIS alternative dredged material site evaluation factors onto the ocean dumping regulation criteria
  - Prioritize the LIS factors into Tier 1 and Tier 2 screening levels
    - Tier 1 – rule out areas not acceptable for an open water disposal site
    - Tier 2 – identify specific locations for alternative site(s)

Approach to Screening

- Tier 1: Rule out areas based on the following
  - Sediment Stability/Instability – 228.5(b)
    - Bathymetry/Currents and Waves
    - Sediment Stability (e.g., Sheer Stress, Sediment Texture)
    - Data for this screening will be investigated as part of the physical oceanography work conducted by UCONN as part of this project
  - Disposal Feasibility - 228.5(b)
    - Water Quality Perturbations and Near Term Fate (i.e., STFATE)
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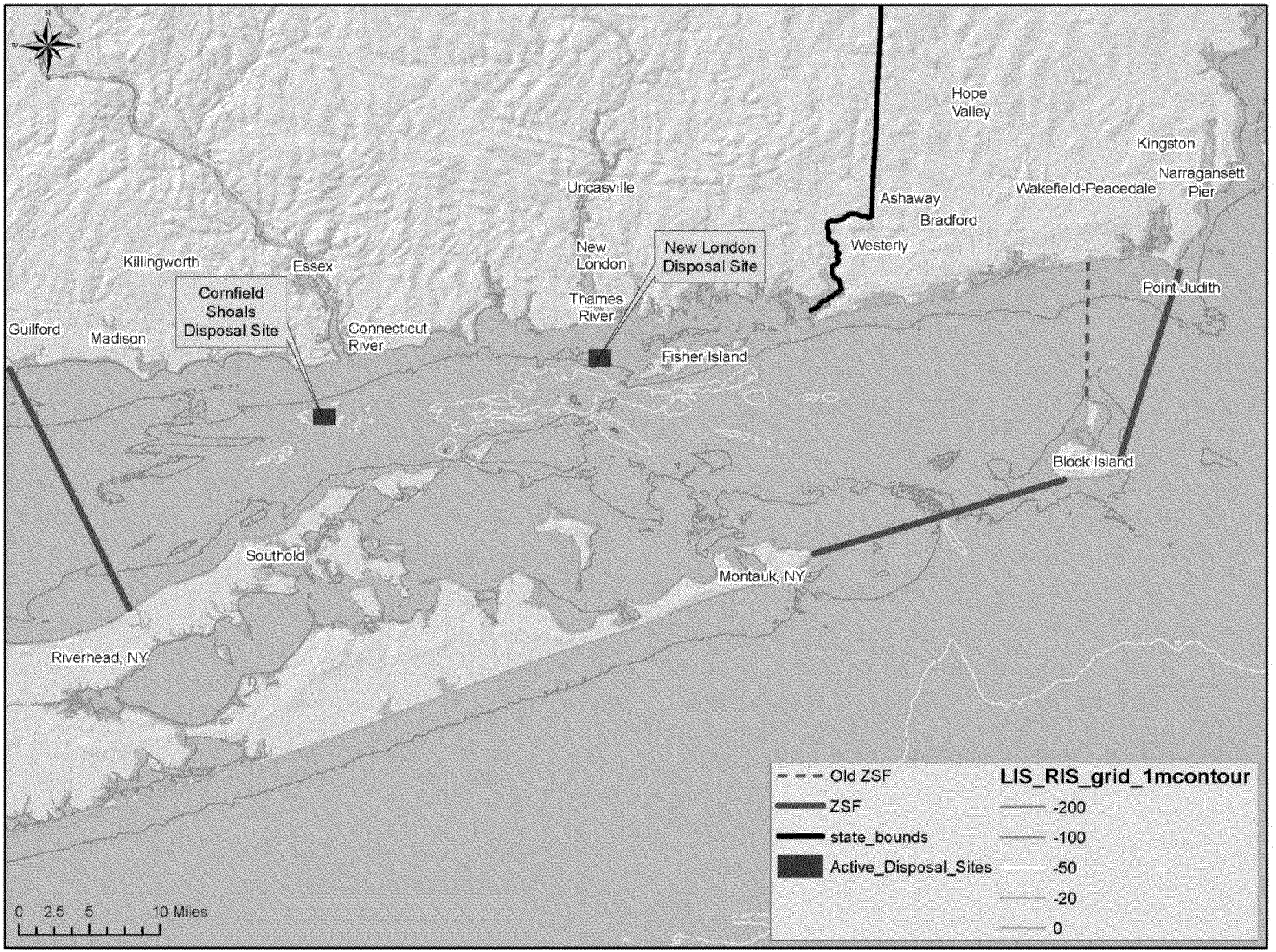
Sediment Stability/Instability - Bathymetry



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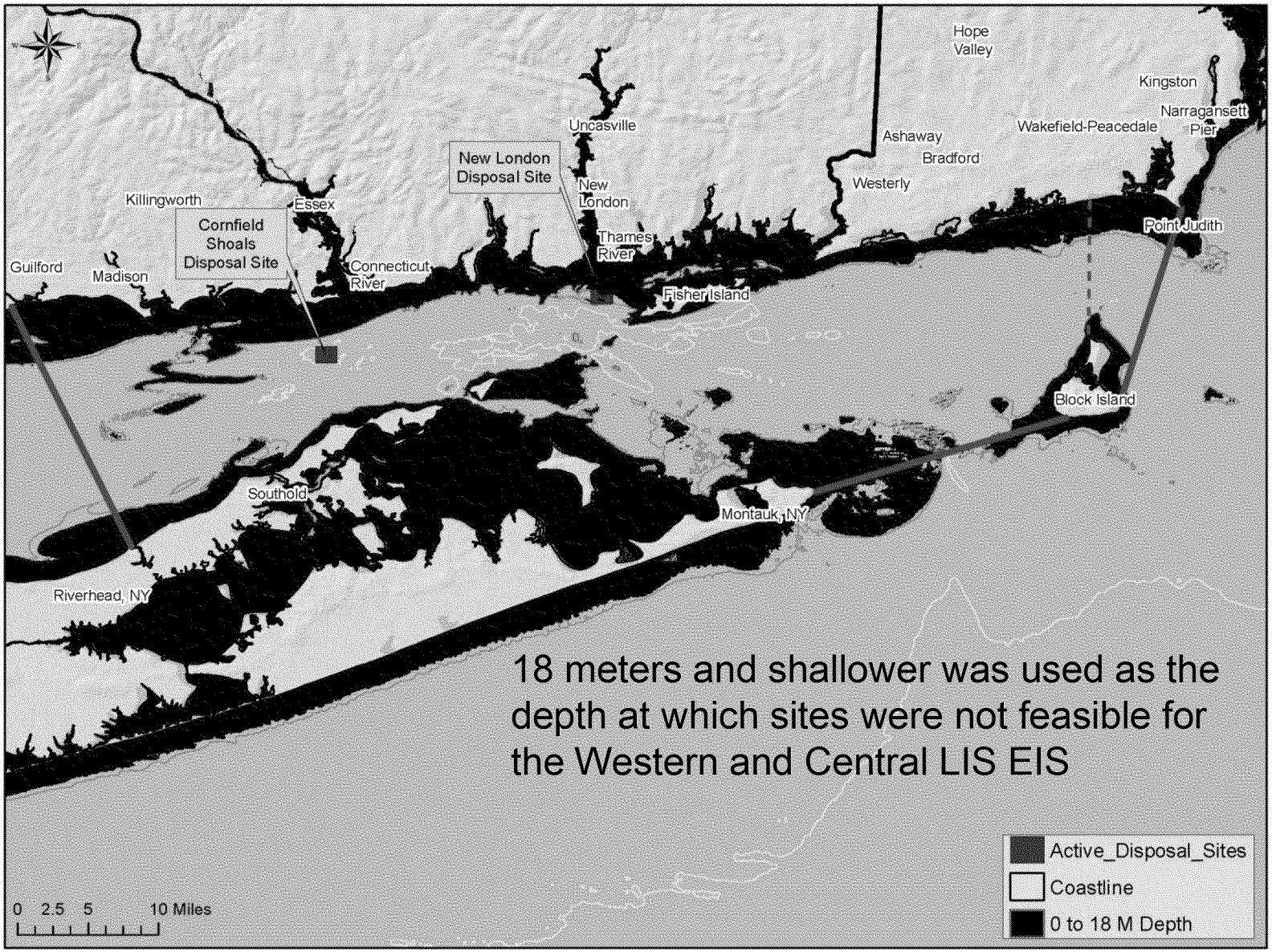
Sediment Stability/Instability - Bathymetry



