

Connecticut National Estuarine Research Reserve (NERR) Selection & Nomination:

2018 Public Meeting

*CT Department of Energy & Environmental Protection Land & Water Resource Division
NOAA Office for Coastal Management,
CT SeaGrant, &
University of Connecticut Department of Marine Sciences*

Tuesday November 13, 2018

6 – 8 PM

University of Connecticut Avery Point Campus, Groton, CT



A Network of 29 Protected Places



LIST OF RESERVES

Great Lakes

1. Lake Superior, Wisconsin
2. Old Woman Creek, Ohio

Northeast

3. Wells, Maine
4. Great Bay, New Hampshire
5. Waquoit Bay, Massachusetts
6. Narragansett Bay, Rhode Island
7. Connecticut (Proposed)

Mid-Atlantic

8. Hudson River, New York
9. Jacques Cousteau, New Jersey
10. Delaware
11. Chesapeake Bay, Maryland
12. Chesapeake Bay, Virginia

Southeast

13. North Carolina
14. North Inlet-Winyah Bay, South Carolina
15. ACE Basin, South Carolina
16. Sapelo Island, Georgia
17. Guana Tolomato Matanzas, Florida

Gulf of Mexico

18. Rookery Bay, Florida
19. Apalachicola, Florida
20. Weeks Bay, Alabama
21. Grand Bay, Mississippi
22. Mission-Aransas, Texas

West

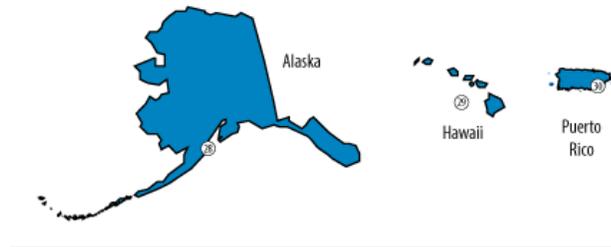
23. Tijuana River, California
24. Elkhorn Slough, California
25. San Francisco Bay, California
26. South Slough, Oregon
27. Padilla Bay, Washington
28. Kachemak Bay, Alaska

Pacific

29. Hawaii

Caribbean

30. Jobos Bay, Puerto Rico



Over 1.3 Million Acres Protected

- Long-term research and monitoring
- Education and training
- Resource stewardship



Using a place-based system of protected areas to create resilient estuaries and coastal watersheds where human and natural communities thrive



Locally Relevant, Nationally Significant

People

Science

Protected Places



Major themes: habitat protection, water quality,
and climate change



OFFICE FOR COASTAL MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

A State-Federal Partnership

State role:

- Land ownership and management
- Reserve staff members
- Program implementation
- Funding (30 percent match)

Federal role:

- National policy and program guidance
- Technical assistance
- Program coordination
- Funding (70 percent)



System-Wide and National Programs

- System-Wide Monitoring Program
- Coastal Training Program
- K to 12 Estuarine Education Program
- National Estuarine Research Reserve Science Collaborative



Fiscal Year 2018 Funding

Operations, Research, and Facilities: \$25 Million

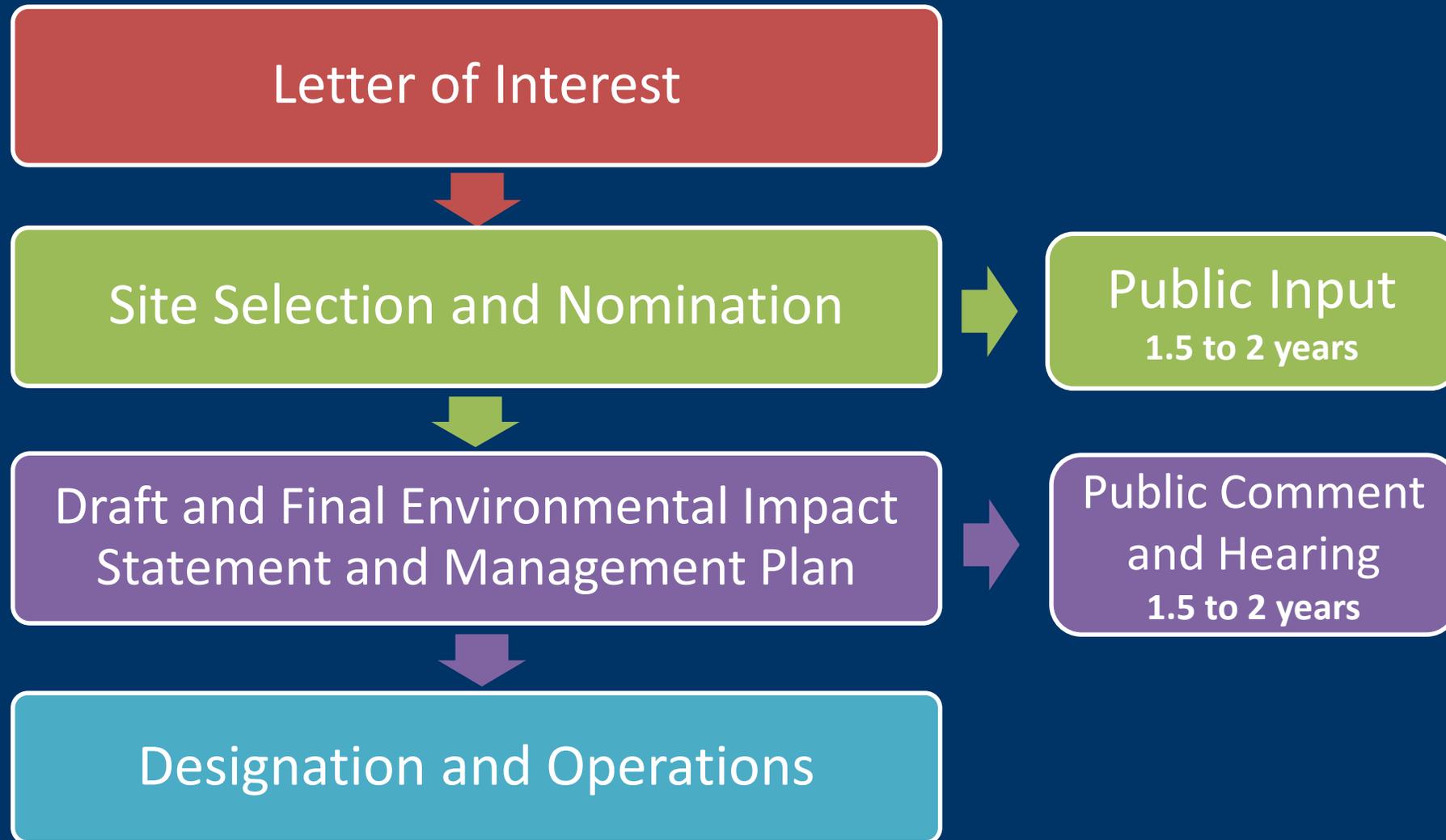
- Operations and management: \$690K per reserve
- Science Collaborative: \$3.85 million
- Centralized Data Management Office: \$759K
- National Estuarine Research Reserve Association (NERRA): \$321K
- National products and efforts: various

Procurement, Acquisition, and Construction: \$1.9 Million

- Buildings, boardwalks, signage, interpretive displays
- Competitive funding



Designation Process



NOAA Contact Information

Randall.Schneider@noaa.gov

Erica.Seiden@noaa.gov

coast.noaa.gov/nerrs



OFFICE FOR COASTAL MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NERR Overview: Why the need?

