Unusually Sensitive Area Definitions Public Meeting

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Questions for Consideration

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Questions for Consideration

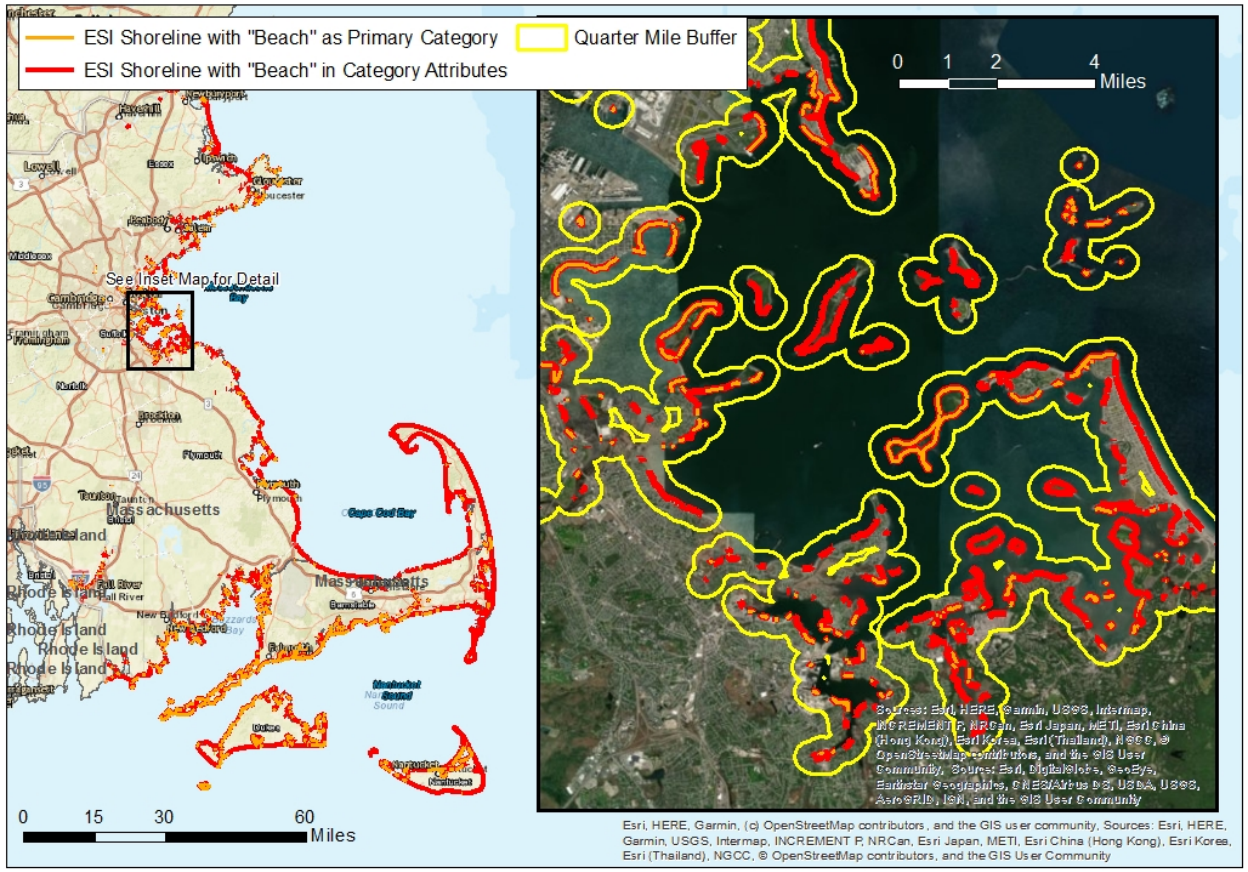
- The following are a list of questions PHMSA would like to discuss to support its' evaluation of how best to meet the Congressional mandate.
- These questions were developed based on feedback from the first Public Meeting on this topic (November 2017) and the data pilot concluded in 2018.
- The following slides include the question text, as well as sample maps to support the conversation.

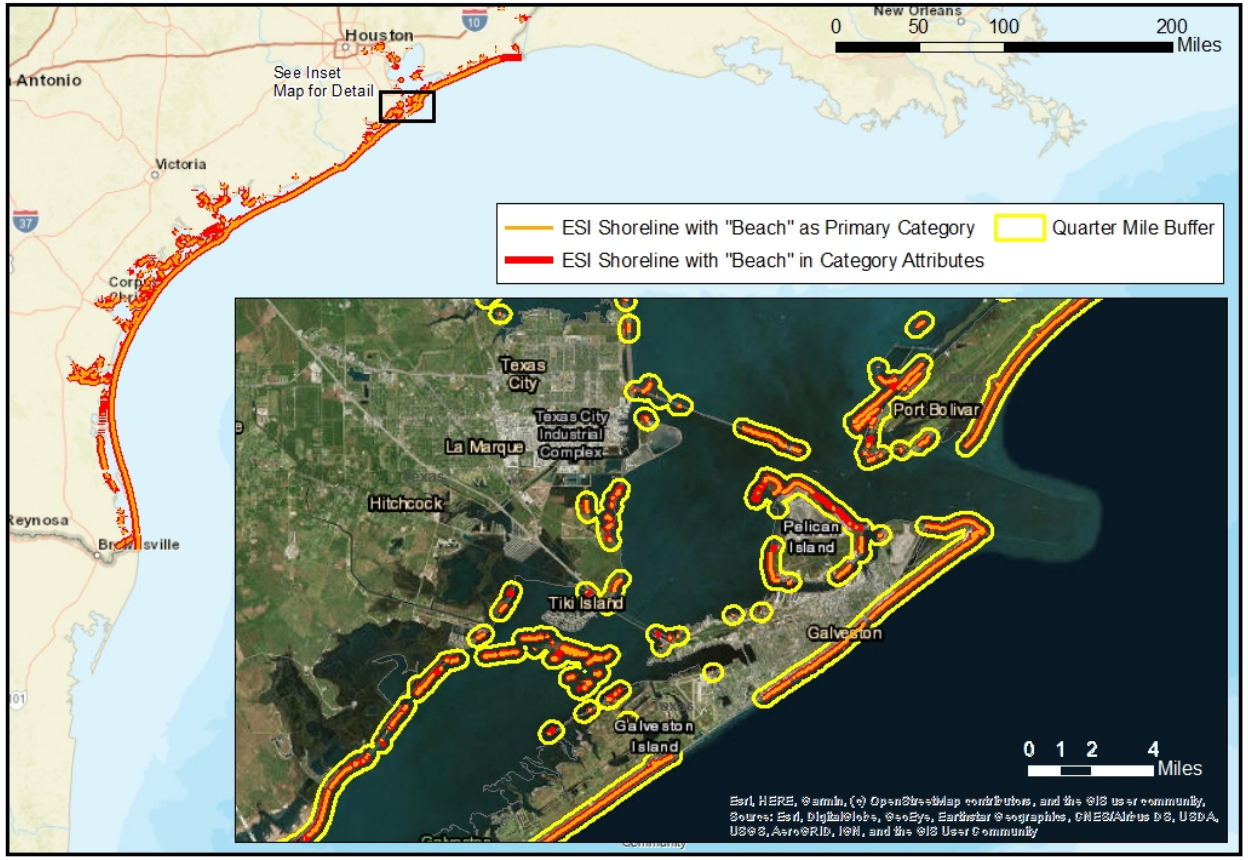
Questions for Consideration Coastal Beaches

1. Should PHMSA define and map coastal beaches based on the Environmental Sensitivity Index (ESI) shoreline features that include "beach" as part of the shore type description?
    a. Should PHMSA apply a 1/4-mile buffer to these shoreline segments to represent the body of a coastal beach? Do you suggest another size buffer, and why?
    b. Should PHMSA consider all shoreline features, regardless of the shore type description, as the basis for defining coastal beaches?
    c. Is there a different GIS dataset available at a national level that PHMSA should consider as the basis for defining and mapping coastal beaches?