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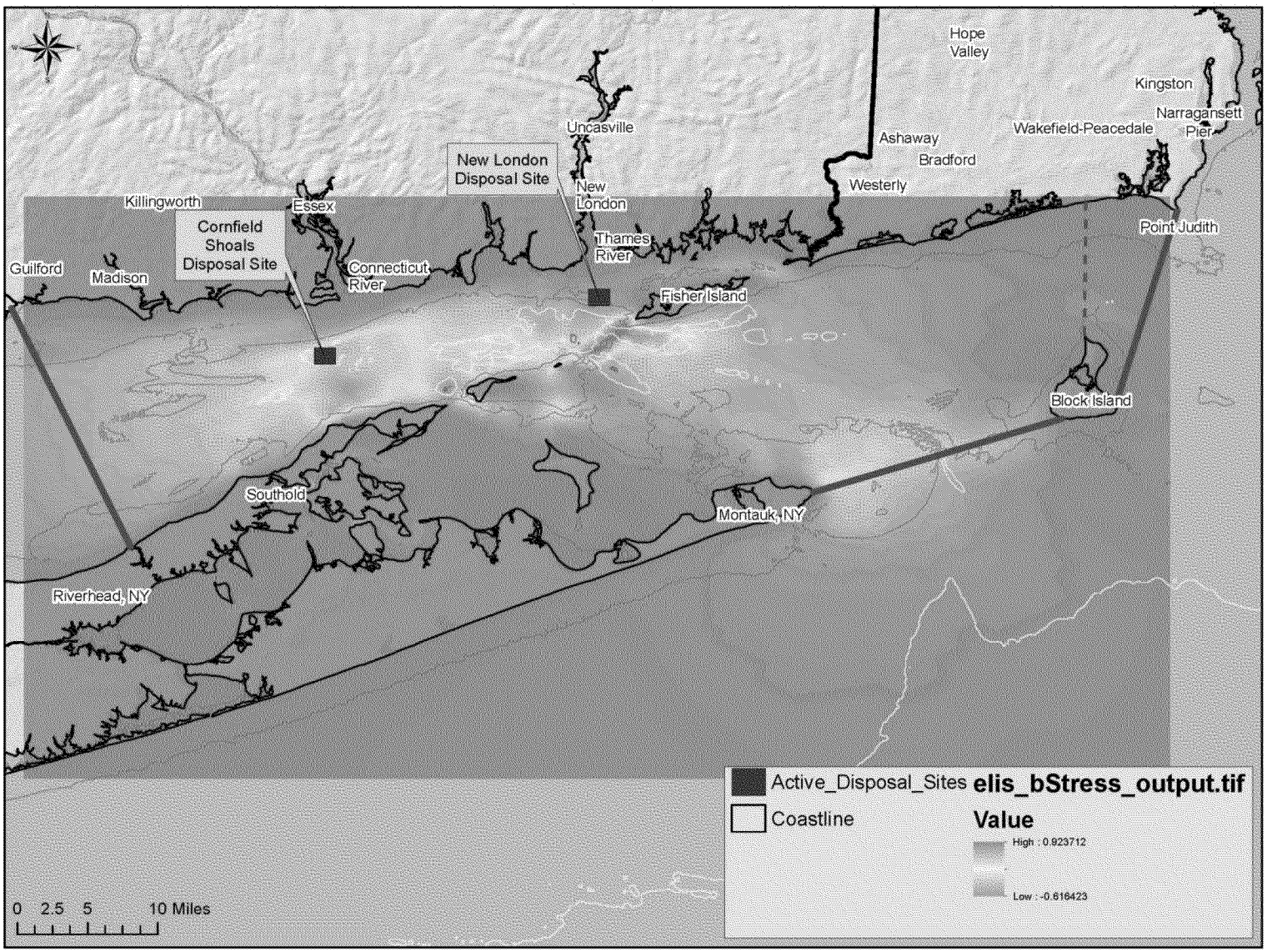
Sediment Stability/Instability– Tidal Driven Bottom Stresses

Preliminary Data; Considered minimal stress levels



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Approach to Screening

- Tier 1: Rule out areas based on the following
  - Areas with conflicting uses – 228.6(a)(8)
    - Beaches and amenities – 228.6(a)(3)
    - Utilities (pipelines, cable areas, etc)
    - Conservation areas (sanctuaries, wildlife refuges, national seashores, parks, fish havens, artificial reefs)
  - Shellfish and Fishing areas – 228.5(a)
  - Interference with Navigation – 228.5(a); 228.6(a)(8)
    - Submarines, Coast Guard vessels, large tankers, fishermen, etc.

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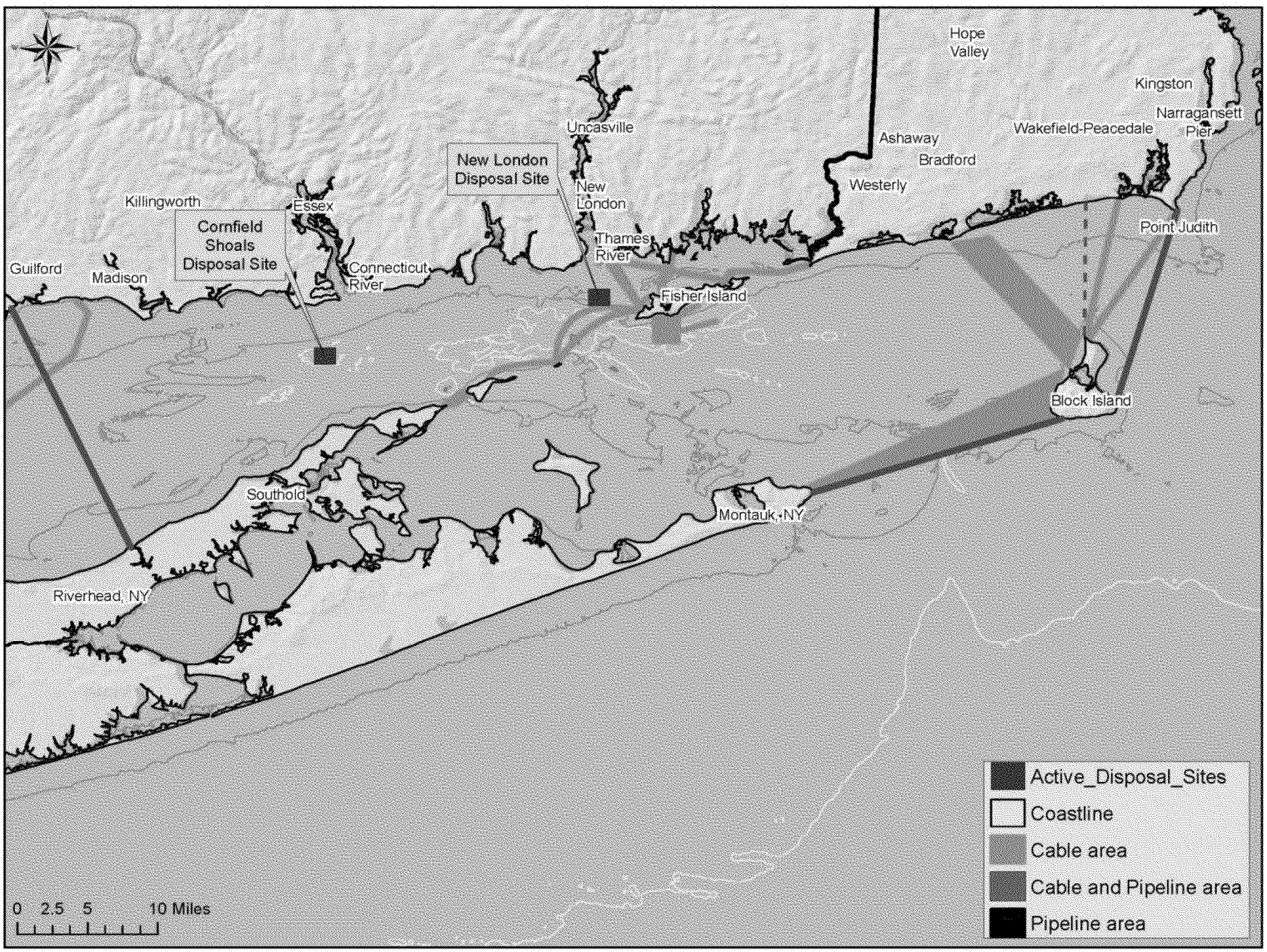
Areas with Conflicting Uses – Cables and Pipelines
(Needs to be Updated)