Protected Places:

CT has locations that can benefit from NERR programs and resources, while at the same time bringing our State's unique contributions to the national NERR system.

Science:

A NERR can provide complementary support / resources, & the addition of national expertise for existing CT efforts, many of which align with NERR Strategic Goals

People:

Every year reserves attract more than a half a million visitors, and educate approximately 85,000 students and 3,200 teachers.

Decision makers from over 2,500 communities and 570 businesses benefit by reserve-based science and technical expertise nationwide each year.



What	By When
<i>NERR Project Kickoff Meeting</i>	<i>April 2016 ... ✓</i>
<i>Preliminary Site Screening</i>	<i>November 2016... ✓</i>
<i>Preliminary Site Screening Public Meeting</i>	<i>May 2017... ✓</i>
<i>Detailed Site Selection</i>	<i>Summer 2017-18... ✓</i>
<i>Detailed Site Selection Public Meeting</i>	<i>Fall 2018... ✓</i>
Formal Nomination to NOAA	December 2018

CT NERR Steering Committee: DEEP*, UCONN, CT SeaGrant

Functions: Process Management / Coordination, Communication/Outreach.

**DEEP is lead agency to manage Selection & Nomination Process.*

Federal NERR Team: NOAA OCM-NERR

Functions: Advisory / Guidance (from National System level)

Site Selection Team (SST): Various topical experts / volunteers

Functions: Evaluation of site locations / Recommendation for CT NERR

Ad-hoc staff from various East-coast Reserves

Functions: Informal Advisory / Guidance (from local Reserve level)



CT NERR Overview – Site Selection

What do we mean by “site?”

- Within Project Area - CT Coastal Area and CT River to Cromwell / Portland;
- Includes both land & water area (LIS or riverine);
- Existing protection / preservation (i.e., not private property to purchase);
- Not more than 50% Federal property;
- Can include multiple locations, but should result from a critical assessment, not “all possible or available.”

Site Selection Structure: 2 tiers

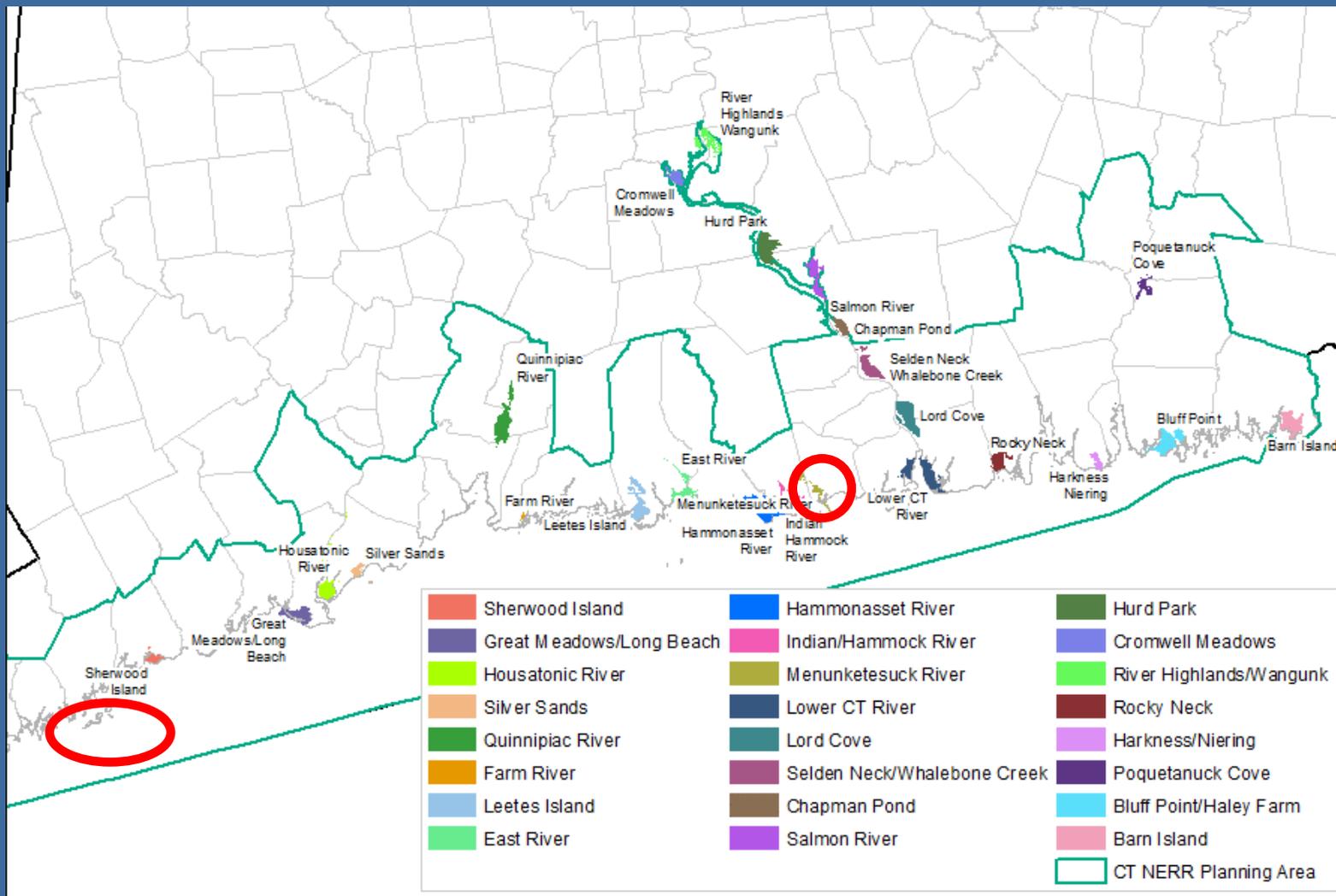
- **Preliminary** - general, broad look across project area to find 3-5 finalists
- **Detailed** - more complete vetting of finalists

Preliminary Screening:

- Steering Committee & SST developed inventory of potential options.
- SST assessed qualities relating to key NERR functions

Preliminary Inventory:

- Well distributed;
- Potential to support NERR goals;
- State or Federally owned:
 - Streamlines number of properties to assess;
 - Provides a reasonable array of well documented habitats;
 - Has existing levels of protection in place;



NOAA classifies Reserves based on composition and location:

- *Ecosystem Types*: Predominantly habitat based: “Shorelands” {coastal grasslands, forests, etc.}, “Transition Areas” {tidal/non-tidal salt and freshwater marshes} & “Submerged Bottoms” {subtidal areas}
- *Physical Characteristics*: Describe habitat - Geologic, Hydrographic, Chemical
- *Regions*: areas of similar/comparable types and characteristics

New Reserves required to “bring something new to the table.”

