



ARKANSAS

["I am happy to put it back into timber for wildlife, and for marginal land it is a fine program" said Ben Williams.]

Introduction and General Description

The destruction and decline of quality fish and wildlife habitat has generated national and statewide concerns over the long term fate of many fish and wildlife species. In an effort to combat this destruction and decline, the U.S. Fish and Wildlife Service's (Service) Partners for Fish and Wildlife Program (Partners) is working with landowners to restore, enhance, and protect fish and wildlife habitat on private lands. Through alliances with organizations and individuals, the Partners program is a voluntary partnership whose focus is to restore vegetation and hydrology to historic conditions on private lands. It works proactively with private landowners for the mutual benefit of declining federal trust species, because the future of the nation's fish and wildlife depends on the private landowner. Private landowners own over two-thirds of our nation's land and three-quarters of the remaining wetlands, containing some of the most important fish and wildlife habitat in the United States. Through voluntary Wildlife Cooperative Extension Agreements, the Partners program provides financial and technical

assistance to private landowners.

During the late 1980s, the Partners program began addressing habitat loss in Arkansas. A diverse state of dramatic contrasts, from mountains, uplands forests, and karst areas to alluvial plains, bottomland hardwood forests, swamps, prairies, and large extensive river systems, Arkansas originally had an estimated 9.8 million acres of wetlands, or almost 30 percent of the state's surface area. By the 1980s, less than 2.8 million acres remained, or only about eight percent of the state's land area; the Delta region suffered the greatest loss. Of the 8.0 million acres of forested wetlands, only about 875,000 acres remain today in fragmented forests. The wetlands of the bottomland forest ecosystem include some of the most productive fish and wildlife habitat in the country. Arkansas's wetlands, especially those located in the Delta along the Mississippi Flyway, are sometimes referred to as part of the 'mallard flyway'. Their recognized importance has led to the wetlands in the Cache-Lower White River system being designated as one of only seventeen 'Wetlands of International Importance' by the United RAMSAR Convention on



Bottomland hardwood reforestation in the Mississippi Alluvial Plain.

wetlands. It is also within this wetland system that the Ivory-billed Woodpecker, thought to be extinct, was recently rediscovered.

Using as a guide the Arkansas Game and Fish Commission's Comprehensive Wildlife Conservation Strategy, a plan created by the Arkansas Multi-Agency Wetland Planning Team, the Partners program established five focus areas in Arkansas for implementation of the Partners for Fish and Wildlife Program. Identified as the Ozark Highlands/Karst, Mississippi River Alluvial Valley, Ouachita/Saline Rivers, Blackland Prairie, and the Red River Basin focus areas, they are concentrated mainly within the migratory flyway and associated river systems; bottomland hardwood forests; and at-risk ecosystems. In addition to this plan, other plans were used to address all or parts of these focus areas, such as the Ozarks Ecoregional Conservation Assessment prepared by The Nature Conservancy's Ozarks Ecoregional Assessment Team. The Nature Conservancy of Arkansas and the Lower Mississippi River Ecosystem Team were also consulted in

the development of the Partners focus areas. Partners projects will be implemented within focus areas where conservation efforts provide the greatest benefit for federal trust species which include: migratory birds, anadromous (migratory) fish, and threatened and endangered species.

Arkansas Activities

- Bottomland hardwood reforestation
- Wetland restoration (plugging ditches, building levees, installation of water control structures, etc.)
- Upland restoration
- Enhancement of habitat for migratory birds (wood duck boxes)
- Wetland enhancement
- In-stream restoration
- Stream bank stabilization and restoration
- Restoration of riparian and flood plain areas
- Restoration of fish habitat
- Bioremediation of brine impacted areas
- Cave gating and fencing to protect cave adapted species
- Restoration, enhancement,

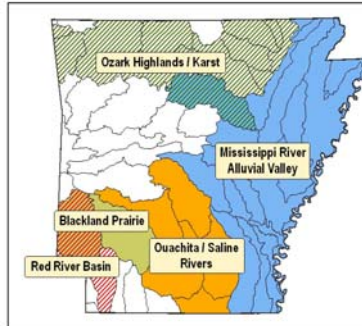


Swamp tupelo and bald cypress slough

protection of habitat for threatened, endangered, or rare species

- Prairie restoration
- Outdoor education

Habitats of Special Concern



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

The primary focus of the Partners program in Arkansas has been the restoration of bottomland hardwoods and wetlands to their historic condition. Bottomland hardwood forests provide crucial habitat for fish and wildlife populations.

