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Coastal Zone Soil Survey

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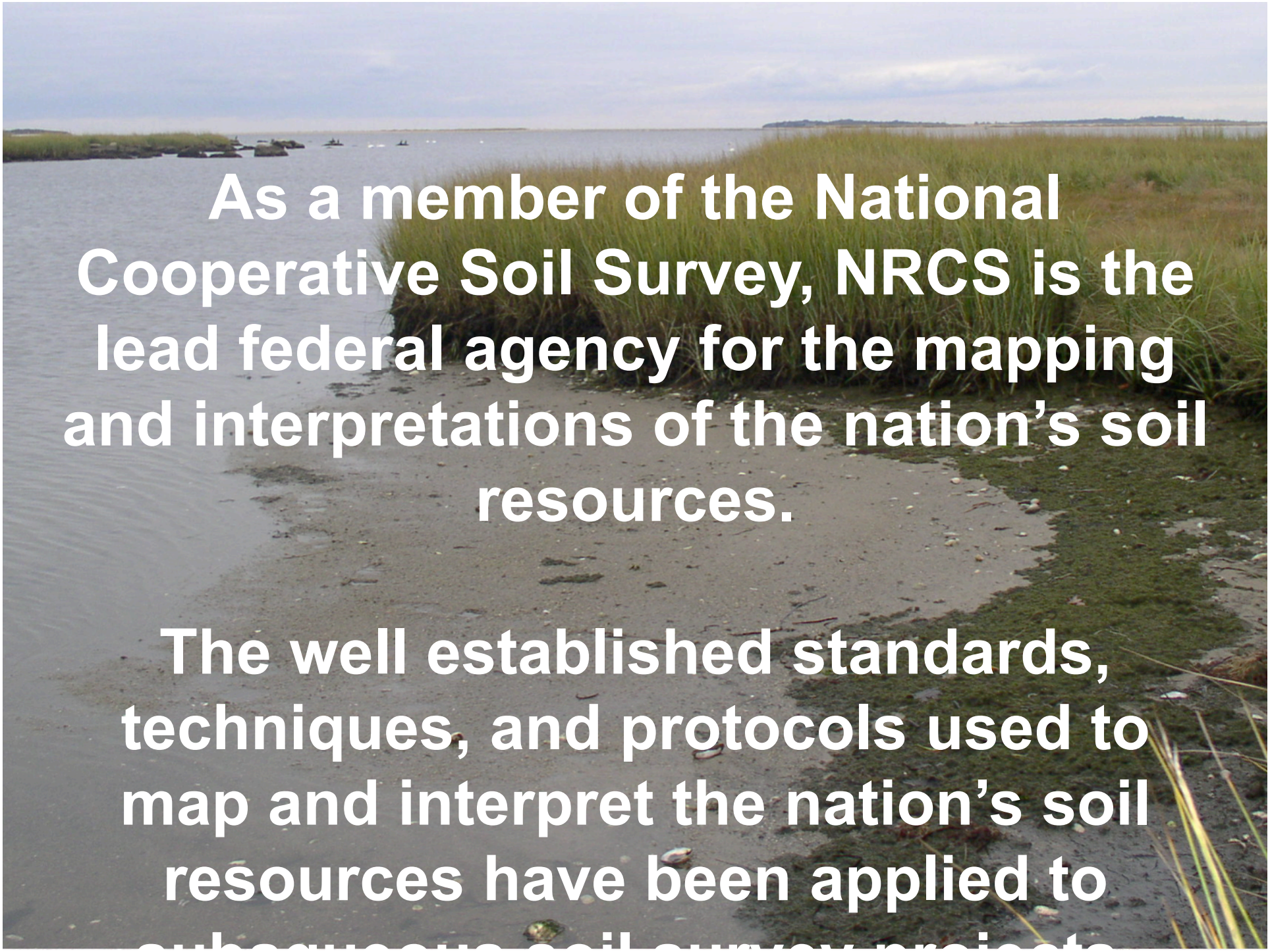
United States Department of Agriculture
Natural Resources Conservation Service


As a member of the National Cooperative Soil Survey, NRCS is the lead federal agency for the mapping and interpretations of the nation's soil resources.
The well established standards, techniques, and protocols used to map and interpret the nation's soil resources have been applied to

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What is soil?

Soil … is characterized by [either]

Horizons, or **layers**, that are distinguishable from the initial material as a result of **additions**, **losses**, **transfers**, and **transformations** of energy and matter, or

The ability to **support rooted plants** in a natural environment.

What is soil?