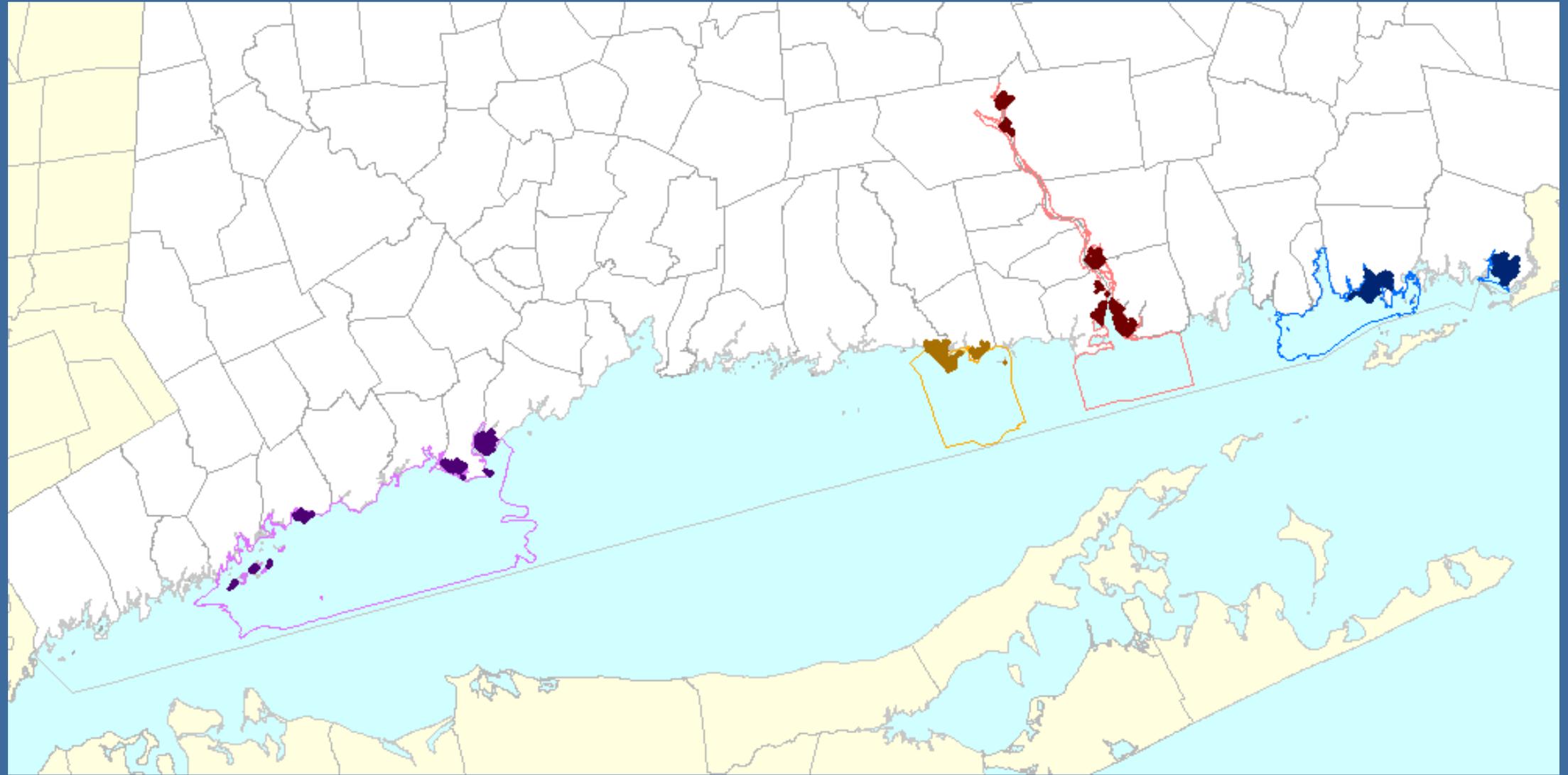
*** A CT Reserve must have some distinction between Waquoit Bay, Narragansett Bay, Hudson River.**

General Results:

4 multi-property complexes in Western, Central, Eastern LIS, & the CT River

- Variety of exemplary habitat types;
- Established research and educational efforts & opportunities
- Accessible through normal modes of transportation;
- Can leverage existing infrastructure capacity;
- NOAA uniqueness :
 - Off-shore: depth regimes and various bottom types (notably hard bottom)
 - Uplands examples - vegetation, hydrology, etc. that can extend the case.

CT NERR Overview – Preliminary Selection Process



Finalists evaluated via 32 criteria

Developed from NOAA guidelines, adjusted for CT.

Criteria Group	Number of Criteria
Environmental Composition	11
Research / Monitoring / Stewardship	5
Education / Training	4
Acquisition / Management	9
Climate Resiliency	3

Habitat Composition/Complexity: This is a measure of the diversity of habitat types present within the major ecosystem type found within the boundaries of the site. This criterion is based on the assumption that sites that have a high diversity of habitat types are of higher relative “value” for protection and management than those with a low diversity of habitat types. Major ecosystem type is defined here as that type that comprises approximately 40% of the site. Use the habitat designation listed above for “ecosystem composition”.

Table 1.3: Habitat Composition/Complexity Scoring

3 points	The candidate site has a high diversity of habitat composition within its major ecosystem type, i.e. it contains three or more habitat types or subtypes within its major ecosystem type (e.g. site consists of a combination of swamps, coastal marshes, and mud flats) or has a combination of multiple coastal marsh types (e.g., high, mid, and low marsh zones).
2 points	The site has a moderate diversity of habitat composition within its major ecosystem type, i.e., it contains only two habitat types or subtypes within its major ecosystem type (e.g., consists of a combination of swamps and a single coastal marsh type).
1 point	The site has a low diversity of habitat composition within its major ecosystem type, i.e., its major ecosystem type consists of a single habitat type (e.g., maritime forest or <u>Juncus</u> marsh).

SST divided into criteria-based groups

- (e.g., environmental composition, research / monitoring, etc.)

Collected & assessed available data;

- Group-wide recommendation for each criterion

Each group presented findings to SST for comments and questions;

Based on feedback created a synthesis report and recommended scores

Scoring:

- SST members scored based on their own opinions, yet informed by the work of the whole group.
- Site scores summed and taken as a percentage of the total possible points.
- Percentage scores for each of 4 site averaged; the highest would become the proposed site.

