Partners for Fish and Wildlife in Vermont

Restoring Habitat for Future Generations

Black Duck

Vermont Partners Program Accomplishment Highlights 1992-2009

- **Restored 215 miles of riparian habitat;**
- **Restored 2,400 acres of wetlands;**
- **Restored 635 acres of upland restoration;**
- **Reopened 1,430 miles of stream to fish passage;**
- **Completed 9.1 miles of in-stream restoration;**
- **Restored 1,200 acres of habitats impacted by invasive species; and**
- **Partnered with over 600 landowners to complete more than 550 projects.**

Background

The Partners for Fish and Wildlife Program (Partners Program) is the U.S. Fish and Wildlife Service's most popular and effective program for voluntary, citizen and community-based fish and wildlife habitat restoration activities. The Partners Program serves as a bridge to owners and managers of private lands to develop partnerships for the benefit of federal trust species. The approach is simple: engage willing partners, through non-regulatory incentives, to conserve, restore and protect fish and wildlife habitat on their property. The Partners Program began in 1990 to help farmers restore degraded wetlands for wildlife; today it continues to grow with opportunities to restore wetland, riverine, and upland habitats.

Partners Program in Vermont

The Partners Program in Vermont is administered from the Lake Champlain Fish and Wildlife Resources Office in Essex Junction, Vermont. The program began in 1992 with a focus on restoration of wetlands, woodlands, and riparian areas that provide breeding habitat and critical migratory stopovers for migratory birds and benefit fish populations, including landlocked and sea-run Atlantic salmon a focal species for the U.S. Fish and Wildlife Service. Projects are focused in areas where conservation efforts will provide the greatest benefit for federal trust species, which include: migratory birds, anadromous fish, and Federally-listed threatened and endangered species.

Threats

The effects of two centuries of European settlement have had severe adverse consequences on local ecosystems. The Vermont Agency of Natural Resources has estimated that over 35% of Vermont's wetlands have been lost and that 1200 river miles do not fully support designated uses or are not in compliance with water quality standards.

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Ten bird species in the Lake Champlain Basin are listed by New York, Vermont and/or the Federal government as endangered or threatened, including Bald Eagle and Black Tern.

Agricultural, transportation and residential development continue to adversely affect Federal trust fish and wildlife resources dependent on good water quality and available aquatic habitat. Phosphorus loading is a serious problem in the Lake Champlain Basin and has increased four-fold over the original pre-development levels. Current threats include excessive bank erosion and siltation, loss of riparian plant communities, incremental loss of wetlands, excessive nutrient inputs, high summer water temperatures, and low oxygen conditions in some river systems. Relatively recent introductions of invasive plants, e.g. purple loosestrife, water chestnut, have caused significant impairment to wetlands and other natural communities.

Based on historical records, Atlantic salmon, walleye, and lake sturgeon were once caught in abundance in Lake Champlain and sea-run Atlantic salmon

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Restoring riparian habitat helps improve spawning habitat for many fish species including Atlantic salmon.

were common in the Connecticut River system. Eastern brook trout were once found throughout all of the watersheds in Vermont. Dams and transportation infrastructure have caused habitat fragmentation which adversely affects all of the above fish populations.

Conservation Strategies

Riparian Habitat

Agricultural land clearing and loss of floodplain forests have had a detrimental impact on water quality and degrade habitat for wildlife that are dependant on these areas for breeding and as dispersal corridors. The Partners Program restores riparian habitat in partnership with other Federal and State agencies, municipalities, and non-governmental organizations by fencing out livestock and stabilizing streambank habitat using bioengineering techniques and native plantings.

Wetlands

The Partners Program restores degraded wetlands by blocking old

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Hand pulling invasive waterchestnut is an intensive effort that would not be possible with out the help of dedicated volunteers.

drainage ditches with low-level berms and restoring original wetland micro-topography lost due to past agricultural drainage and land-leveling practices. Completed projects often result in a mosaic of permanent and seasonal wetlands with a variety of vegetation types providing habitat for numerous wetland dependent species.

In-stream Habitat

The Partners Program works comprehensively on in-stream fisheries restoration projects using multiple techniques which include lowering incised floodplains, the installation of large woody material for in-stream cover and bank stability and the restoration of proper pool/riffle ratios using a geomorphic approach to river channel restoration. These techniques are used to reduce the amount of fine sediment that enters the river which degrades in-stream habitat. River restoration projects are combined with riparian revegetation practices to secure multiple benefits to fish and wildlife.

Invasive Species

Wetland and upland habitats of the Lake Champlain and Connecticut River valleys have been adversely affected by the introduction of several invasive species. Purple loosestrife and water chestnut invade wetland areas and out compete native plants often resulting in monotypic stands with adverse consequences to native fish and wildlife.

Working with the Vermont Department of Environmental Conservation, the Partners Program has assisted with the propagation and release of insects that feed exclusively on purple loosestrife which has resulted in significant reductions of loosestrife abundance in targeted wetlands. In partnership with The Nature Conservancy, the Partners Program has assisted with efforts to remove water chestnut and European frogbit infestations from the Lake Champlain wetlands of New York and Vermont. This involves the arduous task of hand-pulling the plants before they set seed. With assistance of many dedicated volunteers, water chestnut and European frogbit has been significantly reduced in many areas.

Fish Passage

The fragmentation of stream habitat by dams and transportation infrastructure has become a major concern for the aquatic resources of Vermont. Working in partnership with the interagency Vermont Dam Task Force, the Vermont Agency of Natural Resources, and local conservation groups, the Partners Program is assessing and evaluating numerous barriers to fish passage in the White River Watershed and the Lake Champlain Watershed. Barrier removal combined with in-stream habitat restoration will restore access to historical spawning areas and allow for needed seasonal migration of fish to upstream and downstream areas. Several projects have been completed and many more are in the design and fund-raising stage.

Cooperative Conservation

From 1992-2009 the Partner Program in Vermont worked with hundreds of partners and 600 landowners on over 550 projects in our focus areas. This work contributed to the protection, enhancement, or restoration of over 4,200 acres of habitat, 9.1 river miles of in-stream habitat, and 1,430 miles of stream habitat reopened to fish passage, supporting dozens of migratory and federally protected species.

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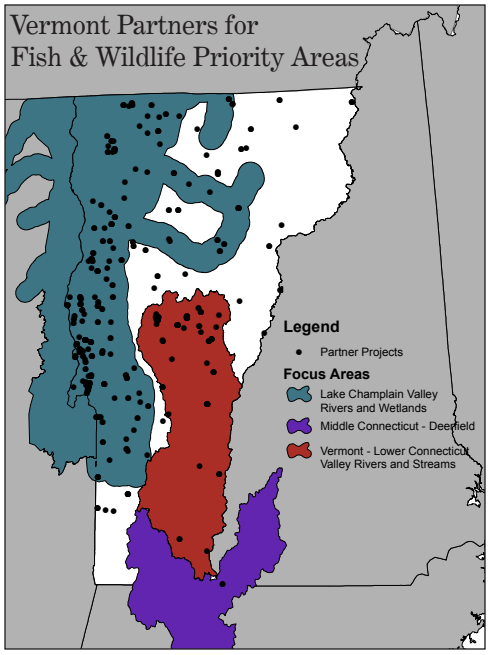
Silver maple riparian buffer plantings.



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Loss of forest and riparian habitat threatens many species.

For additional information or questions contact:

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