Coastal Beaches Sample Maps

Download ESI Shoreline data from the NOAA website at
https://response.restoration.noaa.gov/maps-and-spatial-data/download-esi-maps-and-gis-data.html





Coastal Beaches
All ESI Shoreline Classifications

ESI Code	Environment Code	Shoreline Classification Description
1A	E/L	1A: Exposed, Rocky Shores
1A	R	1A: Exposed, Rocky Banks
1B	E/L/R	1B: Exposed, Solid Man-Made Structures
1C	E/L/R	1C: Exposed, Rocky Cliffs w/Boulder Talus Base
2A	E	2A: Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)
2A	L	2A: Shelving Bedrock Shores
2A	R	2A: Rocky Shoals and Bedrock Ledges
2B	E	2B: Exposed Scarps and Steep Slopes (Clay)
3A	E	3A: Fine to Medium Grained Sand Beaches
3B	E	3B: Scarps and Steep Slopes (Sand)
3B	L	3B: Eroding Scarps (Unconsolidated Sediment)
3B	R	3B: Exposed, Eroding Banks (Unconsolidated Sediment)
3C	E	3C: Tundra Cliffs
4	E	4: Coarse Grained Sand Beaches
4	L	4: Sand Beaches
4	R	4: Sand Bars and Gently Sloping Banks
5	E/L	5: Mixed Sand and Gravel Beaches
5	R	5: Mixed Sand and Gravel Bars and Gently Sloping Banks
6A	E/L	6A: Gravel Beaches
6A	E	6A: Gravel Beaches (Granules/Pebbles) – used in Alaska
6A	R	6A: Gravel Bars and Gently Sloping Banks
6B	E/L/R	6B: Riprap
6B	E	6B: Gravel Beaches (Cobbles/Boulders) – used in Alaska

ESI Code	Environment Code	Shoreline Classification Description
6D	E	6D: Boulder Rubble
7	E/L	7: Exposed Tidal Flats
8A	E/L	8A: Sheltered Scarps (Bedrock/Mud/Clay)
8A	E	8A: Sheltered, Impermeable, Rocky Shores
8B	E/L/R	8B: Sheltered, Solid Man-Made Structures
8B	E	8B: Sheltered, Permeable, Rocky Shores
8C	E/L/R	8C: Sheltered Riprap
8D	E	8D: Sheltered, Rocky Rubble Shores
8E	E	8E: Peat Shorelines
8F	R	8F: Vegetated, Steeply Sloping Bluffs
9A	E	9A: Sheltered Tidal Flats
9A	L	9A: Sheltered Sand and Mud Flats
9B	E/L/R	9B: Vegetated Low Banks
9C	E	9C: Hyper-Saline Tidal Flats
10A	E	10A: Salt and Brackish Water Marshes
10B	E/L/P/R	10B: Freshwater Marshes
10C	E/L/P/R	10C: Swamps
10D	E/L/P/R	10D: Scrub and Shrub Wetlands
10E	E	10E: Inundated Low Lying Tundra
10F	E	10F: Mangroves

Environment code: E = estuarine, L = lacustrine, R = riverine, P = palustrine

1A - Least Susceptible ← ESI Code Range → Most Susceptible - 10F

Questions for Consideration Marine Coastal Waters

2. Should PHMSA include estuaries, swamps and marshes from the USGS' National Hydrography Dataset as part of the definition of marine coastal waters?

   a. Should PHMSA reference the extent of US state submerged lands to define the extent of marine coastal waters?

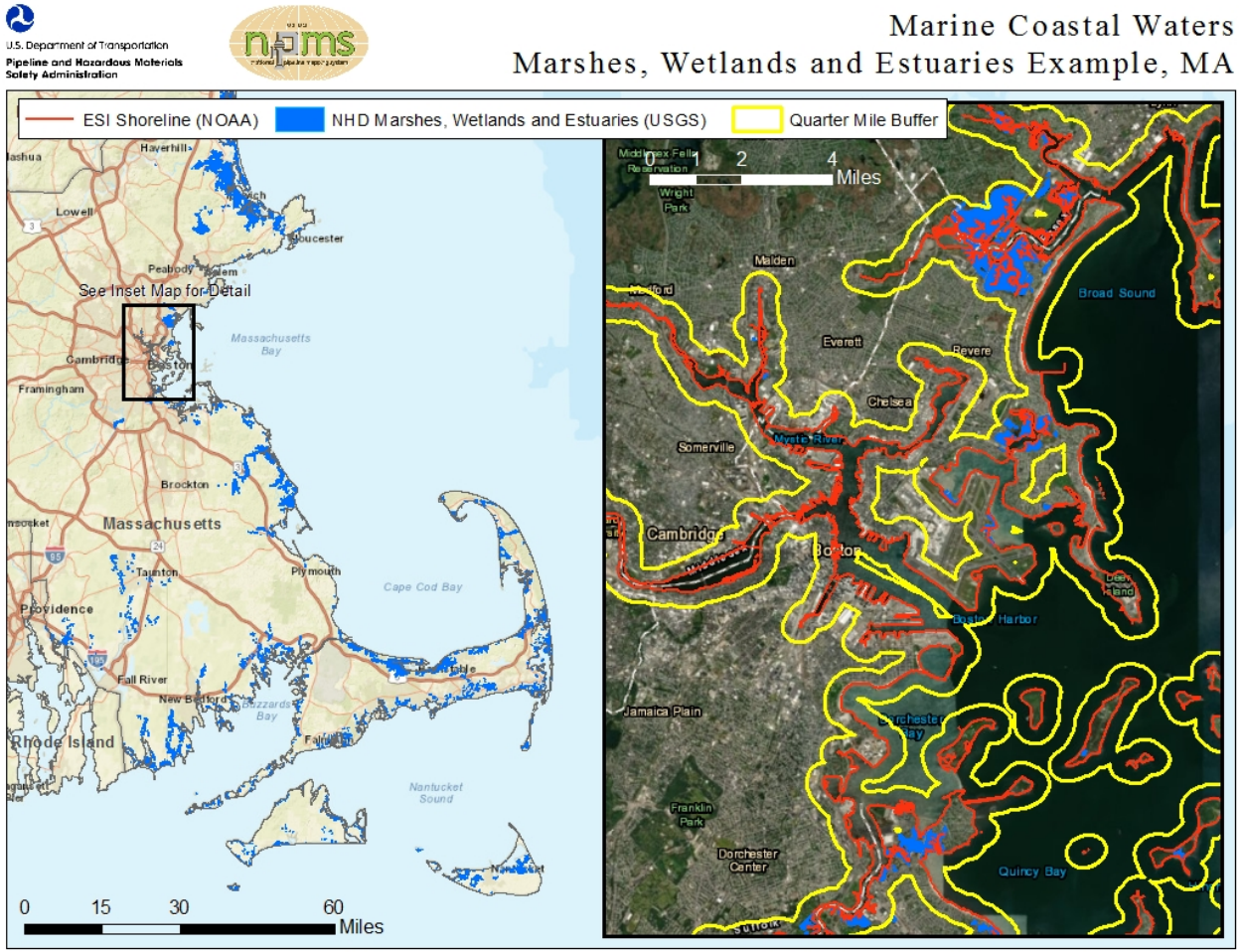
   b. Should PHMSA mimic the EPA's definition of coastal waters as defined in "Nutrient Criteria Technical Guidance Manual, Estuarine and Coastal Marine Waters", by defining the offshore extent of marine coastal waters as 20 nautical miles from the shore? Should PHMSA measure 20 nautical miles from island shorelines for this definition? What national shoreline or coastal GIS data product should be used for this calculation?