Results / Aftermath:

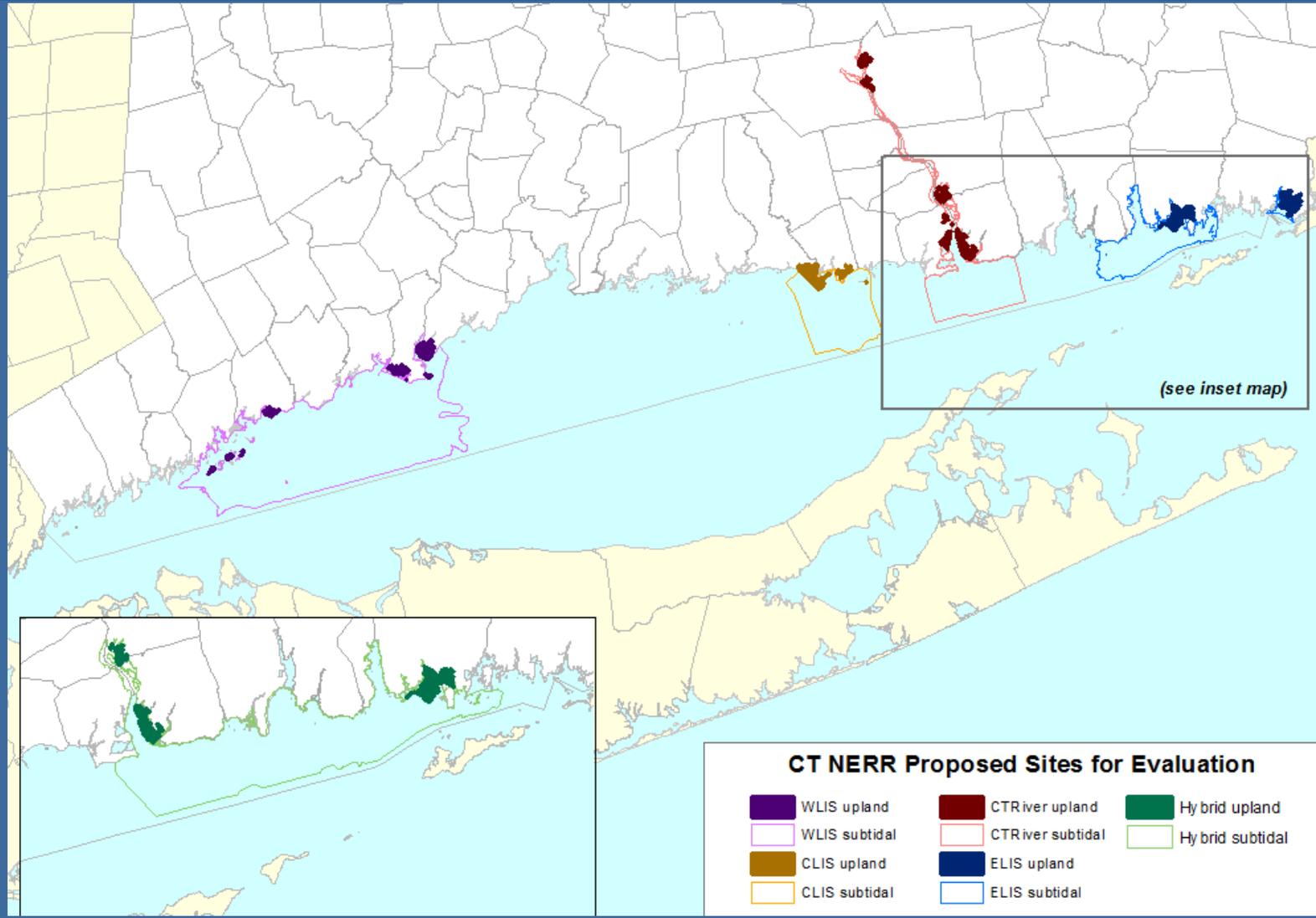
- Eastern LIS (Bluff Point, Haley Farm, Barn Island) topped CT River 82.66 to 81.40.
- During scoring process, CT DEEP Wildlife was dealing with an unrelated political issue for potentially limiting hunting on other (non-NERR) state properties.
- To prevent potential user-conflicts and ensure continued hunting access at Barn Island, CT DEEP Wildlife suggested removing it from Eastern LIS site.

- Commissioner Klee asked SST to consider a 5th site
 - Mix of properties from CT River and ELIS (excluding Barn Island)

In early 2018:

- Consulted w/ NOAA;
- Verified SST availability;
 - Needed the same or nearly the same roster
- Quickly delineated a new set of properties
 - Bluff Point and Haley Farm
 - Great Island and Lord Cove

CT NERR Overview – Detailed Selection Process



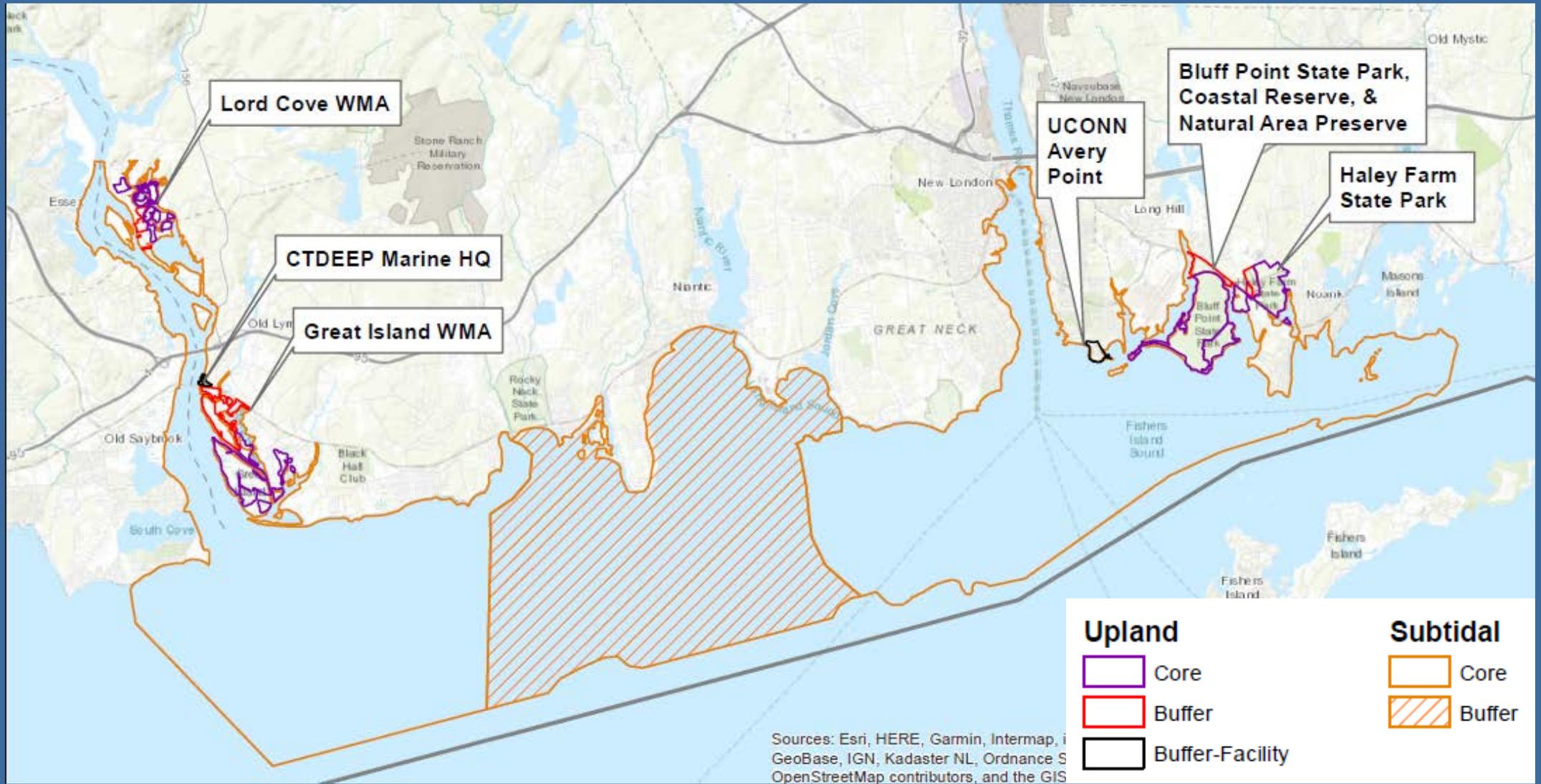
CT NERR Overview – Detailed Selection Process