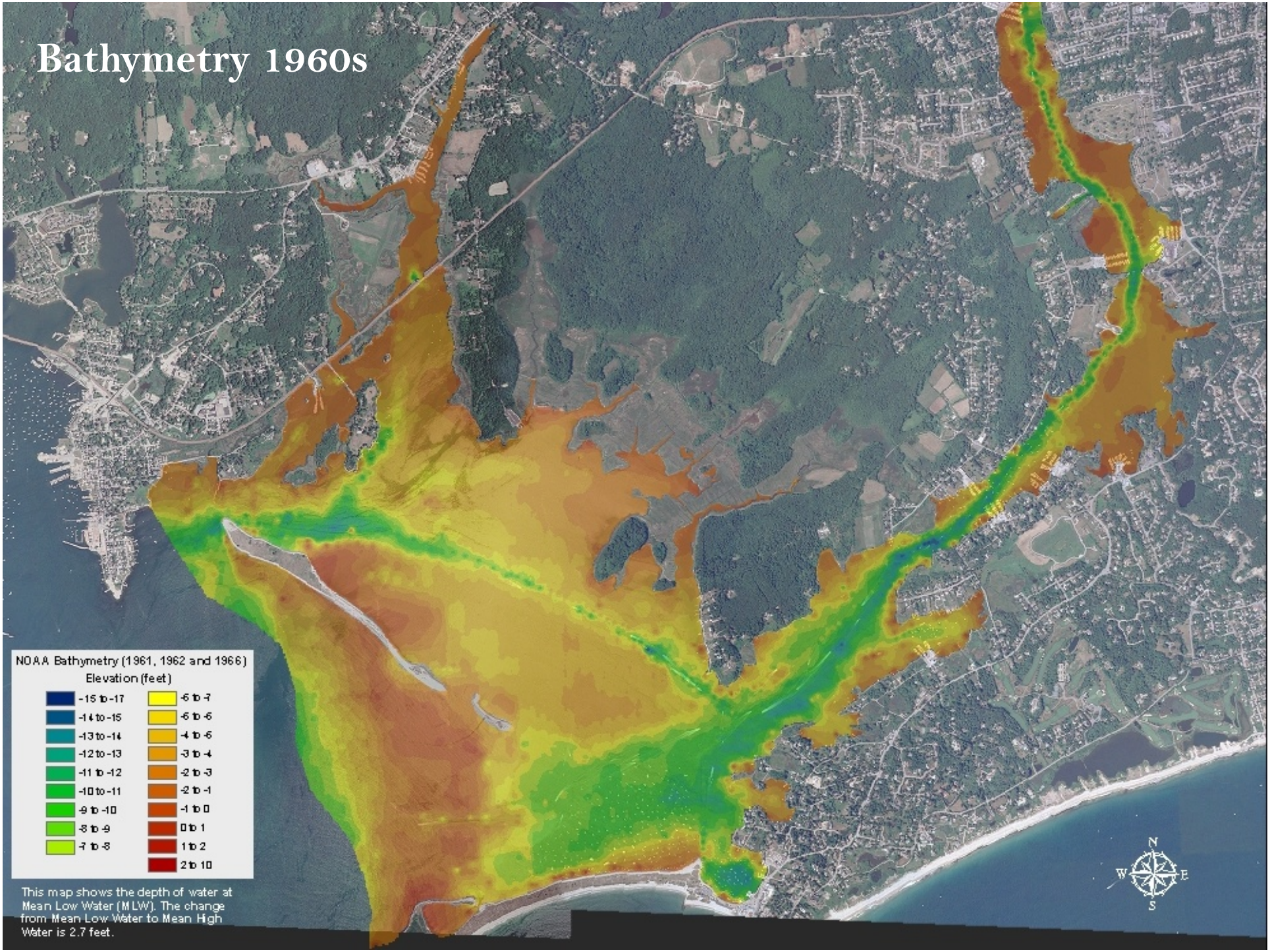
The upper limit of soil is the boundary between soil and air, shallow water, live plants, or plant materials that have not begun to decompose.

Areas are not considered to have soil if the surface is permanently covered by water too deep (typically more than 2.5 meters) for the growth of rooted plants.

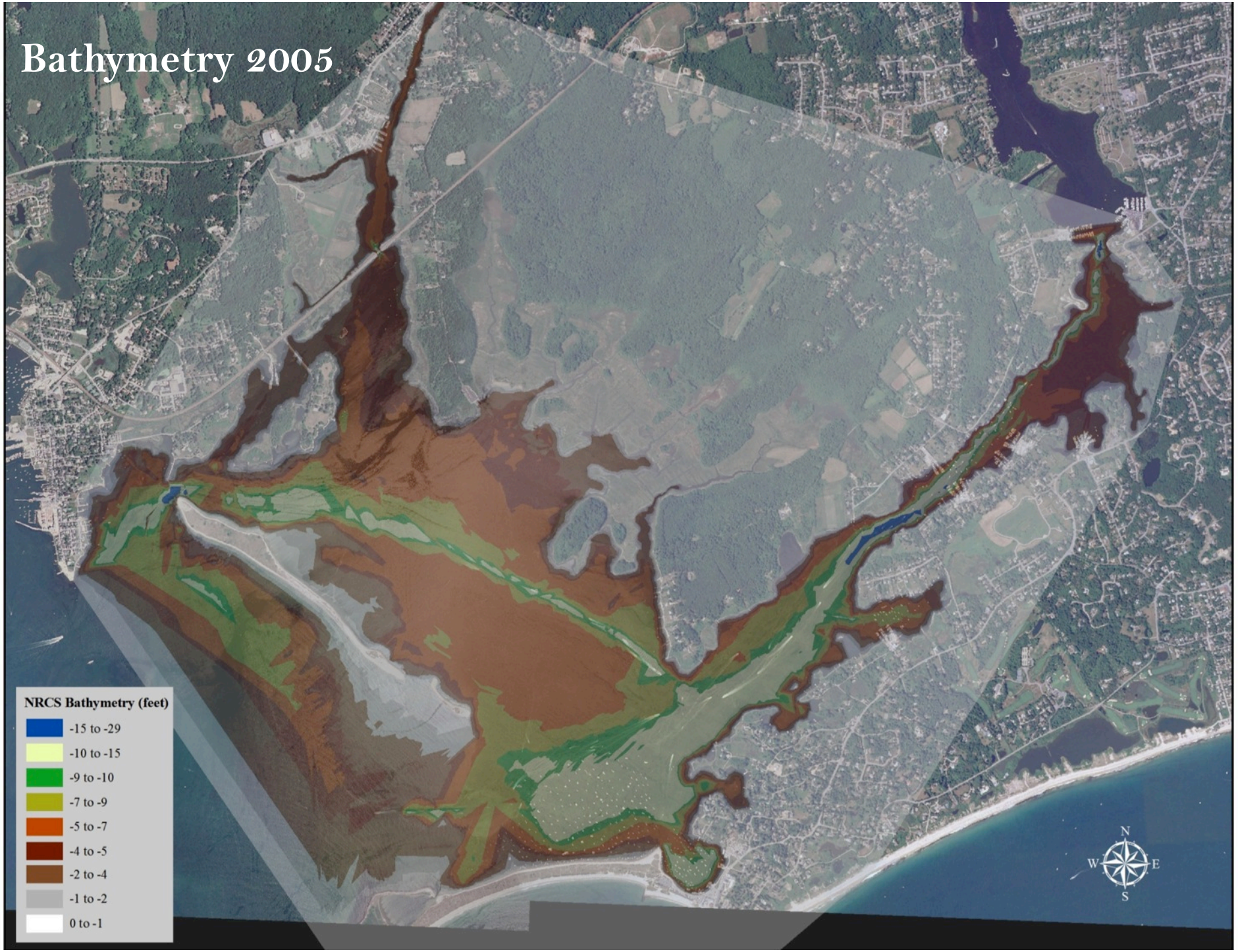
The lower limit of soil is arbitrarily set at 200 cm.