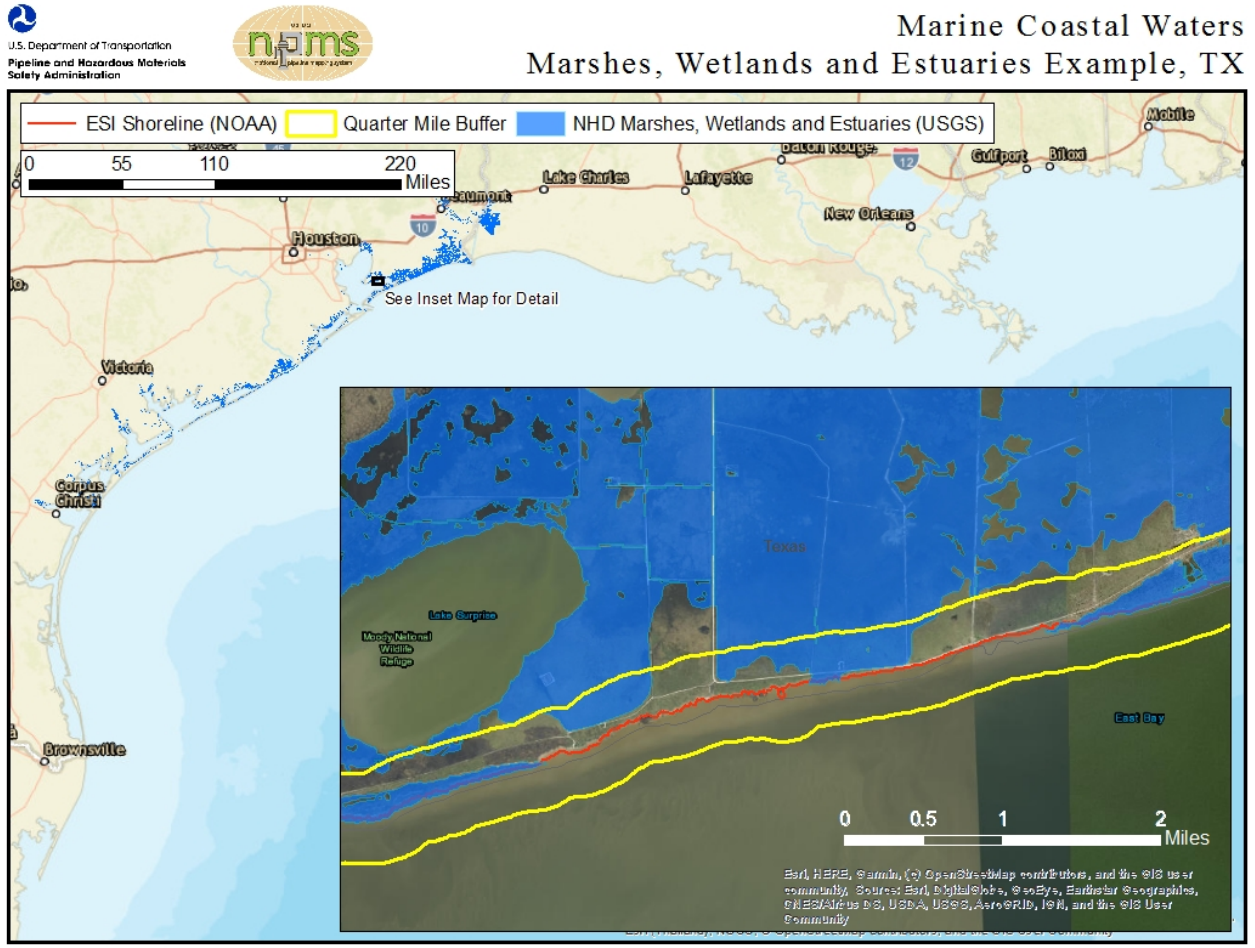
   c. Should PHMSA include all coastal waters out to the federal/state water boundary (beginning of the outer continental shelf) as part of the definition of marine coastal waters?

Marine Coastal Waters: Marshes, Wetlands and Estuaries Near Coast – Map Samples

Download ESI Shoreline data from the NOAA website at https://response.restoration.noaa.gov/maps-and-spatial-data/download-esi-maps-and-gis-data.html

Download NHD Waterbody data from the USGS website at https://www.usgs.gov/core-science-systems/ngp/national-hydrography

