United States Department of Agriculture | Natural Resources Conservation Service | December 2005

# 2005 Soil Survey Program

## Coastal Zone Soil Survey Initiative

The Rhode Island NRCS is working on establishing a center for coastal and subaqueous soil mapping as part of the Coastal Zone Soil Survey Initiative projected to begin in 2007. A partnership called the Mapping Partnership for Coastal Soil and Sediment (www.MapCoast.org) was formed in 2004 to bring together groups and individuals who recognize the importance and need to collect more detailed soil and sediment data for coastal marshes, dunes, inter-tidal flats, and shallow water habitats.

In 2005, the RI NRCS set up an agreement with the MapCoast Partnership through the North Atlantic Coast Cooperative Ecosystems Study Unit (CESU) to complete the Ninigret Pond demonstration project (see the 2004 Program Highlights) and begin work in Wickford and Greenwich Bay. A team of soil scientists, geologists, remote sensing specialists, and benthic ecologists conveyed in Ninigret Pond and collected data including bathymetric, acoustic, biologic, and soil/sediment. Over 30 soil cores were taken and are currently being analyzed in the laboratory. The data will be made available when completed this winter. The field season for MapCoast culminated with the field scientists being filmed and featured on the local NBC Channel 10 News. The piece was part of the Watershed Watch segment. To view this video clip point your browser to http://nesoil.com/sas.

MapCoast Folks

# Rhode Island Summary

## Overview

The National Cooperative Soil Survey Program (NCSS) is a partnership led by the NRCS. This partnership consists of federal land management agencies. state agricultural experiment stations and state and local units of government that provide soil survey information necessary for understanding, managing, conserving and sustaining the nation's limited and extremely important soil resources.

Soil surveys provide an orderly, on-the-ground, scientific inventory of the Nations soil resources. These surveys include; maps showing the locations and extent of soils, data about the physical and chemical properties of those soils, information derived from data about potentialities and problems of use on each kind of soil in sufficient detail to meet all reasonable needs for farmers, agricultural technicians, community planners, engineers, and scientists in planning and transferring the findings of research and experience to specific land areas.

## Accomplishments

The following is a list of soil survey activities during FY 2005:
During January, the National Soil Survey Center assisted the RI soil staff by utilizing ground penetrating radar (GPR) techniques to provide valuable data about the soils and geology in RI. GPR work conducted included; soil transect data on fresh water organic soils, coastal soils, and to explore the potential use of GPR to map the complex soil/geology on Block Island. In addition an Electro-magnetic induction (EMI) survey was conducted on a tidal marsh area.

Educational Outreach – educational talks about RI soils were presented to a wide array of people during 2005. Groups attending the soil talks include the RI Association of Wetland Scientists, The Society of Soil Scientists of Southern New England, RI Forestry Legacy Program, the RI Envirothon teams, NE Wildflower Society, the University of RI CELS, New England Interstate Water Pollution Control Commission, and several grade school classes. With help from volunteers the 1981 publication titled “Soils of Rhode Island Landscapes” was converted to electronic format and posted on the RI NRCS soils web site.

Soil related assistance was provided to the NRCS planning staff. Basic soil services include hydric soil delineations, developing a nutrient leaching index map, farm and ranchland protection program analysis of soil resources, and work of addressing soil loss on turf farms.

Subaqueous soil survey work continued in Ninigret Pond, Narragansett Bay, and Little Narragansett Bay. The MapCoast partnership formed in 2004 was very active with completing its objective (see article to right).

## Outlook

The coastal zone soil survey initiative will continue, the MapCoast partnership is working on a long-range plan to provide soil and sediment data for coastal areas of the Ocean State. We are hoping to receive funding in FY-07 to establish the subaqueous soil survey office in Rhode Island. If funding is approved the soil survey office, which will be established, will provide assistance in mapping and inventorying subaqueous soils to states within the northeast region (see map on back).

