



# Virginia

*“We seem ultimately always thrown back on individual ethics as the basis of conservation policy. It is hard to make a man, by pressure of law or money, do a thing which does not spring naturally from his own personal sense of right and wrong”*

*Aldo Leopold*

## Introduction and General Description

The Partners for Fish and Wildlife (PFW) program was initiated in Virginia in 1989. Early restoration efforts concentrated on non-tidal wetland habitats in the coastal plain and stream restoration in the mountains of southwest Virginia. Forested wetlands in the Coastal Plain have experienced intense development pressure, especially wetlands with seasonal hydrology. However, many wetland sites converted for agricultural use were later found to be of poor value for crop production. Landowners volunteer to convert these areas back to wildlife habitat, with technical and financial assistance from the PFW program. Stream-side landowners, concerned about water quality and aesthetics of degraded streams, also seek assistance from the PFW program. The U.S. Fish and Wildlife Service is particularly interested in restoring stream health to benefit aquatic threatened and endangered species. Therefore our focus has been on karst topography in the middle Appalachian region of southwest Virginia,

which harbors a globally rare assemblage of over 30 federally listed fish and mussel species. In recent years, the Virginia Partners for Fish and Wildlife program has expanded its wetland restoration efforts to include tidal marsh restoration along the Chesapeake Bay. Additionally, stream restoration efforts have been expanded to include recovery activities for the federally endangered Roanoke logperch in the Roanoke River watershed and for the James spinymussel in the upper James River watershed.

### Virginia Activities

- Restoration of water quality and passage for aquatic listed species.
- Restoration and protection of forested wetland habitats.
- Creation of large blocks of habitat to link refugia and offset development pressure on migratory bird flyways.
- Work with landowners for “win-win” partnerships that foster pride in good stewardship of the land.



**The 25-foot high Power Dam is scheduled for removal in 2008 to recover passage for the federally endangered Roanoke logperch.**

## Habitats of Special Concern

### *Forested Wetlands*

Virginia has lost 42% of its original wetlands since the 1780s. Substantial wetland losses have continued, even into recent decades. In the Chesapeake Bay drainage, the heaviest loss of forested wetlands in the 1980s was in Virginia. It is estimated that Virginia lost more than 17,800 acres of wetlands in the Chesapeake Bay watershed between 1982 and 1989 - primarily due to conversion for agriculture and urban-related development. Sixty-four percent of Virginia’s remaining freshwater wetlands, predominantly forested wetlands, are located in the coastal plain. Of these, an additional 8% have been ditched, impairing many of their natural functions.

### ***Endangered Species***

Virginia harbors 66 federally listed species, the highest concentration on the Atlantic Coast. The Upper Tennessee River Basin of southwest Virginia is a globally rare ecosystem with an unusually high diversity of species, and a concentration of federally listed fish and mussels. Water quality in this central Appalachian watershed is impacted by cattle grazing, coal mining, and other industrial and urban sources. PFW partnerships primarily focus on efforts to improve water quality for these species through best management practices.

### ***Migratory Birds***

The Eastern Shore of Virginia/Maryland/Delaware is a critical area for migratory waterbirds, songbirds, and raptors. The Partners for Fish and Wildlife program has focused on establishment of vegetative corridors to link blocks of high quality habitats in this coastal zone, providing safe passage for migrating birds.

### **Threats**

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Many of the threats to healthy ecosystems in Virginia are the same threats found in other geographic areas. Agriculture has historically been the primary cause of wetland losses. Inconsistent use of best management practices on farms adds to concerns for water quality and wildlife habitat. In the Coastal Plain, development pressure is great. Rapid, large-scale development in northern and southeast

Virginia have resulted in large wetland losses, stream channel erosion, and serious impacts to water quality in Virginia's streams, rivers, and bays. Increased sedimentation has wiped out large areas of submerged aquatic vegetation in the Chesapeake and Back Bay watersheds, reducing their value for fish and wildlife. In the mountains of Virginia, coal mining activities and the lack of wide-spread use of best management practices in silvicultural and agricultural operations and urban development threatens water quality and ecosystem stability. Invasive species are an added concern in many habitats. Non-native *Phragmites* dominates thousands of acres of coastal marsh. The threat of a potential zebra mussel invasion is a looming concern for freshwater mussel fauna. Accidental spills from highway and industrial sites have caused several significant aquatic species die-offs in recent years. Degraded water quality has led to disease outbreaks in a number of our waterways.

### **Conservation Strategies**

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The Partners for Fish and Wildlife program in Virginia was early to recognize the value of landscape-level planning. While landowner interest will always be a driving force, project funds are targeted to areas with greater wetland losses, listed species recovery needs, and waterways federally designated as impaired. Following are several on-going examples of



**Virginia has over 30 federally listed mussel species. Restoration of riparian and instream habitats on agricultural lands is a major emphasis of the Partners for Fish and Wildlife Program.**

this approach.

