



Introduction and General Description

The State of Tennessee extends from the Blue Ridge Mountains in the east to the Mississippi River Alluvial Plain in the west, encompassing parts of ten physiographic provinces within its borders. Historically, hardwood forests dominated the landscape across Tennessee. Bottomland hardwood forests predominately occurred in the Coastal Plain and Mississippi River Alluvial Plain regions in west Tennessee.

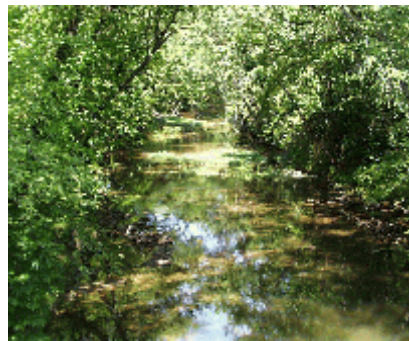
Tennessee has over 60,000 miles of streams that occur within 13 major basins. The State's streams support over 300 species of fish. Additionally, over 40 percent of the 300 species of freshwater mussels known to occur within the United States, occur (or occurred) within the State. The large number of aquatic species in the State's waters result in the most diverse assemblage of aquatic fauna in the country.

Human population growth and associated development, along with changes in land use practices have resulted in significant changes in the State's natural resources. Over 50 percent of the State's wetlands have been lost, most streams in west Tennessee have

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been channelized, and 20 percent of the streams across the State have been impounded.

Additionally, 10 percent of the river miles within the State do not meet their water quality designated uses, 110 miles of rivers are posted due to high bacterial levels hazardous to humans, and 150 miles are posted due to contaminated fish.



The Emory River is rich in freshwater mussels and other aquatic species.

Habitats of Special Concern

Although the streams of Tennessee support a high diversity of aquatic fauna, many species of freshwater mussels and fish inhabiting the streams are considered rare or are federally listed as threatened or endangered. Tennessee streams harbor 70 species of fish and mussels that are listed as either federally threatened or endangered or are considered at risk. Many of these species occur within the middle and upper reaches of watersheds that are influenced directly by

surface runoff from various land use practices.

Threats

Habitat loss from stream and riparian (streamside) habitat alternation and water quality degradation from non-point sources are the greatest threats to aquatic resources within the upper reaches of many watersheds. As you move downstream in the watersheds, you see that point source and multiple-use issues increase the complexity of efforts to maintain healthy communities of native aquatic organisms.

Conservation Strategies

The conservation activities of the Partners for Fish and Wildlife Program of the U.S. Fish and Wildlife Service are concentrated within watersheds that have federally listed aquatic species. The headwaters of tributary streams are priorities because small changes to land use practices create great benefits for aquatic resources. Because of the land ownership patterns, use of natural resources, and the landowners' desire to manage their lands in an environmentally sensitive manner, the greatest opportunities to benefit fish and wildlife resources occur on

agricultural lands. Additionally, due to the availability of various agricultural programs and incentives, funds expended by the Partners Program can be leveraged to accomplish more restoration work. Typical activities include fencing to exclude livestock from streams, providing off-stream water supplies, streambank stabilization, riparian reforestation, and restoration of in-stream habitats. Removing livestock from a stream, providing alternative water supplies, and reforestation of riparian habitat cost approximately \$13,000 per mile in these headwater reaches. Streambank stabilization and restoration of in-stream habitats are significantly more expensive and can exceed \$50,000 per mile.

The Partners Program also restores bottomland hardwood forest wetlands within these priority watersheds. Restorations are done on lands converted to agricultural crop use. Drainage tiles are removed, ditches are plugged and the site is replanted with bottomland hardwood tree seedlings. The cost of wetland restoration is \$300 per acre.



Upstream view of trampled streambank before Partners project restoration.



Downstream view of the same streambank after restoration.

Partners

Tennessee Wildlife Resources Agency
Tennessee Department of Agriculture
Tennessee Department of Environment and Conservation
Tennessee Chapter of The Nature Conservancy
Tennessee Environmental Endowment
Tennessee Office of the Governor
Tennessee Department of Agriculture
The Tennessee Aquarium
National Fish and Wildlife Foundation
Southeast Aquatic Research Institute
The Friends of the Clinch-Powell Rivers
Coffee County Soil and Water Conservation Board
Clinch Valley Program
Clinch-Powell Resources Conservation and Development Council
Duck River Initiative
Hiwassee River Coalition
Quail Unlimited
Five Rivers RC&D
Farm Services Agency
Duck/Buffalo RC&D
Clinch River RC&D
Blount County Soil Conservation District
City of Columbia
Nashville Metropolitan Board of Parks and Recreation
City of Pulaski
City of Chattanooga, Department of Parks and Recreation
Natural Resources Conservation Service
Tennessee Valley Authority
Department of Defense, Arnold Air Force Base
U.S. Forest Service
U.S. Geological Survey
Environmental Protection Agency

Accomplishments

The Service's Partners for Fish and Wildlife Program started in Tennessee in 1997.

From 1998 through 2000:

- 44 landowners have partnered with the Service on habitat restoration activities
- 24 miles of streams and associated riparian (streamside) forest have been restored.

Future Needs

- 36,000 miles of degraded stream and riparian areas are in need of restoration.
- Over 1,200,000 acres of lost or degraded wetlands could be restored in the State.

CONTACT



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