



RHODE ISLAND

Since 1993, over 400 acres of important fish and wildlife habitat have been restored in Rhode Island through voluntary cooperative efforts with private landowners. But there's more work to be done. Over 400 potential saltmarsh, fish passage, eelgrass and freshwater wetland restoration projects have been identified by agencies and organizations in the State.

Introduction and General Description

The Partners for Fish and Wildlife Program provides landowners with funds to restore fish and wildlife habitat on their properties. Types of projects include restoring riparian (or streambank) habitat, native grassland, beach grass, eelgrass, saltmarsh, coastal pond, freshwater wetlands and anadromous fish habitat. In 1993, the Partners Program funded its first project in Rhode Island, restoring 5 acres of saltmarsh and coastal pond at Common Fence Point. This was the first major saltmarsh restoration project in the State.

One of the best features of the Partners Program is its ability to fund unique habitat restoration

projects that would normally go unfunded. In 1994, the Partners Program funded two of the first eelgrass restoration projects in Narragansett Bay. Another innovative project involved a partnership with The Nature Conservancy that used large salt blocks to reduce phragmites, a tall invasive grass that frequently crowds out native saltmarsh vegetation, at Goosewing Beach.

Conservation Strategies

Saltmarsh Restoration

Coastal saltmarsh ranks among the most productive ecosystems in the world, providing critical habitat for fish, birds and many other animals.

In Rhode Island and across the country, saltmarsh has been filled, diked, dredged and doused with pesticides. Downtown Providence, much of Quonset Point and other low lying coastal areas were built on what was once coastal wetlands. Rhode Island has approximately 3,500 acres of saltmarsh left.

In 1993, the Partners Program allocated \$10,000 to the Common Fence Point Improvement Association to restore a former saltmarsh and coastal pond that had been converted to a dredge material disposal site and filled in the early 1940s. For over 4 years, the Fish and Wildlife Service, Rhode Island Department of Environmental Management, Environmental Protection Agency and many dedicated volunteers from the Association worked together to restore this site. The project was completed in 1997.

On the heels of the success at Common Fence Point, came the restoration of the Galilee Bird Sanctuary, a Coastal America project that restored tidal flow to 128 acres of saltmarsh. The Partners Program provided money, technical assistance and equipment, including an Amphibious Excavator. The excavator was used to cut new channels and allow tidal flow into the upper reaches of the sanctuary.



Saltmarsh restoration at Common Fence Point, Portsmouth, Rhode Island.

Photo: USFWS

In 1998, the Partners program funded a saltmarsh restoration at Mosquito Beach, the largest producer of mosquitos on Block Island. Channels were dug to allow fish to swim farther into the saltmarsh, drastically reducing the mosquito production. Additionally, the increased tidal flow helped control the spread of phragmites.

Volunteers frequently play a significant role in Partners projects. In Barrington, the Pic-Wil saltmarsh and coastal pond were restored by volunteers using wheelbarrows and shovels to dig a channel, reconnecting a small creek to a saltmarsh pond and restoring daily tidal flow. Phragmites vegetation in the pond was threatening populations of three state-endangered plant species at the site. The new channel allowed the salinity of the pond to increase, discouraging the spread of phragmites.

Saltmarsh restoration varies with each site. Some projects require removing fill, others need tide gates to provide tidal flushing, and still others require a simple road culvert replacement. Projects that require tide gates or fill removal cost between \$12,000 to \$16,000 per acre. Culvert replacements cost about \$1,000 per acre for restoration.

Freshwater Wetlands

Many species of migratory birds, waterfowl, reptiles and amphibians depend on freshwater wetlands for food, shelter and reproduction. Researchers estimate that Rhode Island has lost 37 percent of its freshwater wetlands. There are approximately 65,000 acres of wetland habitat remaining in the State.

The Partners Program collaborated with Ducks Unlimited and the Rhode Island Department of Environmental Management to restore freshwater



Common Fence Point before restoration, choked with phragmites, an invasive grass.
Photo: USFWS

wetlands at both Woody Hill Management Area and Nye Marsh. These restored wetlands provide foraging habitat for migratory birds and nesting habitat for waterfowl such as wood and black ducks.

Most freshwater wetland restorations require replacement of water control structures and cost about \$500 per acre. Invasive plant control costs about \$1,000 per acre to accomplish.

Riparian Restoration

In 1997, the Partners Program provided funds to the Narragansett Chapter of Trout Unlimited to improve habitat at two sites on the Wood River to protect Atlantic salmon nursery habitat and prime spawning sites for a large population of native brook trout. The project eliminated severe erosion of the Wood River's banks and restored the buffering wetlands.

