

DRAFT LAND PROTECTION PLAN
AND DRAFT ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED EXPANSION OF

FELSENTHAL AND UPPER OUACHITA NATIONAL WILDLIFE REFUGES

Felsenthal - Ashley, Bradley and Union Counties, Arkansas

Upper Ouachita - Morehouse Parish, Louisiana



Southeast Region



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DRAFT LAND PROTECTION PLAN

I. Introduction and Purpose

A. PROJECT DESCRIPTION

This Draft Land Protection Plan/Draft Environmental Assessment (Draft LPP/Draft EA) identifies the recommended acquisition boundaries for the proposed expansion of Felsenthal and Upper Ouachita National Wildlife Refuges (NWRs). Working with partners, the Fish and Wildlife Service (Service) delineated up to 50,459 acres between the refuges to protect and manage bottomland hardwood forests and upland pine forests in Union, Bradley, and Ashley Counties, Arkansas, and Morehouse Parish, Louisiana (Figure 1). The proposed expansion of Upper Ouachita NWR would occur east of the refuge. These proposed lands include 4,330 acres of bottomland hardwood forests and 14,159 acres of upland pine forests. The proposed expansion of Felsenthal NWR would occur south, west, northeast, and northwest of the refuge. These proposed lands include 22,350 acres of bottomland hardwood forests and 9,620 acres of upland pine forests. These acres are encompassed by the recommended acquisition boundary proposed in Alternative B of the Draft EA for the proposed expansion of the refuges. The purposes of this Draft LPP/Draft EA are to:

- Provide landowners and the public with an outline of the Service's policies, priorities, and protection methods for land in the project area;
- Assist landowners in determining whether their property lies within the proposed acquisition boundary; and
- Inform landowners about the Service's long-standing policy of acquiring land only from willing sellers. The Service's policy is not to buy any lands or easements if the owners are not interested in selling.

The Draft LPP/Draft EA presents the methods the Service and interested landowners can use to accomplish their objectives for wildlife habitat within the refuge boundary. Within approved acquisition boundaries, the Service would be able to enter into negotiations for the protection of environmentally sensitive lands. The most urgent needs for acquiring an interest in these lands are as follows:

- Protect contiguous bottomland hardwood forest adjacent to the Ouachita River.
- Protect lands between both national wildlife refuges to increase core habitat for neotropical migratory songbirds, wintering waterfowl, and black bears.
- Protect existing and potential habitat for the endangered red-cockaded woodpecker.
- Protect existing and potential habitat for the threatened Louisiana black bear.

B. REFUGE PURPOSE(S)

Felsenthal NWR was authorized by Congress as mitigation for the Ouachita-Black Rivers Navigation Project. The refuge was established with the fee-title transfer of 65,000 acres from the Corps of Engineers (by direct authority granted in the navigation project legislation) to the Service in 1985 (Figure 2). The legislative purposes for which Felsenthal NWR was established are "for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon"

(16 U.S.C. 664, Fish and Wildlife Coordination Act) and "for incidental fish and wildlife-oriented recreational development; the protection of natural resources; and the conservation of endangered species or threatened species" (16 U.S.C. 460k-1).

Upper Ouachita NWR was established in 1978, when 20,834 acres were purchased under the authority of the Migratory Bird Conservation Act of 1929, as amended, and the Wetlands Extension Act of 1976. In 1997 and 1998, an additional 16,191 acres, known as the Mollicy Unit, were purchased east of the Ouachita River under the Migratory Bird Conservation Act of 1929. Between 1997 and 2004, the Service acquired about 4,939 acres of upland pine from the Nature Conservancy of Louisiana. In 2011, the Service purchased approximately 4,000 acres of bottomlands from The Conservation Fund. Currently, the fee-title lands for Upper Ouachita NWR cover 46,594 acres (Figure 2). The refuge's current acquisition boundary encompasses 57,633 acres and includes the area north of the Mollicy Unit, all inholdings, and areas west and south of the refuge on the west side of the Ouachita River. The legislative purpose for which Upper Ouachita NWR was established is "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 U.S.C. 715d) and for "the conservation of the wetlands of the nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions" (16 U.S.C. 3901b).

The vision statement for Upper Ouachita NWR states that the refuge "will conserve, enhance, and restore the integrity of bottomland hardwood forests, other wetlands, and upland mixed pine-hardwood habitats primarily in the upper West Gulf Coastal Plain and Mississippi Alluvial Valley. Moist-soil and cropland habitats will be managed to benefit a variety of migratory waterfowl, shorebirds, and associated species. A diversity of wildlife species will be fostered while maintaining opportunities for the public to enjoy wildlife-dependent recreation. Future resource protection will be strategically charted for establishing habitat conservation linkages in the Lower Mississippi River Ecosystem through partnerships and collaboration" (USFWS 2008).

The vision statement for Felsenthal NWR states, "The South Arkansas National Wildlife Refuge Complex provides a diversity of habitats for wintering waterfowl, migratory birds, threatened and endangered species, and resident wildlife, and provides enhanced wildlife-dependent public use opportunities. The Complex protects, manages, and restores an intricate system of rivers, creeks, sloughs, buttonbush swamps, and lakes throughout a vast bottomland hardwood forest that gradually rises to an upland forest community. The Complex will continue to serve the American people by offering opportunities for compatible, wildlife-dependent recreation such as hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. In addition, the Complex will seek partnerships that promote environmental stewardship, foster research opportunities to enhance resource management and restoration efforts, and protect historical and cultural resources of the Complex" (USFWS 2010).

Figure 1. Project map

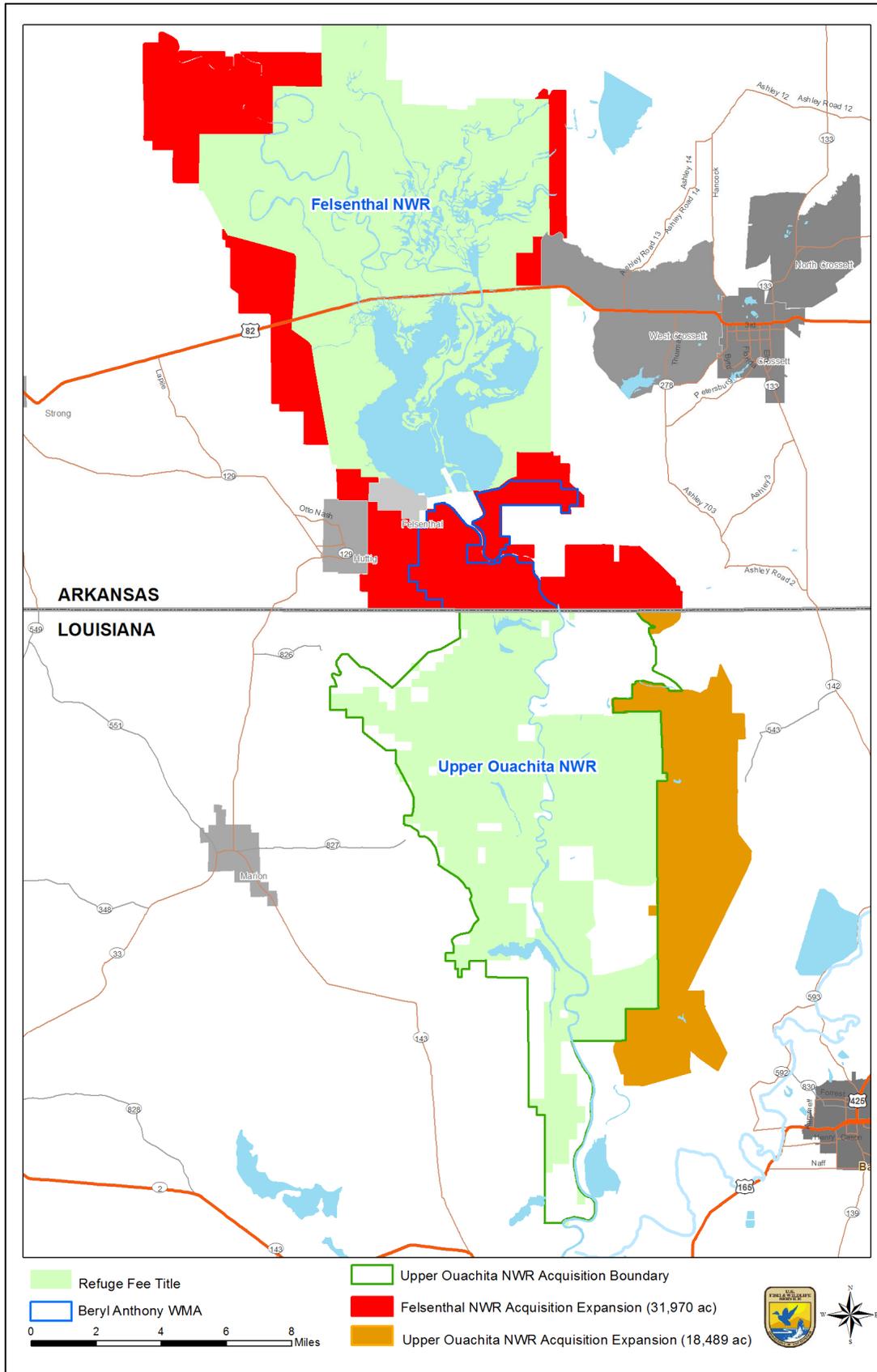
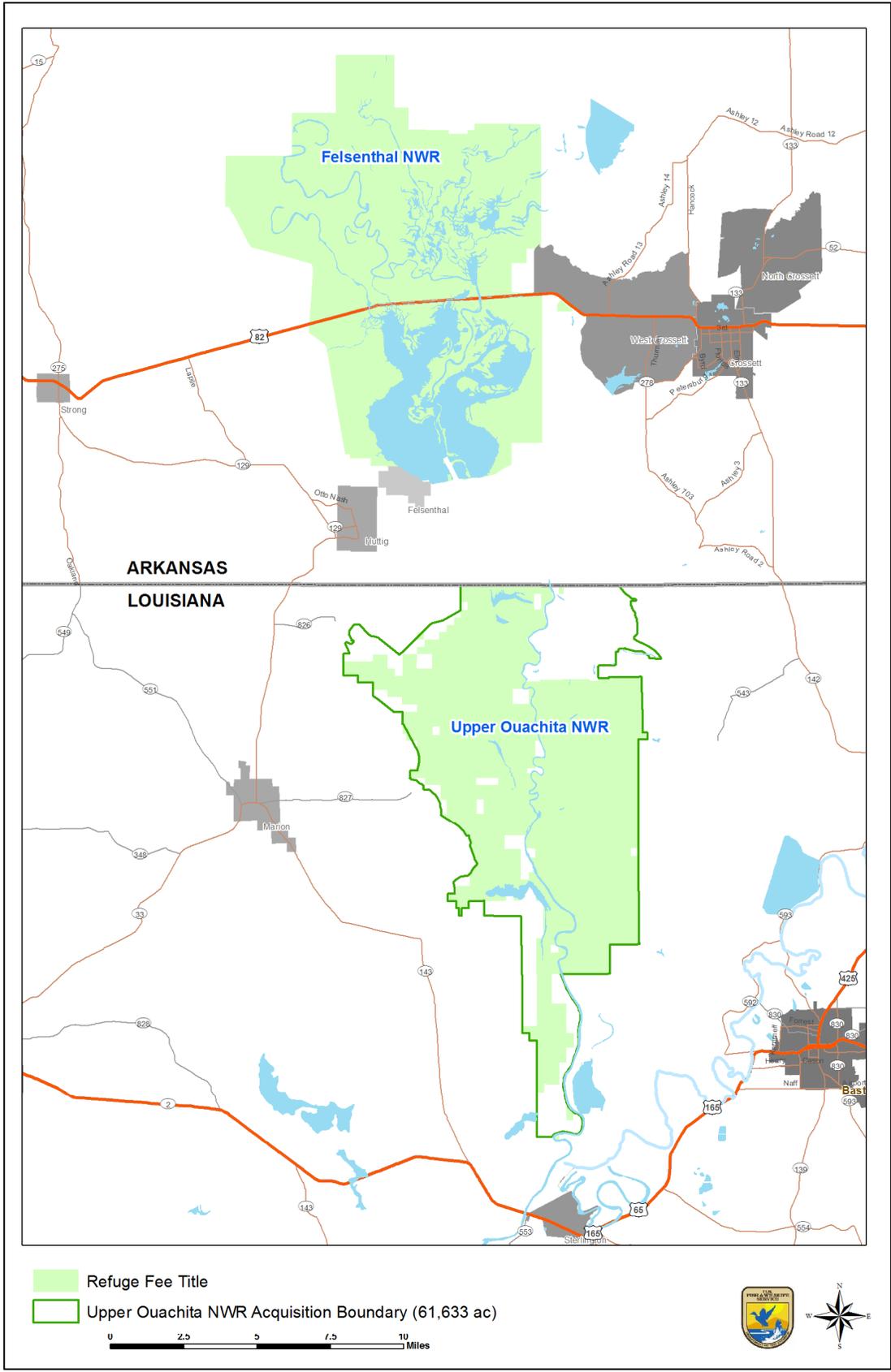