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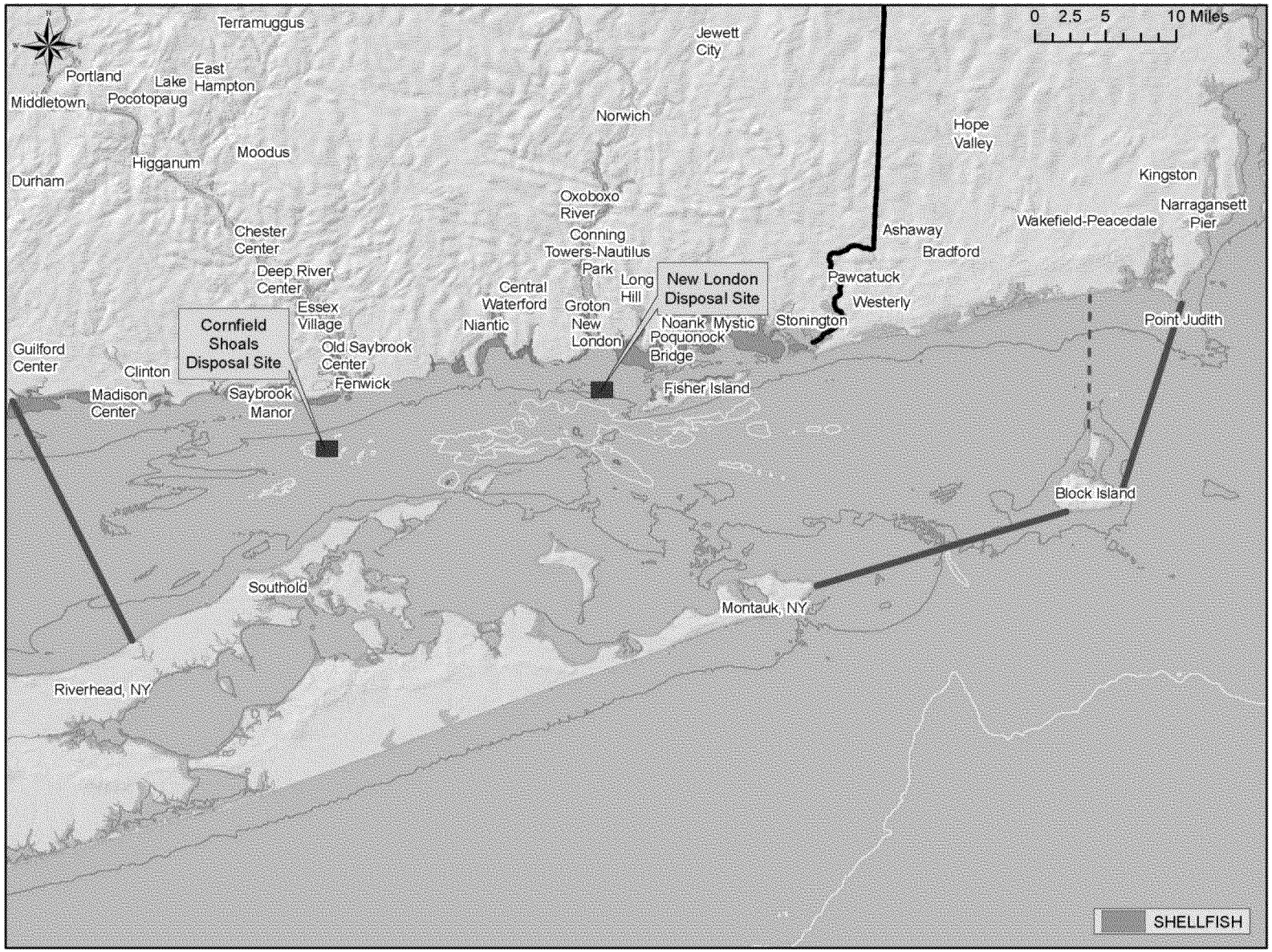
Shellfish Bed Locations -
(CT updated from CTDEEP, NY Data needed)



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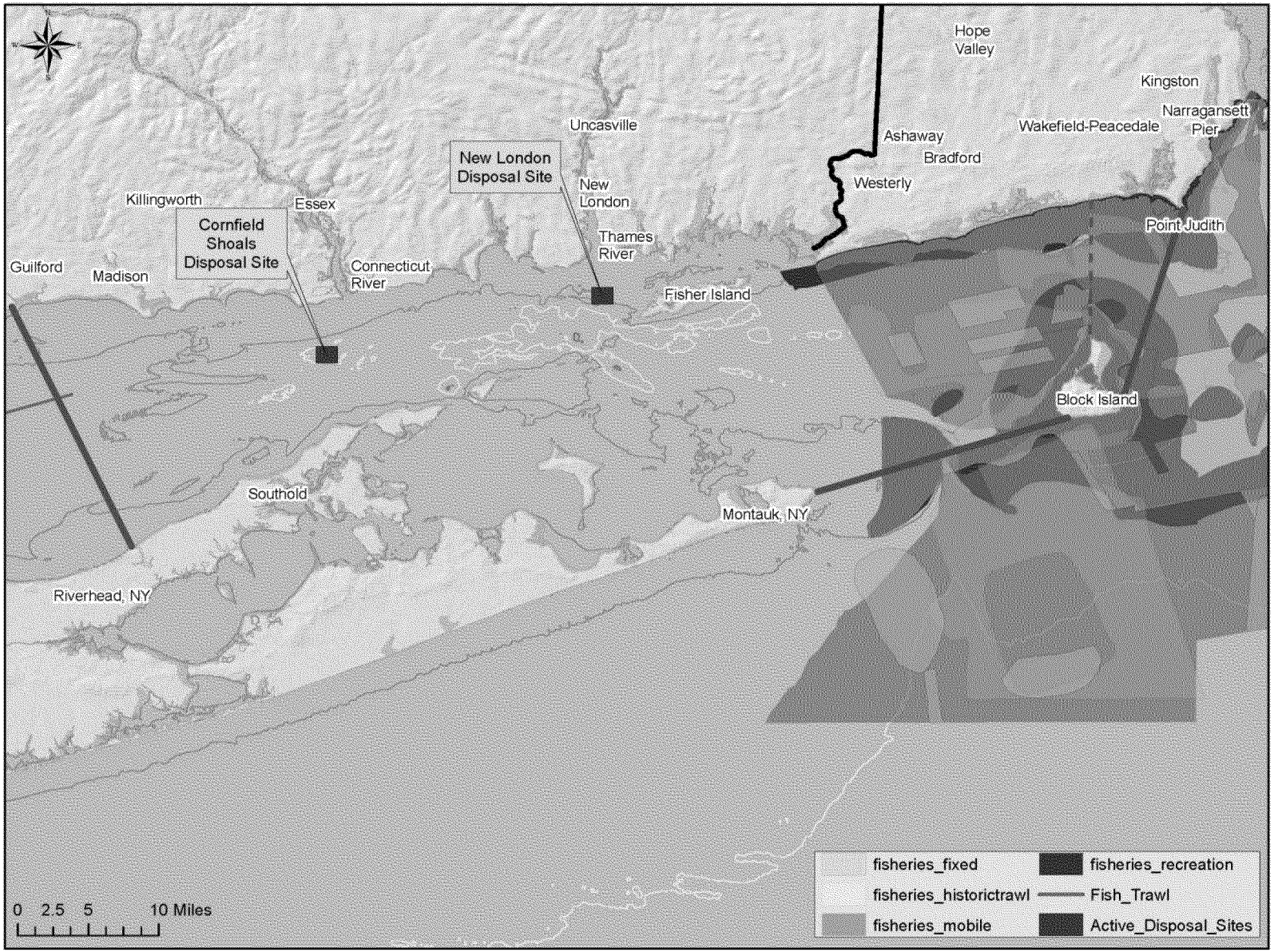
Fishing Areas
(RI updated ; CT & NY Data needed)