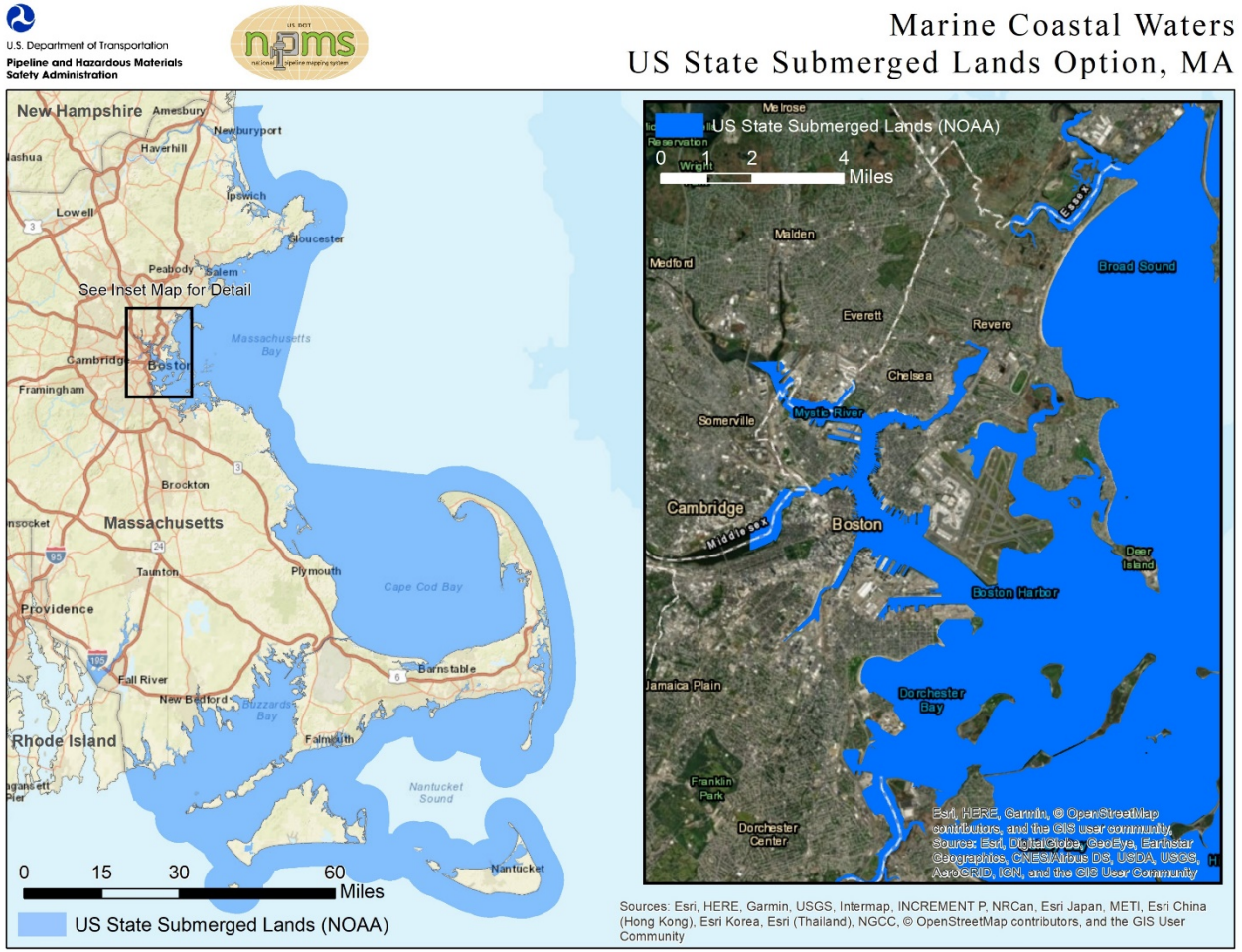




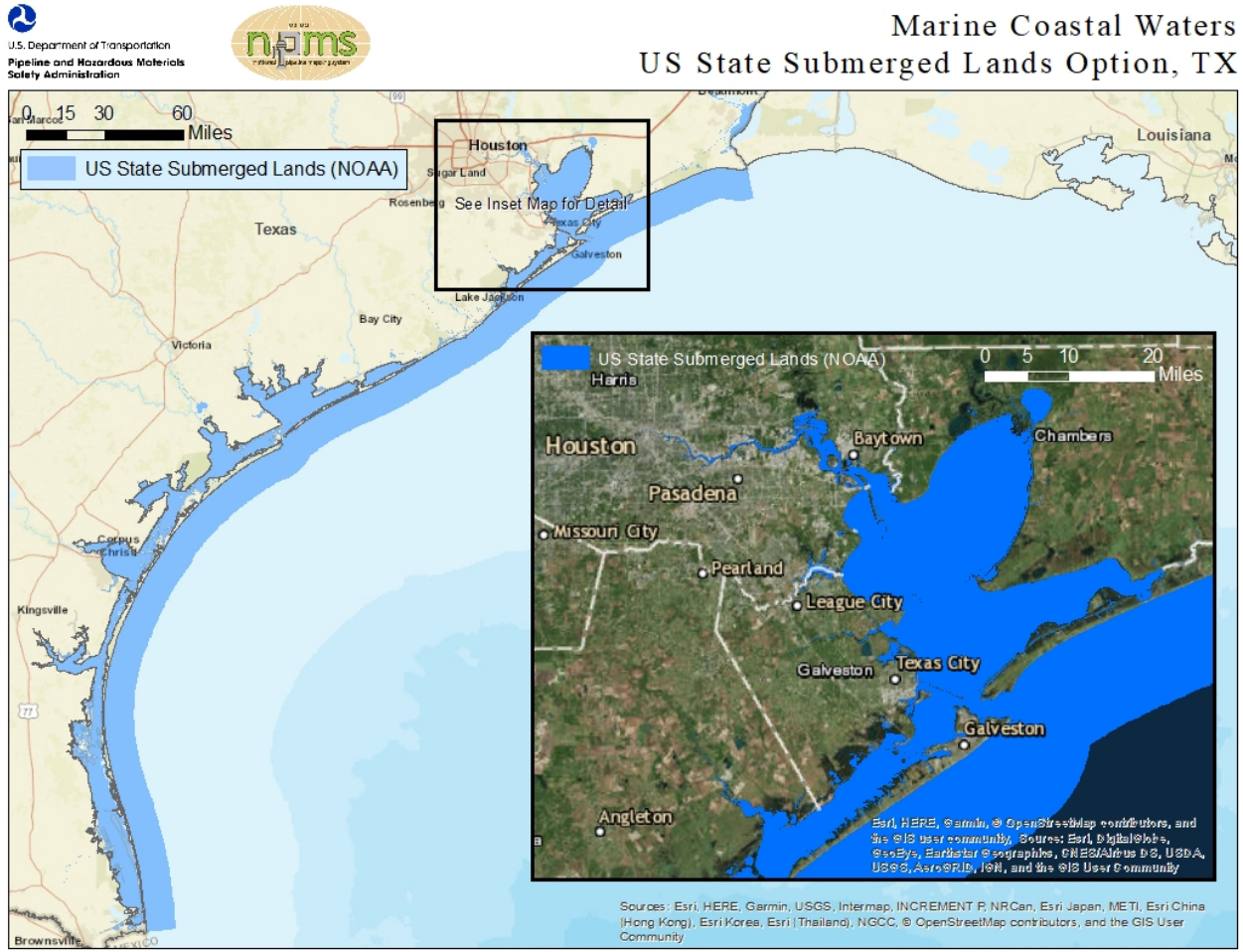
Marine Coastal Waters: **US State Submerged Lands Map Samples**

Download US State Submerged Lands data from NOAA's Marine Cadastre national viewer at
https://marinecadastre.gov/nationalviewer/

99.9% of this area is already designated as a 2018 Eco USA



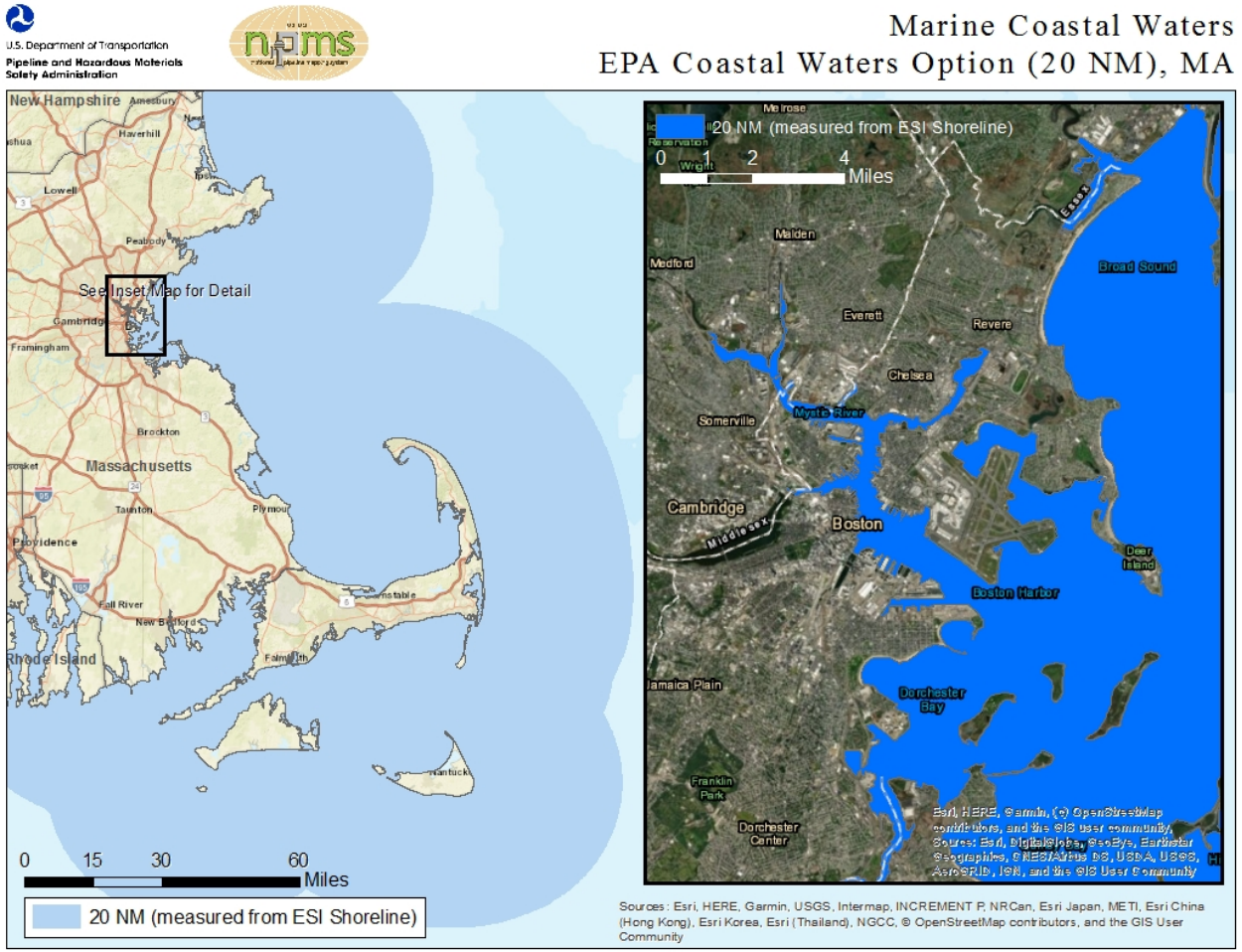
67.2% of this area is already designated as a 2018 Eco USA