STONINGTON
Stonington
Quanaduck Cove
Wequetequock Cove
Elihu Island
Edwards Point
Sandy Point
Stonington Point
BARN ISLAND HUNTING AREA
Barn
Perch
Stanton Weir Pt
Thompson Cove
Pawcatuck Rock
Gavitt Pt
Ram Pt
Avondale
Graves
Colonel Willie Cove
Rhodes Pt
Potter Cove
Foster Cove
Watch Hill
Watch Hill Cove
Watch Hill Pt
WATCH HILL LIGHTHOUSE
PAWCATUCK RIVER
CONNECTICUT
RHODE ISLAND
NEW LONDON CO
LITTLE NARRAGANSETT BAY
LITTLE NARRAGANSETT BAY
WESTERLY
Napatree Beach
Napatree Point
Maschaug Pond
Little Maschaug Pond
NEW YORK
Middle Ground
Tidal Flat
Light

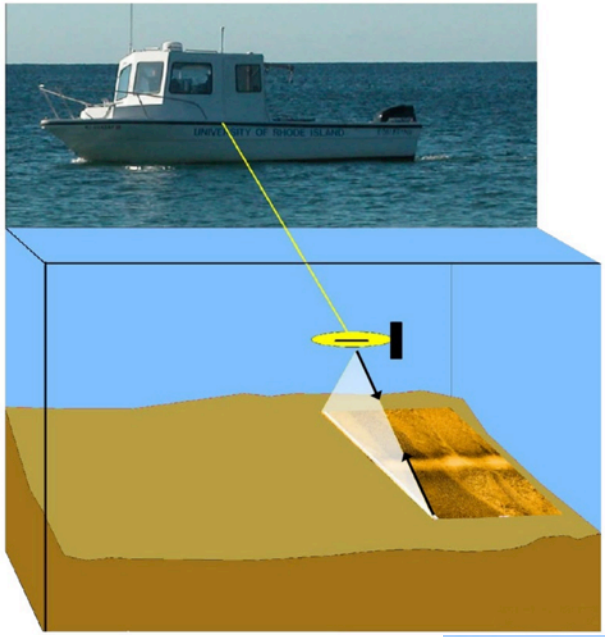
Bathymetry 1960s

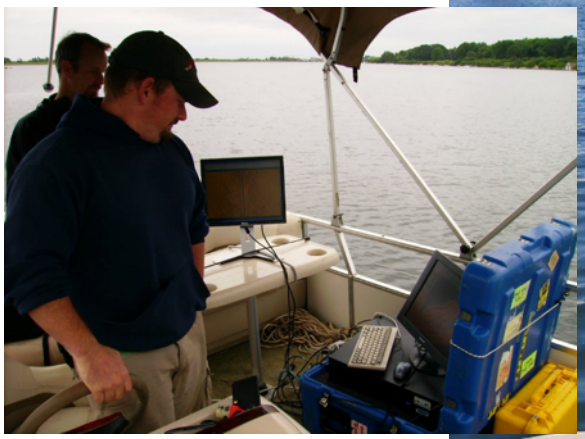


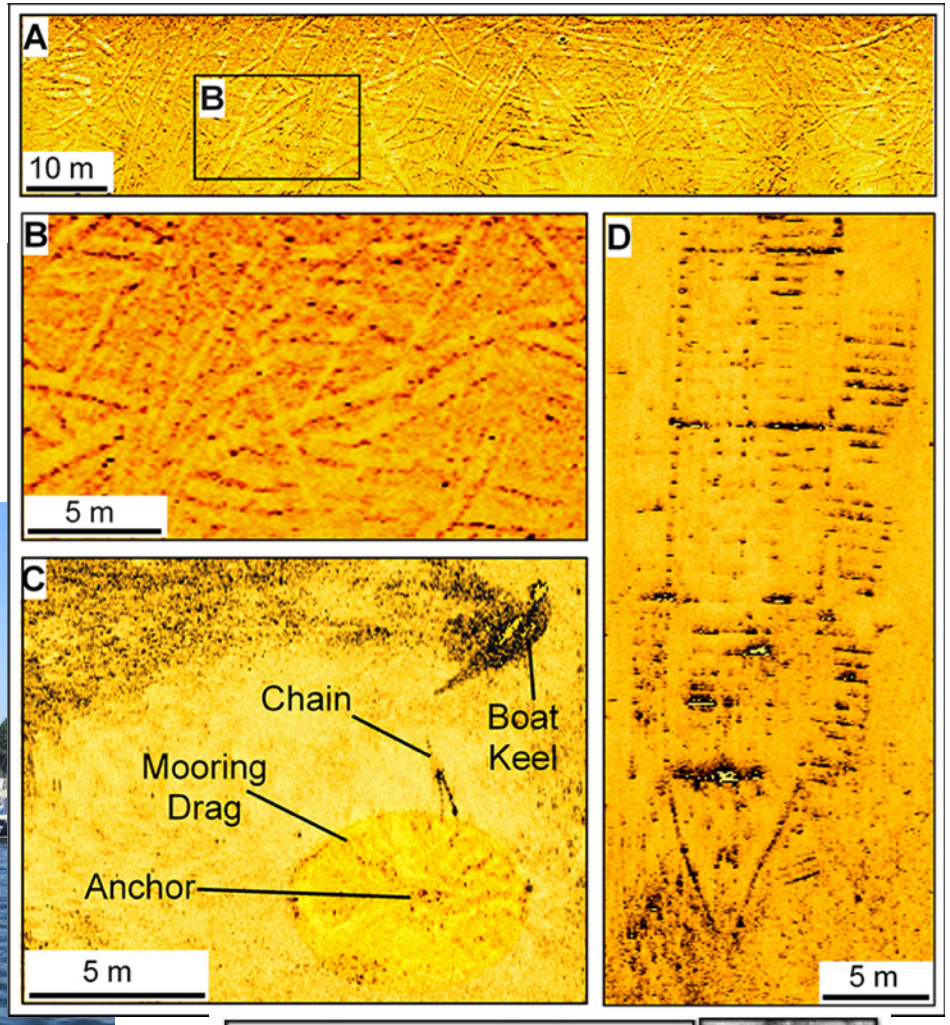
