



Working with others to restore habitat

SOUTH CAROLINA



Partners for Fish and Wildlife longleaf pine forest restoration on private land in Chesterfield County four years after planting.

Introduction and General Description

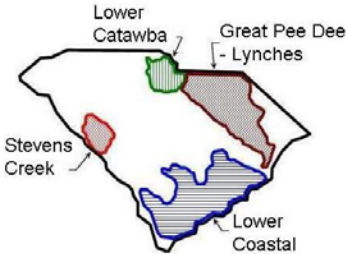
Major destruction and declines in quality fish and wildlife habitat in South Carolina has generated national and statewide concerns over the long term fate of many wildlife species. In an effort to combat this destruction and decline, the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program (Partners) along with other federal, state, and NGO programs is playing a key role by helping private landowners restore important fish and wildlife habitats on their lands. The Partners program provides financial and technical assistance to private landowners through voluntary cooperative agreements. It restores, improves, and protects fish and wildlife habitat on private lands through alliances between the Service, other organizations, and individuals, while leaving the land in private ownership. In South Carolina, the Partners program began addressing habitat loss in the early 1990s. Projects are focused in watersheds where conservation efforts will provide the greatest benefit for federal trust species which include: migratory birds, anadromous (migratory) fish, and threatened and endangered

species. Projects have included, but are not limited to restoring wetland hydrology, planting native vegetation including trees, shrubs, grasses, and ground layer vegetation, removal of invasive plants, prescribed burning, and reconstruction of in-stream aquatic habitat. Restoration activities in South Carolina in recent years have focused primarily on restoring longleaf pine forest habitats to their historic condition.

South Carolina Activities

- Bottomland hardwood reforestation
- Wetland restoration (Carolina bays, forested wetlands)
- Upland restoration (longleaf pine forest and associated native plants)
- In-stream restoration
- Stream bank stabilization and restoration
- Restoration of riparian and flood plain areas
- Restoration, enhancement, protection of habitat for threatened, endangered, or rare species
- Outdoor classrooms

Habitats of Special Concern



Geographic focus areas in South Carolina developed in collaboration with our partners where most of our project activities are expected to occur over the next five years (2007-2011).

Longleaf Pine Forests:

Longleaf pine ecosystems are among the most species-rich plant communities outside the tropics. Longleaf pine habitat in South Carolina has greatly declined as it has throughout its historical range in the Southeast. Approximately 369,000 acres of longleaf habitat remain in the State, primarily in the outer

Coastal Plain and in the Sandhills. Some of the priority species found in South Carolina's longleaf pine habitats include the federally endangered redcockaded woodpecker, brown-headed nuthatch, Bachman's warbler, southern fox squirrel, Northern bobwhite, mimic glass lizard, southern hognose snake, and pine snake.

Bottomland Hardwood Forest:

The remaining bottomland hardwood wetlands are productive ecosystems that have a variety of habitats for wildlife. They are particularly important as breeding and wintering sites for migratory birds, habitat for aquatic species, and for maintaining water quality.



Agricultural field being restored to bottomland hardwood forest – adjacent to Congaree National Park

Carolina Bays:

Carolina bays are shallow, isolated wetlands with unique geomorphic features. Carolina bays are scattered throughout the Coastal Plain. They provide habitat for a wide range of plants and animals, some of which are endangered. At least 36 plant species considered rare in South Carolina grow in Carolina bays. Two of these species, Canby's Dropwort and Harperella, have been listed as federally endangered. Most of the populations of Venus

flytrap found in South Carolina are associated with Carolina bays. Bays provide excellent habitat for many amphibian species including the endangered flatwoods salamander. The dense vegetation of certain types of bays provide cover and browse for black bear and other mammals.

Riverine Wetlands and Riparian Areas:

Six creeks in watersheds of the north central and western portions of the state contain populations of the federally endangered Carolina Heelsplitter.