Final Results					
	Eastern LIS	CT River	Central LIS	Western LIS	Hybrid
Overall Score	82.66%	81.40%	72.69%	71.58%	86.11%

Component Scoring: Contribution of each Criteria Group to Overall Score						
	Environmental Component	Research / Monitoring / Stewardship Component	Education / Training Component	Acquisition / Management Component	Resiliency Component	Overall Score
ELIS	27.68%	14.43%	9.30%	23.07%	8.18%	82.66%
CT River	28.13%	12.95%	10.04%	23.88%	6.40%	81.40%
CLIS	24.11%	12.35%	7.96%	21.43%	6.85%	72.69%
WLIS	25.30%	14.29%	8.71%	16.96%	6.32%	71.58%
Hybrid	29.17%	13.89%	10.33%	24.39%	8.33%	86.11%



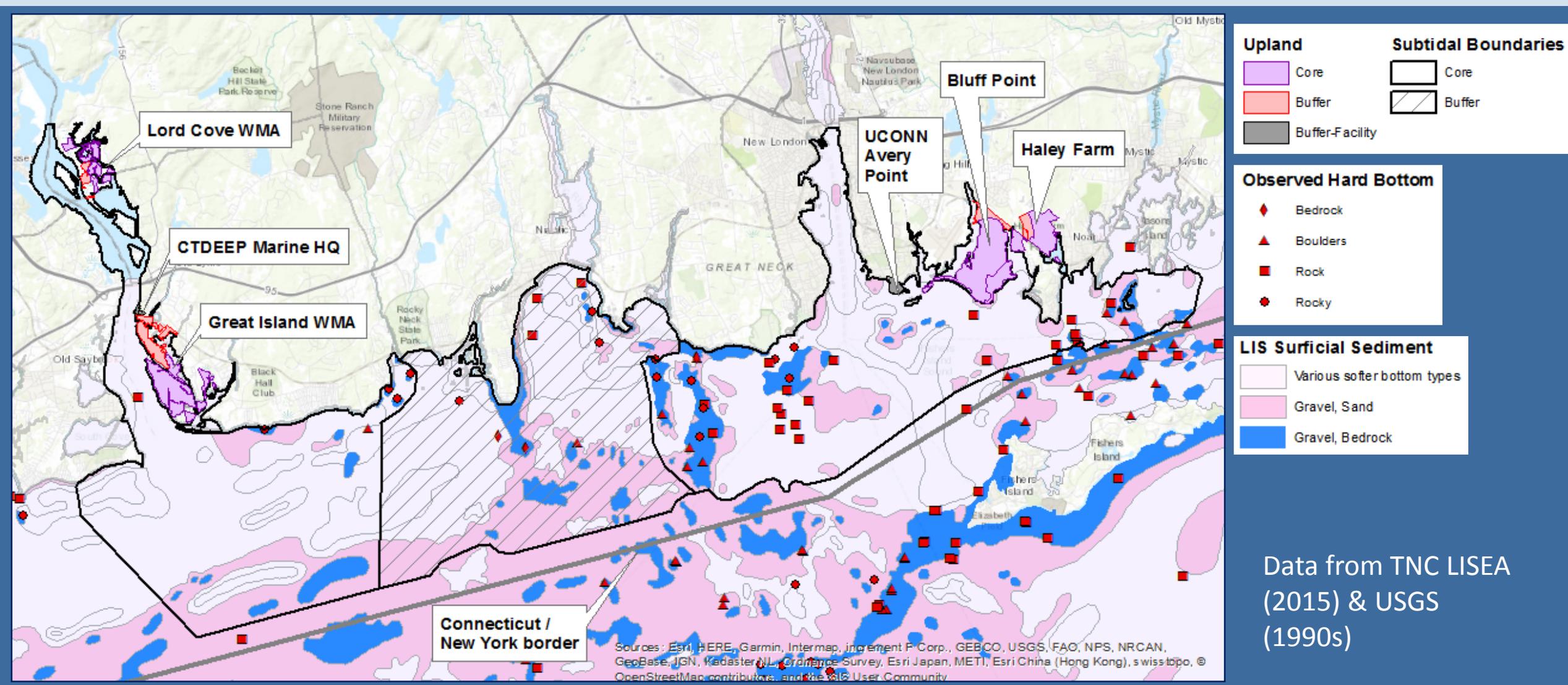
CT NERR Overview – Proposed Site



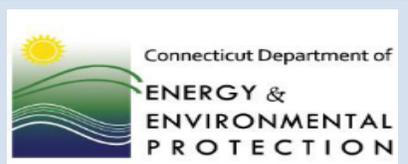
Boundaries:

- Uplands - property boundaries
- Subtidal areas (public trust - > water-ward of Mean High Water)
- Core and buffer areas required.
 - ID key ecological areas (core) and places that could accommodate future ecological shifts (buffers.)
 - Facilities are defined as buffers