Figure 2. Location of Felsenthal and Upper Ouachita NWRs



II. Resources

A. RESOURCES TO BE PROTECTED

This landscape expansion proposal would ultimately allow for the conservation of over 150,000 contiguous acres of wildlife habitat. Approximately 120,000 acres of bottomland floodplain habitat and 58 river miles would be protected. Fifty red-cockaded woodpecker (RCW) groups would come under federal protection. This landscape expansion would bring 23,779 acres of upland pine and mixed pine-hardwood forest and 26,680 acres of bottomland hardwood forest under Service protection.

The expansion area would increase the core area size of forest blocks and provide necessary corridors for bears and other wildlife. These lands are used by neotropical migratory birds following the Ouachita River during their spring and fall migrations, as well as nesting prothonotary, Swainson's and worm-eating warblers, Mississippi kites, and wood ducks. Hundreds of thousands of wintering waterfowl utilize these bottomland hardwood forests annually (USFWS 2008; USFWS 2010). Rafinesque's big-eared and southeastern myotis bats, both priority species in the Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative (GCPO LCC 2009), utilize the large hollow trees found in these forests.

Prime black bear habitat is characterized by relatively inaccessible terrain, thick understory vegetation, abundant hard and soft mast foods, and den sites (BBCC 2005). Habitat fragmentation can result in increased mortality as bears are forced to forage on less-protected sites, travel farther to forage, or cross barriers such as roads (Pelton 2001). In a fragmented landscape, the provision of high-quality habitat, with a mixture of habitat components and seasonal resource needs, is increasingly important, so that individual bears can survive within smaller home ranges and limit exposure to potential mortality factors associated with travel between fragments (e.g., road crossings) and use of alternate habitats (e.g., agricultural fields, neighborhoods for human food) (BBCC 2005). Telemetry data on Louisiana black bear movements have demonstrated that habitat linkages should be considered in management plans intended to ensure the viability of the Louisiana black bear population in fragmented habitats (Weaver 1999). Repatriation efforts took place between 2000 and 2007, when 55 females and 116 cubs were reintroduced into their former range of southern Arkansas, mainly on Felsenthal NWR (USFWS 2010). Under Service ownership, the proposed lands would be managed for the benefit of black bears through silvicultural improvements that would provide thick understory vegetation, den trees, and mast (LMVJV 2007; USFWS 2011). These lands would contribute to the black bear reintroduction efforts at Felsenthal NWR and to the recovery of the federally threatened black bear in Louisiana.

Breeding bird surveys conducted by Service personnel in the bottomland hardwood forests on Upper Ouachita NWR have recorded the presence of many priority species of the GCPO LCC, including the hooded warbler, Kentucky warbler, prothonotary warbler, white-eyed vireo, orchard oriole, yellow-throated warbler, and Acadian flycatcher (GCPO LCC 2009) (Table 1). This expansion would bring over 25,000 acres of bottomland hardwood forest under Service management. The Service manages these forests for the benefit of forest interior songbirds according to guidelines set forth by the Lower Mississippi Valley Joint Venture (LMVJV 2007).

The proposed expansion areas are located in the Mississippi Flyway, which is a critical ecoregion for migrating and wintering dabbling ducks, wood ducks, and geese in North America (Reinecke et al. 1989). Davis et al. (2008) found that female mallards spent the majority of their time in bottomland hardwood forests on Upper Ouachita NWR, underscoring the importance of these forests to wintering waterfowl.

Rice (2009) found 34 roost trees of Rafinesque's big-eared bats and 8 roost trees of southeastern myotis bats on Upper Ouachita NWR in bottomland hardwood forests. The refuge biologist has also found a roost tree of southeastern myotis bats, with well over 500 individuals on Upper Ouachita NWR. It is well known that both species utilize large cavity trees in mature forests for maternity roosts (Gooding and Langford 2004, Stevenson 2008, Rice 2009, Barclay and Kurta 2007). Under the proposed alternative, an additional 26,680 acres of bottomland hardwood forest would be protected.

About 58 river miles would be protected under this proposed expansion. The Ouachita River originates in the Ouachita Mountains of west-central Arkansas, near the Oklahoma border. It flows south through northeastern Louisiana, drains into the Little River at Jonesville, Louisiana, and then joins the Tensas River to form the Black River, which empties into the Red River. The Ouachita River has a drainage basin of 10,825 square miles at the refuge. The drainage basin in Arkansas is mostly forested, resulting in extremely high quality water when it flows through the refuge, even during flood periods. The Corps of Engineers operates a series of locks and dams on the river, including one at Felsenthal, Arkansas (USFWS 2011). These locks and dams were installed in the 1970s to maintain a 9-foot channel for navigation purposes.

Upper Ouachita NWR recently completed the largest river floodplain restoration in the country. The refuge's Mollicy Unit is located on the east side of the Ouachita River. Former landowners in the 1960s cleared the 19,000-acre area of its mature bottomland hardwood forest for agriculture and built a ring levee to keep the Ouachita River from flooding the farmed fields. In the late 1990s, the Service acquired the property and planted over 4 million trees in the largest bottomland hardwood reforestation project in the country. In 2010, the Service partnered with The Nature Conservancy to reconnect the Mollicy Unit floodplain with the Ouachita River by breaking the levee in several places. Due to this restoration, natural flooding is occurring and subsequently facilitating seed dispersal, sediment deposition, nitrogen and carbon storage, nutrient recycling, and plant establishment. It also increases primary production, decomposition rates, and species and genetic diversity (Bayley 1995). The proposed expansion areas along the Ouachita River would contribute to the floodplain restoration project by protecting 58 miles of forested areas along the river from deforestation. When forests are clearcut, the increased temperatures and soil erosion reduce water quality.

The major value of the upland pine communities would be to contribute to the conservation and management of the endangered RCW. The RCW population on the proposed expansion area east of Upper Ouachita NWR has 29 family groups, the highest density population in north Louisiana and the largest private land subpopulation in the state. In addition to this large population of woodpeckers, 21 active RCW groups are known to occur on the proposed expansion areas surrounding Felsenthal NWR. Many old-growth pine stems (60 + years) distributed across this area provide suitable cavity sites as well as much needed foraging habitat. With proper management, these habitats could support additional RCW groups. The upland sites within the expansion boundary are extremely important in that they provide much needed additional foraging habitat for the 14 existing RCW groups on Felsenthal NWR (at current refuge population, the existing refuge acreage of upland pine communities is not sufficient to meet federal landowner guidelines for RCW foraging habitat requirements). If these lands are acquired, long-term intensive habitat management would benefit RCWs in both Louisiana and Arkansas. In addition, large populations of RCWs exist on the Ouachita National Forest in central Arkansas and Kisatchie National Forest in central Louisiana. Habitat restoration in the proposed expansion areas would provide a link between the two larger RCW populations for dispersing birds, thereby increasing their genetic diversity (Will McDearman, RCW Recovery Coordinator, personal comm.).

