

**PRELIMINARY PROJECT PROPOSAL
BLUE SWAMP NATIONAL WILDLIFE REFUGE, ARKANSAS
(A hypothetical example)**

Introduction. The establishment of the Blue Swamp National Wildlife Refuge (refuge) is being proposed to preserve overflow bottomland hardwoods as wintering habitat for mallards and wood ducks and production habitat for wood ducks to meet the habitat goals presented in the North American Waterfowl Management Plan. It should be understood that this proposal has been developed from information gathered early in the study. All data on acres and dollars are best estimates and will be refined with the development of the decision document.

Location and Size. The proposed 6,700-acre refuge is located in Lee County, Arkansas, 48 miles southeast of Memphis, Tennessee, and 20 miles north of Helena, Arkansas. The refuge would be located in the overflow bottoms of the Blue River, which consist of a series of old river oxbows and overflow bottomlands.

Description of Habitat. The area is an isolated island of bottomland hardwoods. A natural river cutoff created an area with limited access that, in part, has prevented its conversion to agricultural cropland. The oxbow lakes, which make up approximately one-third of the area, are lined with bald cypress and water tupelo. Several of these lakes contain exceptionally high quality stands of apparently virgin cypress. Because of the selective management by one landowner and his influence on adjoining landowners, a mixture of age and species of hardwoods has been produced that is ideal for wintering waterfowl.

Major Wildlife Values. Although specific studies have not been conducted in this area, it is believed to be one of the most productive areas for wood ducks in eastern Arkansas. The oxbow lakes and the old cypress, in combination, produce extremely good nesting and brooding habitat. Because the area is rather small and isolated, census data on the proposed refuge has been sporadic and population statistics are not available. Based on quality of habitat, flood frequency, and field observation, it is the opinion of State and Federal biologists that this area is equal to the habitat sites along the White and Cache River for wintering mallards and wood ducks; i.e. White River National Wildlife Refuge: duck days for mallards, 17.5 million; wood ducks, 2.1 million; and Cache River Basin, 114,000 acres winters 155,000 mallards.

Relationship of Project to Ecosystem's Management Goals and Objectives. The proposed project is within the Lower Mississippi River Ecosystem which is one of the Fish and Wildlife Service's (Service) Priority Ecosystem Initiatives. The bottomland hardwoods are representative of a habitat type of which only 20 percent remains in the Mississippi River Alluvial Floodplain (Alluvial Floodplain). This project is consistent with the Service's Ecosystem Approach Principle to focus efforts on discrete units of the landscape, of manageable size and with similar resource issues. In addition, this project contributes to the Service's ecosystem approach by focusing management on natural

communities of plants and animals, minimizing habitat fragmentation, maintaining naturally-occurring structural and genetic diversity, and by recognizing the role of natural processes including floods.

Related Resources. The Cache River Basin (basin) lies 45 miles to the west. It contains 14,000 acres of State-acquired lands and 13,000 acres of Federal lands (5,000 acres Fish and Wildlife Service; 8,000 acres Corps of Engineers) that is preserved for wintering habitat for waterfowl. The Service intends to acquire approximately 30,000 additional acres in the basin. Fifty miles to the southeast is the 112,000-acre White River National Wildlife Refuge. This refuge is also a bottomland hardwood area acquired for wintering waterfowl and nesting wood ducks.

Threats. This area is part of the 24 million-acre Alluvial Floodplain, which was once an almost contiguous expanse of bottomland hardwoods. By 1978, there were only slightly more than 5 million acres remaining. This land use change has occurred at rates as high as 300,000 acres per year. The present threat to this area, particularly the cypress, is the harvesting of timber for lumber products. A major landowner operates a mill and is finding it increasingly difficult to locate an economical supply of timber. Although he is sympathetic to perpetuating the virgin stands of cypress and has shown exemplary management of hardwoods, financial considerations may force him to harvest the cypress sites as well as an intensive harvest of the bottomland hardwoods on his and possibly adjoining lands. Both activities would be detrimental to the existing high quality of the waterfowl habitat.