Bathymetry 2005

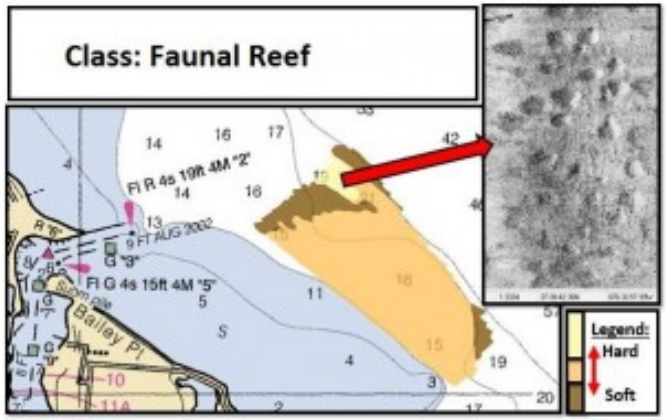


Side-Scan Sonar









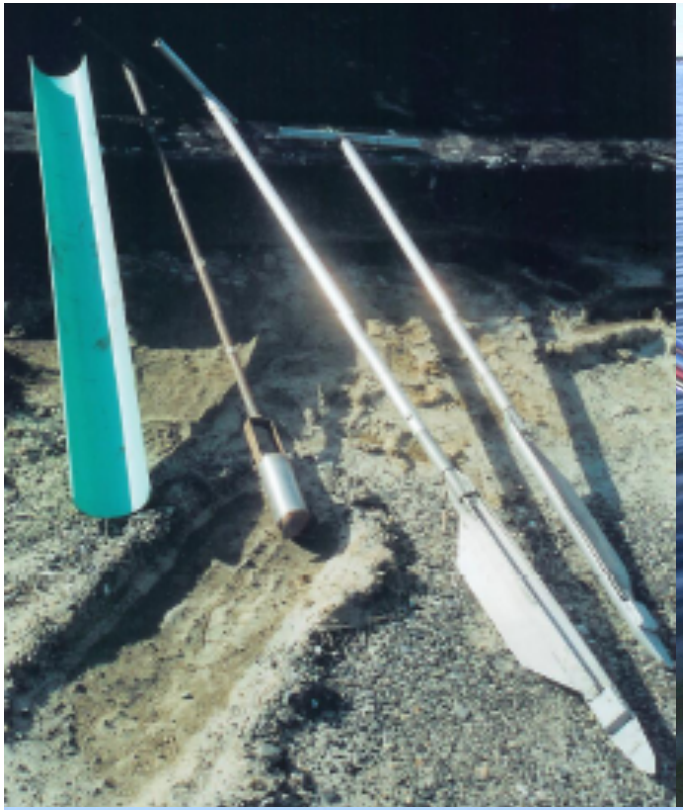
Major Soil Landform Legend

BI	Barrier Island
BB	Bay Bottom
NC	Navigational Channel
MCLo	Mainland Cove Loamy
MCSa	Mainland Cove Sandy
RB	River Bottom
SS	Shoal Sandy
SC	Shore Complex
SF	Shore Face
SH	Submerged Headlands
SSV	Submerged Stream Valley
STM	Submerged Tidal Marsh
TI	Tidal Inlet
WFF	Washover-Fan Flat


Navigational Channel
Shore Complex
Shore Face
Washover-Fan Flat
Bay Bottom


Mainland Cove
Submerged Headlands
Bay Bottom


Submerged Stream Valley




RI 9404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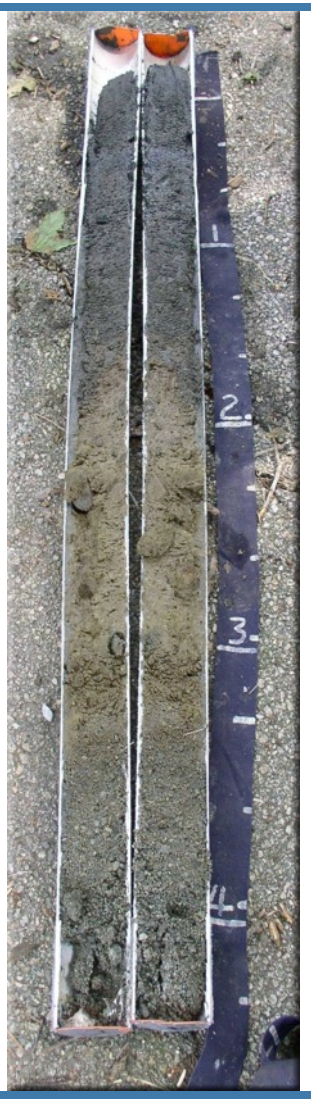
KEEPER
Caplugs

