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Narragansett Bay NERR on Prudence Island, Rhode Island





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Research and Monitoring



Education

Coastal Training Program



Stewardship



Research and Monitoring

- Climate change and sea level rise impacts in marshes
- Vegetation surveys
- Eelgrass habitats
- Invasive species
- Bird surveys – winter and summer
- System-wide Monitoring Program (SWMP)
 - Water quality, nutrients and weather



Stewardship

- Habitat restoration & maintenance: prescribed burns, mowing, selective cutting for grasslands, pine barrens and marshes
- Invasive species management: phragmites and autumn olive removal
- Osprey surveys/nesting pole installation



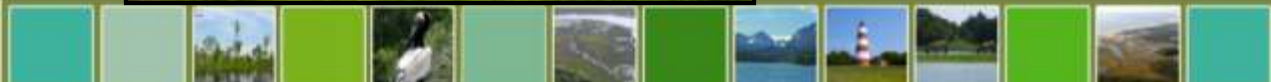


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EDUCATION *at the Reserve*



•Estuaries.noaa.gov

- Your Source for Learning and Teaching About Estuaries
- Video Gallery
- Estuaries 101 Curriculum
- Access to real-time data with graphing capabilities
- Species Factsheets



www.estuaries.noaa.gov



Estuaries 101 (E101) Lessons

- A Curriculum Designed for Grades K-12.
 - Grades 9-12: Completed!
 - Grade 6-8: Completed!
- Curriculum covers variety of sciences:
 - Earth Science
 - Physical Science
 - Life Science





HOW TO GET REAL TIME DATA



<http://estuaries.noaa.gov/ScienceData/Graphing.aspx>





•Research Questions

- Correlation between turbidity and rainfall.
- Correlation of dissolved oxygen and temperature at different locations within an estuary.
- Rate of salinity change up an estuary (tides).
- Change in parameters after different types of storms, then relate to climate change.
- Compare parameters between wet and dry years.
- Watershed/land use change, before and after.
- ... **What other questions would YOU ask?**



• Estuary Video Gallery

- More than 150 video clips!
- 1 to 10 minutes long each
- All tagged for middle & high school
- Separate list provided just for K-Elementary
- Downloadable in Windows Media or Quick Time





•Estuary Game

Students help Oscar (the otter) save his estuary



Field Guide for
info and links

games.noaa.gov



Prudence Island

A Brief Intro to the Research Reserve and Island Life

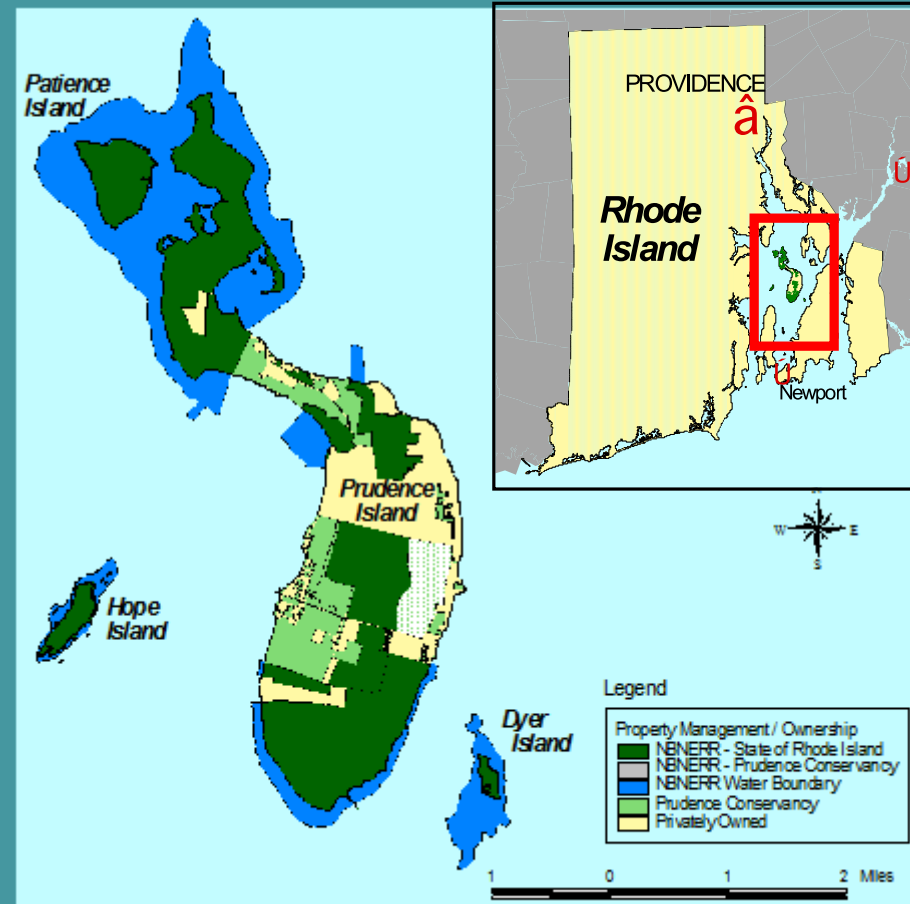


Where is NBNERR?

NBNERR is located on four islands in the geographic center of the Bay

- Prudence Island
- Patience Island
- Hope Island
- Dyer Island

NBNERR encompasses about 4,400 acres of land and estuary waters



A Variety of Habitat Types

- Rocky Intertidal
- Low and high salt marsh
- Coastal shrubland
- Oak forested uplands
- Pine barren mosaic
- Eelgrass beds
- Forested swamps
- Grassland (switchgrass)
- Rare unditched salt marsh on Dyer Island



Land Use History

Pre-History
(6,000 BC to 1640)

Seasonal use by Native Americans

Colonial Era
(1640 to 1735)

Live stock farming (North End)
Agriculture (South End)

“Golden Age of Farming”
(1735 to 1775)

Highest resident population; farm
produce exported; commercial
activity

Post Revolutionary War
(1775 to 1874)

Reduced resident population; fewer,
larger farms

Summer Resort
(1875 to 1940)

Several seasonal inns; abandonment of
agriculture, property subdivision,
construction of summer cottages

Mid 20th Century to the Present
(after 1940)

U.S. Navy ammunitions storage; land
conservation; conversion from
seasonal to year-round use

Land Use History and Reserve Habitats

Much of the Reserve has been highly altered

- Over grazing has allowed certain plant species to become dominant (ex. Common greenbriar)
- Non-native species have been planted and have invaded wooded areas
- Degraded soils favor certain plant/habitat complexes
ex. pine-barren mosaic
- Ditched and impounded salt marshes

Important Management Actions

- Invasive plants and organisms
 - Removal where possible (European larch, Autumn olive)
- Maintenance of early successional habitats
 - Mechanical treatments, prescribed fire
- Eelgrass monitoring and restoration
 - Cooperative mapping project using aerial survey
 - Save The Bay restoration projects
- Phragmites removal
 - NRCS grant to help with removal



QUESTIONS?