



## Partners for Fish and Wildlife Program in New Jersey

### Voluntary Habitat Restoration

#### Background

The *Partners for Fish and Wildlife* program (*Partners*) is a habitat restoration program based on the idea that the majority of wildlife in the U.S. is found on private land and, therefore, successful wildlife conservation requires engaging private landowners. *Partners* works with private, corporate, municipal, county, and non-profit landowners to pursue voluntary fish and wildlife habitat restoration projects. We do not work on State or federally owned land.

#### How to work with *Partners*

*Partners* does not have an application process and we accept projects throughout the year. A *Partners* project usually starts when a landowner who either has a restoration project in mind or is looking for ideas contacts *Partners* staff. If there is potential for a project with significant value to fish and wildlife, *Partners* will look at a property and develop a conceptual plan that will be put into a *Partners* Landowner Agreement. The agreement is a standardized document *Partners* uses for all projects in New Jersey. The essential part of the agreement is the landowner's signature showing their commitment. The Service asks that landowners leave in place restoration measures *Partners* assists with for at least 10 years to ensure the benefits to fish and wildlife can be realized. Once restoration measures are in place, the project is the responsibility of the landowner and there are no additional

requirements placed on a property for public access.

#### Priorities

*Partners* does not have a ranking system for approving projects. Instead, *Partners* carefully evaluates potential projects for what species may benefit, the geographic area, what other partners are involved, whether there are environmental education benefits, the sustainability of a project, and the landowner's degree of interest and commitment.



*The federally listed (threatened) bog turtle and its unique habitat are a priority for Partners in New Jersey. Bog turtles inhabit open, unpolluted emergent and scrub/shrub wetlands such as shallow spring-fed fens, sphagnum bogs, swamps, marshy meadows, and wet pastures. Photo by Christine Hall*

#### Species priorities

The following groups of species face habitat degradation that *Partners* projects can help counteract and are the highest priority for *Partners* in New Jersey.

- **“Federally listed” (endangered or threatened), proposed, and candidate species** are species that are either listed or warranted for listing under the Endangered Species Act. These species include the bog turtle, swamp

pink, dwarf wedgemussel, Indiana bat, northern long-eared bat, and red knot.



*Horseshoe crab eggs are an important food source for migrating shorebirds, particularly the federally listed (threatened) red knot. Therefore, Partners looks for opportunities to help restore the spawning habitat of horseshoe crabs. Photo by Greg Breese*

- **Migratory fish** are those species that move between salt and freshwater during their life cycle.
- **Migratory birds** are those species that have annual migrations.

There are other species groups that are secondary priorities for *Partners* in New Jersey including:

- **State-listed species** identified by the New Jersey Division of Fish and Wildlife as endangered or threatened, such as the eastern tiger salamander, wood turtle, and the northern pine snake.
- **Native pollinating insects** such as the monarch butterfly and native bees.

#### Environmental education priority

The Service recognizes that if we do not help young people get exposed to the wonders of nature, we risk creating a generation of adults that cannot appreciate the value of fish and wildlife. Fortunately, restoration

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projects often provide opportunities to connect youth with nature. For example, school-aged volunteers can help plant native trees on municipal projects on school grounds. *Partners* only assists with school projects where there is significant initiative and support from teaching staff and administration.

## Geographic priorities

Although *Partners* can and does help with projects throughout the State, we try to concentrate our work in four Focus Areas where we think our involvement can most benefit Federal trust resources. Other than within our Focus Areas, *Partners* targets projects located upstream and bordering the National Wildlife Refuge System.

## Types of Restoration Projects

### Wetlands

Wetland restorations are probably the most common type of *Partners* project in New Jersey and benefit numerous wildlife species such as bog turtle, black duck, and swamp sparrow.



*Partners* can install berms with water control structures that allow water levels to be seasonally altered (above) to facilitate the germination of wetland flora and to support waterfowl and wading bird foraging, such as for this wood duck shown below. Photos by Eric Schradling and Tim McCabe respectively



Wetlands restored through *Partners* projects are generally shallow water wetlands. *Partners* does not help with excavating ponds. *Partners* can help acquire permits that may be needed for wetland projects, help with construction, and provide plant material, such as pin oak, to provide foraging habitat for waterfowl.



Low producing agricultural fields with standing water or wetland signatures (top) are excellent candidates for wetland restoration (bottom). Photos by Brian Marsh and Amber Rhodes respectively



### Fish passage

Migrations of American shad, blueback herring, alewife, and American eel were a major part of the natural history of New Jersey.