THREATS TO THE RESOURCE

Development

Increased development and urbanization within the ecosystem stresses all of the resources of the West Gulf Coastal Plain. Forest fragmentation, road-associated impacts, degradation, fragmentation and loss of habitat, incompatible public uses, exotic species introduction, hydrologic modifications, and introduced predators are some of the human impacts to the natural resources of this region. One of the primary threats to wildlife in this area is the destruction of habitat due to residential and commercial development.

Fragmentation of Habitats and Habitat Degradation

Private timber companies own the majority of large tracts of undeveloped land in north Louisiana and south Arkansas. Often commercial silvicultural practices do not focus on wildlife habitat management objectives. Some forestry practices include clear-cutting, application of herbicides that decrease plant diversity, development of monocultural stands for even-aged management, and bedding of land to convert forests to offsite species.

The practice of clear-cutting large acreages causes forest fragmentation, habitat loss, erosion, and decreased water quality. The use of herbicides to kill hardwood or broadleaf plants is a common private industry practice that decreases plant diversity and, in some cases, converts the habitat to a different type. The promotion of the profitable pine plantation has led to monocultural stands devoid of plant diversity, leading to a loss of wildlife diversity. Another common practice on private timber lands is to bed the soil, forever altering the hydrology, to plant offsite species. Locally, this practice is often conducted to convert a bottomland hardwood forest to a loblolly pine plantation.

RCW Population Loss

RCW populations on private lands are legally allowed to be managed much less intensely, often causing a decline in populations. Although current private landowners manage RCW groups to maintain the existing population, the management philosophy could change if lands are sold to a non-governmental entity. Federal regulations do not require private landowners to conduct prescribed burning, hardwood control, or artificial cavity installation, which are needed to maintain population size.

Global Climate Change

The effects of global climate change will gradually increase in north Louisiana and south Arkansas over the next 100 years. According to the report, *Global Climate Change Impacts in the United States* (Karl et al. 2009), it is expected there will be higher temperatures, less rainfall, particularly in winter and spring, increased storm intensity and frequency, and more drought throughout the Southeast. It is anticipated that temperatures will increase by at least 4.5°F by 2080, and fire severity will increase 10 to 30 percent within the next 50 years. Climate change impacts of higher temperatures will likely cause the spread of invasive species and small changes to native plant and animal distributions. Migratory birds will probably breed and winter a little further north. More southern, tropical species, (i.e., black-bellied whistling ducks, and wood storks) will extend their ranges into Louisiana. Invasive species, such as *Salvinia*, water hyacinth, and tallowtree, will become more established and extend their ranges further north. As sea levels rise, the coastal marshes of south Louisiana will be drastically reduced. Consequently, refuge lands to the north will need to provide habitat for displaced migratory birds, such as wintering waterfowl.

B. RELATIONSHIP OF PROJECT TO LANDSCAPE CONSERVATION GOALS AND OBJECTIVES

GULF COASTAL PLAINS AND OZARKS LANDSCAPE CONSERVATION COOPERATIVE

To ensure that the Service is “putting science in the right places,” the Directorate determined in April 2009 that the agency needed a national, geographic framework for implementing landscape conservation. Just as migratory bird flyways have provided an effective spatial frame of reference to build capacity and partnerships for international, national, state, and local waterfowl conservation, this geographic framework will provide a continental platform upon which the Service can work with partners to connect site-specific efforts to larger biological goals and outcomes.

In its meeting on August 4-6, 2009, the Directorate approved a map of the geographic framework developed by a team of experts from the Service and the U.S. Geological Survey from across the country. The map defines geographic areas that provide a spatial frame of reference for building and targeting science capacity that will support the Service and its partners in planning and designing conservation strategies at landscape scales. It also allows the Service to more precisely explain to partners, Congress, and the American public why, where, and how it targets conservation resources and how its science-based efforts connect to a greater whole. Currently, Upper Ouachita and Felsenthal NWRs fall into the Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative (GCPO LCC) (Table 1).

Table 1. Priority habitats and species of the West Gulf Coastal Plains Forest (GCPO LCC 2009)

Bottomland forest
Swainson’s warbler
Hooded warbler
Wood thrush
Prothonotary warbler
American woodcock
Mole salamander
Southeastern myotis
Rafinesque’s big-eared bat
Mesic Hardwood Forest
Cerulean warbler
Hooded warbler
Worm-eating warbler
Wood thrush
Kentucky warbler
Ringed salamander
Kiamichi slimy salamander

Rich Mountain salamander
Rich Mountain slitmouth snail
Southeastern myotis
Northern long-eared myotis
Pine forest
Brown-headed nuthatch
Canebrake rattlesnake
Louisiana black bear
Savanna
Longleaf pine savanna
Red-cockaded woodpecker
Louisiana pine snake
Bachman's sparrow

FELSENTHAL NWR COMPREHENSIVE CONSERVATION PLAN (USFWS 2010)

The comprehensive conservation plan (CCP) goals and objectives that support this proposed expansion for Felsenthal NWR are as follows (USFWS 2010):

Goal 1. Protect, maintain, enhance, and restore healthy and viable populations of migratory birds, resident wildlife, fish, and native plants, including all federal and state threatened and endangered species found within southern Arkansas in a manner that supports national and international treaties, plans, and initiatives.

Objective 1.1. Threatened and Endangered Species - Red Cockaded Woodpecker: Over the 15-year life of the CCP, continue to support threatened and endangered species through surveys, habitat management, research, and recovery.

Objective 1.6. Threatened and Endangered Species - Red Cockaded Woodpecker: Annually coordinate and collaborate with neighboring landowners to stabilize the RCW population in the geographic area.

Goal 2. Protect, maintain, enhance, and where appropriate, restore suitable habitat for the conservation and management of migratory birds, resident wildlife, fish, and native plants, including all federal and state threatened and endangered species endemic to the Complex.

Objective 2.1. Forest Management: Over the 15-year life of the CCP, manage 50,000 acres of forests to provide a diversity of native plant and animal species found in the Ouachita/Saline River Basin, to fulfill the mission and purposes of the refuge.

Objective 2.2. Forest Management - Red Cockaded Woodpecker: Over the 15-year life of the CCP, actively manage approximately 9,000 acres of pine stands for RCW habitat in accordance with the recovery plan.

UPPER OUACHITA NWR COMPREHENSIVE CONSERVATION PLAN (USFWS 2008)

The CCP goals and objectives that support this proposed expansion for Upper Ouachita NWR are as follows (USFWS 2008):

Goal A. Promote the conservation and management of migratory bird diversity, resident wildlife, and species of special concern in support of national, regional, and ecosystem habitat and population goals.

Objective A-23. Species of Special Concern: Support the Louisiana black bear recovery efforts and continue to provide habitat to support this species.

Goal B. Restore, enhance, manage, and maintain healthy bottomland hardwood and upland forests to support a natural diversity of plant and animal species and to foster the ecological integrity of the Lower Mississippi River Ecosystem.

Goal D. In collaboration with private landowners, LDWF, and other public and private organizations, strategically plan growth by connecting refuge lands or wetland management district units to provide wildlife benefits and conservation of archaeological resources and habitats where feasible for future and present generations.

C. PARTNERSHIP EFFORTS AND RELATED RESOURCES

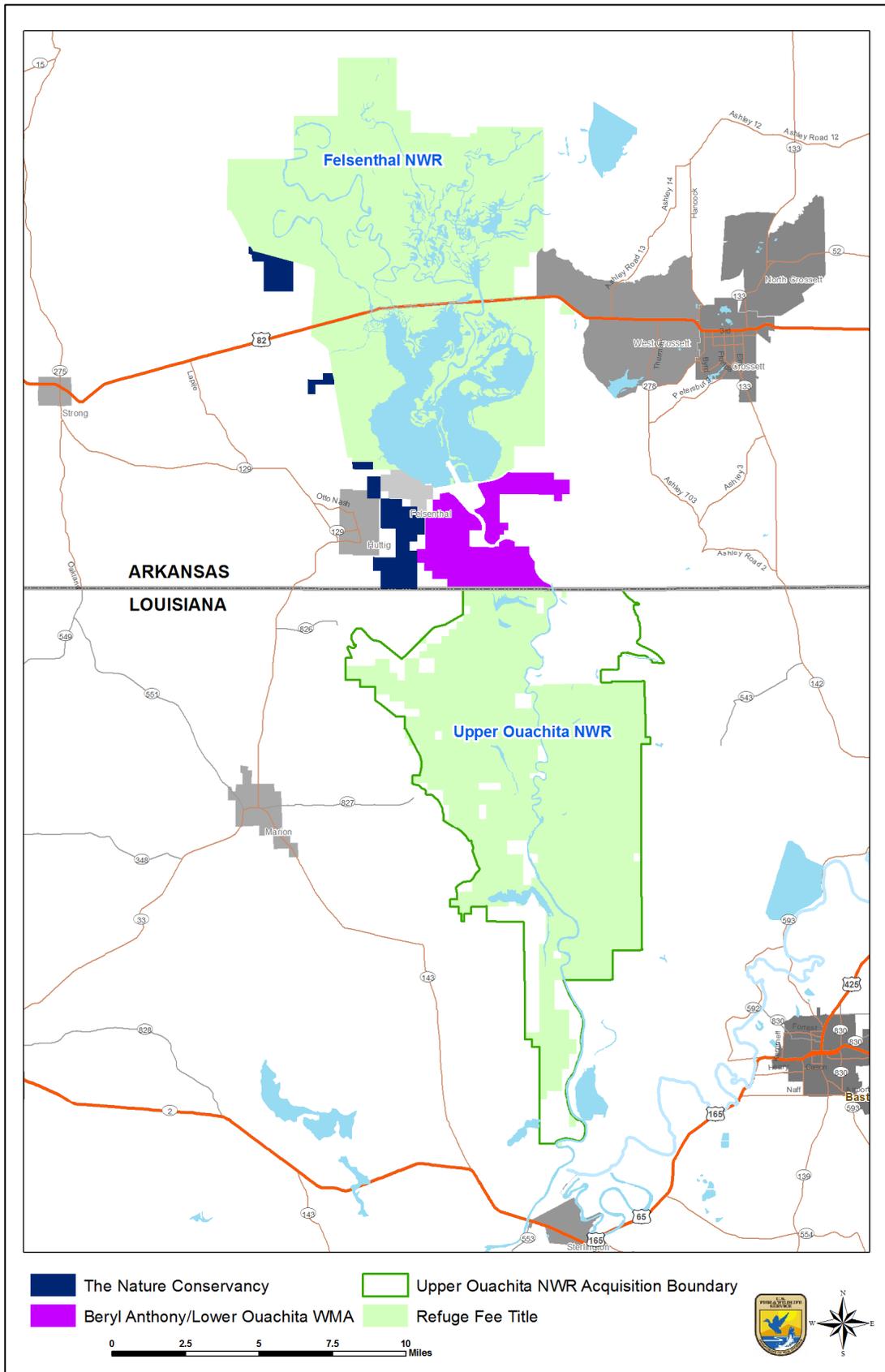
This proposal is a landscape planning effort that is part of the Department of the Interior's America's Great Outdoors initiative. Partners include:

- Fish and Wildlife Service of the U.S. Department of the Interior
- State of Arkansas – Arkansas Fish and Game Commission, Beryl Anthony Lower Ouachita WMA
- State of Louisiana – Louisiana Department of Wildlife and Fisheries
- The Nature Conservancy
- Ducks Unlimited
- Area landowners
- The general public
- Timber and investment landowners
- Private property owners and property rights organizations
- Developers and realtors
- News media
- Scientific and academic community

Within this proposed expansion area is the 7,000-acre Beryl Anthony Lower Ouachita Wildlife Management Area (WMA), which is administered by the Arkansas Game and Fish Commission. This WMA shares a common boundary across the entire southern end of Felsenthal NWR, and it also shares a common boundary with the north end of Upper Ouachita NWR. For practical purposes, the WMA is considered to be an “inholding” between the two refuges (Figure 3).

In addition, the 21 groups of RCWs located west of Felsenthal NWR are on land owned by The Nature Conservancy (Figure 3). The Arkansas Natural Heritage Commission has an agreement to manage the RCWs for 19 more years, or the remainder of the habitat conservation area term.

Figure 3. Related resources



III. Land Protection Strategy

A. ACTION AND OBJECTIVES

In determining how to achieve the fish and wildlife habitat protection goals for the project lands identified in this document, the Service considered and evaluated three alternatives. Alternative 2 is the Service's proposed alternative, because it better serves the outlined purposes and needs, as well as the stated goals, objectives, visions, and purposes of the two refuges. This proposal seeks to meet both present and future land conservation and resource protection needs for Upper Ouachita and Felsenthal NWRs. By protecting additional conservation lands critical to the management of refuge resources, it is tied to many of the goals and objectives (Chapter II) of the two refuges' comprehensive conservation plans (USFWS 2008; USFWS 2010).

B. LAND PROTECTION PRIORITIES

The Service's Proposed Action (Alternative 2) would result in the acquisition of up to 50,549 acres of wildlife habitat as an expansion of Upper Ouachita and Felsenthal NWRs, through a combination of fee-title purchases from willing sellers and less-than-fee-title purchases (e.g., conservation easements and cooperative agreements) from willing sellers. The Service believes these are the minimum interests necessary to conserve and protect the fish and wildlife resources in the proposed areas.

The private property has been prioritized for acquisition using the following criteria:

- Biological significance;
- Existing and potential threats;
- Significance of the area to refuge management and administration; and
- Existing commitments to purchase or protect land.

Three categories of land acquisition have been established, with the highest priority being the Priority I lands. A description of the lands within each of the three priority groups is given below. Table 2 summarizes the Service's land protection priorities and proposed methods of acquisition. Figure 4 shows the locations of the project areas and their respective priority groups.

PRIORITY GROUP I

The most important resources within this proposal are those lands between Felsenthal and Upper Ouachita NWRs (Figure 5). These lands, comprised of bottomland hardwood forests, would join the two refuges and protect both sides of the Ouachita River for approximately 58 miles. This area contains the Beryl Anthony Lower Ouachita WMA, owned by the State of Arkansas. At this time, the Arkansas Game and Fish Commission is interested in the Service having management rights on the WMA. The majority of acres in this group are owned by The Nature Conservancy, Potlatch Land and Lumber Company, Plum Creek Timber Company, and Ouachita ATP, LP.

Table 2. Land protection priorities for the proposed expansion and recommended methods of acquisition

Priority Group	Parcel ID #	Type of Landowners	Approximate Acreage	Methods of Acquisition (minimum interest)	Map Location
I	4	Private	50	Fee Title	Figure 5
	5,6,7	State Govt	7,416	MOU	Figure 5
	9	Private	1920	Fee Title	Figure 5
	14	Private	81	Fee Title	Figure 5
	15	Private	140	Fee Title	Figure 5
	17,18	Private	457	Fee Title	Figure 5
	22, 23, 24	Private	153	Fee Title	Figure 5
	34	Private	46	Fee Title	Figure 5
	36	Private	41	Fee Title	Figure 5
	37	Private	61	Fee Title	Figure 5
	39, 40, 41, 42, 43	Private	1,394	Fee Title	Figure 5
	47, 48, 49, 50, 51, 57	Private	894	Fee Title	Figure 5
	60,61,62,63,64,65, 66	Private	623	Fee Title	Figure 5
	72, 73	Private	108	Fee Title	Figure 5
	80	Private	44	Fee Title	Figure 5
	82,83,84	Non-profit Private	2,534	Fee Title	Figure 5
	89, 90, 91	Fed Govt	93	Fee Title	Figure 5
	1	Private	53	Fee Title	Figure 5
	92	Private	280	Fee Title	Figure 5
II	3	Private	163	Fee Title	Figure 6
	8	Private	20	Fee Title	Figure 6
	10	Private	154	Fee Title	Figure 6
	11	Private	247	Fee Title	Figure 6

Priority Group	Parcel ID #	Type of Landowners	Approximate Acreage	Methods of Acquisition (minimum interest)	Map Location
	16	Private	38	Fee Title	Figure 6
	19,20	Private	207	Fee Title	Figure 6
	35	Private	42	Fee Title	Figure 6
	44,45	Private	182	Fee Title	Figure 6
	46, 52,53,54,55,56	Private	4,222	Fee Title	Figure 6
	69	Private	46	Fee Title	Figure 6
	70,71	Private	690	Fee Title	Figure 6
	81	Private	81	Fee Title	Figure 6
	85, 86, 87, 88	Non-profit Private	1,037	Fee Title	Figure 6
	68	Private	43	Fee Title	Figure 6
	2	Private	56	Fee Title	Figure 6
	21,25,26,27,28,29, 30,31	Private	5,058	Fee Title	Figure 6
	32,33	Private	1,097	Fee Title	Figure 6
III	12	Private	680	Fee Title	Figure 7
	13	Private	37	Fee Title	Figure 7
	38	Private	398	Fee Title	Figure 7
	75	Private	42	Fee Title	Figure 7
	77	Private	318	Fee Title	Figure 7
	78,79	Private	520	Fee Title	Figure 7
	93	Private	38	Fee Title	Figure 7
	95,97	Private	1,598	Fee Title	Figure 8
	98	Private	162	Fee Title	Figure 8
	96	Private	16,500	Fee Title	Figure 8
	99	Private	229	Fee Title	Figure 8

PRIORITY GROUP II

This priority group includes those lands adjacent to the western and northwestern boundaries of Felsenthal NWR (Figure 6). The lands west of the refuge are upland pine forests that are home to 21 RCW groups. Most of this land is owned by The Nature Conservancy and Plum Creek Timber Company. The Nature Conservancy intends to sell its lands to the Service within the next three years. The lands northwest of the refuge are comprised of bottomland hardwood forests surrounding the Ouachita River as it enters Felsenthal NWR.

PRIORITY GROUP III

This priority group includes those lands on the northeastern boundary of Felsenthal NWR and the eastern boundary of Upper Ouachita NWR (Figures 7 and 8). The lands northeast of Felsenthal NWR consist of bottomland hardwoods surrounding the Saline River and pine forests. The lands to the east of Upper Ouachita NWR are mostly upland pine forests currently supporting 29 RCW groups.

With the above criteria in mind, the Service has configured its refuge boundaries for fee and easement areas. The Service reserves the right to be flexible with the detailed priority list above, because a number of factors also influence the priority of land protection, including the willing sellers and the availability of funding. In addition, the Service must be flexible in its methods and priorities of land protection to meet the needs of individual landowners.

C. LAND PROTECTION OPTIONS

The Service acquires lands and interests in lands, such as easements, and management rights in lands, such as leases or cooperative agreements, consistent with legislation or other congressional guidelines and executive orders, for the conservation of fish and wildlife and to provide wildlife-dependent public uses for recreational and educational purposes. These lands include national wildlife refuges, national fish hatcheries, research stations, and other areas.

The Service would use the following options to implement the LPP:

- Option 1: Management or land protection by others
- Option 2: Less-than-fee-title acquisition by the Service
- Option 3: Fee-title acquisition by the Service

When land is needed to achieve fish and wildlife conservation objectives, the Service seeks to acquire the minimum interest necessary to meet those objectives, and acquire it only from willing sellers. The Service's proposal includes a combination of Options 1, 2, and 3 above. The Service believes this approach offers a cost-effective way of providing the minimal level of protection needed to accomplish refuge objectives, while also attempting to meet the needs of local landowners.