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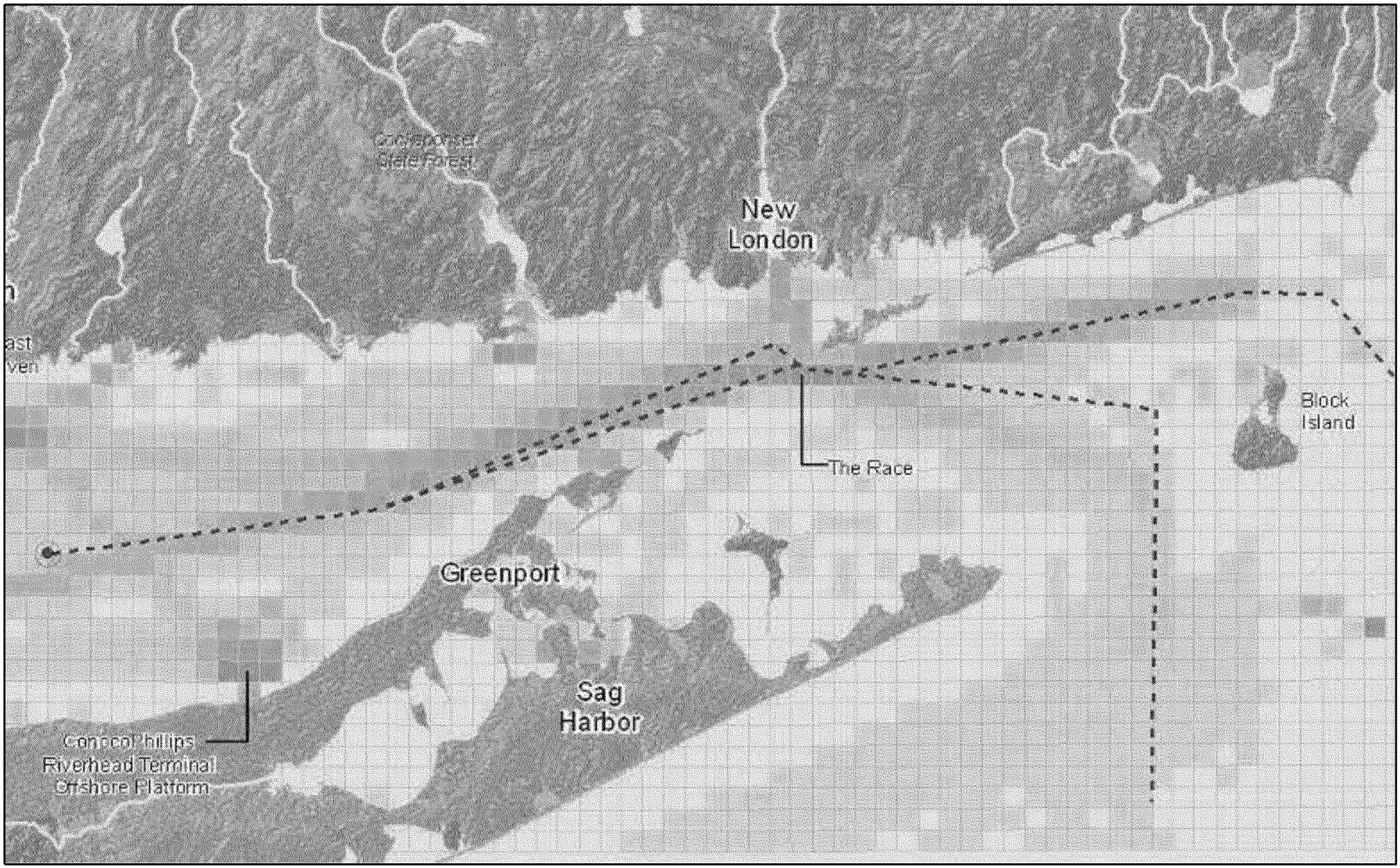
Ship Traffic Density (USCG Figure)



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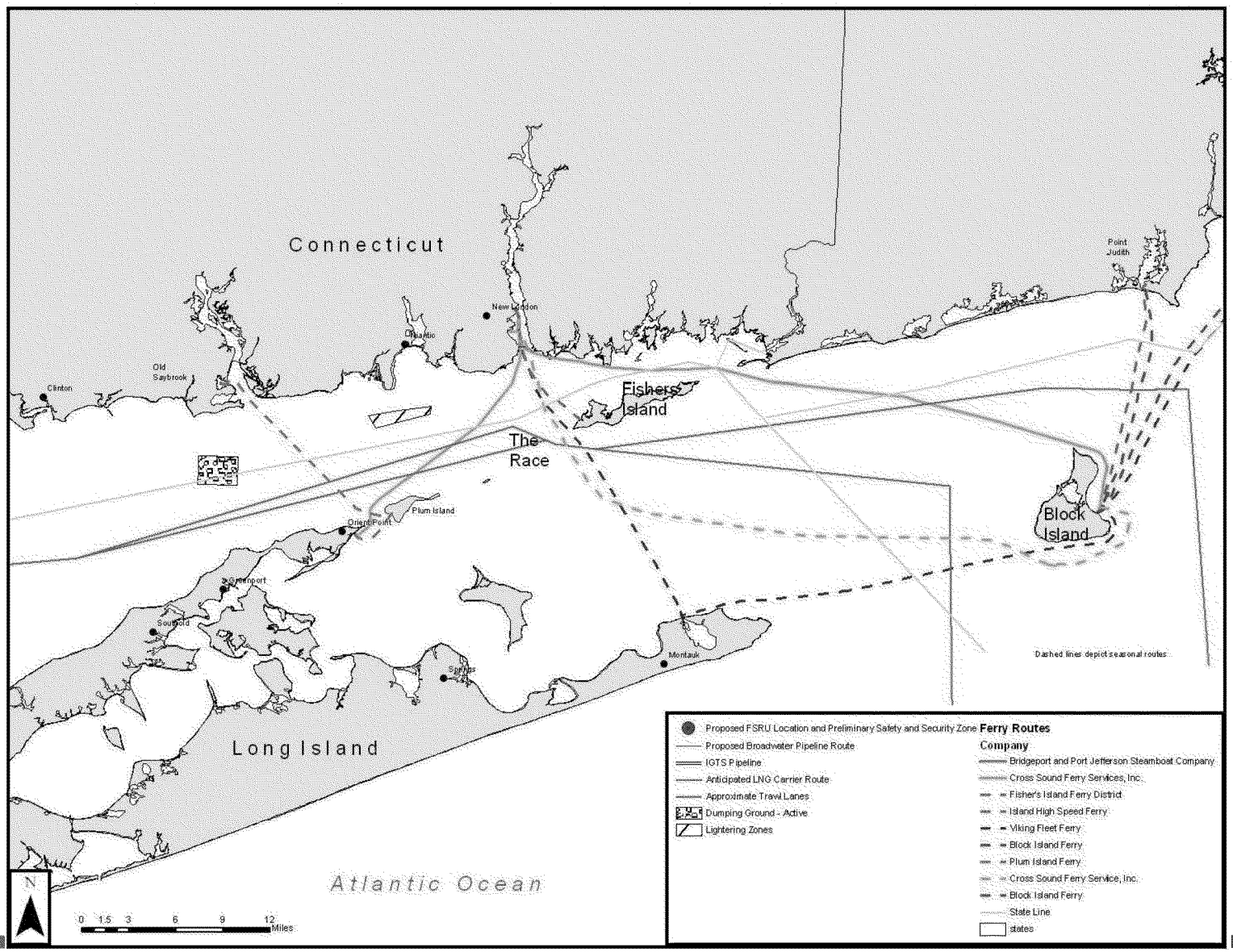
Commercial Vessel Navigation (USCG Figure)



Approach to Screening

- Tier 1: Rule out areas based on the following
  - Valuable marine habitats – 228.5(a)
    - Gravel and hardbottom areas were identified previously as important to maintain, are these still applicable?
  - Areas of high dispersion potential 228.6(a)(6)
    - Last time only containment sites were warranted. What type(s) of dredged material disposal site(s) are needed?
      - Containment – All materials remain at the location where they are placed
      - Dispersive – Materials are allowed to be moved off of the placement location through currents, etc.