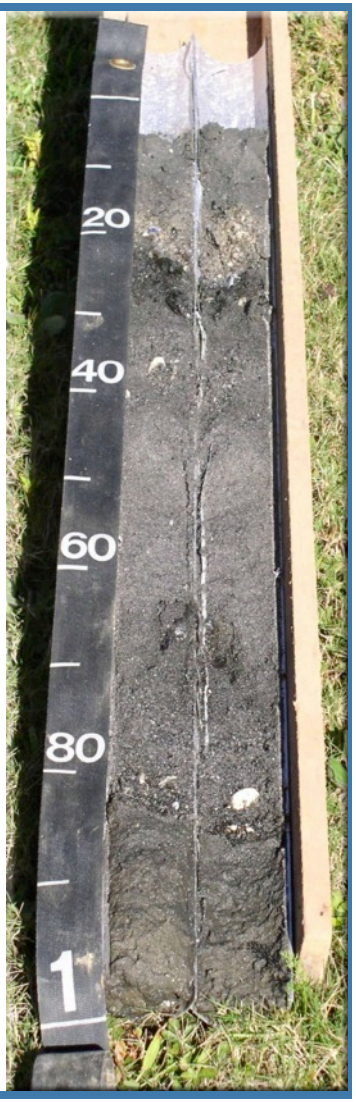
Wequetequock

Napatree

Anguilla



Rhodesfolly

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