Figure 4. Project area land acquisition priority groups

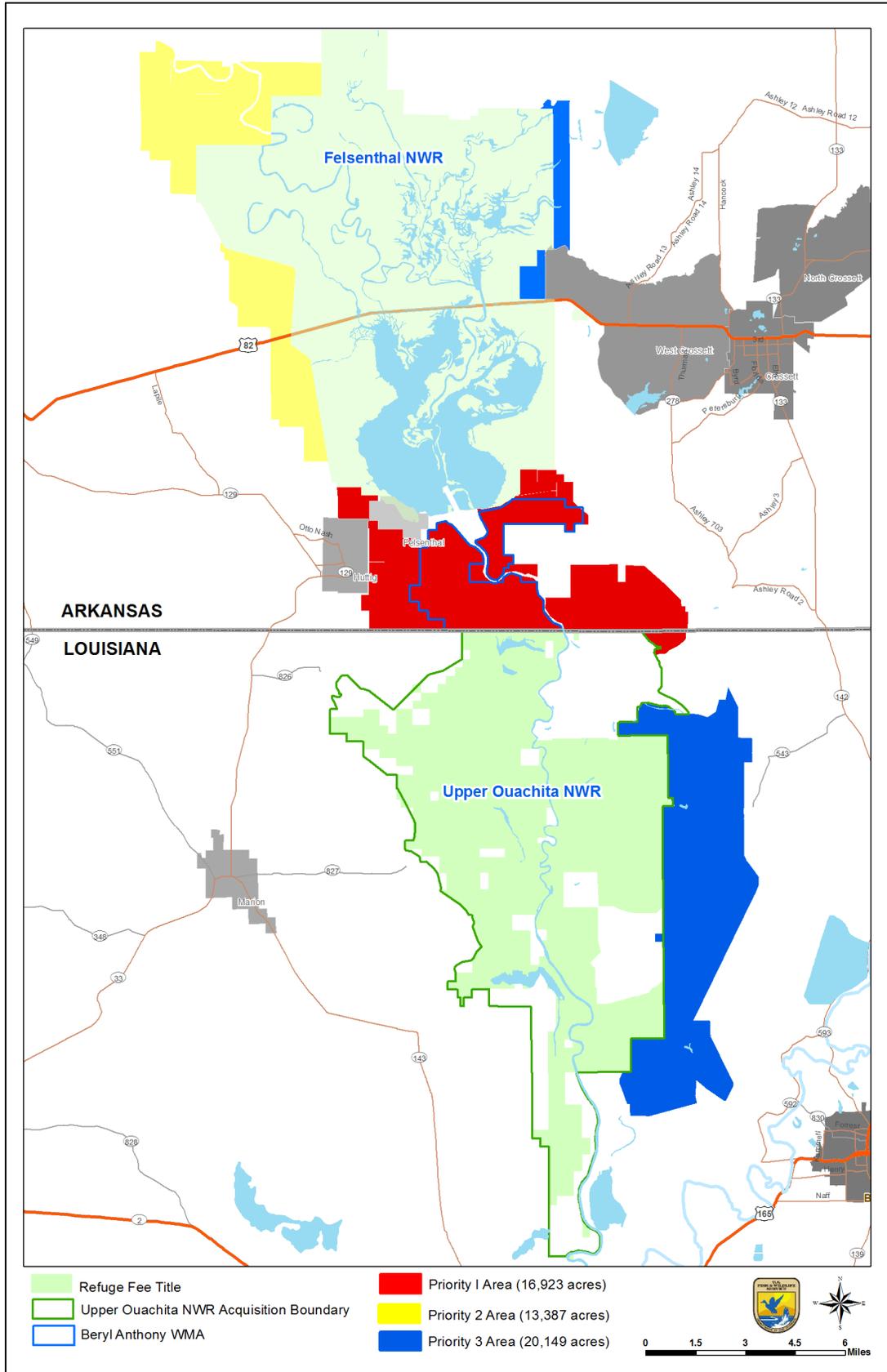


Figure 5. Landowner parcel map for Alternative 2 (Priority I Lands)

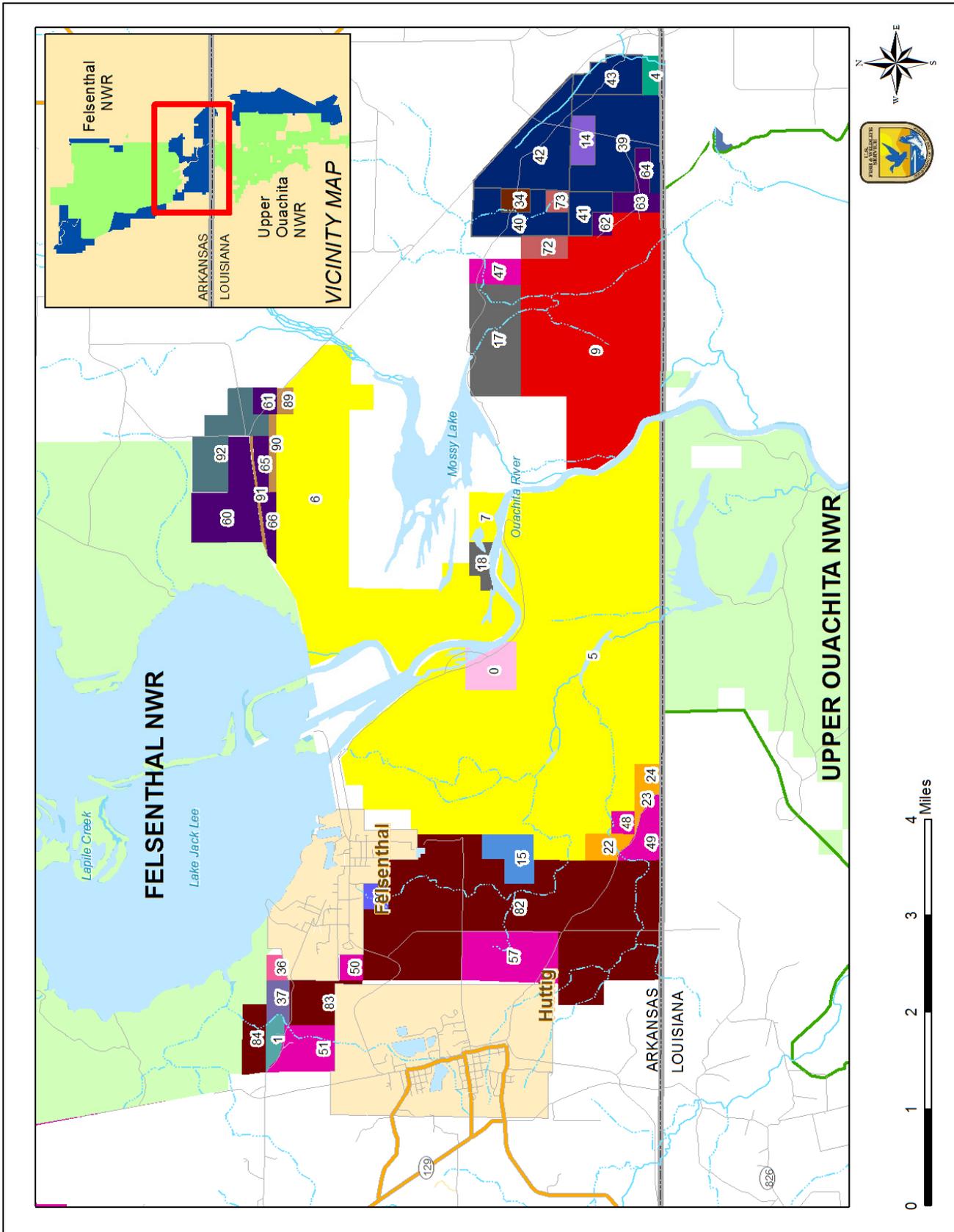


Figure 6. Landowner parcel map for Alternative 2 (Priority II Lands)

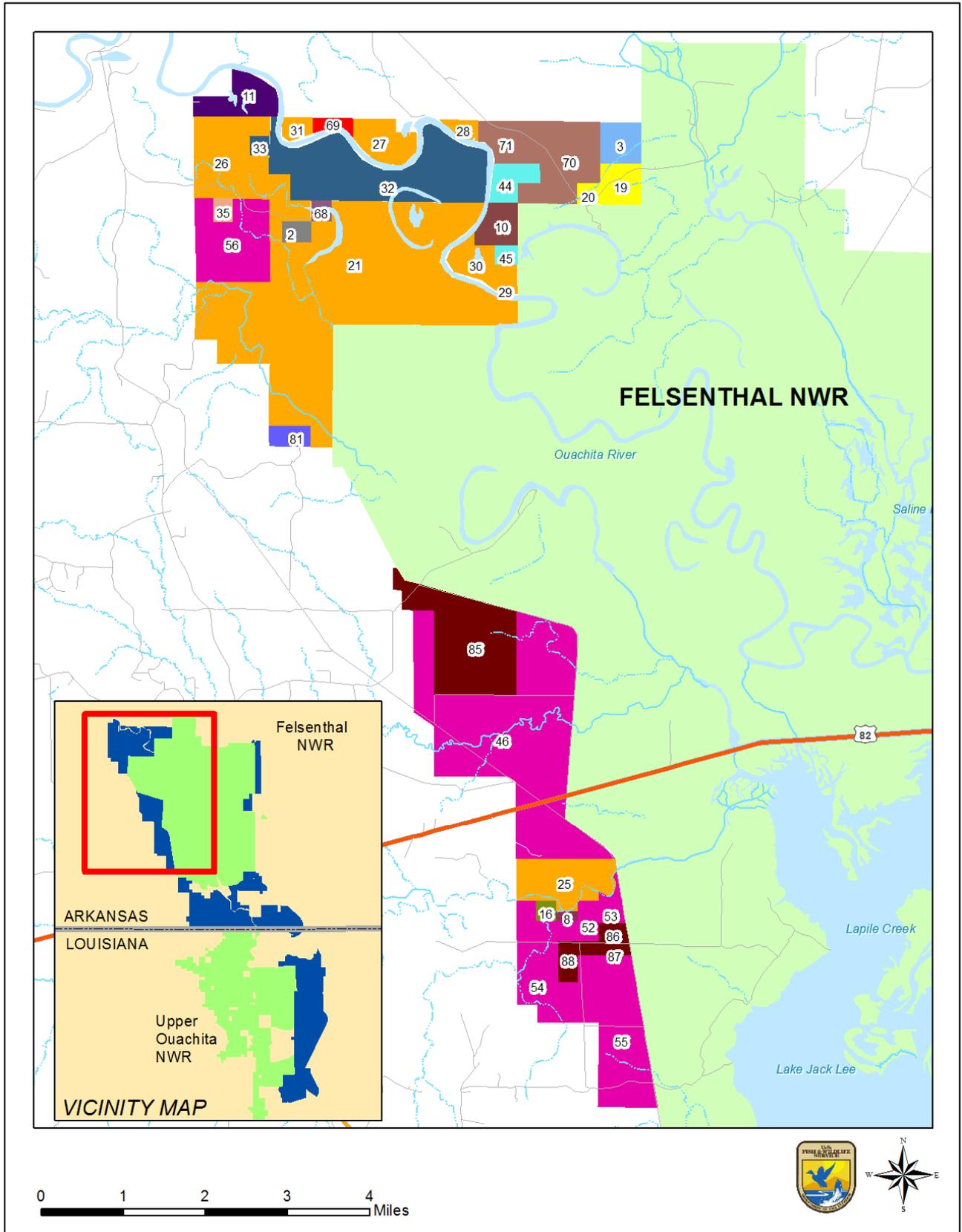


Figure 7. Landowner parcel map for Alternative 2 (Priority III Lands)