The bottomland hardwood areas are potentially threatened by agricultural interests converting them to cropland. The present depressed economic conditions experienced by agricultural interests may temporarily reduce the clearing of timberland for agricultural production. However, the ever increasing worldwide need for food and fiber will eventually cause the price of this land to increase and even more important, to increase the threat of conversion of the hardwood bottomlands to agricultural cropland.

Proposal Objectives and Funding. The North American Waterfowl Management Plan identifies the acquisition of seasonally flooded hardwoods and associated waters in the Alluvial Floodplain as high priority acquisition as wintering habitat for mallards. This proposed acquisition not only falls within this category, but is one of the finest waterfowl areas in the Alluvial Floodplain because of the species and age composition of the hardwoods; the mix of permanent water and overflow bottoms; and the frequency, duration, and timing of the flooding that occurs there. It is anticipated that this land would be acquired with Migratory Bird Conservation Funds.

Ownerships and Type of Acquisition. Two individuals own approximately 4,500 acres of the proposed refuge and are willing sellers. Six additional landowners are local farmers and own the remainder of the lands. All but one indicated they might be interested in selling now or in the future. All landowners favored the establishment of the refuge if condemnation were not contemplated. Acquisition by donation, partial donation, or purchase of conservation easements will be attempted; however, because of the financial condition of the landowners in the area, it is anticipated that fee purchase will be the probable means of acquisition.

Initial and Annual Costs. The estimated cost to acquire these lands is \$2.4 million or \$390 per acre, acquired over a 3 to 4 year period (\$600,000 to \$800,000 per year). This price is somewhat lower than that in the Cache Basin due to the amount of wetlands involved. Annual costs for operation will be minimal with probably two FTEs involved. Future forest management will be necessary to maintain the desired mix of species and age classes of the timber. The annual refuge revenue sharing cost is estimated at \$20,050.

Water Rights. The State of Arkansas adopted the riparian system of water rights at time of statehood. Riparian rights are a matter of land ownership abutting a watercourse. In order to have riparian water rights, one must own riparian lands, and water use is usually restricted to such lands. That system was displaced by legislation enacted in 1945 fully implementing the appropriation system as the exclusive method of acquiring water rights in the State. From that point forward, with the exception of domestic use, a right could only be initiated by filing an application for a permit; but because the riparian rights doctrine existed in the State for so many years, it is necessary to consider both appropriation and riparian rights in order to understand the water right structure in Arkansas today and the interrelationship between the two rights.

The Blue River has been declared over appropriated and is regulated under established minimum stream flow requirements. This means that in most years, all appropriations approved after April 12, 1984, are restricted to no diversion during the period June through September. The Service should consider these restrictions for any proposed development requiring diversions from the river.

Contaminants and Hazardous Wastes. An aerial spraying company operated during the late 1950s until the early 1970s just outside the northeast corner of the proposed area and adjacent to a creek that empties into Blue Pond. Contaminant specialists from the Service's Ecological Services Field Office have found no evidence of contaminants in Blue Pond. More intensive investigations will be made in the near future of the company's former location, Blue Pond, and its drainages to confirm or refute preliminary findings.

Should any significant amounts of contaminants be located, we will submit a report for your consideration, identifying the type of contaminant(s); amount; present and future actions (existing and anticipated); and any cost to the Service for containment, cleanup, or other costs that might be incurred.

Public Attitude and Involvement. Meetings with local and State government officials have taken place as well as with congressional staff. Obviously, the discussions of the proposal under consideration were in general terms. The usual questions on the impact of Federal acquisition on taxes and the use of condemnation were raised. The meetings were very positive and no local opposition to the proposal is anticipated. Several local conservation groups have voiced their support for the proposal.

Special Considerations. The project area is not subject to any military uses, such as low level flight patterns or training grounds, nor does it contain any wilderness resources that could qualify for wilderness study after acquisition.