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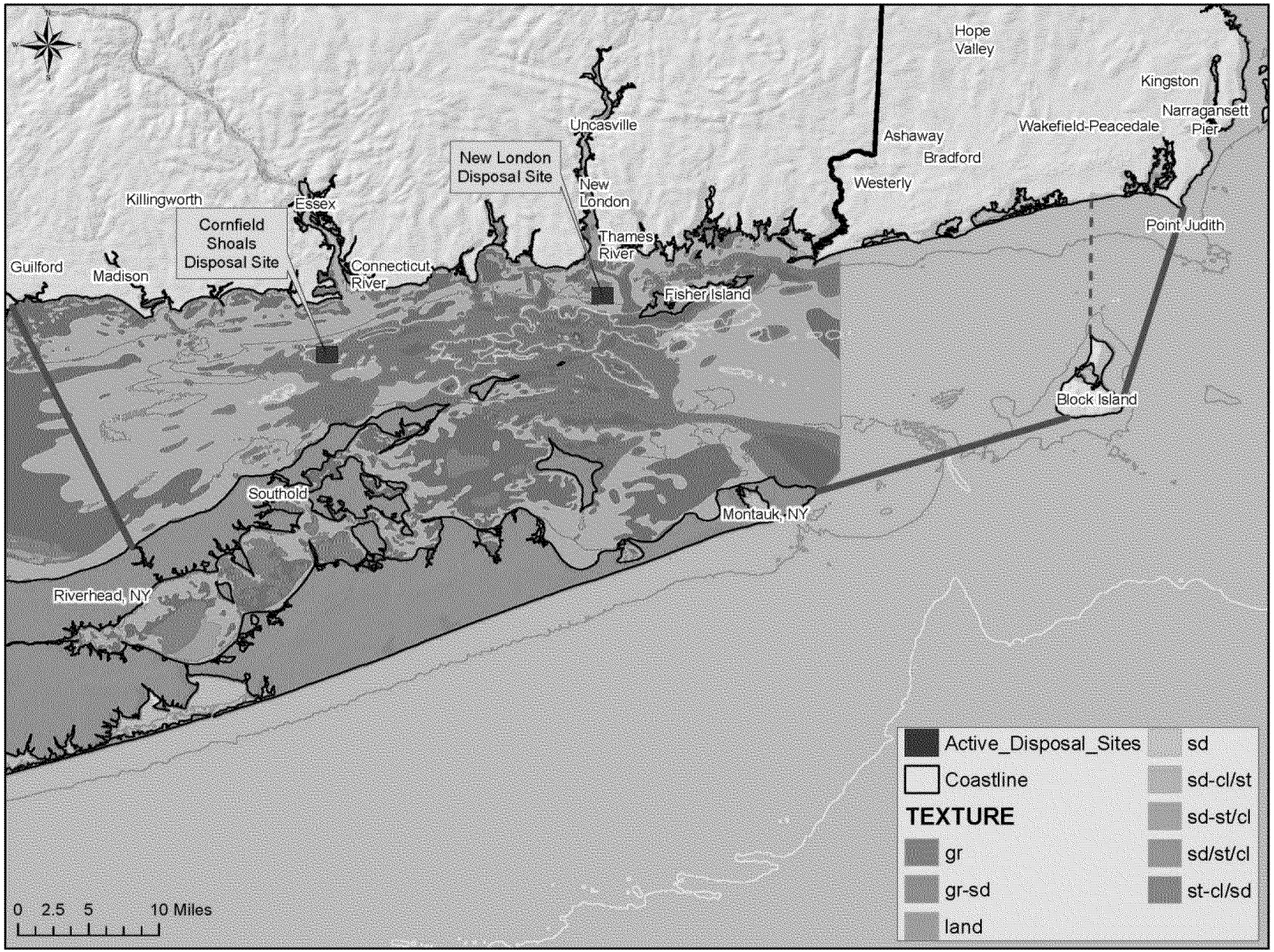
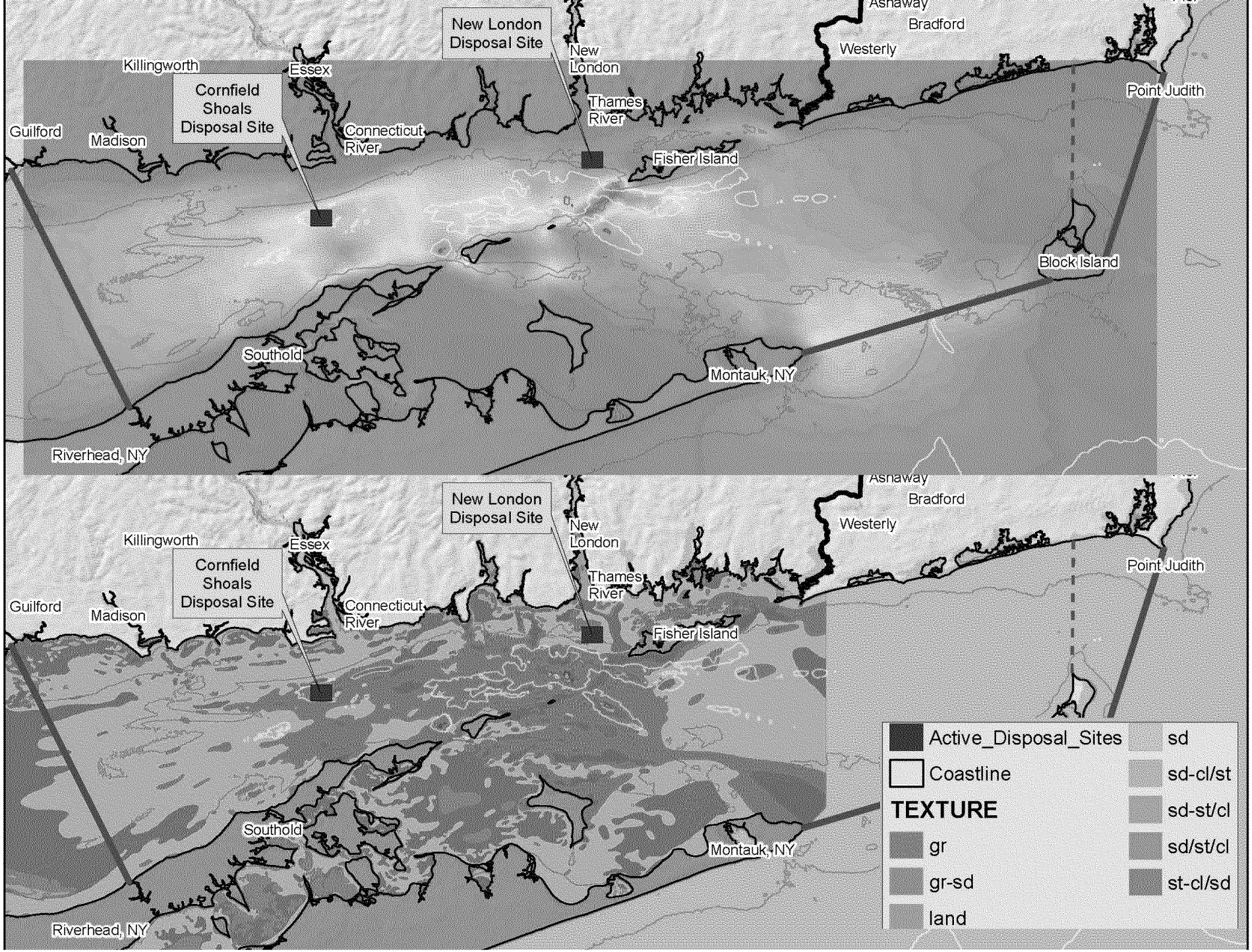
Sediment Characteristics




New London Disposal Site
Cornfield Shoals Disposal Site
Killingworth
Essex
New London
Ashaway
Bradford
Westerly
Point Judith
Thames River
Connecticut River
Guilford
Madison
Fisher Island
Block Island
Southold
Montauk, NY
Riverhead, NY
Active_Disposal_Sites
Coastline
TEXTURE
gr
gr-sd
land
sd
sd-cl/st
sd-st/cl
sd/st/cl
st-cl/sd