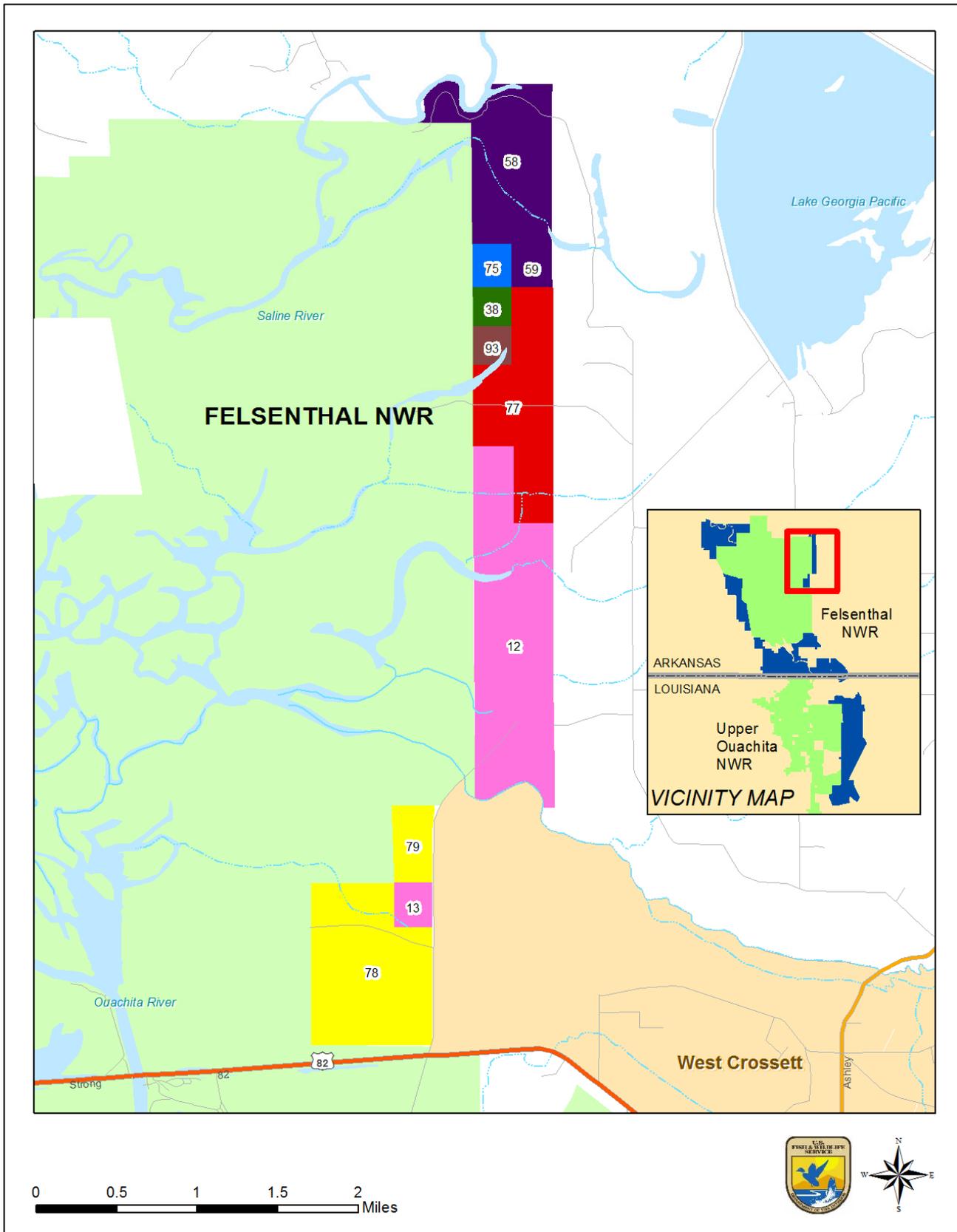
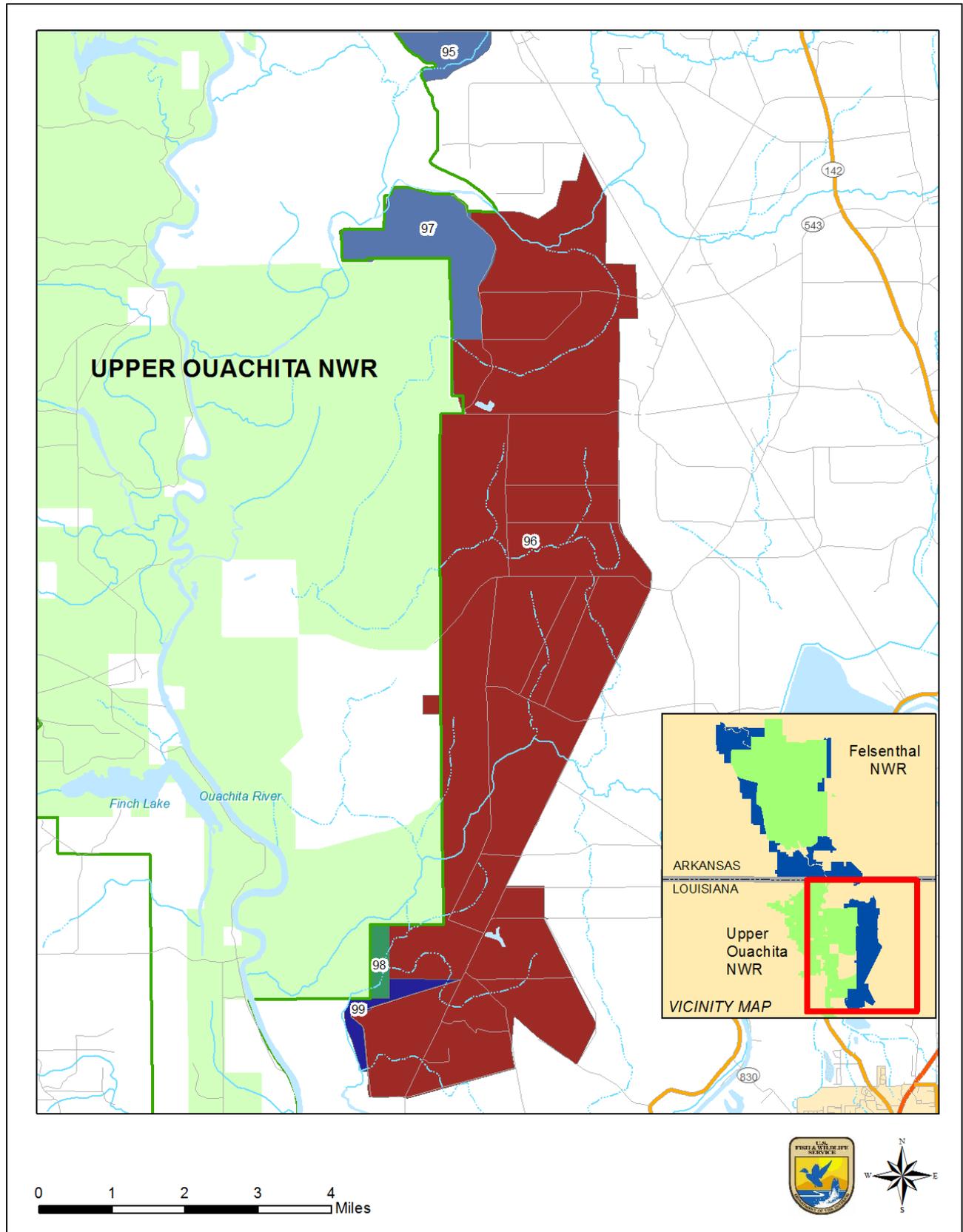


Figure 8. Landowner parcel map for Alternative 2 (Priority III Lands)



OPTION 1. MANAGEMENT OR LAND PROTECTION BY OTHERS

A great deal of land adjacent to and ecologically important to the proposed project is already owned by the Service's partners or managed by the partners through conservation easements. It should also be emphasized that the protection of this area fits well into a large landscape-scale wildlife and habitat corridor that is being pieced together in the area. This proposed project would serve as an important keystone in this conservation effort. The following partners both manage and own properties in the project area or have properties that are ecologically associated with the project area:

- National Wildlife Refuge Association
- The Nature Conservancy
- State of Louisiana - Louisiana Department of Wildlife and Fisheries
- State of Arkansas - Arkansas Game and Fish Commission, Beryl Anthony WMA
- U.S. Department of Agriculture - Natural Resources Conservation Service
- U.S. Department of the Interior - Fish and Wildlife Service
- Area landowners
- General public

OPTION 2. LESS-THAN-FEE-TITLE ACQUISITION BY THE SERVICE

Under Option 2, the Service would protect and manage land by purchasing only a partial interest, typically in the form of a conservation easement. This option leaves the parcel in private ownership, while allowing Service control over the land use in a way that enables the Service to meet its goals for the parcel, or that provides adequate protection for important adjoining parcels and habitats. The structure of such easements would provide permanent protection of existing wildlife habitats, while also allowing habitat management or improvements and access to sensitive habitats, such as for endangered species or migratory birds. It also would allow for public use where appropriate. The Service would determine, on a case-by-case basis, and negotiate with each landowner, the extent of the rights it would be interested in purchasing. Those rights may vary, depending on the configuration and location of the parcel, the current extent of development, the nature of wildlife activities in the immediate vicinity, the needs of the landowner, and other considerations.