## State Contact

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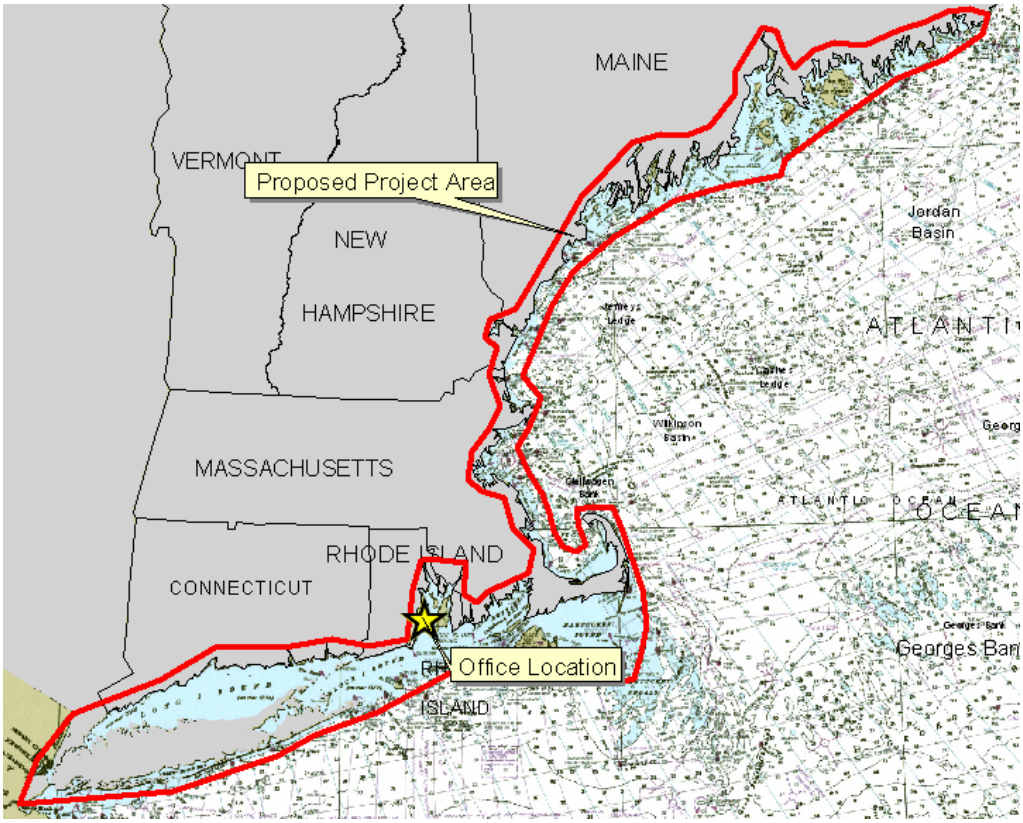
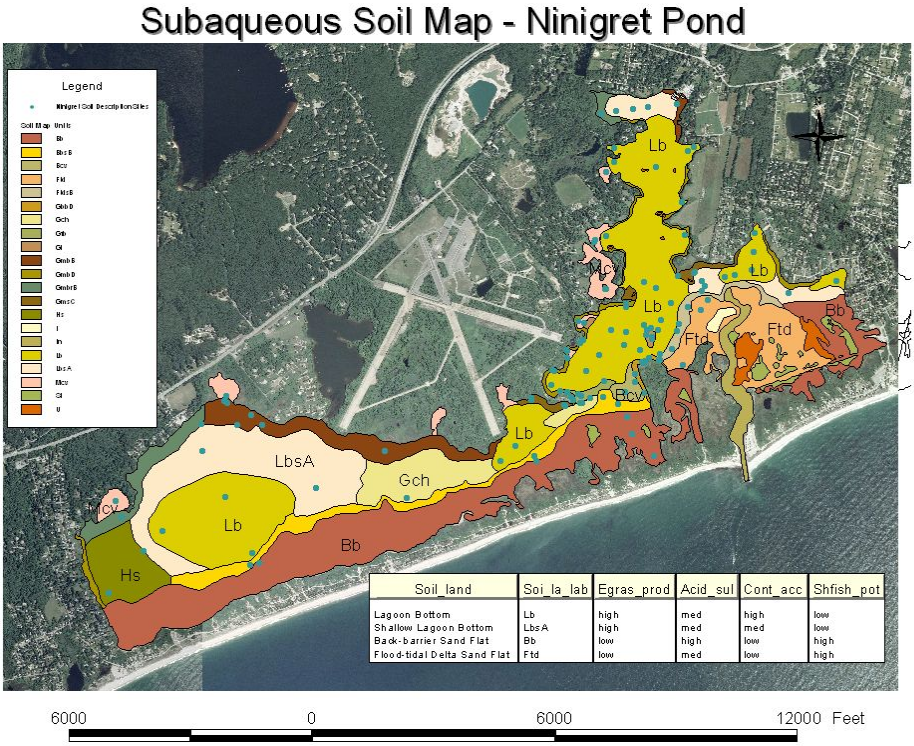
Proposed Project area of the Northeast Coastal Zone Soil Survey Initiative. All coastal areas and sub-tidal soil areas to a depth of approximately 2.5 meters are planned to be mapped




Example of a Subaqueous Soil Survey map:




| Soil_land | Soi_la_lab | Egras_prod | Acid_sul | Cont_acc | Shfish_pot |
|---|---|---|---|---|---|
| Lagoon Bottom | Lb | high | med | high | low |
| Shallow Lagoon Bottom | LbsA | high | med | med | low |
| Back-barrier Sand Flat | Bb | low | high | low | high |
| Flood-tidal Delta Sand Flat | Ftd | low | med | low | high |