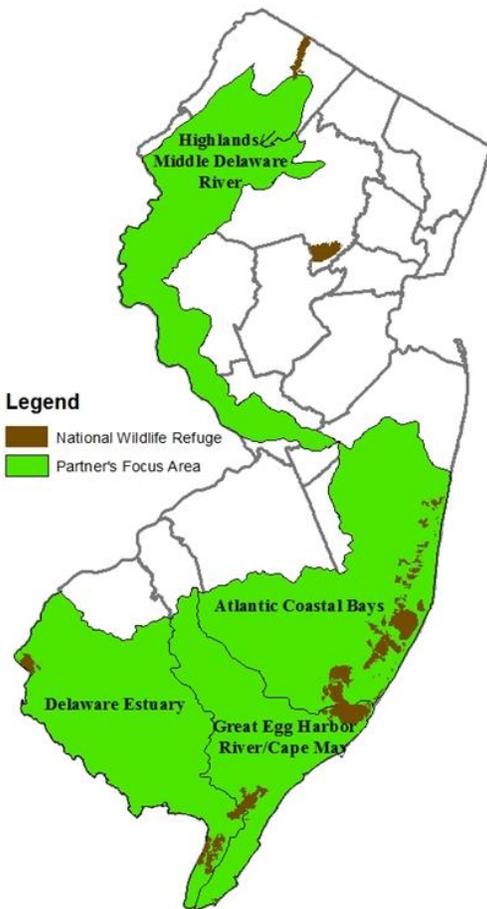
*Alewife migrates from the ocean to small streams to spawn but it cannot jump over even small barriers placed in streams. Painting by Duane Raver*

However, many watersheds are now inaccessible for these species due to dams and other barriers. Fish passage projects can permanently restore habitat by improving upstream access for these species. Ideally, restoration of fish passage involves the complete removal of a barrier to open up miles of spawning and rearing habitat for fish while also restoring the natural flow and sediment transport of a river to benefit the entire aquatic community.



*Before (left) and after (right) dam removal. Completely removing a dam not only restores the passage of migratory fish but also restores the rest of the aquatic community. Photos by Eric Schradling*

Sometimes complete dam removal is impossible and other techniques can be used to allow fish migration such as installing a fish ladder. Projects involving fish passage often require several partners to overcome technical and cost challenges. *Partners* can provide technical and permitting assistance as well as help identify funding sources.



*Most Partners projects are located in four Focus Areas (green) or near National Wildlife Refuges (brown)*

## Grasslands

Grasslands vary from pasture consisting of relatively short stands of nonnative cool-season grass to tall stands of native warm-season grass. Many bird species prefer native warm-season grasses, which are also important host plants for butterfly larvae.



*Grassland dependent birds require large open areas. Some species, such as this State-listed (threatened) savannah sparrow, may nest in fields that are 20 acres but other species, such as the State-listed (endangered) Henslow's sparrow, requires three or four times that acreage. Photo by Amanda Boyd*

When *Partners* helps a landowner with grassland restoration, we look for signs that a project might produce valuable habitat, including large contiguous fields, neighboring properties in agriculture or other low growing vegetation (e.g. golf courses, corporate campuses, or schools), and low invasive weed populations. *Partners* can provide equipment, technical assistance, field assistance, and seed for these projects.



*Partners can provide a specialized no-till grass drill for landowners. The seeds of many of the species do not work in normal seed drills. Photo by Brian Marsh*

## Pollinator habitat

Evidence is accumulating that pollinating insects are declining in abundance and diversity. Although

there are no pollinating insects in New Jersey that are Federal trust species, the Service does recognize the crucial role these animals play.

Approximately 75% of flowering plants rely on insect pollination; therefore pollinators maintain the diversity of plants that wildlife depends on and they pollinate many of New Jersey's crops. Pollinators, including the approximately 300 different species of bees native to the State, can benefit greatly from *Partners* restoration projects by adding wildflower species into grasslands, planting native flowering shrubs along streams and in fallow fields, and other measures. *Partners* can provide equipment, technical assistance, field assistance, plants, and seed for these projects.



*The monarch butterfly is an example of a pollinator that, without support, may soon need to be protected under the Endangered Species Act. Photo by Mark Musselman*

## Forestry

Sustainable forestry and reforestation can be part of restoration. A forest's habitat value to different kinds of wildlife depends on its size, tree density, extent of canopy and understory, amount of edge, tree diversity, and other factors that can be managed. For example, reforesting a small opening in the middle of a forested area can effectively create a large contiguous tract of forest suitable for attracting forest interior birds such as cerulean warbler and wood thrush, both New Jersey Species of Special Concern. *Partners* can provide shrubs and trees for these projects.