In 1998, the Partners Program coordinated with the Friends of Pawtuxet River to restore a riparian corridor by removing asphalt and planting trees along the river.

Riparian restoration costs about \$1,000 per 100 feet of streambank restored.

Grassland Restoration

In the mid-1800s, less than 40 percent of Rhode Island was forested, leaving 400,000 acres of open land for agricultural activity and development. By 1987, only 60,000 acres of farmland remained in the State. Farmland continues to decline, coinciding with the alarming rate of decline of several grassland-dependent birds.

Using Partners funds, The Nature Conservancy has been restoring grassland on Block Island since 1995. The American burying beetle, a federally endangered species, has benefitted greatly from this restoration effort. Although populations of this rare beetle exist in a few western States, Block Island is home to the only viable population east of the Mississippi River.

The restored habitat on Block Island is also benefitting numerous bird species including the grasshopper sparrow, barn owl, northern harrier, and upland sandpiper.

The Partners Program has been working with the Barrington Land



Habitat restoration on Block Island has directly benefitted the federally endangered American burying beetle. *Photo: RIDEM*

Conservation Trust for several years, restoring native grassland at Nockum Hill and improving habitat for the last nesting colony of diamondback terrapins in Rhode Island. Biologists are monitoring the restored area and the turtles are nesting at the site more than they have in the past.

The Rhode Island Department of Environmental Management has also been a partner on projects involving a number of native grassland restorations. Two of the projects were former gravel extraction sites. Planting native warm season grasses such as big and little bluestem and switch grass on these barren sites along with adding truck loads of compost allowed these areas to develop into productive native grasslands.

Restoration of grasslands from agricultural fields costs \$400 per acre to seed to native grasses. Invasive plant control for grassland restoration costs \$500 per acre. Grassland restoration can cost up to \$5,000 per acre when there is large scale fill removal and site preparation required prior to seeding.

Eelgrass Restoration

Sea grass beds, consisting primarily of eelgrass, provide important habitat and nursery areas for finfish and shellfish. The decline of sea grass in

Narragansett Bay is considered to be a principal factor in the reduced abundance of saltwater fish and shellfish (e.g., winter flounder, bay scallop) and waterfowl species, such as brant (goose). Most eelgrass has been lost due to pollution and disease. Less than 200 acres are left in Rhode Island.

The Partners Program funded the Eelgrass Transplant Project undertaken by the Rhode Island Department of Environmental Management (RIDEM), Narragansett Bay Project and a similar project undertaken by the Barrington Land Conservation Trust to transplant eelgrass in the Palmer River. While these projects were only relatively successful, they did generate great deal of field research and mapping. The resulting volunteer involvement and press coverage has helped educate the public regarding the importance of eelgrass and its role in the ecosystem.

Eelgrass beds cost approximately \$40,000 per acre to restore.

Partners

Natural Resources Conservation Service
Environmental Protection Agency
Rhode Island Department of Environmental Management
Coastal Resources Management Council
Coastal America Partners
Town of Pawtucket
Town of Tiverton
Town of New Shoreham (Block Island)
The Nature Conservancy
Audubon Society of Rhode Island
Ducks Unlimited
Trout Unlimited
Save the Bay
Barrington Land Conservation Trust
Duck Cove Association

Common Fence Point Improvement Association
Friends of the Pawtuxet River
Norman Bird Sanctuary
Westerly Land Trust

Accomplishments

- Restored 160 acres of saltmarsh.
- Restored 265 acres of native grassland.
- Restored 30 acres of freshwater wetlands.
- Completed 2 riparian restoration projects.
- 7 habitat restoration projects are in progress.

Future Needs

The Rhode Island Coastal Habitat Restoration Team has identified 200 potential restoration projects focusing on saltmarsh, fish runs and eelgrass. In addition, the University of Rhode Island and RIDEM identified over 200 potential freshwater wetland opportunities in the Woonasquatucket River watershed. Identified projects involve removing fill, restoring channelized streams and controlling invasive plant species and sedimentation.

There are about 1,750 acres of existing degraded saltmarsh that could be enhanced to improve fish and wildlife habitat.

There are 13,000 acres of freshwater wetlands that could be restored in the State.

Rhode Island rivers once supported populations of Atlantic salmon, shad and river herring. Spawning runs were an important food source for Native

Americans, but by 1869 the Atlantic salmon had disappeared from the State's rivers. There are over 500 dams in Rhode Island, most of which require fish passage facilities. Some are obsolete and should be removed.

CONTACT

Gregory Mannesto
U.S. Fish and Wildlife Service
Partners for Fish and Wildlife Program
P.O. Box 307
Rt. 1A Shoreline Plaza
Charlestown, RI 02813
401 364-9124 (Fax) 401 364-0170



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