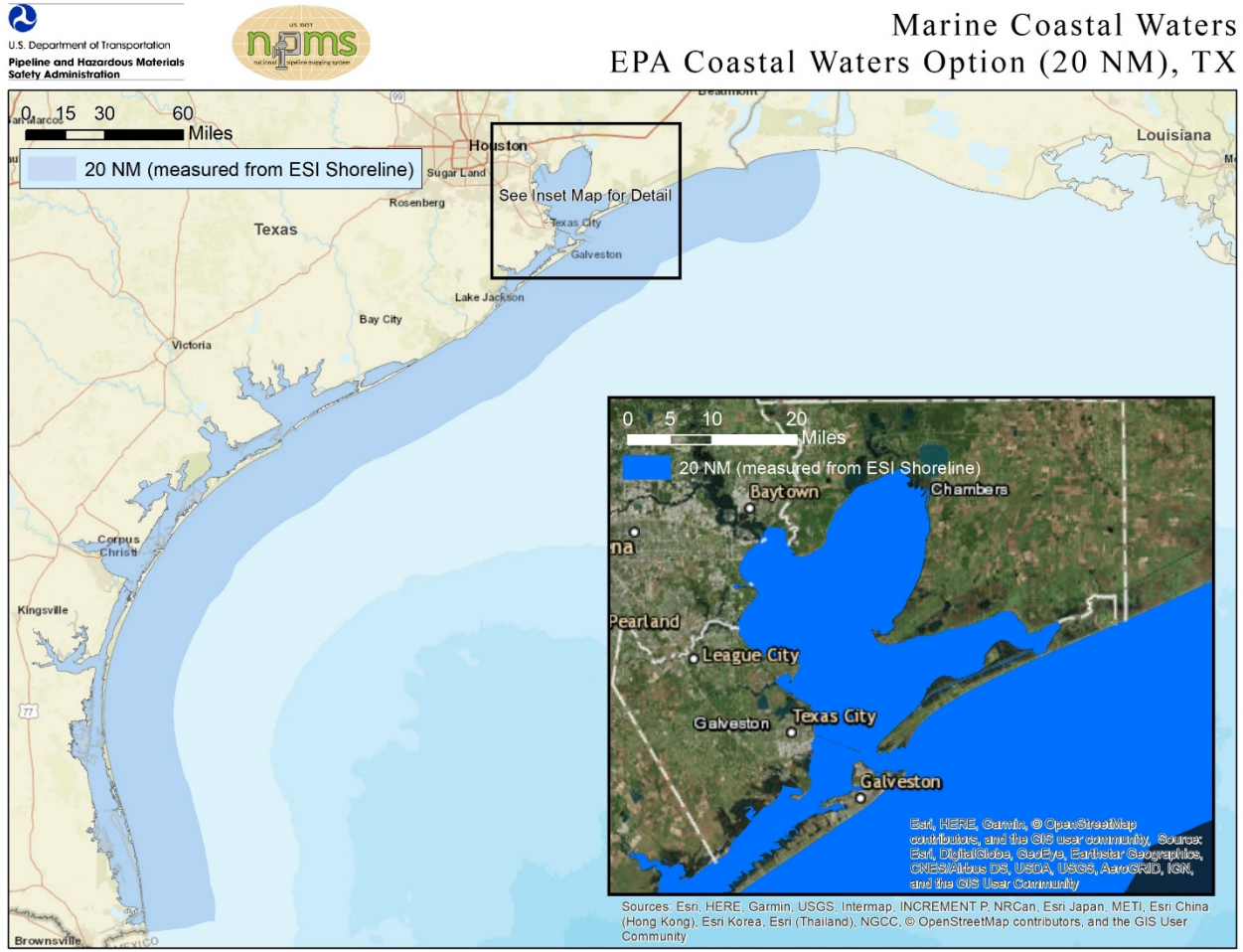
Marine Coastal Waters: **EPA Definition of 20 Nautical Miles from Coast Map Samples**

You can read the EPA reference to “Coastal Marine Waters” at
http://www.aoml.noaa.gov/themes/CoastalRegional/projects/FACE/EPA_NNC-Est-Coastal-waters_2001.pdf
20 NM measurement from ESI shoreline product

71.9% of this area is already designated as a 2018 Eco USA



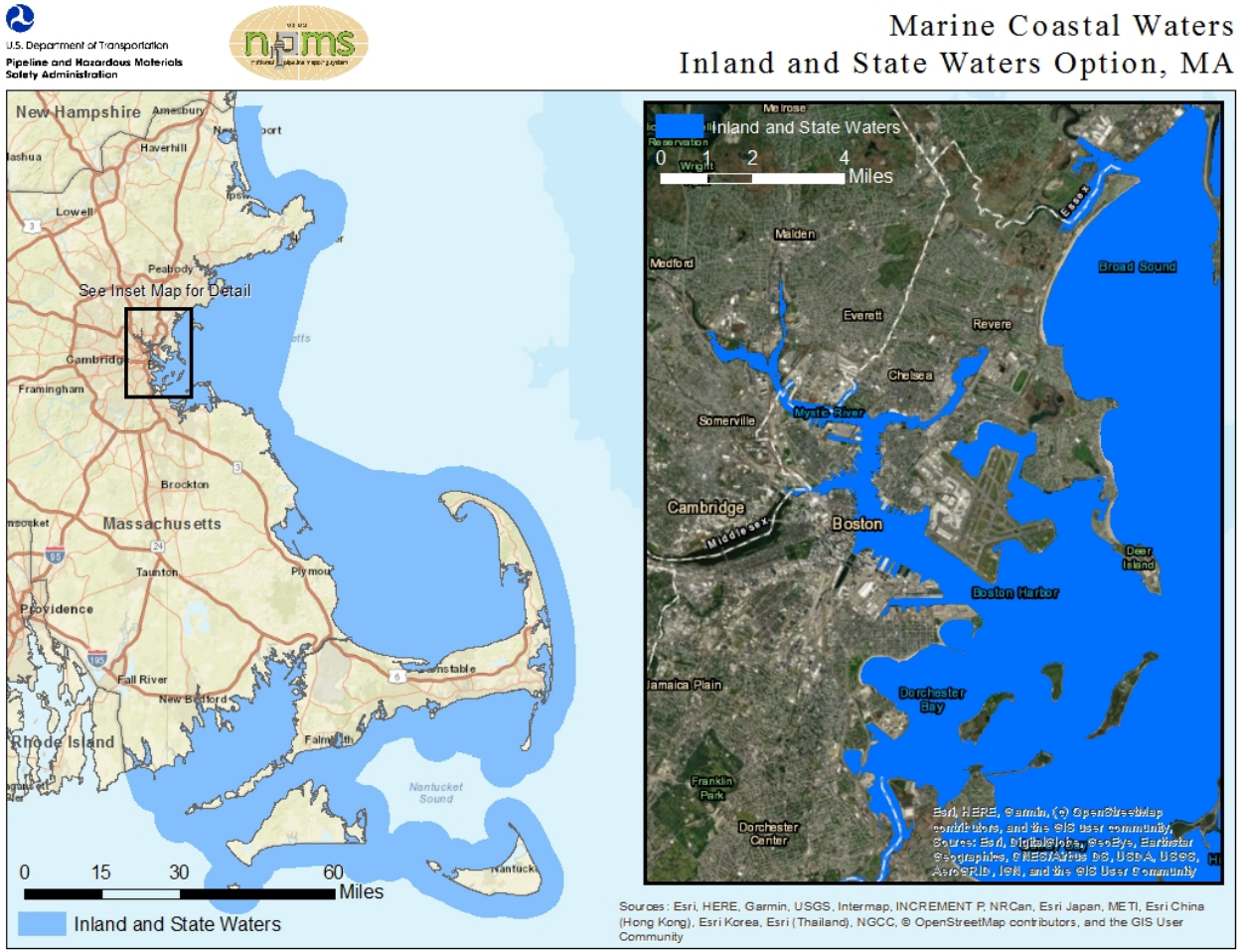
42.1% of this area is already designated as a 2018 Eco USA