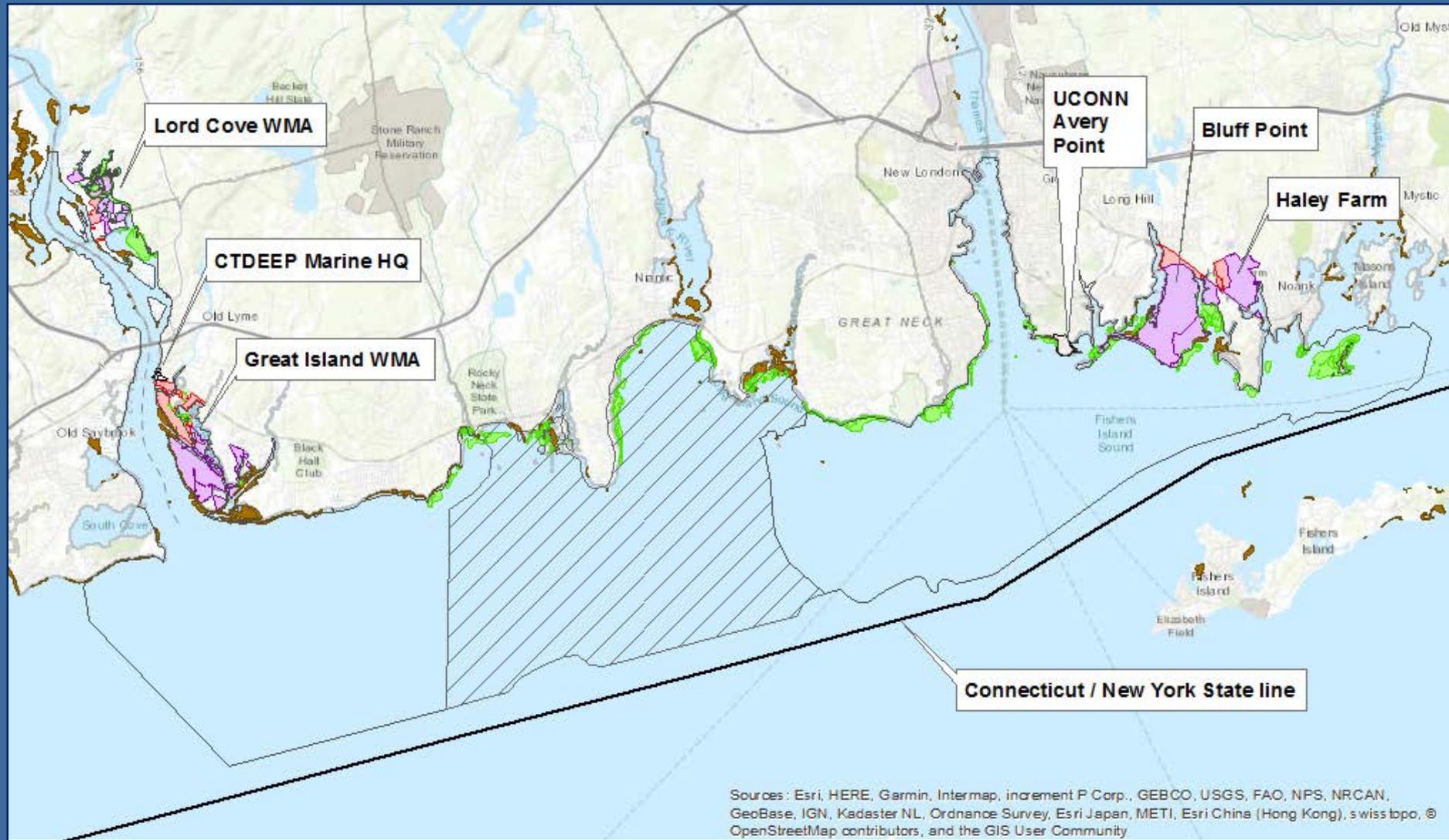
CT NERR Overview – Proposed Site



Data from TNC LISEA (2015) & USGS (1990s)



CT NERR Overview – Proposed Site



Upland

- Core (Purple)
- Buffer (Red)
- Buffer-Facility (Grey)

Subtidal Boundaries

- Core (White box)
- Buffer (Hatched box)

