

USGS Patuxent Wildlife Research Center - National Park Service Partnerships

The USGS Patuxent Wildlife Research Center (PWRC) has an established and productive history of science partnerships with the National Park Service (NPS).

Primary partnerships are those in which PWRC and the NPS share costs, or the NPS provides all direct support. The value in FY 2002 of the primary science partnerships listed below is \$1,201,000. Secondary partnerships occur when studies are funded solely by USGS but benefit the NPS. The value in FY 2002 of secondary partnerships with the NPS totals \$1,816,000.

Highlights

In 1999 the NPS initiated its "Vital Signs Monitoring Program", to monitor natural resources within the biogeographic network of parks. The Coastal and Barrier Network (8 coastal parks from Massachusetts to Virginia) began developing its vital signs monitoring program in early 2000. PWRC is assisting NPS in identifying management issues and ecosystem types represented in the Network, reviewing existing information, seeking input and advice from experts from inside and outside the National Park Service to identify monitoring needs and priorities, identifying partners, and developing an operational monitoring program. PWRC is also participating in planning for coastal habitat restoration by the Gulf of Maine Council on the Marine Environment.



Baseline investigations have highlighted the susceptibility of estuaries at Acadia National Park to nutrient inputs and the threats posed by increasing residential development outside the Park's boundaries. Excessive nutrient enrichment of estuaries can lead to eutrophication and losses of biological diversity and habitat value. Research being conducted by Patuxent scientists is developing tools for predicting estuarine responses to nutrient enrichment and management prescriptions for monitoring the ecological integrity of Acadia's estuaries by linking land use to nutrient loading and ecological response. The Amphibian Research and Monitoring Initiative is partnering with Acadia, as well as Shenandoah National Park, to develop baseline information for amphibians populations and develop techniques for their long-term monitoring.

Little information is available on Red Fox population ecology along the Atlantic coast of the United States where foxes are subject to high human populations and decreased suitable habitat. In some coastal systems, suspected predation of endangered shorebirds and overlapping agency mandates require innovative approaches to native predator management. Cape Cod offers a unique site to evaluate the ecology of Red Foxes: a coastal system altered by humans within a landscape that includes a national seashore, extensive human development, and carnivore populations that now fluctuate without intensive management. Research will evaluate protocols to detect and monitor medium-sized mammalian carnivores in coastal environments, with an emphasis on Red Foxes. Photography at den site locations is being used to estimate fox population density while other work is aimed at evaluating the effectiveness of fox and other canid scents to deter predators in the vicinity of plover nests.