In general, any less-than-fee-title acquisition would maintain the land in its current configuration, with no further subdivision. Easements are a property right, and typically are perpetual. If a landowner later sells the property, the easement continues as part of the title. Properties subject to easements generally remain on the tax rolls, although the change in market value may reduce the assessment. The Service does not pay refuge revenue-sharing payments on easement rights. Where the Service identifies conservation easements, it would be interested primarily in purchasing development and some wildlife management rights. Easements are best when:

- Only minimal management of the resource is needed, but there is a desire to ensure the continuation of current undeveloped uses and to prevent fragmentation over the long-term and in places where the management objective is to allow vegetative succession;
- A landowner is interested in maintaining ownership of the land, does not want it to be further developed, and would like to realize the benefits of selling development rights;
- Current land use regulations limit the potential for adverse management practices;
- The protection strategy calls for the creation and maintenance of a watershed protection area that can be accommodated with passive management; or
- Only a portion of the parcel contains lands of interest to the Service.

The determination of value for purchasing a conservation easement involves an appraisal of the rights to be purchased, based on recent market conditions and structure in the area. The Land Protection Methods section (see D below) further describes the conditions and structure of easements.

OPTION 3. FEE-TITLE ACQUISITION BY THE SERVICE

Under Option 3, the Service would acquire parcels in fee title from willing sellers, thereby purchasing all rights of ownership. This option provides the Service with the most flexibility in managing priority lands, and ensuring the protection in perpetuity of nationally significant trust resources.

Generally, the lands the Service would purchase require more than passive management (e.g., controlling invasive species, mowing or prescribed burning, planting, or managing for the six priority public uses). The Service only proposes fee-title acquisition when adequate land protection is not assured under other ownerships, active land management is required, or the Service determines the current landowner would be unwilling to sell a partial interest like a conservation easement.

In some cases, it may become necessary to convert a previously acquired conservation easement to fee-title acquisition: for example, when an owner is interested in selling the remainder of interest in the land on which the Service has acquired an easement. The Service would evaluate that need on a case-by-case basis.

D. LAND PROTECTION METHODS

The Service may use several methods of acquiring either a full or a partial interest in the parcels identified for land protection: (1) Purchase (e.g., complete title, or a partial interest like a conservation easement); (2) leases and cooperative agreements; (3) donations; and (4) exchanges.

PURCHASE

For most of the tracts in the boundary, the proposed method is listed as fee-title purchase or easement purchase; however, the method the Service ultimately uses depends partly on a landowner's wishes.

Fee-Title Purchase

A fee-title interest is normally acquired when: (1) The area's fish and wildlife resources require permanent protection not otherwise assured; (2) land is needed for visitor use development; (3) a pending land use could adversely impact the area's resources; or (4) it is the most practical and economical way to assemble small tracts into a manageable unit.

Fee-title purchase conveys all ownership rights to the Federal Government and provides the best assurance of permanent resource protection. A fee-title interest may be acquired by donation, exchange, transfer, or purchase (as the availability of funding allows).

Easement Purchase

Easement purchase refers to the purchase of limited rights (less-than-fee-title) from an interested landowner. The landowner would retain ownership of the land, but would sell certain rights identified and agreed upon by both parties. The objectives and conditions of the Service's proposed conservation easements would recognize lands for their importance to wildlife habitat or outdoor recreational activities, and any other qualities that recommend them for addition to the

National Wildlife Refuge System. Land uses that are normally restricted under the terms of a conservation easement include:

- Development rights (agricultural, residential);
- Alteration of the area's natural topography;
- Uses adversely affecting the area's floral and faunal communities;
- Private hunting and fishing leases;
- Excessive public access and use; and
- Alteration of the natural water regime.

LEASES AND COOPERATIVE AGREEMENTS

Potentially, the Service can protect and manage habitat through leases and cooperative agreements. Management control on privately owned lands could be obtained by entering into long-term, renewable leases or cooperative agreements with the landowners. Short-term leases can be used to protect or manage habitat until more secure land protection can be negotiated.

DONATIONS

The Service encourages donations in fee title or conservation easement in the approved areas. The Service is not aware currently of any formal opportunities to accept donations of parcels in the proposed land protection boundary.

EXCHANGES

The Service has the authority to exchange land currently in Service ownership for other land that has greater habitat and/or wildlife value. Inherent in this concept is the requirement to get a dollar-for-dollar value, with occasionally an equalization payment. Exchanges are attractive, because they usually do not increase federal land holdings or require purchase funds; however, they also may be very labor-intensive and take a long time to complete.

E. SERVICE LAND ACQUISITION POLICY

Once a land protection (refuge acquisition) boundary has been approved the Service contacts neighboring landowners to determine whether any are interested in selling. If a landowner expresses an interest and gives permission to the Service, a real estate appraiser will appraise the property to determine its market value. Once an appraisal has been approved, the Service can present an offer for the landowner's consideration.

Appraisals conducted by the Service or contract appraisers must meet federal as well as professional appraisal standards. In all fee-title acquisition cases, the Service is required by federal law to offer 100 percent of the property's appraised market value, which is typically based on comparable sales of similar types of properties.

The Service bases the proposed land protection (refuge acquisition) boundary on the biological importance of key habitats. The establishment or expansion of this boundary gives the Service the approval to negotiate with landowners who may be interested or may become interested in selling their land in the future. With this internal approval in place, the Service can react more quickly as important lands become available. The Service's long-established policy is to work with willing sellers as funds

become available, and the Service continues to operate under that policy. Lands within this boundary do not become part of the refuge unless their owners willingly sell or donate them to the Service.

F. FUNDING

Funding for land acquisition would likely come from the Land and Water Conservation Fund and from partners. Funds could be provided through the Land and Water Conservation Fund (LWCF), Migratory Bird Conservation Fund (MBCF), and non-governmental partners.

The MBCF and LWCF are not derived from traditional tax revenues. The MBCF is collected from the sale of federal duck stamps, entrance fees from certain national wildlife refuges, and import duties on arms and ammunition. The LWCF is derived from the sale of offshore oil leases. Both the MBCF and LWCF are intended for land conservation and may be used to purchase the land and/or permanent conservation easements.

IV. Coordination

AGENCY COORDINATION

Letters were sent to inform state, federal, and local agencies, as well as tribal governments and conservation organizations, of the Service's refuge expansion proposal; no unfavorable responses were received.

Two public scoping meetings were held, one in Arkansas and one in Louisiana. The meeting sites were the Economic Development Commission in Crossett, Arkansas, and the Visitor Center in Bastrop, Louisiana. The meetings were held on July 6 and 7, 2011, respectively. There were approximately 35 citizens in attendance at the Arkansas meeting and 15 in attendance at the Louisiana meeting. Initial public reaction to the proposed refuge expansion has been generally favorable. Many comments were directed towards wanting to expand the refuges to areas not initially delineated in the planning process. The Nature Conservancy, the Jena Band of Choctaw Indians, and the Mayor of Warren, Arkansas, were all in support of the expansion proposal.

During the two public scoping meetings, support for the proposed expansion was expressed and several landowners indicated that they would be willing sellers. Some questions and concerns were raised by individuals regarding property taxes; where the money to purchase lands would come from; the more restrictive hunting seasons or regulations on refuges than those on private or state lands; how the Corps of Engineers manages the Ouachita River; and concern about whether the Service would buy or take land from unwilling sellers.

STRATEGIC HABITAT CONSERVATION AND LANDSCAPE CONSERVATION COOPERATIVES

Strategic habitat conservation (SHC) is a means of applying adaptive management across large landscapes. Landscape conservation cooperatives (LCCs) would facilitate SHC (USFWS 2008). This proposed expansion would apply the SHC framework as outlined in the National Ecological Assessment Team report. SHC involves an ongoing cycle of biological planning, conservation design, conservation delivery, outcome-based monitoring, and assumption-based research. It is also the process by which the Service continues to develop and apply science focused on improving the ability to apply conservation delivery actions that result in landscapes capable of supporting populations of priority species at desired levels. Additionally, SHC provides the framework by which the Service develops and applies science to inform and continually improve conservation delivery by addressing landscape-level population limiting factors in an adaptive manner.

The Service uses LCCs as a means of implementing SHC. LCCs will be formal science and management partnerships between the Service, U.S. Geological Survey, other federal agencies, states, tribes, non-governmental organizations, universities, and others to increase applied conservation science capacity in support of fish and wildlife management within specific landscapes. The tools developed by the LCCs will allow Service offices, and many partners, to implement on-the-ground actions in the most effective locations to meet their goals. Upper Ouachita and Felsenthal NWRs are located in the Gulf Coastal Plains and Ozarks LCC, which is in the process of being developed.

DRAFT ENVIRONMENTAL ASSESSMENT

I. Purpose and Need for Action

A. INTRODUCTION

The Service proposes to acquire, protect, and manage certain bottomland hardwood forests and upland pine forests in Union, Bradley, and Ashley Counties, Arkansas, and Morehouse Parish, Louisiana, as additions to the Felsenthal and Upper Ouachita NWRs.

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Improvement Act of 1997). National wildlife refuges provide important habitat for native plants and many species of mammals, birds, fish, insects, amphibians, and reptiles. They also play a vital role in conserving threatened and endangered species. Refuges offer a wide variety of wildlife-dependent recreational opportunities and many have visitor centers, wildlife trails, and environmental education programs. Nationwide, about 25 million visitors annually hunt, fish, observe and photograph wildlife, or participate in educational and interpretive activities on refuges.

The proposed action to expand the boundaries of Felsenthal and Upper Ouachita NWRs—as described in this Draft EA and detailed in the Draft LPP—would support the mission of the National Wildlife Refuge System. The scope of this Draft EA is limited to the proposed acquisition of lands for the expansion of Felsenthal and Upper Ouachita NWRs. The lands proposed for acquisition in Arkansas would be administered by Felsenthal NWR, and those proposed for acquisition in Louisiana would be administered by Upper Ouachita NWR. This Draft EA is not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. Both Upper Ouachita NWR and Felsenthal NWR have approved comprehensive conservation plans (USFWS 2008 and USFWS 2010, respectively) that would dictate the management of the proposed lands, if they are acquired.