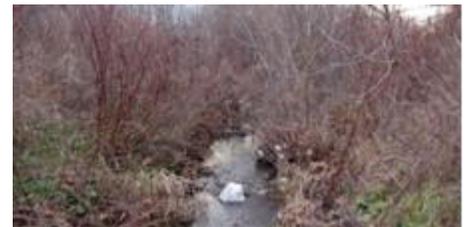
## Eroded stream



## Restoration efforts



## Riparian young forest



*These pictures of a *Partners* project in northern New Jersey show the progression from an eroded stream to riparian young forest. Photos by D. J. Monette and Eric Schradung*

## Riparian

*Partners* can often assist landowners with planting and seeding native vegetation along streams, rivers, and lakes. Planting these riparian areas will reduce future potential for erosion, improve water quality, and create important habitat for birds, such as Louisiana waterthrush or alder flycatcher, that specifically look to these areas for nesting and foraging. *Partners* can provide shrubs for these projects, seed, equipment, cattle exclusion fencing, and technical advice.



*Sustainable forestry can be a good thing for wildlife. For example, this pictures show well designed thinning of forests to benefit wildlife such as red-headed woodpecker. Photo by Brian Marsh*

## Young forest

Young forest, also known as scrub-shrub, is a type of early successional habitat characterized by young trees and shrubs growing densely together and mixed with herbaceous species. Through succession, young forest eventually converts to secondary forest. Creating young forest often involves either targeted clearing and natural shrub regeneration or planting. Many bird species in New Jersey rely on this unique and ephemeral habitat, including prairie warbler, yellow breasted chat, golden winged warbler, and chestnut-sided warbler. *Partners* can provide shrubs for these projects.



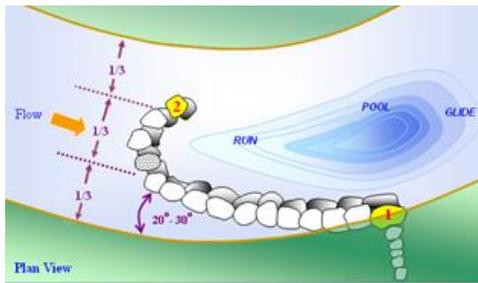
*Many of the birds that rely on young forest prefer unique structure to the woody growth. For example, the American woodcock (above) typically is found in dense stands of saplings and moist soils. Photo by John Parke*

## Living shorelines and coastal projects

Living shoreline projects are gaining attention in New Jersey. These projects restore, stabilize, and protect shoreline through relatively natural strategies rather than bulkheading and other measures that degrade shoreline habitat. *Partners* can help with these projects by providing materials and technical, field, and permitting assistance. *Partners* may also be able to support coastal projects that restore horseshoe crab nesting beaches, through technical assistance, permitting assistance, or other help.



*The beaches of Delaware Bay are critically important to shorebirds but are threatened by coastal storms, sea level rise, and other factors. Partners works with partners to restore these beaches and make them more resilient. Photo by Katie Conrad*



*Instream structures, such as this “J hook” can direct a stream’s energy away from eroded banks while creating habitat for a diverse aquatic community. Diagram designed by David L. Rosgen, Wildland Hydrology, Inc.*

## Instream habitat

Many streams in New Jersey have been converted from their natural meanders into straight channels that offer limited habitat and disrupt the natural equilibrium between sediment deposited and transported. *Partners* can help with instream restoration work that modifies stream sinuosity, streambed, and the structure of riffles, runs, and pools that characterize healthy streams. Instream restoration opportunities in New Jersey can be limited by high costs and permitting challenges. *Partners* can provide technical and permitting assistance as well as help in identifying funding sources.

## Invasive species

Many properties in New Jersey have significant populations of invasive plant species such as Japanese stiltgrass, garlic mustard, porcelain berry, Japanese knotweed, common reed, and many others. The Service recognizes that these species greatly reduce habitat diversity and value in New Jersey. However, *Partners* generally does not work on invasive species management as the central component of a project. An example

of when *Partners* would manage invasive species is when they are adversely affecting the habitat of a federally listed species, such as bog turtle, or when we help with the management of a newly introduced species where a targeted effort may prevent the species from getting established (e.g., kudzu).



*An abundance of invasive weeds, such as this mugwort (above), can make establishing grassland and pollinator habitat difficult and potentially cost prohibitive. Photo by Brian Marsh*

## What other work does the *Partners* program get involved with

Although *Partners* is focused on working with landowners to do on-the-ground restoration, we also get involved in many other activities such as taking part in habitat initiatives, providing technical and field support to conservation groups, and providing technical assistance to our National Wildlife Refuges, Endangered Species program, and others within the Service. We work with a number of different partners on projects, including State and federal agencies, in a variety of ways, including planning and partnering efforts to support habitat restoration.

## For More Information

For more information about *Partners*, contact the New Jersey Field Office at 609-646-9310 or visit us on the web at:  
<http://www.fws.gov/northeast/njfieldoffice/partners>