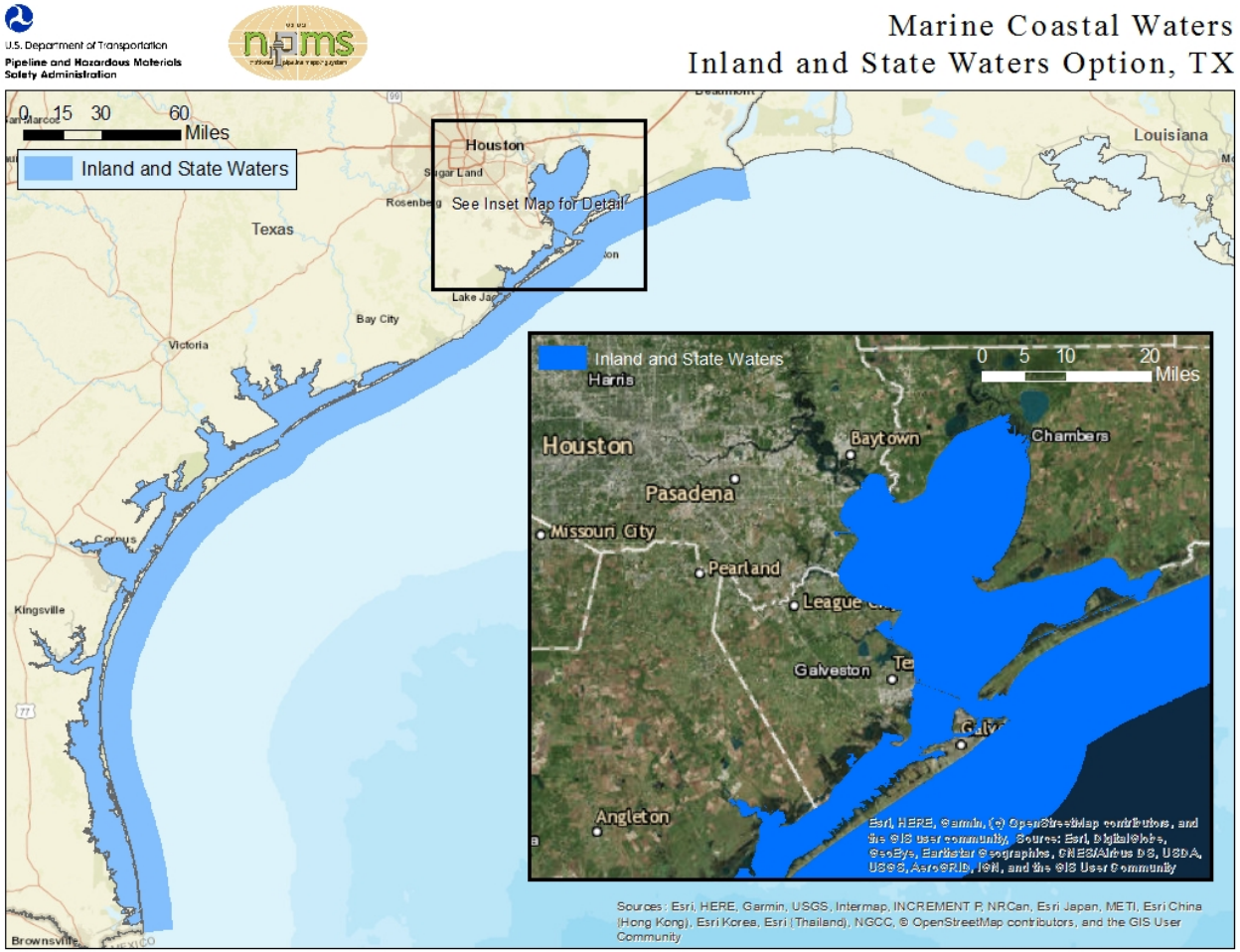
Marine Coastal Waters: **State/Fed Waterline from Basic County Boundary Map Sample**

Coast is defined by US Census Bureau Detailed County Boundaries

99.9% of this area is already designated as a 2018 Eco USA



67.1% of this area is already designated as a 2018 Eco USA



Questions for Consideration

3. If PHMSA references the beach categorization from the ESI shoreline product, how should the Agency define this definition in text, or handle potential extensions of the ESI shoreline product further upriver?

4. Are coastal beaches limited to those along the Gulf of Mexico and the Pacific and Atlantic Oceans, or do the Great Lakes, commercially navigable waters, or other inland water bodies include coastal beaches?

Questions for Consideration

5. Should PHMSA seek to combine coastal beaches and marine coastal waters into existing USA ecological resources, given these coastal areas are not defined by ecological factors related to species, or should the Agency seek to define and map a new type of coastal USA?

6. Does PHMSA need to differentiate between the coastal beaches and marine coastal waters, or produce a single coastal areas USA definition and data layer?

Questions for Consideration

7. Is shoreline sensitivity the same for all hazardous liquid products subject to part 195? The same for all types of shorelines?

8. Do operators currently consider the entire body of the Great Lakes as an HCA, or only the representative shipping channels in the US Army Corps of Engineers' (USACE) National Waterway Network (NWN)?

Questions for Consideration (9 – 9c)
The Great Lakes

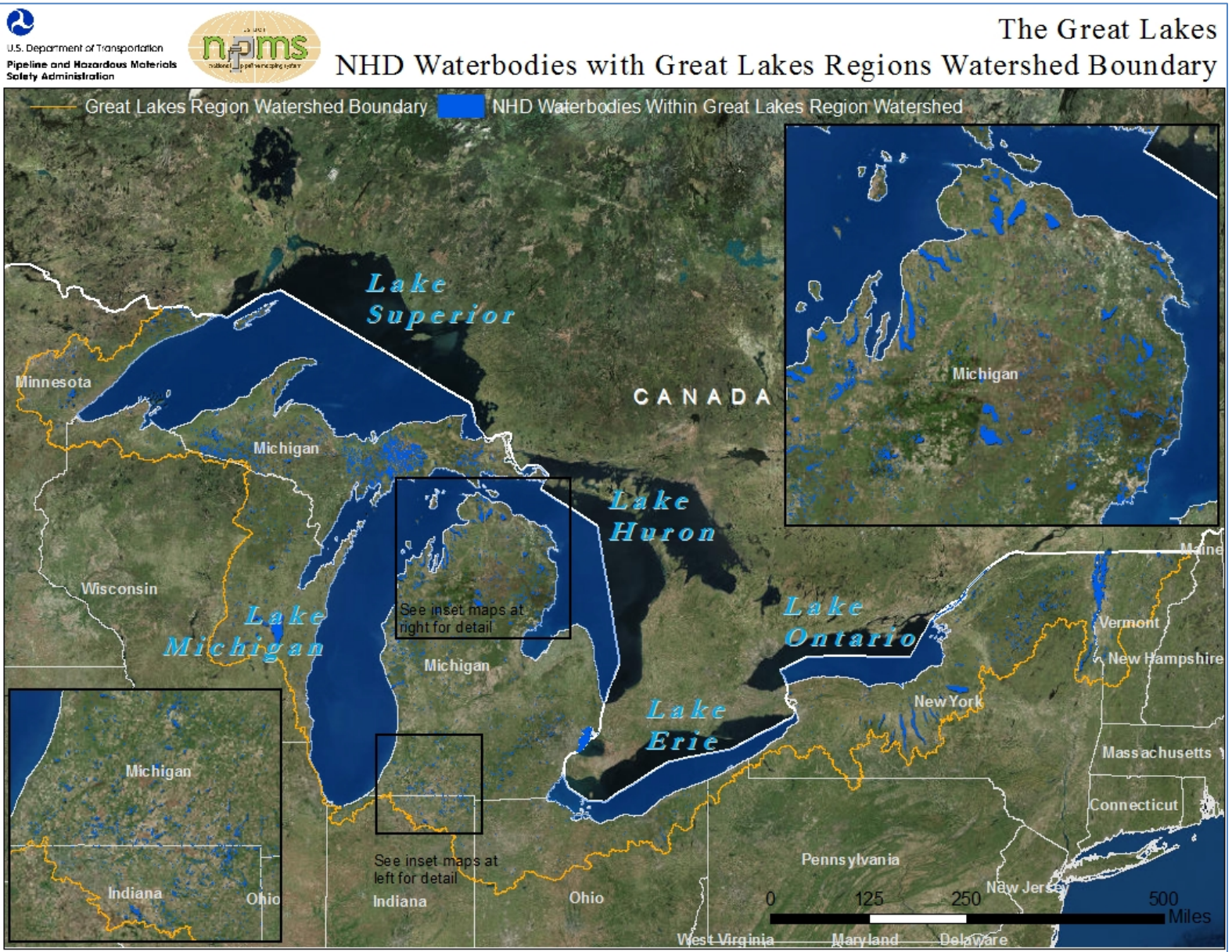
9. Should PHMSA define and map the Great Lakes as all waterbodies within the Great Lakes watershed, based on the boundaries in the USGS National Hydrography Dataset?