Threats

The population of South Carolina is increasing rapidly in coastal areas, eliminating or degrading fish and wildlife habitats, especially wetland habitats.

Degradation and loss of wetlands of all types continues throughout the State as a result of development, agriculture, and timber production practices. It is estimated that 97 percent of Carolina bays have been altered in some manner.

The original longleaf pine habitat has been largely replaced by the faster growing, easier to generate loblolly and slash pine for wood product operations. Longleaf habitat requires frequent fire to hold back competition from hardwoods and to maintain the soil structure and nutrients to which longleaf pine is adapted. Encroaching development and

air quality regulations restrict the ability to conduct prescribed fires to maintain the remaining longleaf pine stands.

Conservation Strategies

In addressing habitats of concern, the Partners program in South Carolina will work cooperatively with landowners and other partners to provide technical and financial assistance. To help guide habitat restoration efforts, the Partners program uses the South Carolina Comprehensive Wildlife Conservation Strategy. The plan can be viewed at <http://www.dnr.sc.gov/cwcs/>.

Costs for project work vary widely depending on the amount of habitat degradation. Typically, the landowner's share of costs on a project is 50 percent.

We will continue to work with landowners and conservation foresters to restore longleaf pine forest in the Coastal Plain and Sandhills regions. This work involves re-establishing longleaf pine where it historically grew, and also improving habitat in existing longleaf stands which are degraded.



Planted longleaf pine in grass stage on barren field in the Sandhills region

Typical longleaf restoration practices include firebreak establishment, herbicide application, prescribed burning, planting seedlings and ground layer vegetation. The cost can range from \$20 to \$300 per acre depending on habitat needs.

In areas of need, where landowners are willing to participate, stream bank stabilization and riparian area restoration will be performed to improve water quality and habitat for imperiled aquatic species.



Riparian zone near population of endangered Carolina heelsplitter - degraded by livestock

Improvement of endangered Wood Stork nesting and foraging habitat is typically performed by removing excessive aquatic vegetation. This costs approximately \$300 per acre.

Habitat improvement of managed tidal wetlands in the coastal areas provides benefits to a wide variety of

federal trust species. Emphasis is in the vicinity of National Wildlife Refuges and State Wildlife Management Areas. This effort is a collaboration of U.S. Fish and Wildlife Service, Natural Resources Conservation Service, South Carolina Department of Natural Resources, and Ducks Unlimited. Work typically involves replacement of rice trunk water control structures and averages \$300 per acre.

Partners program staff provide technical assistance to the USDA Natural Resources Conservation Service in the implementation of Farm Bill conservation programs such as the Wetland Reserve Program and the Wildlife Habitat Incentives Program. This assistance is provided at the state level on advisory committees as well as in the field at the county level.

Partners

Our primary partners are numerous individual **private landowners**. Other partners include the following organizations and agencies:

Audubon South Carolina
American Chestnut Foundation
Bamberg Conservation District
BSA Blue Ridge Council
Brookgreen Gardens
Charleston Audubon

Ducks Unlimited
Greenlawn Baptist Church
Foothills RC&D Council
Lowcountry RC&D Council
National Audubon Society
SC Native Plant Society
SC Department of Corrections
SC Dept. of Natural Resources
SC Waterfowl Association
Telephone Pioneers of America
The Bishop Gravatt Center
The Nature Conservancy
Trinity Collegiate School
University of South Carolina
USDA Farm Service Agency
USDA-NRCS
West Ashley High School

Accomplishments

- Since 1994, wildlife habitat on private lands has been restored, enhanced, or protected on over 100 Partners for Fish and Wildlife projects.
- The Partners program has carried out restoration activities on over 3,900 acres.
- Partners program has staff administering the Private Stewardship Grants Program carried out restoration activities on over 53,000 acres .
- 4 miles of in-stream, streambank, and riparian habitat has been restored in cooperation with other partners.
- Helped establish 5 outdoor educational facilities

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