Intertidal Flats

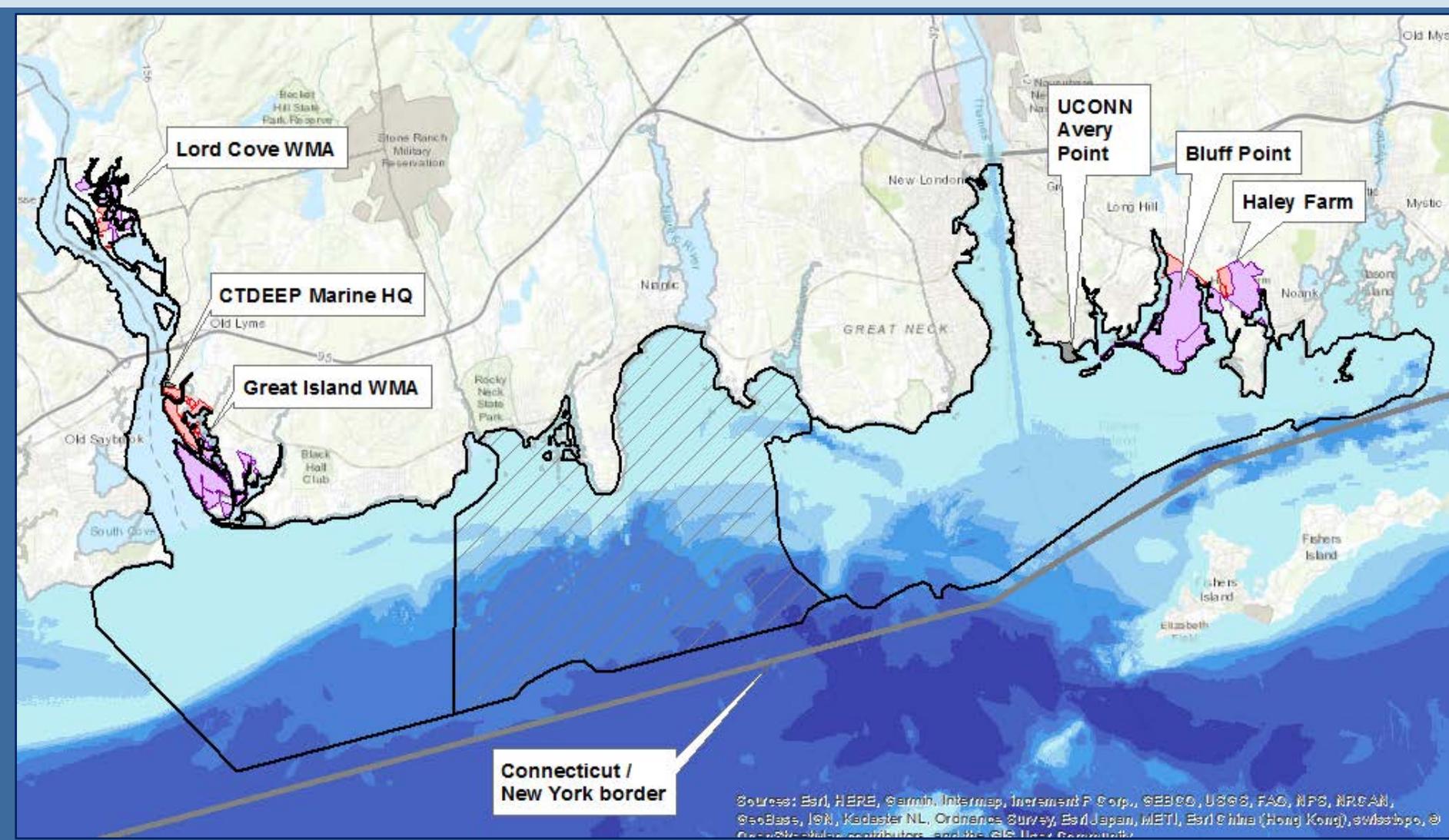
SAV / Eelgrass

Data from US FWS LIS Eelgrass Mapping (2012) & USGS Topographic Maps (various)

Sources : Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swiss topo, © OpenStreetMap contributors, and the GIS User Community



NERR Overview – Proposed Site



Upland		Subtidal Boundaries	
	Core		Core
	Buffer		Buffer
	Buffer-Facility		

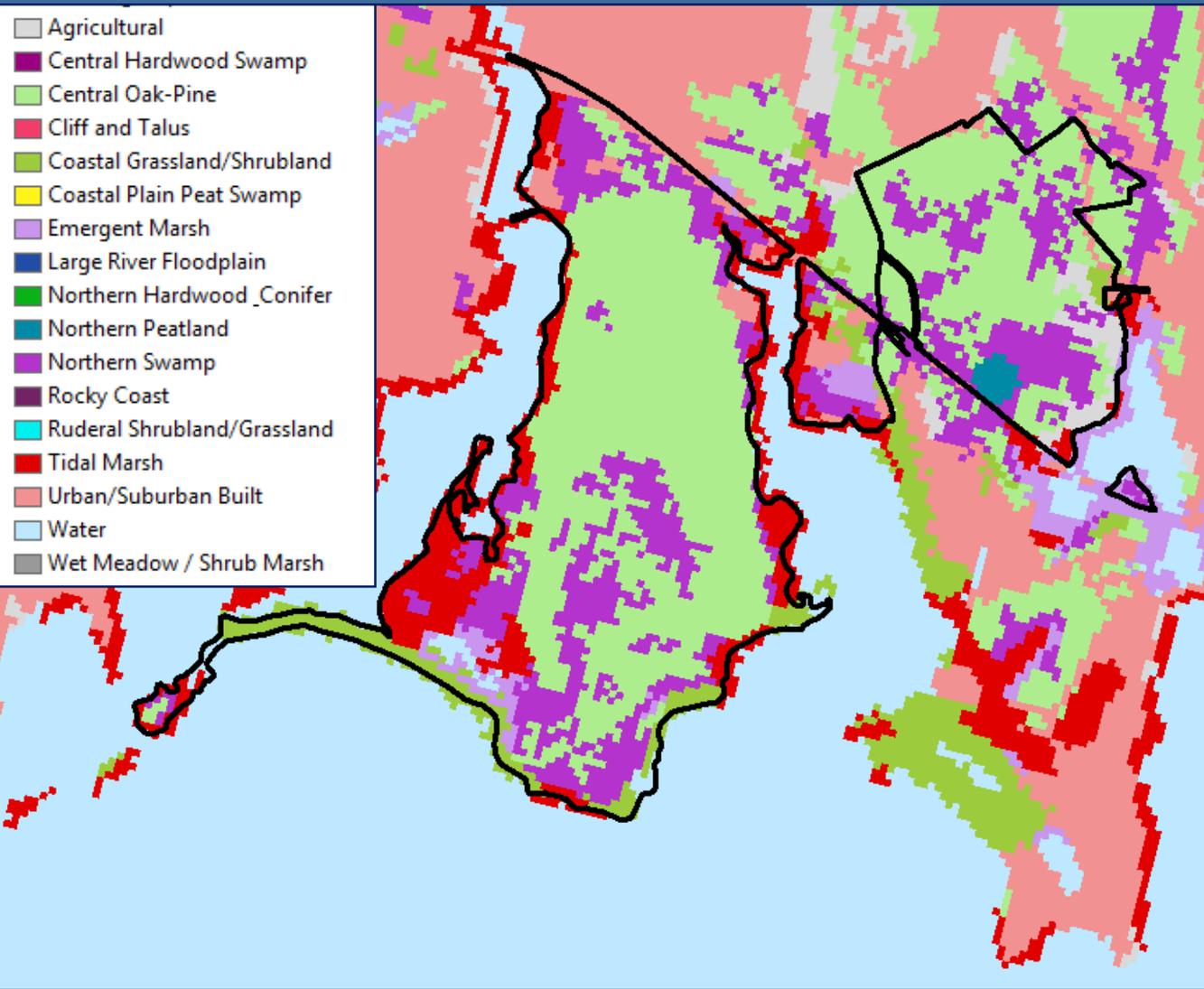
Bathymetry (meters)	
	-11.6 - 0.8
	-17.7 - -11.6
	-20.7 - -17.7
	-26.8 - -20.7
	-39.3 - -26.8
	-65.0 - -39.3
	-117.8 - -65.0

Data from NOAA bathymetry (various)

Source: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, © OpenStreetMap contributors, and the GIS User Community