   a. Should PHMSA reference the extent of US state submerged lands around the Great Lakes to define the extent of the Great Lakes and their connecting channels?

   b. Should PHMSA consider the Great Lakes definition as found in 33 U.S.C 1268, which defines the Great Lakes to mean Lake Ontario, Lake Erie, Lake Huron (including Lake St. Clair), Lake Michigan, and Lake Superior, and the connecting channels (Saint Mary's River, Saint Clair River, Detroit River, Niagara River, and Saint Lawrence River to the Canadian Border), and what GIS data source would you recommend for representing the boundaries, not the centerline, of these water bodies?

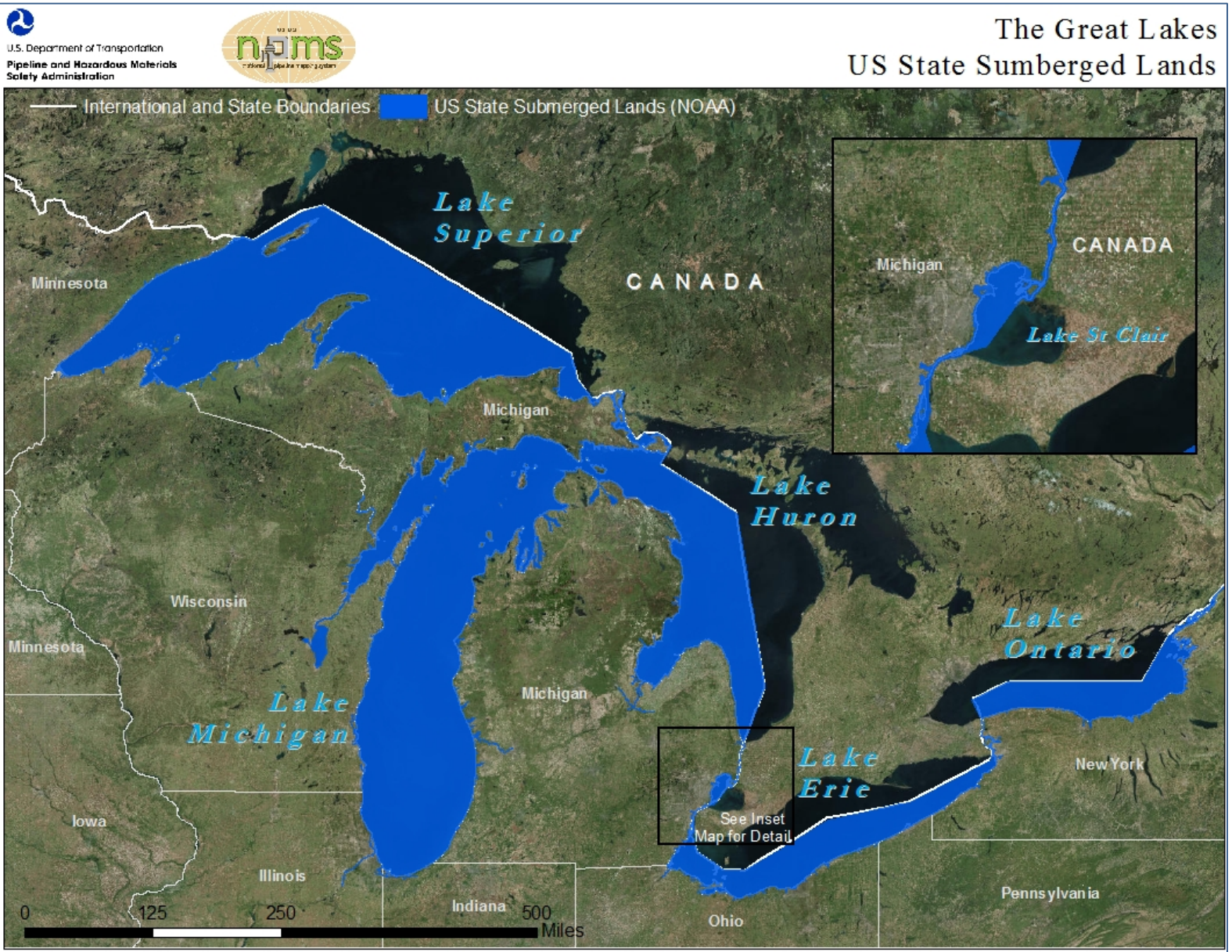
   c. Should PHMSA define and map the Great Lakes as only the bodies of Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, and Lake Superior, without connecting channels, based on the boundaries in the USGS National Hydrography Dataset?