### ***Current Strategies***

We are collaborating with our conservation partners to focus our work on the most critical conservation lands and waters in the Commonwealth. GIS data is used to identify those habitats that support the greatest diversity of fish and wildlife species, and help us target our work to habitats and species that are in greatest need. Newly developed State Wildlife Action Plans have helped us identify species and habitats of greatest concern. In addition, more effort has gone into developing new partnerships that include individuals and groups with helpful insight as to economic and social implications of our work.

### ***Projects Pending***

**RACER Initiative** – In June of 2007, the Rural Area Conservation and Economic Restoration (RACER) Initiative was formed to promote habitat restoration projects that create clear economic benefits to rural watersheds in the

Commonwealth. Franklin County acquired a number of riparian easements for development of a boating blueway to increase tourism and recreational opportunities, then asked the Service for dam removal assistance. Work to remove the failing Power Dam from the Roanoke River watershed will complete the



**Logo developed by Franklin County, Virginia to show support for their endangered fisheries.**

County's blueway objectives, while enhancing recovery for the federally endangered Roanoke logperch. The dam is scheduled for removal in 2008.

#### **North American Wetlands Conservation Act**

**Partnerships** – The Virginia Partners for Fish and Wildlife Program helped form a new partnership in southeast Virginia and northeast North Carolina to address long-term conservation needs in the Mid-Atlantic Coastal Plain with a primary focus on wetlands and migratory bird population declines. Over 50 partners joined forces to successfully obtain over \$18 million dollars to restore and protect almost 50,000 acres from 2002-2006. In 2007, this partnership was expanded and formally named the Albemarle-Pamlico

Community Conservation Cooperative. Our stated goal is to work with the challenging mix of both economically suppressed and booming coastal counties in the Coastal Plain of these two states as they plan for a sustainable future. We want to support and facilitate local and state government planning that strikes a balance between development, economic growth, and habitat conservation. Special emphasis is being placed on working with the state departments of Tourism, Commerce, and Economic Development in Virginia and North Carolina.

#### **Major Partners**

Private Landowners  
Local Governments  
International Paper  
Dominion Power  
American Electric Power  
The Nature Conservancy  
FishAmerica Foundation  
Ward Burton Wildlife Foundation  
Ducks Unlimited  
Chesapeake Bay Foundation  
Virginia Outdoors Foundation  
The Conservation Fund  
The Trust for Public Land  
Soil and Water Conservation Districts  
Virginia Departments of Game and Inland Fisheries  
Conservation and Recreation and Environmental Quality  
State of North Carolina  
United States Department of Agriculture  
Environmental Protection Agency  
Canaan Valley Institute  
National Fish and Wildlife Foundation  
U.S. Department of Defense

Virginia Tech University

#### **Accomplishments**

- Since 1989, wildlife habitat has been restored, enhanced, or protected on over 400 Partners for Fish and Wildlife projects in Virginia.
- The Partners Program has carried out restoration activities on over 10,601 acres and 188 miles of riparian habitat.
- 3,441 acres of wetlands have been restored, 638 acres have been enhanced, 1,251 acres have been established, and 1,863 acres have been protected.
- 731 acres of uplands have been restored, 155 acres have been enhanced, 1,293 acres have been established, and 1,230 acres have been protected.
- 162.3 miles of riparian habitat have been restored, 15.5 miles have been enhanced, and 9.8 miles of stream have been protected.

#### **Future Needs**

- Identify economic and safety concerns associated with abandoned and failing dams in endangered species waters to implement fish passage or structure removal plans, working closely with localities, Fisheries biologists, and the state Dam Safety Office to implement projects of mutual benefit. Expenses range \$200,000-\$2,000,000 per dam,

## Future Needs (continued)

annual minimum need  
\$500,000.

- Restore 500 miles of riparian habitat by 2015 on private lands in rural watersheds dominated by livestock operations. Our goal is to enhance the accomplishments delivered by programs of the USDA, the Commonwealth of Virginia, and County Soil and Water Conservation Districts, by focusing our assistance on recovery of water quality for federally listed aquatic species. Riparian restoration averages \$9,000/mile; \$4.5 million needed to

accomplish this goal.

- Restore 10,000 acres of forested wetlands and uplands in the Coastal Plain of the mid-Atlantic by 2015 to offset historic losses due to agricultural conversions and development. Primary federal trust resource benefit will be to migratory birds and interjurisdictional fish. Reforestation averages \$600/acre; hydrology restoration, when needed, averages \$400/acre; total cost about \$8.5 million to accomplish this goal.
- Restore 3,500 acres of tidal marsh by 2015 to benefit interjurisdictional fishes, migratory birds,

and shellfish and to better protect shorelines from threats of storms and sea level rise. Tidal wetland restoration averages \$300/acre; \$1 million needed to accomplish this goal. Many of these projects will be culvert replacements on private roads, with elevation adjustments to improve water flow and discourage non-native plant communities. Landowners will receive the added benefit of improved access to house and barn structures and agricultural fields.

## Contact

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