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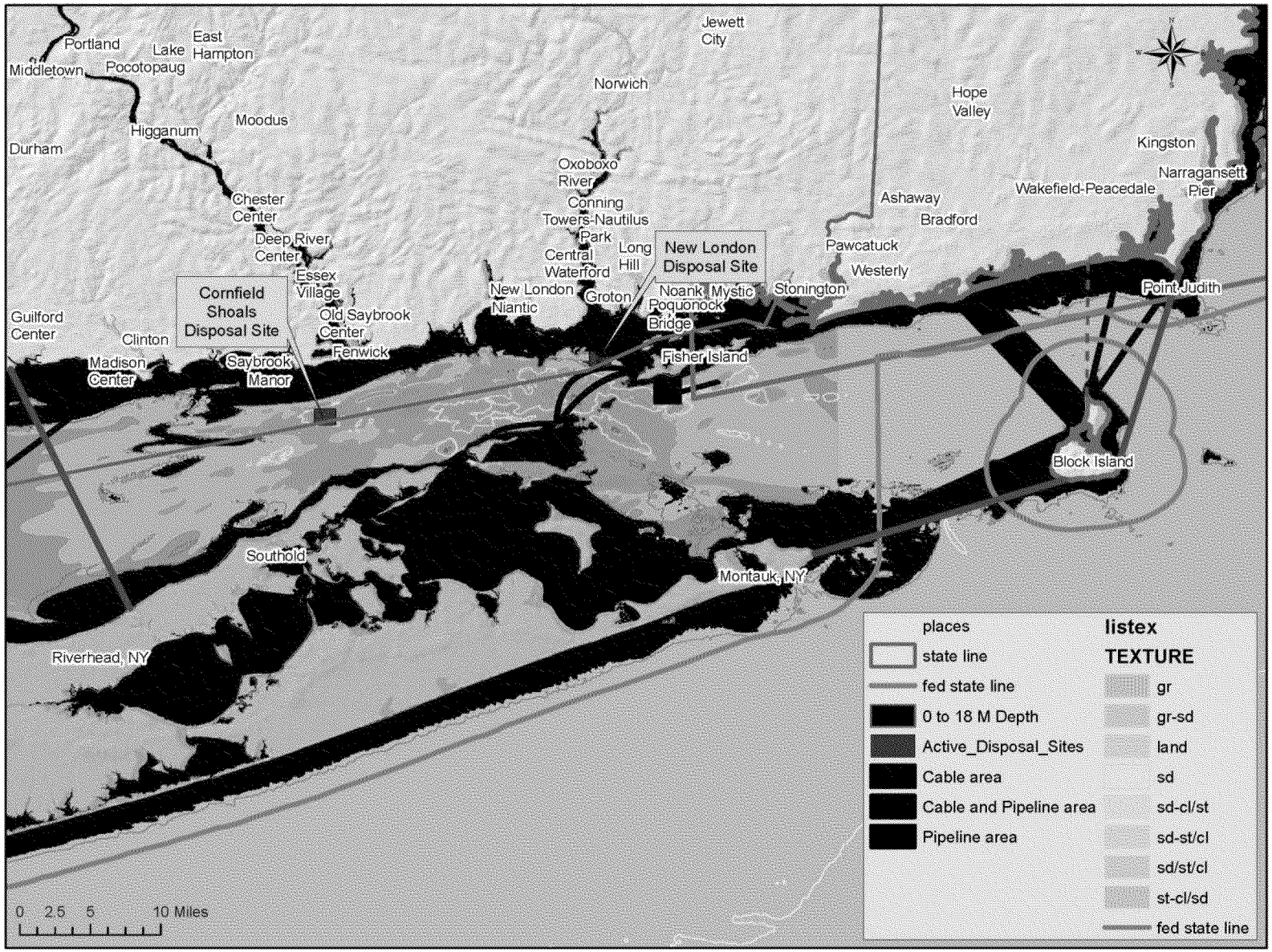
Approach to Screening
Tier 1 Type Screening Results



Approach to Screening

- Tier 2: Identify specific alternative site locations
  - Minimizing impact to
    - Archeological resources – 228.6(a)(11)
    - Fish habitats, fish concentrations – 228.5(a); 228.6(a)(8)
    - Living resources (breeding, spawning, nursery, feeding, passage) – 228.6(a)(2)
    - Benthic community – 228.6(a)(9)
    - Shellfisheries/fisheries resource areas – 228.6(a)(8)
  - Historic Disposal Sites and Continental Shelf – 228.5(e)
  - Preferred siting of areas were also based on a series of site characteristics (e.g., prevailing current direction and velocity, compatible sediment types) – 228.5(d); 228.6(a)(5); 228.6(a)(6)

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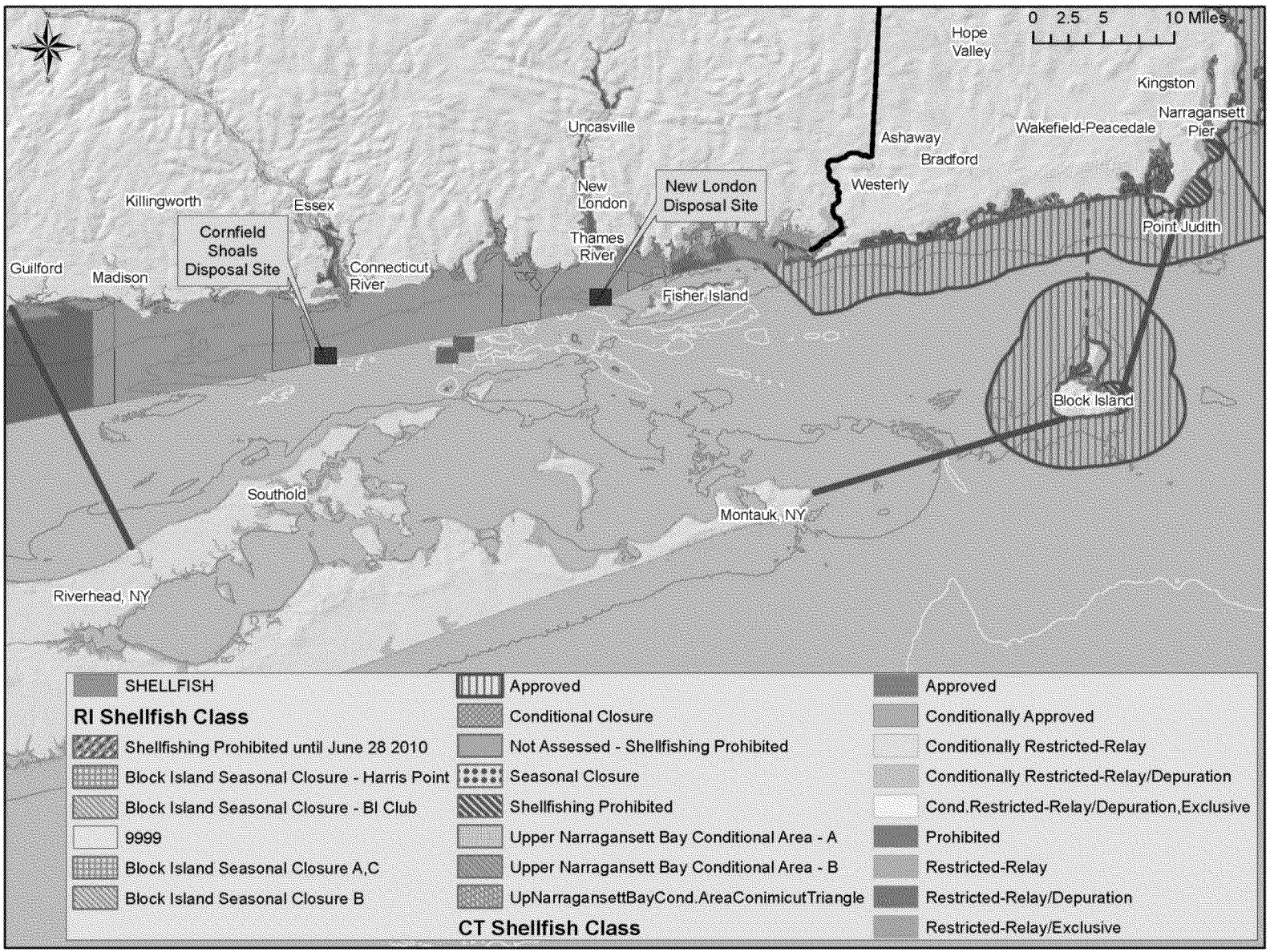
Minimizing Impact – Approved/ Prohibited Shellfish Areas