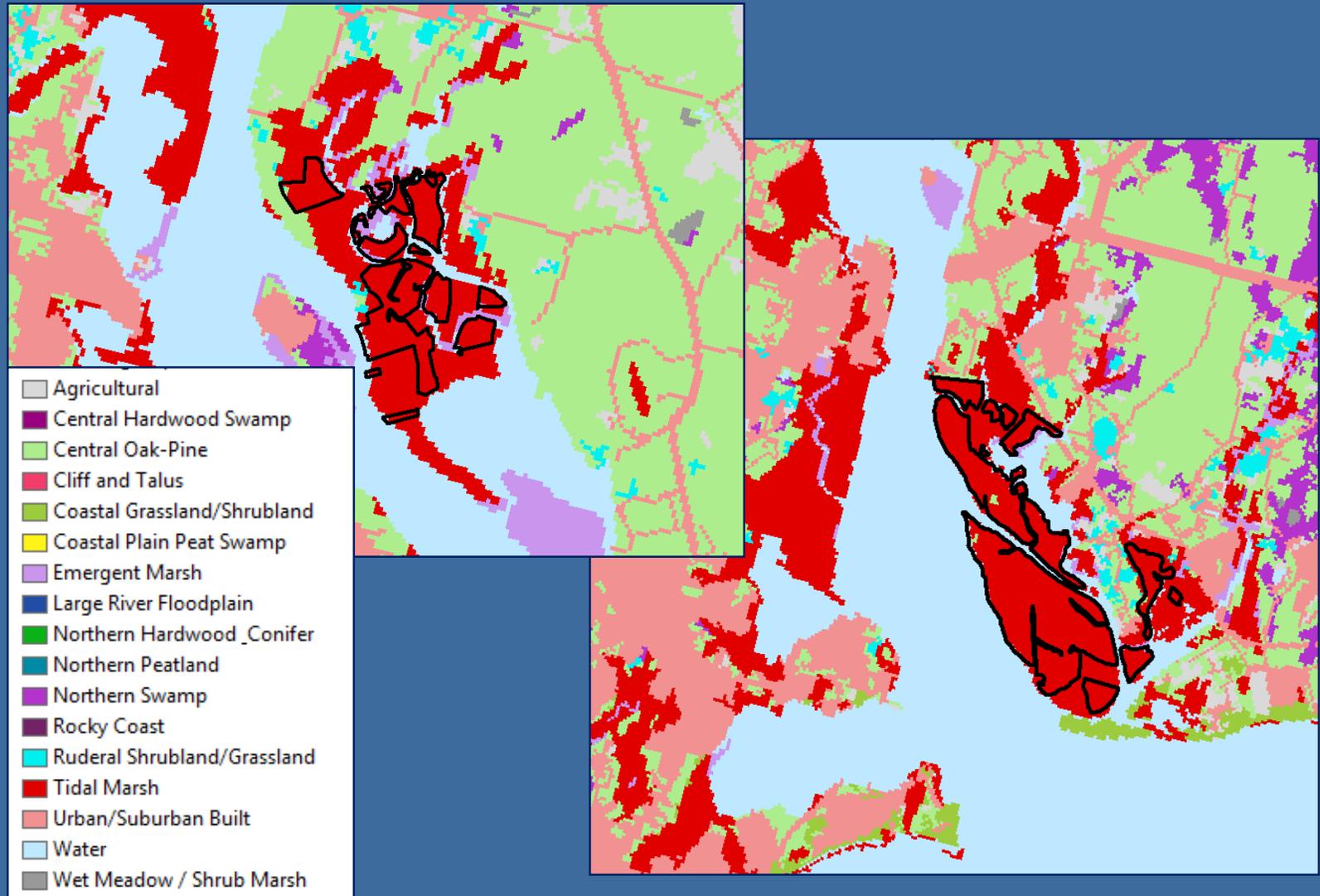
NERR Overview – Proposed Site



Habitat Group	Acres	%
Agriculture	19	2%
<i>Central Oak-Pine</i>	546	51%
Coastal Grassland/Shrubland	49	5%
Emergent (Freshwater) Marsh	25	2%
Forested Wetlands (Northern Swamp)	262	25%
Northern Peatlands	7	<1%
Tidal Marsh	114	11%
Urban/Suburban Built	39	4%
Total:	1064	100%

Data from TNC Terrestrial Habitats (2015)

NERR Overview – Proposed Site



Habitat Group	Acres	%
Central Oak-Pine	4	< 1%
Coastal Grassland/Shrubland	0.2	< 1%
Emergent Marsh	10	1%
<i>Tidal Marsh</i>	<i>707</i>	<i>98%</i>
Urban/Suburban Built	0.4	< 1%
Total:	721	100%

Data from TNC Terrestrial Habitats (2015)



Unique Characteristics:

- Offshore deep, hardbottom – not represented in NY, MA, RI;
- Mesic Cove Forest (BP) – not represented within NE NERRs;
- CT River Tidal Wetland vegetative communities, salinity, & circulation differ from Hudson River.

Critical Habitats:

- Migratory stop-over & significant nesting/roosting areas for numerous birds;
- Nursery/Spawning/Concentration areas for numerous fish & invertebrates
 - Atlantic and Short-nosed sturgeon;
- UFWS Focus area New England Cottontails;
- Over 4 dozen State listed T/E/SC species.

Science/Research:

- Wide scope of historic & ongoing research
 - wetland restoration/ecology, fisheries, physical & chemical oceanography, benthic ecology, water quality, etc.;
- Active environmental monitoring:
 - Water quality sampling, fishery trawls, ocean & weather data buoys.

Education:

- K-12 environmental programs in the Lower CT River;
- ~12,500 K-12 students and teachers;
- Numerous organizations: CT SeaGrant, Mystic Aquarium, CT River Museum, Project O, Roger Tory Petersen Center, etc. (K-12, adult/professional ed)



Management:

- CT State Parks/WMA support public use and environmental stewardship;
- Bluff Point address resource conservation/protection;
- Land & Water Uses
 - No requirements to change or adjust current uses;
 - NERR programs not expected to (negatively) affect status quo;
 - No additional regulatory burdens.

Resilience:

- Long-term issues surrounding SLR that face Lower CT River & Bluff Point
- Diversity of habitats across large area can help mitigate resource impacts.



NERR Overview – Next Steps

Site Selection Phase	Letter of Interest from State to NOAA	<i>Done - 2004</i>
	Select a proposed site	<i>Done - Fall 2018</i>
	Nomination sent to NOAA	Expected - December 2018
	Required approval by NOAA	TBD
Site Designation Phase	Draft Environmental Impact Statement & Management Plan	Once Nomination accepted by NOAA, approx. 2 years
	Final Environmental Impact Statement & Management Plan	
	Designation Complete & Begin Operations	

Expected Roles:

- CTDEEP will be the lead State Agency to address Designation Phases
- Operational management of reserve TBD, but will formally include UCONN and CTDEEP
- Additional partners (formal or informal) also possible

Can I fish or shellfish in a CT NERR?

- **YES** – as long as you follow the existing State or Local requirements to do so.

Can I recreationally boat or operate commercial transportation or commerce in a CT NERR?

- **YES** – existing uses of the land and water won't be restricted just because of a Reserve.

Are there limits or restrictions on recreational activities and/or public access in the upland areas?

- Any limits on what can be done on the properties are largely controlled by existing rules governing them.

Why wasn't location "X" included?

- The project team established thresholds to reasonably ensure that representative habitats and areas across coastal CT could be evaluated. It simply wasn't practical to try and assess all possible opportunities.

If location "X" isn't part of the Reserve, can there still be some future partnerships?

- Possibly – a key intent of any NERR is to provide opportunities to engage with and learn about coastal and estuarine science and stewardship. Linkages that are mutually beneficial can be addressed.

To provide additional comments:

E-mail (preferred): kevin.obrien@ct.gov

US Mail:

Kevin O'Brien

CT Dept. of Energy & Environmental Protection

Land & Water Resources Division

79 Elm St.

Hartford, CT 06106

Received by 11/20/2018

Reminder – Please fill out the sign-in sheets