The Great Lakes: Sample Maps



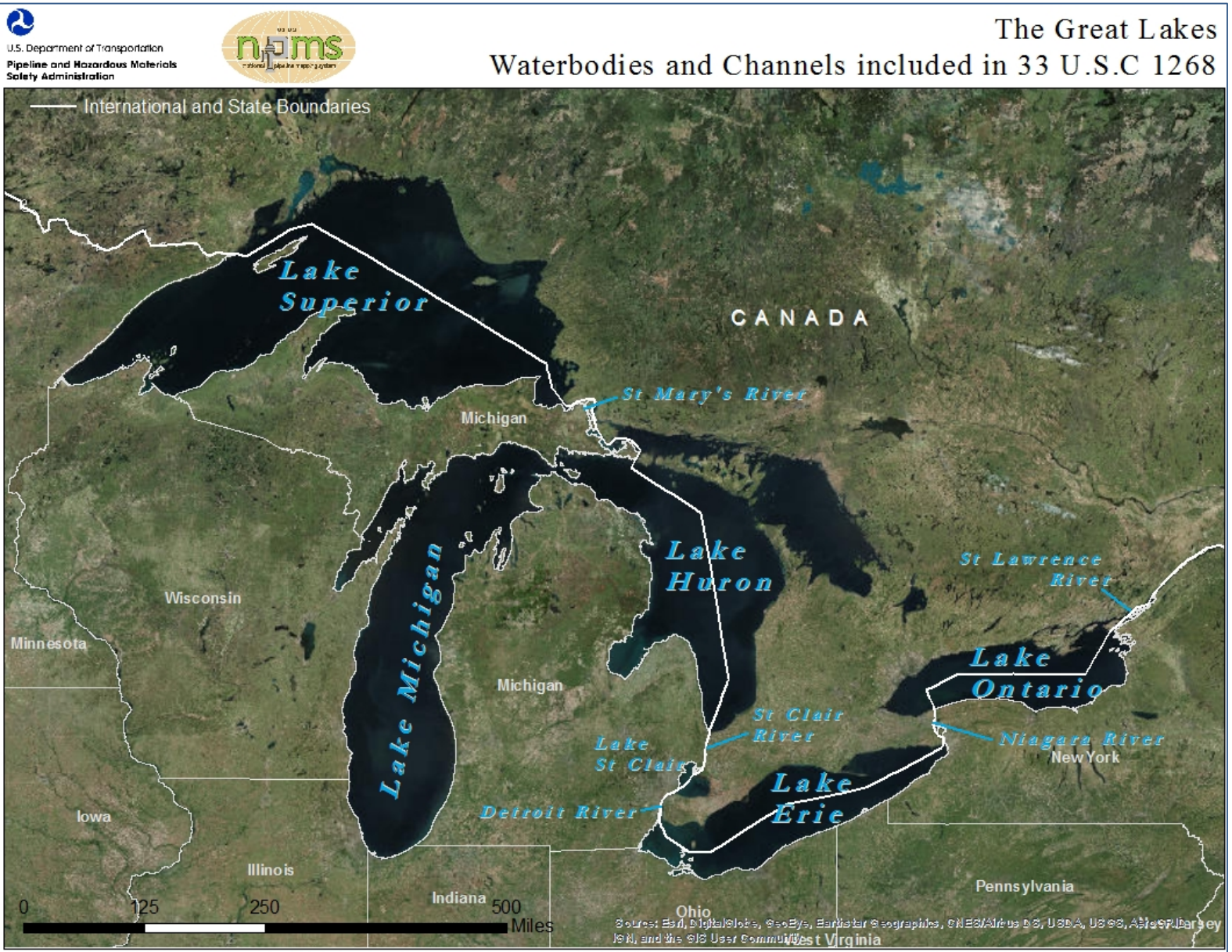
Q9: Should PHMSA define and map the Great Lakes as all waterbodies within the Great Lakes watershed, based on the boundaries in the USGS National Hydrography Dataset?

The Great Lakes: Sample Maps



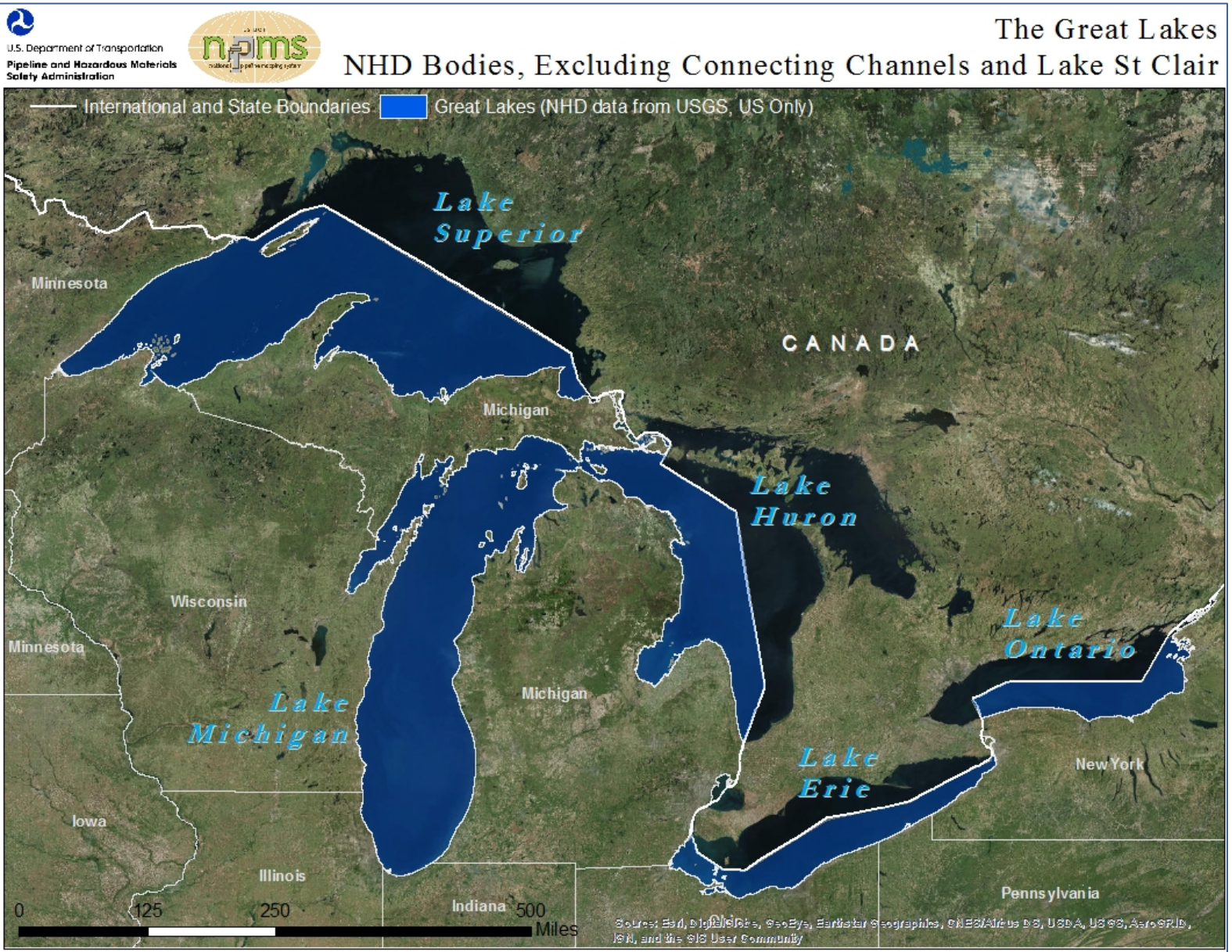
Q9a. Should PHMSA reference the extent of US state submerged lands around the Great Lakes to define the extent of the Great Lakes and their connecting channels?

The Great Lakes: Sample Maps



Q9b. Should PHMSA consider the Great Lakes definition as found in 33 U.S.C 1268, which defines the Great Lakes to mean Lake Ontario, Lake Erie, Lake Huron (including Lake St. Clair), Lake Michigan, and Lake Superior, and the connecting channels (Saint Mary's River, Saint Clair River, Detroit River, Niagara River, and Saint Lawrence River to the Canadian Border)? Data source for bodies, not centerlines?

The Great Lakes: Sample Maps



Q9c. Should PHMSA define and map the Great Lakes as only the bodies of Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, and Lake Superior, without connecting channels, based on the boundaries in the USGS National Hydrography Dataset?

Questions for Consideration
The Great Lakes

9. Great Lakes questions continued…

   d. Is there a different GIS dataset available at a national level that PHMSA should consider as the basis for defining and mapping the Great Lakes and connecting channels?

*NHD waterbodies only include St. Lawrence River and Lake St. Clair; line data still excludes part of St Mary's River.

Introduction of Panelists

- **Erol Alavi**, Supervisor, Integrity Engineering, Plains All American Pipeline, L.P. (American Petroleum Institute)
- **Bonnie Freeman**, President, FreemanGIS, Inc. (American Petroleum Institute subject matter expert)
- **Carl Weimer**, Executive Director, Pipeline Safety Trust
- **Jacques Rotolo**, Engineer/Pipeline Compliance Specialist, Louisiana Department of Natural Resources, Pipeline Division

Please hold audience questions until after panelist presentations
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Questions?

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