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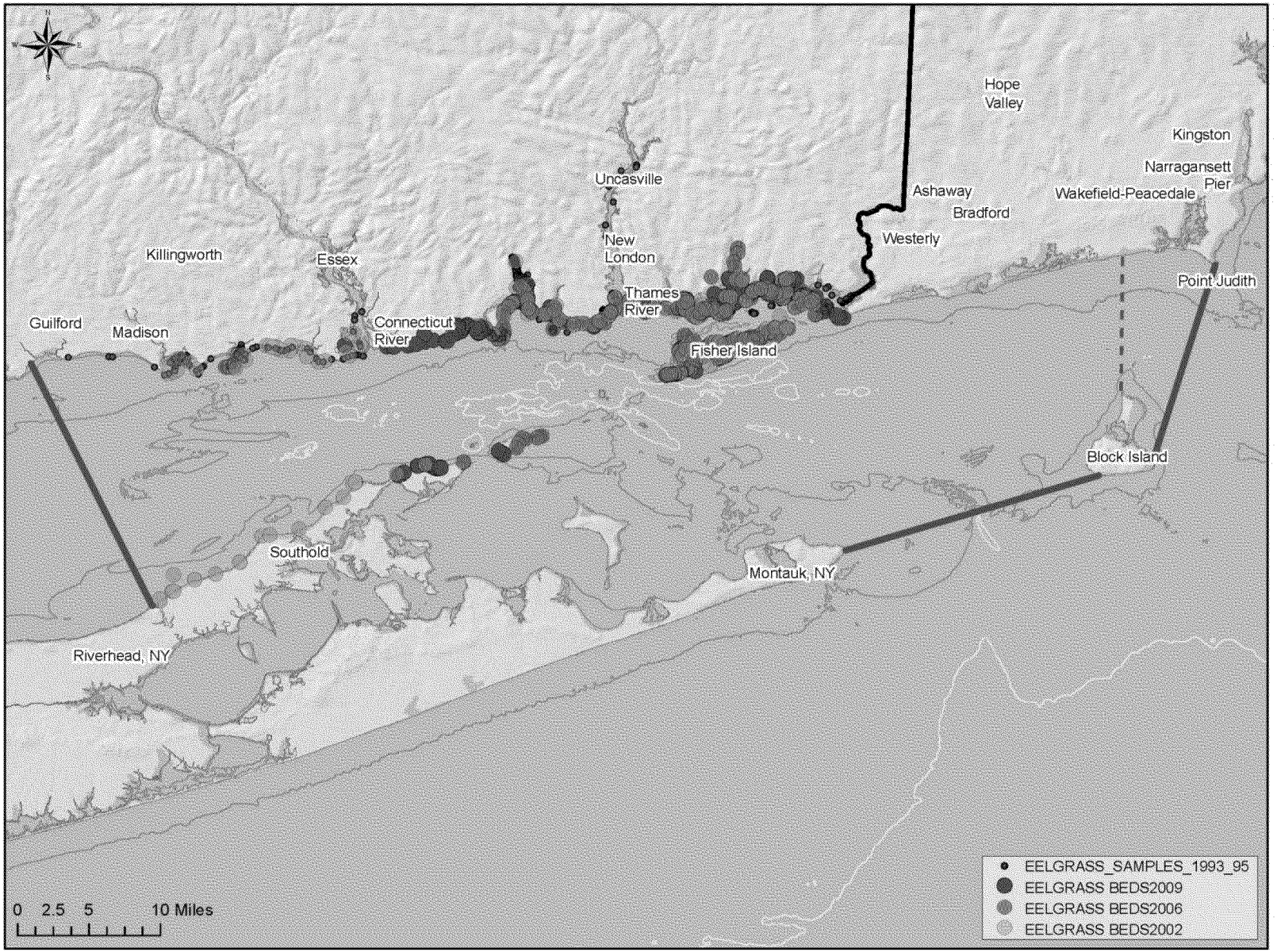
Minimizing Impact - Eelgrass Beds



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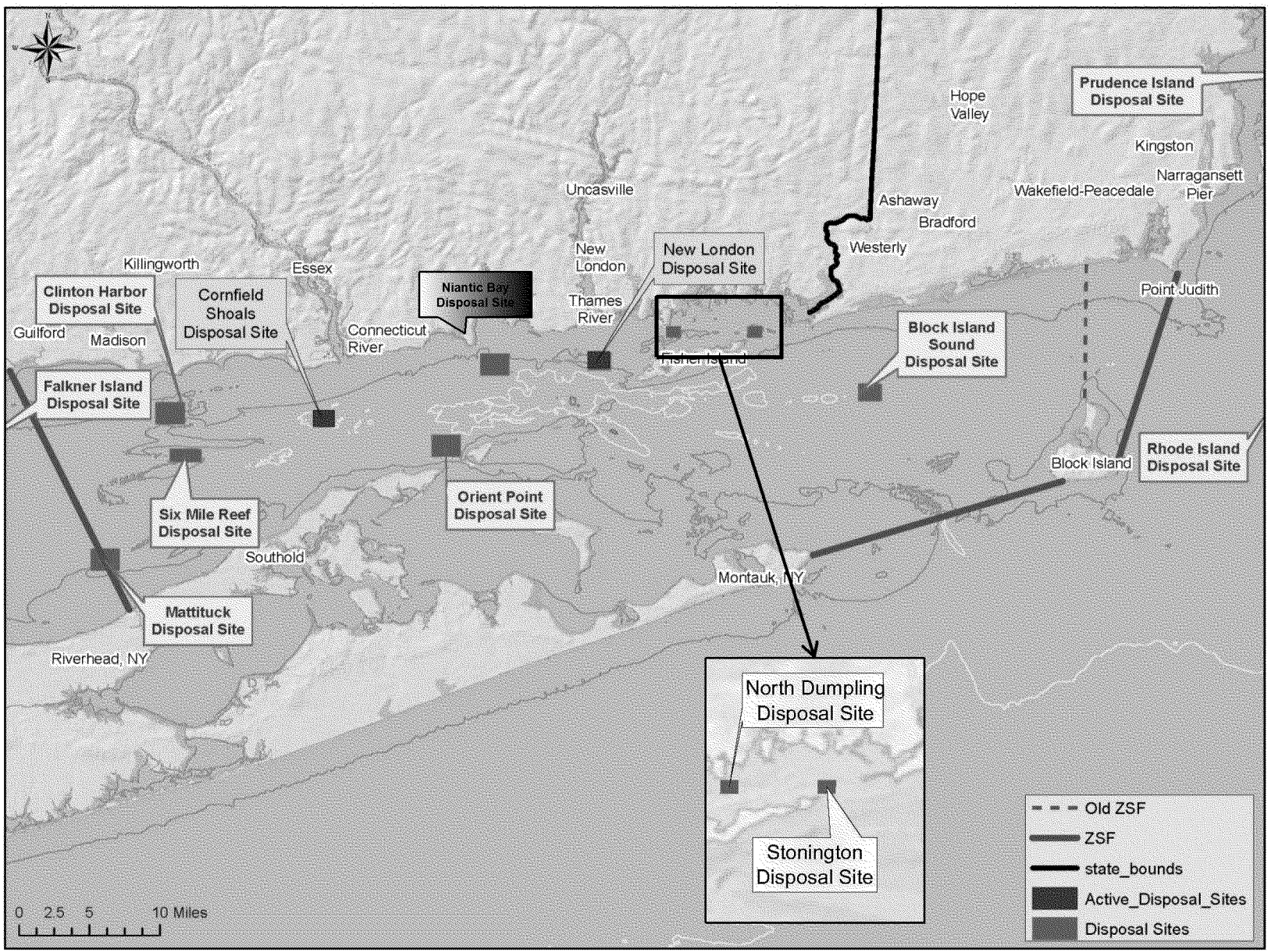
Historic and Active Disposal Sites