Historically, about 24 million acres of bottomland hardwoods extended nearly the entire length of the Lower Mississippi River Alluvial Valley. Today, fewer than 5 million acres remain. This represents over 80 percent of the loss of forested wetlands along the Mississippi River with remnant tracts distributed as mostly small to moderately-sized fragments. The majority of the remaining bottomland forests (67 percent) are found along stream margins and drainage ways. Over the last 100 years, the floodplain available for natural flood storage has been reduced about 90 percent and the flood storage capacity of the Delta has been reduced from about 60 to 12 days of mean daily discharge.

Threats

Excessive logging of mature bottomland hardwood forests is perhaps the biggest threat to fish and wildlife populations in Arkansas. The decline of bottomland hardwood habitat is believed to be the main reason for the extinction of the Ivory-billed Woodpecker and the Bachman's Warbler throughout their respective ranges. The black bear, once common, is now found in a few remaining large forested bottomland areas such as the White River and the Atchafalaya Basin. Repatriation is helping to re-establish it throughout parts of its range within the Lower Mississippi Alluvial Valley. Other wildlife species, such as waterfowl and neotropical migratory birds (e.g., prothonotary warbler) have

experienced population declines as bottomland hardwood forests were converted or fragmented into smaller patches.



The Prothonotary Warbler (*Prothonotaria citrea*), a forest-breeding neotropical migrant of concern occurring in the Mississippi Alluvial Valley Focus Area

Long term surveys in the southeast have shown that 71 percent of neotropical migratory bird populations declined between 1978 and 1987. In Louisiana, populations declined 47 percent, 53 percent in Mississippi, and an astonishing 77 percent in Arkansas between 1980 and 1989. Wildlife species endemic to the Delta, such as the red wolf and the Florida panther, disappeared from the region.

Other threats to fish and wildlife populations in Arkansas include but are not limited to the following:

- Urban development
- Logging
- Agricultural runoff and siltation
- Excessive pumping
- Prairie conversion

- Long-term fire suppression
- Competing plant species
- Groundwater contamination
- Reduction in water quality
- Habitat degradation
- Human disturbance
- Forest fragmentation
- Stream alteration
- In-stream gravel mining
- Bottomland hardwood forest conversion to pine plantations
- Ditching
- River levees

Conservation Strategies

The Partners for Fish and Wildlife Program in Arkansas is using the Arkansas Game and Fish Commission's Comprehensive Wildlife Conservation Strategy Plan (Plan) to help guide its restoration efforts. The Plan's mission and goals are similar to the Partners program, with an emphasis on keeping common species common, keeping additional species off the threatened and endangered lists, saving habitats, increasing funding for nongame wildlife, building partnerships with private and public entities, and promoting voluntary conservation actions. This Plan will be an invaluable tool for the Partners program. As a tool, it has identified and ranked ecoregions, ecobasins, and terrestrial habitats throughout Arkansas. The Partners program continues its close collaboration with the state and other partners in

delivering priority conservation actions on private lands. For more details about the plan, reference the internet link www.wildlifearkansas.com.

Bottomland Hardwoods

Bottomland hardwood restoration activities are targeting primarily the Red River Basin, Ouachita/Saline Rivers and the Mississippi Alluvial Plain Focus Areas. Reforestation within these focus areas are concentrating on restoring bottomland hardwood forest along major river systems, such as White, Arkansas, Ouachita, Red, and the Mississippi Rivers. Concentrating along river systems, forest-breeding bird areas designated by Partners in Flight are creating large core areas for forest-breeding birds. They are a major component of the Partner's Lower Mississippi River Ecosystem private lands committee and the USDA's Natural Resources Conservation Service Wetlands Reserve Program ranking criteria in Arkansas. Efforts are underway to establish similar forest breeding bird focus areas in other parts of Arkansas.