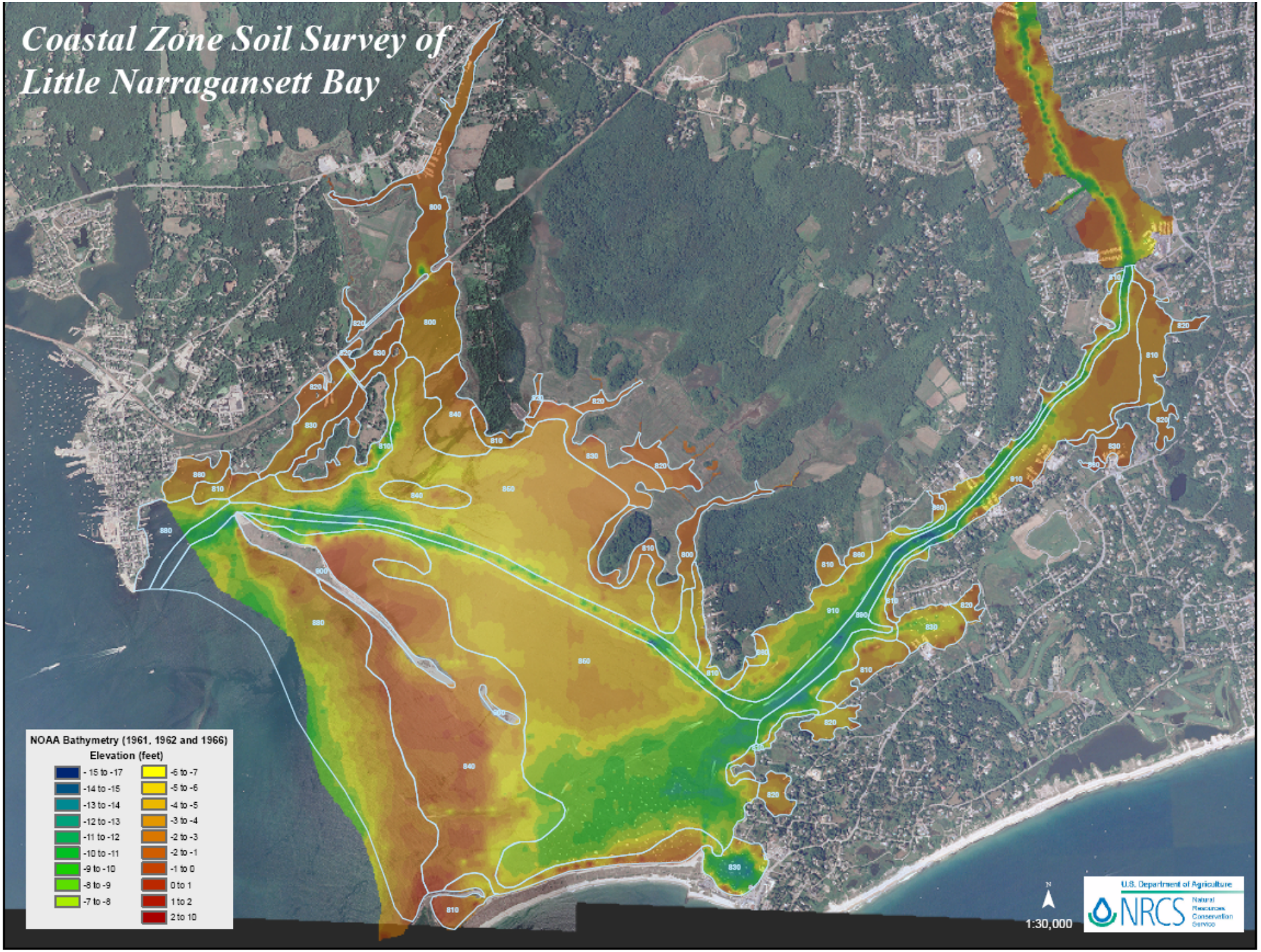
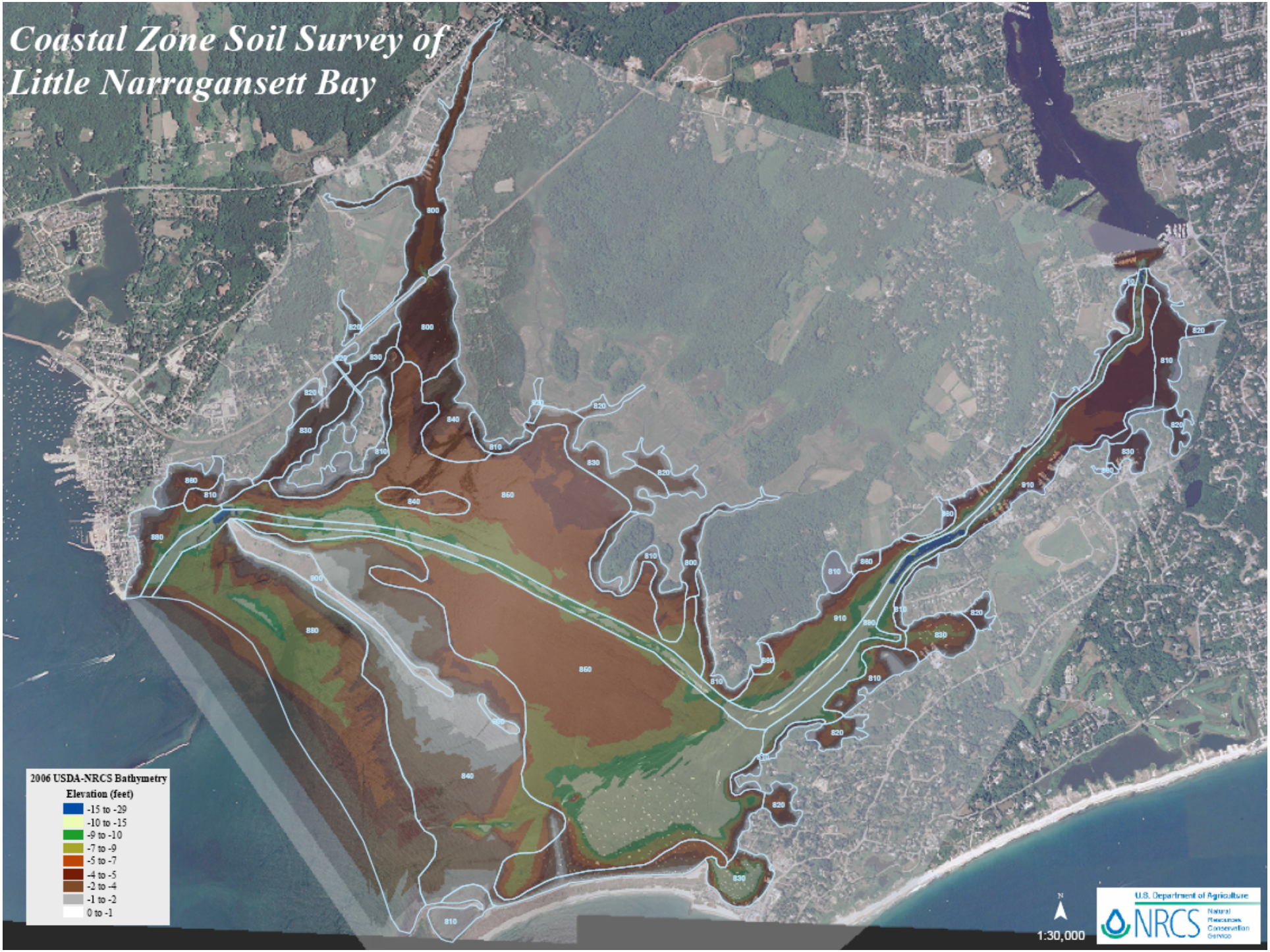
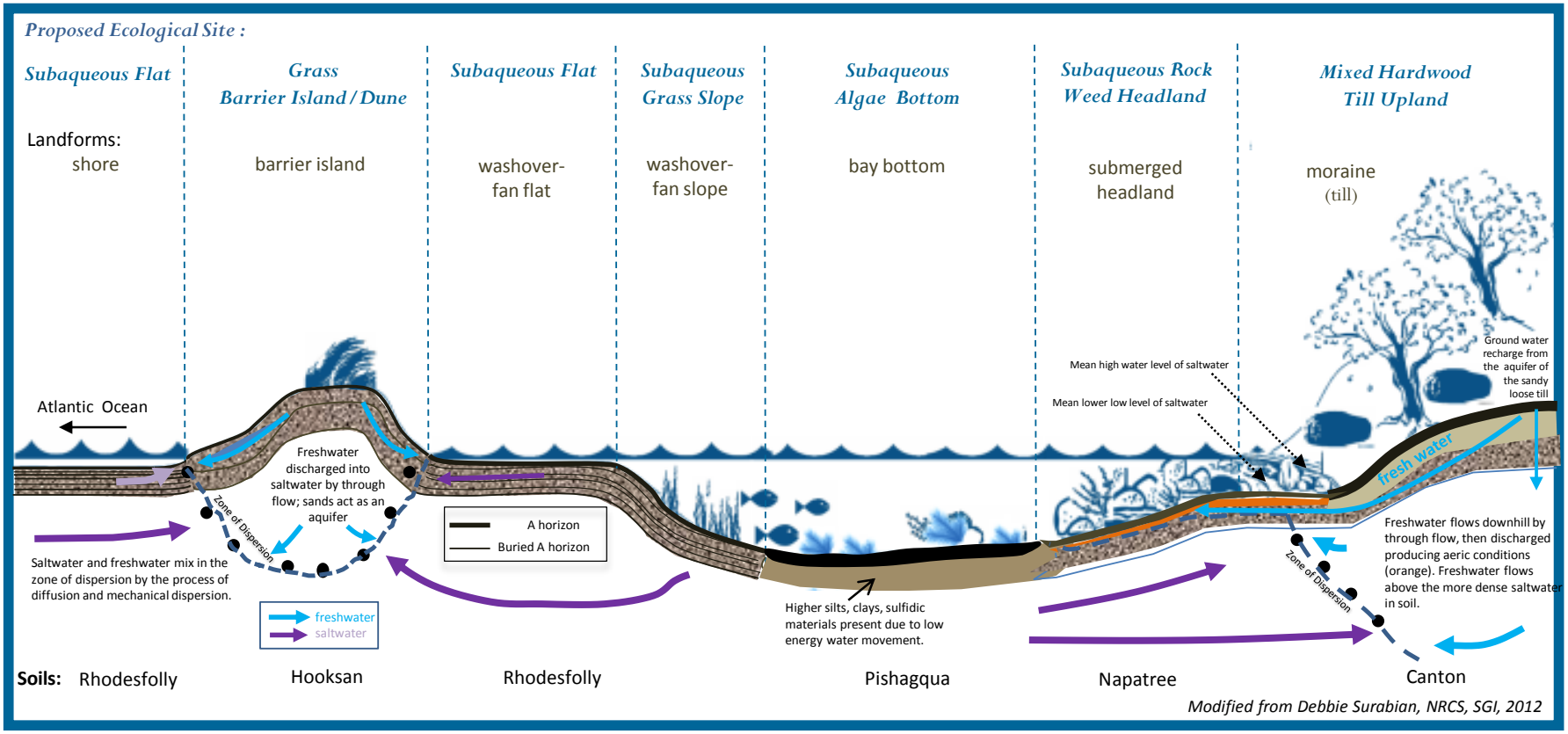
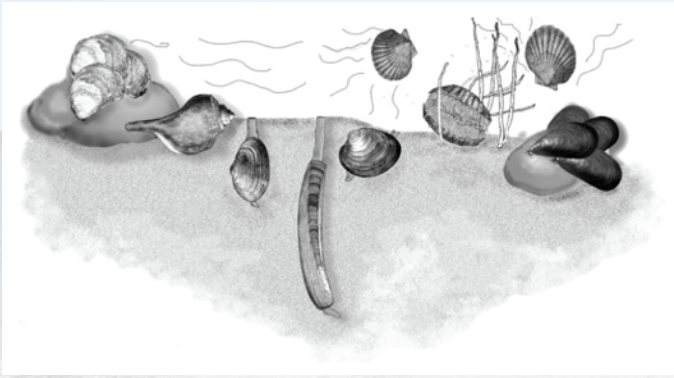