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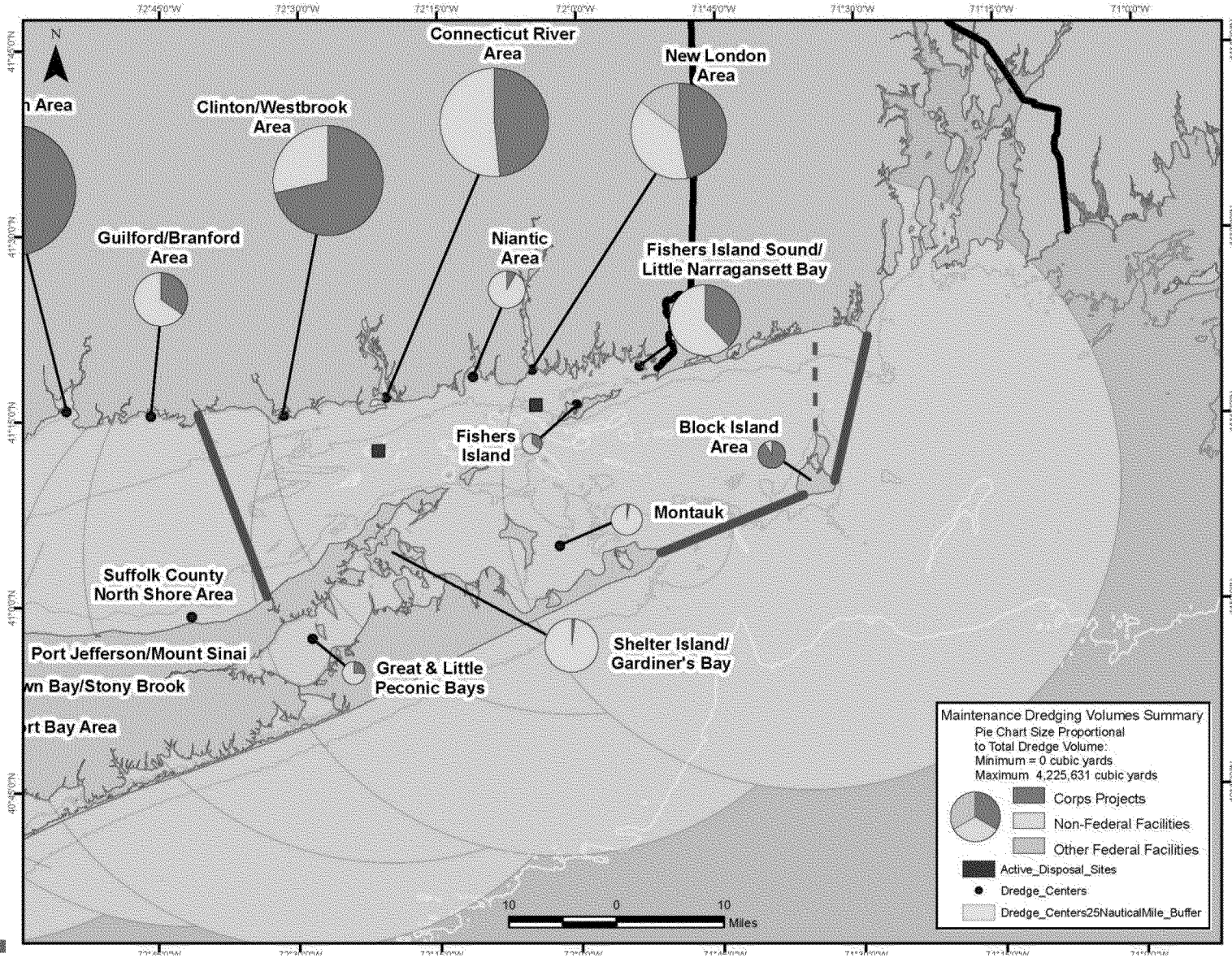
Continental Shelf and Areas within 25 nm of Dredging Centers



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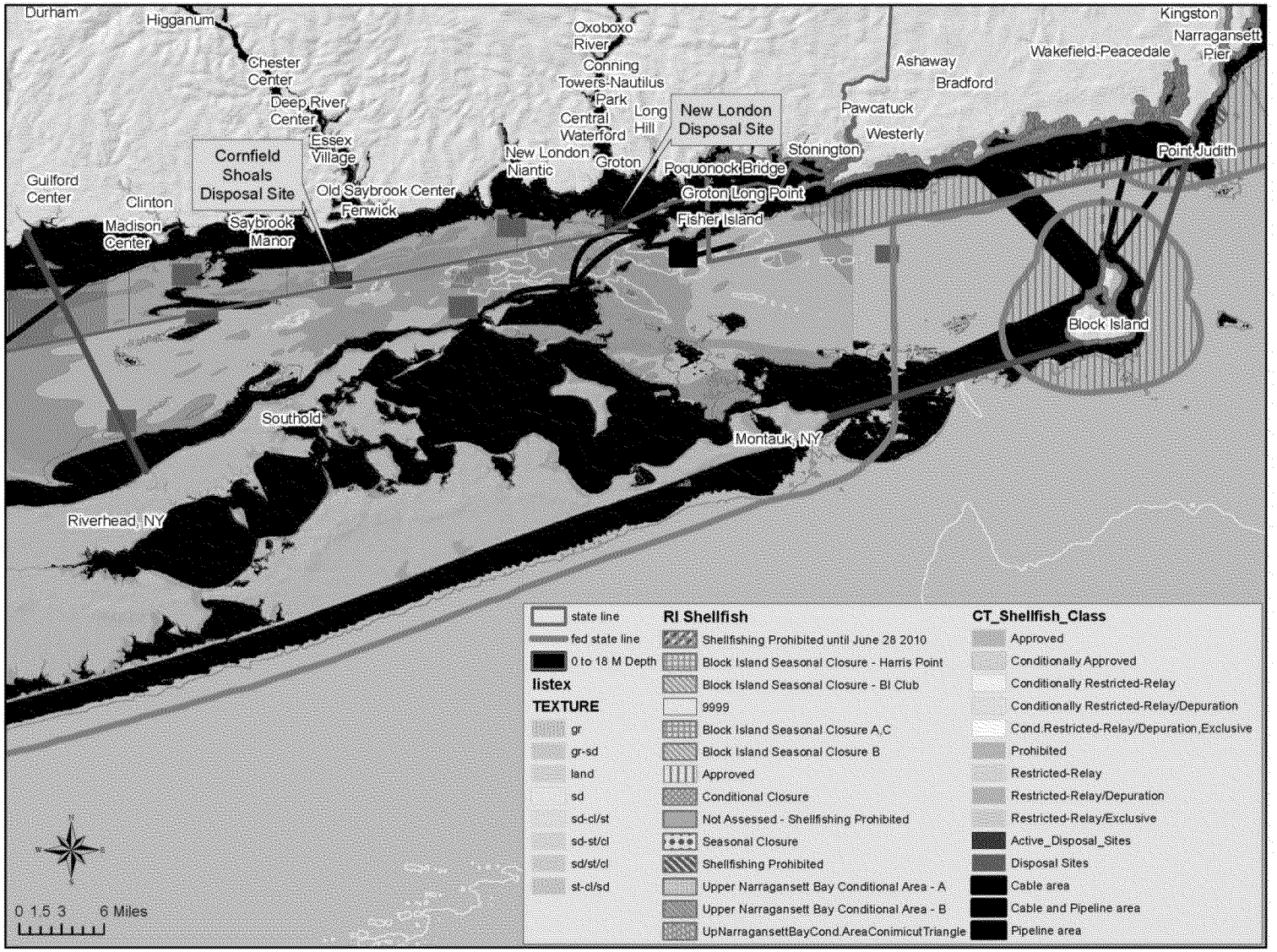
Approach to Screening
Tier 2: Preliminary Screening Results for Discussion Only



Tier 2 Alternative Site

- Several factors must be considering when assessing an area as an alternative site.
  - Site Boundaries – 228.5(d), 228.6(a)(4), 228.6(a)(5)
  - Buffer Zones – 228.5(b), 228.6(a)(6)
  - Reference areas for monitoring and testing – 228.6(a)(5)

Tier 2 Alternative Site(s)

- Factors to be discussed in the SEIS
  - Once alternative site(s) are selected
    - Tier 1 criteria will be addressed as appropriate in SEIS
    - Tier 2 criteria will be examined in detail in the SEIS
  - Additional SEIS siting considerations will include:
    - Existing water quality - 228.6(a)(9)
    - Nuisance Species - 228.6(a)(10)
    - Economic impacts - 228.6(a)(8)
    - Site protection requirements – Environmental consequences
      - 228.10 Evaluating disposal site impacts

Next Steps

- Finalized criteria that will be used to conduct the screening
  - Minimum depth
  - Bottom types to avoid
  - Containment, Dispersive, or Both
  - Site Protection Requirements
- Identify and acquire more recent or available data to use in the screening
- Identify data gaps and conduct studies to fill them
  - Sediment Stability/Instability
  - STFATE Modeling
  - Minimum Shear stress verification

Questions and Discussion