Since, the rediscovery of the Ivory-billed Woodpecker, the Partners program is focusing on restoring bottomland hardwoods habitat within The Nature Conservancy's Big Woods area. Mature bottomland hardwoods are being protected, whenever possible, and restoration activities are occurring throughout the Big Woods area and other areas with potential Ivory-bill Woodpecker habitat.

Partnerships between the Service and other resource agencies have been established to restore this magnificent bird. Bottomland hardwood restoration costs in Arkansas ranges from \$96 to \$140/acre.



A joint FWS and NRCS cave fencing project in the Ozark Highlands.



Ozark cavefish (*Amblyopsis rosae*), federally listed as threatened, in a cave in the Ozark Highlands.

Wetlands

Wetland restoration potential in Arkansas is unlimited. Wetlands are restored by plugging ditches, creating small berms or levees, or installing water control structures at a cost of \$300 to \$900/acre. Whenever possible, landowners participating in the Partners program are encouraged to obtain water control structures from the Arkansas Partners Program (Ducks Unlimited, Inc.) at no cost to the landowner, other than installation and initial pick up. Some landowners enroll lands restored by the

Partners program into the USDA's Wetlands Reserve Program. Programs such as the Arkansas Partners program of Ducks Unlimited and the USDA's Wetlands Reserve Program compliment the Partners program.

Streams and Riparian Areas

Arkansas streams and riparian (streamside) areas are valuable resources and provide habitat for numerous aquatic species. Riparian areas help stabilize streambanks, improve water quality, reduce flooding and sedimentation, and enhance wildlife habitat. The Partners program plays a significant role by working with the Arkansas Game and Fish Commission's Arkansas Stream Team to restore and stabilize streambanks in Arkansas. Fencing is often used along streambanks to exclude livestock which contribute to bank erosion and sediment deposition at a cost of \$300 per quarter mile.

Outdoor Education

Occasionally, the Partners program provides technical assistance to educational facilities and conservation groups to help develop outdoor classrooms. In Arkansas, the Partners program has provided funding to assist with prairie restoration, wetland creation, habitat protection, and native grass establishment.

Partners

- USDA Natural Resources Conservation Service
- USDA Farm Service

Agency

- Arkansas Game and Fish Commission
- Arkansas Natural Heritage Commission
- Audubon of Arkansas
- The Nature Conservancy
- Conservation Districts
- U.S. Environmental Protection Agency
- U. S. Army Corps of Engineers
- Arkansas Forestry Commission
- Ducks Unlimited, Inc.
- University of Arkansas - Pine Bluff
- Bayou Bartholomew Alliance
- Arkansas Highway and Transportation Department
- Petroleum Industry
- Private Landowners
- Municipalities
- Gates Rogers Foundation Inc.
- Fish America Foundation
- Local Schools
- Mississippi River Trust
- Lower Mississippi River Conservation Committee
- ARKLATX Operating Co. Inc.

Accomplishments

- Since 1988, over 220 Partners for Fish and Wildlife projects have restored, enhanced, or protected fish and wildlife habitat on private lands.
- The Partners program has carried out restoration, enhancement, and protection activities on over 40,000 acres.
- More than 45 water control structures have been installed to improve habitat for wetland

- associated species.
- Over 450 project sites have been restored, enhanced, or protected.
- 50 miles of riparian habitat have been restored and 1 mile fenced.
- Over 28,000 acres of bottomland hardwood trees have been planted, totaling over 8 million trees.
- 2 educational and 2 recreational facilities are using restored wildlife habitat as an outdoor

classroom.

Future Needs

- Restore, enhance and protect 1,000 miles of riparian habitat.
- Restore, enhance, and protect 390,000 acres of bottomland hardwoods and wetlands, primarily within the Lower Mississippi River and Arkansas-Red Ecosystems. These wetlands can be restored

effectively and are the most productive wetlands used by migratory birds.

- More than 242,000 acres of riparian corridors could be restored in Arkansas.
- Concentrate on restoring, protecting, and enhancing terrestrial and aquatic habitats for imperiled species.
- Restore, enhance, and protect habitat for the Ivory-billed Woodpecker.

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