Coastal Zone Soil Survey of
Little Narragansett Bay
NOAA Bathymetry (1961, 1962 and 1966)
Elevation (feet)
-15 to -17
-14 to -15
-13 to -14
-12 to -13
-11 to -12
-10 to -11
-9 to -10
-8 to -9
-7 to -8
-6 to -7
-5 to -6
-4 to -5
-3 to -4
-2 to -3
-2 to -1
-1 to 0
0 to 1
1 to 2
2 to 10
N
1:30,000
U.S. Department of Agriculture
NRCS
Natural Resources Conservation Service


Coastal Zone Soil Survey of
Little Narragansett Bay
2006 USDA-NRCS Bathymetry
Elevation (feet)
-15 to -29
-10 to -15
-9 to -10
-7 to -9
-5 to -7
-4 to -5
-2 to -4
-1 to -2
0 to -1
N
1:30,000
U.S. Department of Agriculture
NRCS
Natural Resources Conservation Service

The shore-to-upland Ecological Sites, Landforms, Soil Types and Hydropedology of Little Narragansett Bay.



Soil based interpretations that could be developed for subaqueous soils:



- Soil Potential for Coastal Acidification **
- Soil Suitability for Hard Clam Habitat**
- Soil Suitability for Eastern Oyster Habitat Restoration**
- Soil Suitability for Eelgrass Restoration**
- Moorings – Deadweight and Mushroom Anchors **
- Land Utilization of Dredge Materials**
- Shoreline Erodibility
- Climate Change vulnerability
- Shoreline Cleanup (oil spills)
- Tidal Marsh Protection and Creation
- Crab Habitat
- Horseshoe Crab Habitat
- Lobster Habitat
- Nutrient Reduction
- Wading Shore Birds and Migratory Waterfowl, Nurseries/Spawning Areas
- Navigational Channel Creation/Maintenance
- Dune and Beach Maintenance/Replenishment
- Carbon Sequestration
- Dock Development and Maintenance

**currently being developed

Presence of Sulfidic Materials - Land Utilization of Dredge Materials


Presence of Sulfidic Materials
Sulfidic Materials
Not Rated
These soils contain sulfidic materials in the soil profile. If drained or dredged and exposed to air, sulfides will oxidize and create acid sulfate drainage causing serious environmental damage.
Areas of sulfidic materials mapped as water may exist outside of the Coastal Zone Soil Survey of Little Narragansett Bay and on the Soil Survey of Connecticut and Soil Survey of Rhode Island. This map does not replace the need for an on-site soil investigation.
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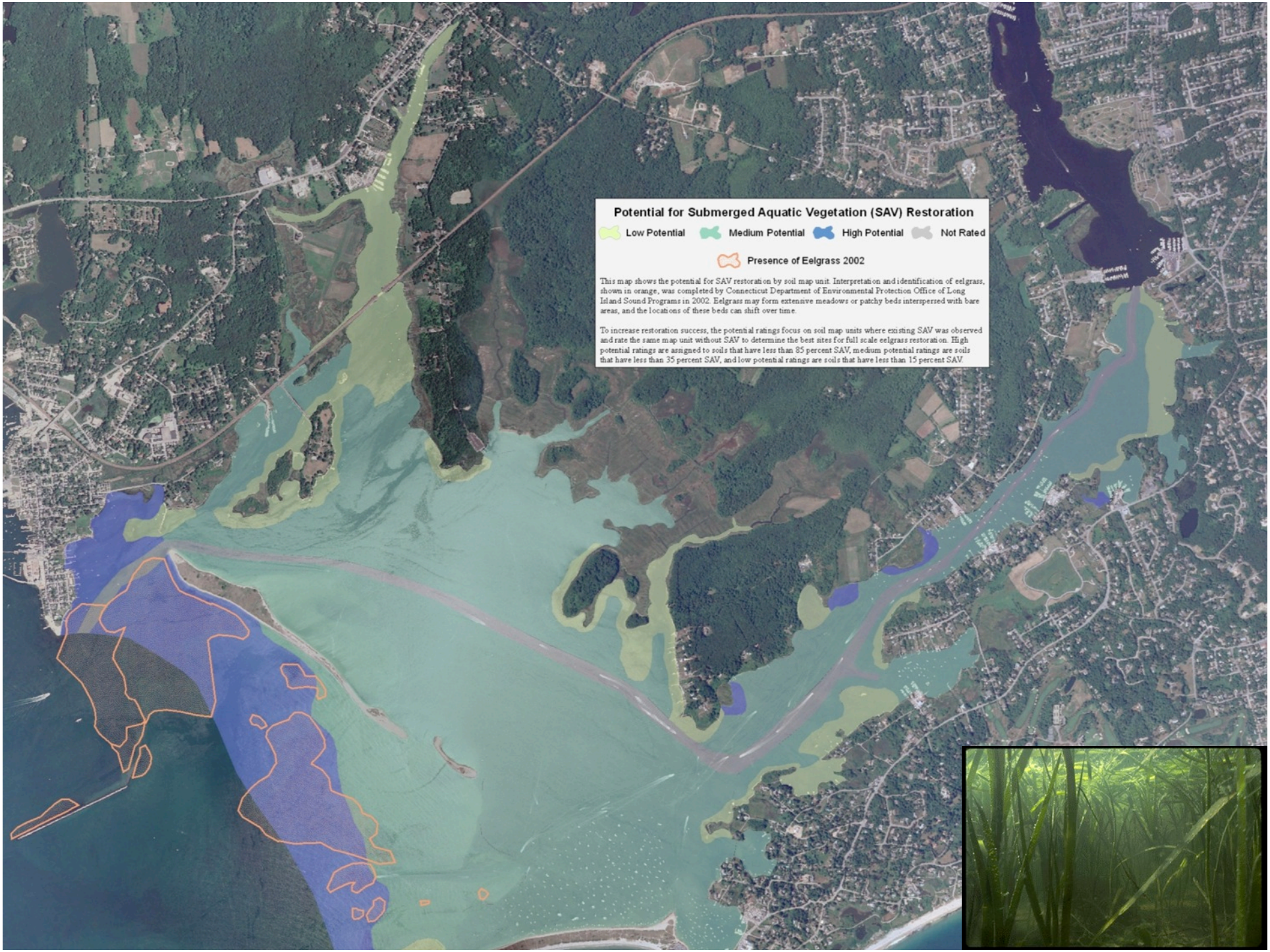
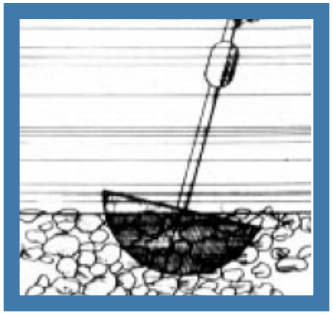

