

Past and Present Biological Monitoring Projects At the Narragansett Bay Research Reserve

The Narragansett Bay Research Reserve is tracking and monitoring certain protected species to assess their habitat use, home ranges, and movement patterns. This information helps ecologists get a picture of the current status and health of local wildlife populations. Collecting this base-line information ultimately allows researchers to predict how species throughout Narragansett Bay might react to future human land use impacts.

The following projects are examples of some biological monitoring projects conducted at the Narragansett Bay Research Reserve.

Past Biological Monitoring Projects

Reptiles and Amphibians – Some reptiles and amphibian species (jointly called herptiles) are among the most useful ecological indicators of habitat condition. In May 2003, NBNERR and the University of Rhode Island with guidance from the Rhode Island Department of Environmental Management's Division of Fish and Wildlife began a joint project to inventory and monitor herptiles on Prudence Island using multiple techniques. The coverboards pictured here (A.) were used to survey salamanders and snakes.



Calling surveys were used to monitor frogs and toads, while egg mass counts surveyed spotted salamanders, and turtle traps helped to determine the population size of spotted turtles in the Reserve (B.). By monitoring these species, the Reserve can track changes in their abundance and gain insight into the habitats that these species depend upon. Of special concern are the vernal pools and pine barren habitats in the Reserve.

On-going Biological Monitoring Projects

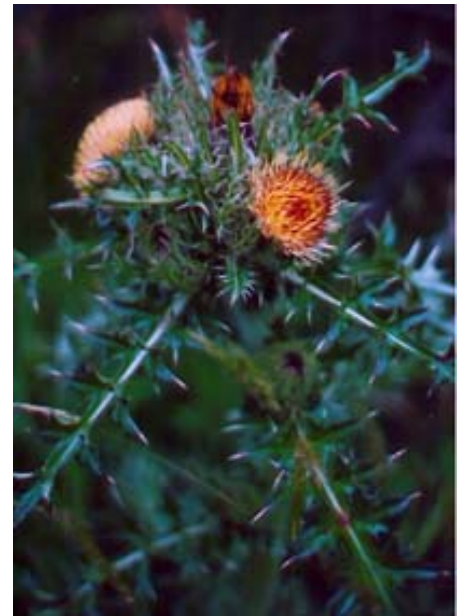
Seals – Four species of seals frequent Rhode Island waters each winter: harbor seals; grey seals; hooded seals; and harp seals. Harbor seals are by far the most common seal in RI and arrive to Prudence Island during September/October and remain until late April/early May when the females return north to give birth. A statewide volunteer effort is being facilitated by Save The Bay to monitor seals in Rhode Island. More information about monitoring seals with Save The Bay is available here: http://www.savebay.org/news_aboutseals.asp



Horseshoe Crabs – Our ancient mariner, the horseshoe crab (*Limulus polyphemus*) has been around for millions of years but unfortunately their numbers are declining in Narragansett Bay. Prudence Island is a sanctuary for horseshoe crabs, so harvesting is not permitted anywhere on the island. When horseshoe crabs come onto shore during the full moon tides of May and June to spawn, volunteers walk the beaches to get counts of our local populations. This is also a statewide effort being facilitated by Save The Bay.

Dragonflies and Damselflies – Dragonflies and damselflies, collectively Odonates, are being collected across Rhode Island as part of the Odonata Atlas in order to identify the species that are present as well as their habitat requirements. Through this effort, valuable habitats have already been identified and protected. The project is sponsored by the RI Natural History Survey. To learn more about the Odonata Atlas, please click here: <http://www.uri.edu/ce/rinhs/projects.htm#Odonata>

Rare and Invasive Plants – Rare plant monitoring is an ongoing, continuous effort by Reserve staff and volunteers from the New England Wildflower Society's Plant Conservation Volunteer Program. Some habitats within the Reserve support a number of uncommon flora such as sickle-leaved golden aster (*Chrysopsis falcata*) and yellow thistle (*Cirsium horridulum*) pictured here. Through this effort parcels within the Reserve are labeled as high priority and management efforts are focused in these areas.



Prudence Island is a haven for non-native, invasive plants due in part to the historical land use of the island, fewer species of plants competing for space (typical of islands), and an overpopulation of deer that browse on more desirable species. Common invasive plants in the Reserve are *Phragmites*, multiflora rose, Asiatic bittersweet, black swallowwort, and Japanese barberry. By identifying areas most impacted by invasive plants, we will be able to prioritize areas for management.

This is an ongoing effort and was initiated as part of the Invasive Plant Atlas of New England (IPANE). IPANE is a volunteer based initiative by the New England Wildflower Society and the University of CT: <http://nbii-nin.ciesin.columbia.edu/ipane/>

To become a rare or invasive plant monitor check out the New England Wildflower Society: <http://www.newfs.org/>