Potential for Submerged Aquatic Vegetation (SAV) Restoration
Low Potential
Medium Potential
High Potential
Not Rated
Presence of Eelgrass 2002
This map shows the potential for SAV restoration by soil map unit. Interpretation and identification of eelgrass, shown in orange, was completed by Connecticut Department of Environmental Protection Office of Long Island Sound Programs in 2002. Eelgrass may form extensive meadows or patchy beds interspersed with bare areas, and the locations of these beds can shift over time.
To increase restoration success, the potential ratings focus on soil map units where existing SAV was observed and rate the same map unit without SAV to determine the best sites for full scale eelgrass restoration. High potential ratings are assigned to soils that have less than 85 percent SAV, medium potential ratings are soils that have less than 35 percent SAV, and low potential ratings are soils that have less than 15 percent SAV.

Moorings

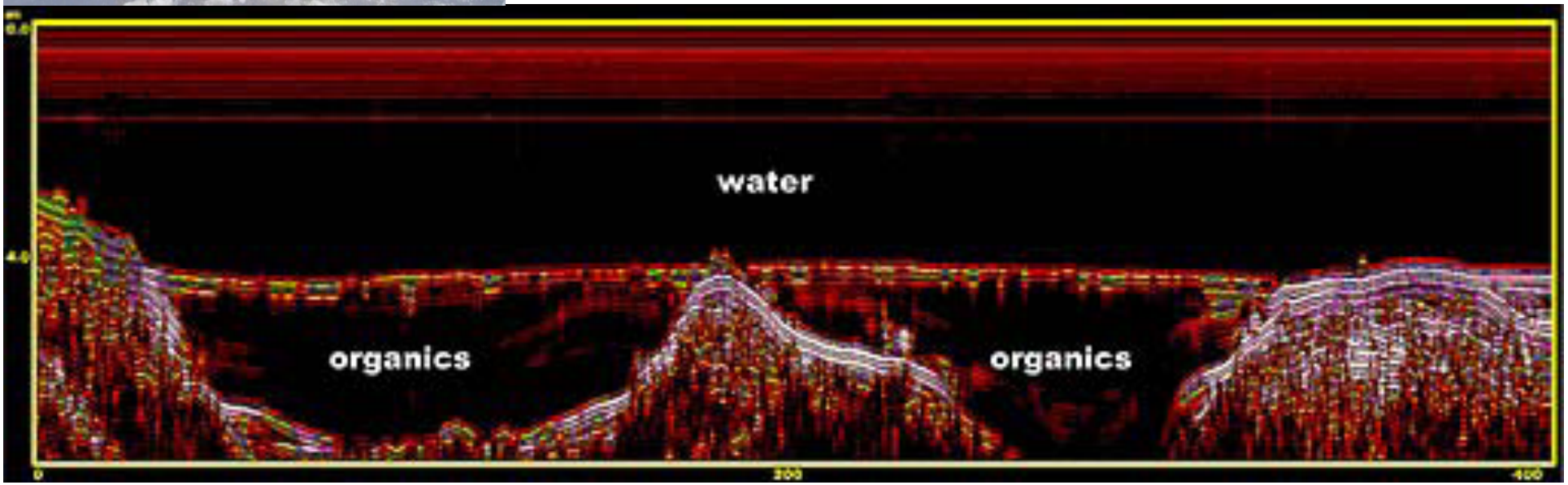
Map Symbol and Soil Name	Mooring Type	
	Mushroom Anchor	Deadweight
301 Beaches Udipsamments	-------- --------	-------- --------
800 Wamphassuc Wequetequock	Not Limited Not Limited	Very Limited soft bottom Very Limited soft bottom
810 Napatree	Very Limited hard bottom	Not Limited

Deadweight

Mushroom



Freshwater Soil Survey



Update Tidal Marsh Mapping

Click on the green "START WSS" button


Is it Soil or
Sediment?