Public uses on the proposed areas would include those approved under the two refuges’ existing compatibility determinations. Felsenthal NWR has approved compatibility determinations for hunting; fishing; wildlife observation; wildlife photography; environmental education and interpretation; bicycling; boating; swimming; beach use; hiking/backpacking; horseback riding; furbearer trapping; forest management; firewood cutting; dog field trials; commercial fishing; camping; berry picking; all-terrain vehicle use; and power boating. Upper Ouachita NWR has approved compatibility determinations for hunting; fishing; wildlife observation; wildlife photography; environmental education; interpretation; bicycling; hiking; walking; jogging; boating; all-terrain vehicles; field trials; plant gathering; timber harvest; and firewood cutting. If the refuges are expanded and the needed lands or interests in lands are acquired, the Service would modify both of the refuges’ current step-down management plans to incorporate the new lands and resources under their control. At that time, these modified refuge management plans would be reviewed in accordance with the Departmental requirements of the National Environmental Policy Act.

B. PURPOSE AND NEED

This Draft EA presents a proposal for the protection of additional fish and wildlife habitats in Union, Bradley, and Ashley Counties, Arkansas, and Morehouse Parish, Louisiana, through the expansion of the Felsenthal and Upper Ouachita NWRs. This proposal would expand the acquisition boundaries for both refuges by up to 50,459 acres.

Acquisition boundaries are administrative lines delineating areas in which the Service may consider negotiations with willing owners for acquisition of an interest in land. Lands within a refuge acquisition boundary do not become part of the refuge unless and until a legal interest is acquired through a management agreement, easement, lease, donation, or purchase. Lands within an acquisition boundary are not subject to any refuge regulations or jurisdiction unless and until an interest is acquired. Land interests are acquired from willing sellers only. Any landowner that has land within an approved acquisition boundary, even though the surrounding parcels may have been purchased by the Service, retains all the rights, privileges, and responsibilities of private land ownership. This includes, but is not limited to, the right to access, hunting, vehicle use, and control of trespass; the right to sell the property to any other party; and the responsibility to pay local real estate or property taxes.

The purpose of the proposed expansion would be to contribute to the mission and goals of the National Wildlife Refuge System through the following actions:

- Conducting landscape-scale SHC necessary to conserve the important resources found in the Ouachita River watershed through partnerships.
- Protecting and enhancing habitats for federal trust species and species of management concern, with special emphasis on species listed under the Endangered Species Act, along with the protection of state-listed species.
- Protecting and enhancing habitat corridors and implementing other wildlife adaptation strategies to help buffer the impacts of global climate change.
- Providing opportunities for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.
- Protecting historic properties; facilitating archaeological and historical investigations regarding human occupation, land use, and paleoecology; and interpreting the region's history and culture.

Within approved acquisition boundaries, the Service would be able to enter into negotiations for the protection of environmentally sensitive lands. The most urgent needs for acquiring an interest in these lands are as follows:

- Protect contiguous bottomland hardwood forests adjacent to the Ouachita River.
- Protect lands between both national wildlife refuges to increase core habitat for neotropical migratory songbirds, wintering waterfowl, and black bears.
- Protect existing and potential habitat for the federally listed (endangered) RCW.
- Protect existing and potential habitat for the federally listed (threatened) Louisiana black bear.

C. BACKGROUND

Felsenthal NWR was authorized by Congress as mitigation for the Ouachita-Black Rivers Navigation Project. Its establishment occurred with the fee-title transfer of 65,000 acres from the Corps of Engineers (by direct authority granted in the navigation project legislation) to the Service in 1975 (Figure 9).

Upper Ouachita NWR was established in 1978, when 20,834 acres were purchased under the authority of the Migratory Bird Conservation Act of 1929, as amended, and the Wetlands Extension Act of 1976. In 1997 and 1998, an additional 16,191 acres were purchased east of the Ouachita River, known as the Mollicy Unit, under the Migratory Bird Conservation Act of 1929. Between 1997 and 2004, the Service acquired about 4,939 acres of upland pine forests from the Nature Conservancy of Louisiana. In 2011, the Service purchased approximately 4,000 acres of bottomland hardwood forests from The Conservation Fund. Currently, the fee-title lands for Upper Ouachita NWR cover 46,594 acres (Figure 9). The refuge's current acquisition boundary encompasses 57,633 acres and includes the area to the north of the Mollicy Unit, all inholdings, and areas west and south of the refuge on the west side of the Ouachita River.

D. PROPOSED ACTION

The proposed expansion of Felsenthal NWR would occur to the south, west, northeast, and northwest of the refuge in Bradley, Union, and Ashley Counties, Arkansas (Figure 10). These proposed lands include 22,350 acres of bottomland hardwood forests and 9,620 acres of upland pine forests. The bottomland hardwood forests provide habitat for black bears, wintering waterfowl, wading birds, bald eagles, and neotropical migratory songbirds. The upland pine forests currently provide habitat for 21 family groups of RCWs.

The proposed expansion of Upper Ouachita NWR would occur to the east of the refuge in Morehouse Parish, Louisiana (Figure 10). This proposed expansion would include 4,330 acres of bottomland hardwood forests and 14,159 acres of upland pine forests. The bottomland hardwood forests provide habitat for the threatened Louisiana black bear, wintering waterfowl, wading birds, bald eagles, and neotropical migratory songbirds. The upland pine forests currently provide habitat for 29 family groups of RCWs, the highest density population in north Louisiana.

The Service proposes to acquire, protect, and manage these proposed lands through fee-title purchases, leases, conservation easements, and/or cooperative agreements from willing sellers. All lands and waters acquired in Arkansas would be managed by the Service as part of Felsenthal NWR, and all lands and waters acquired in Louisiana would be managed by the Service as part of Upper Ouachita NWR. The objectives of the proposed expansion would be to:

- Protect contiguous bottomland hardwood forests adjacent to the Ouachita River;
- Protect lands between both national wildlife refuges to increase core habitat for neotropical migratory songbirds, wintering waterfowl, and black bears;
- Protect existing and potential habitat for RCWs; and
- Protect existing and potential habitat for the threatened Louisiana black bear.

Figure 9. Location of Felsenthal and Upper Ouachita NWRs

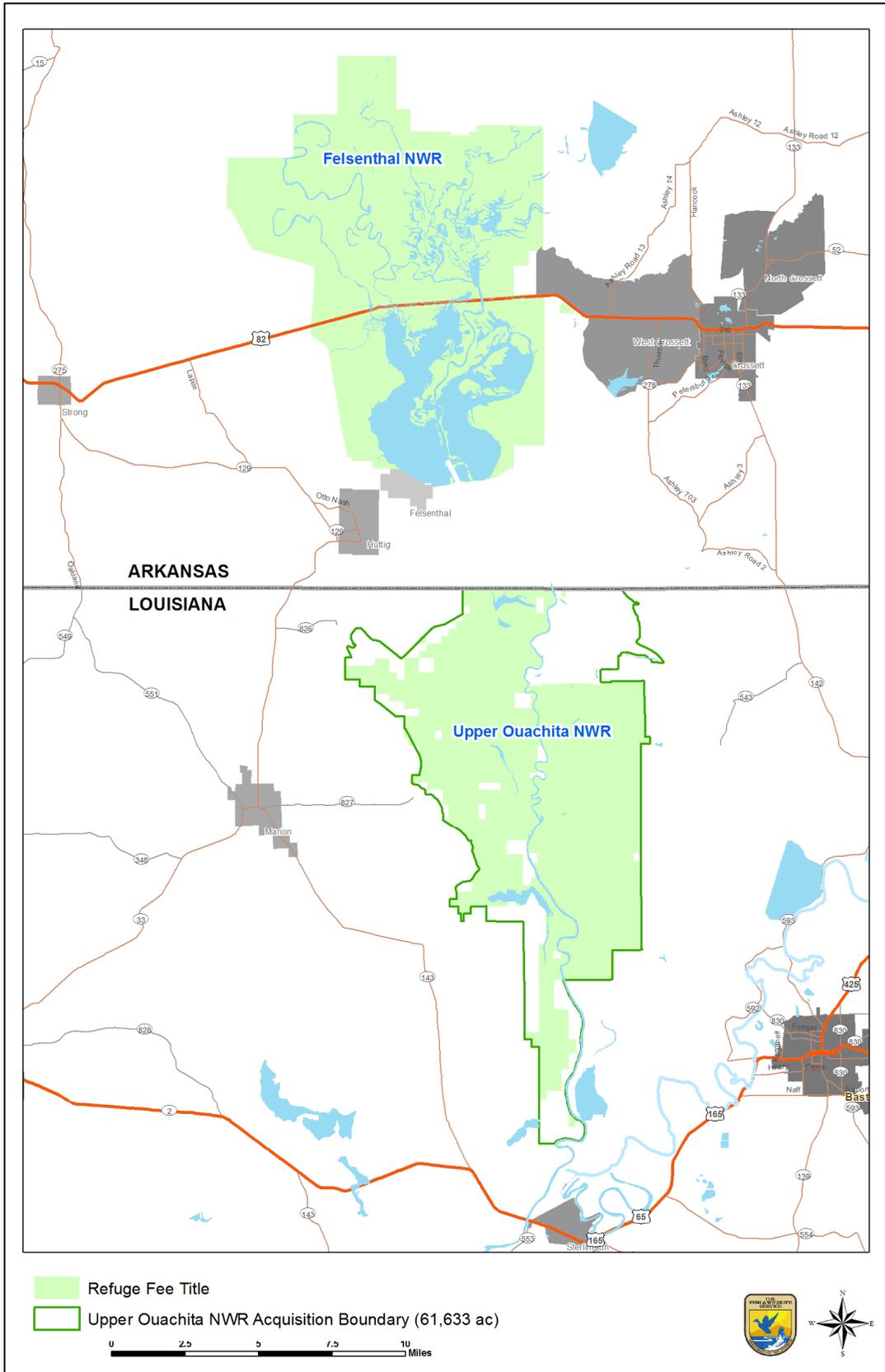
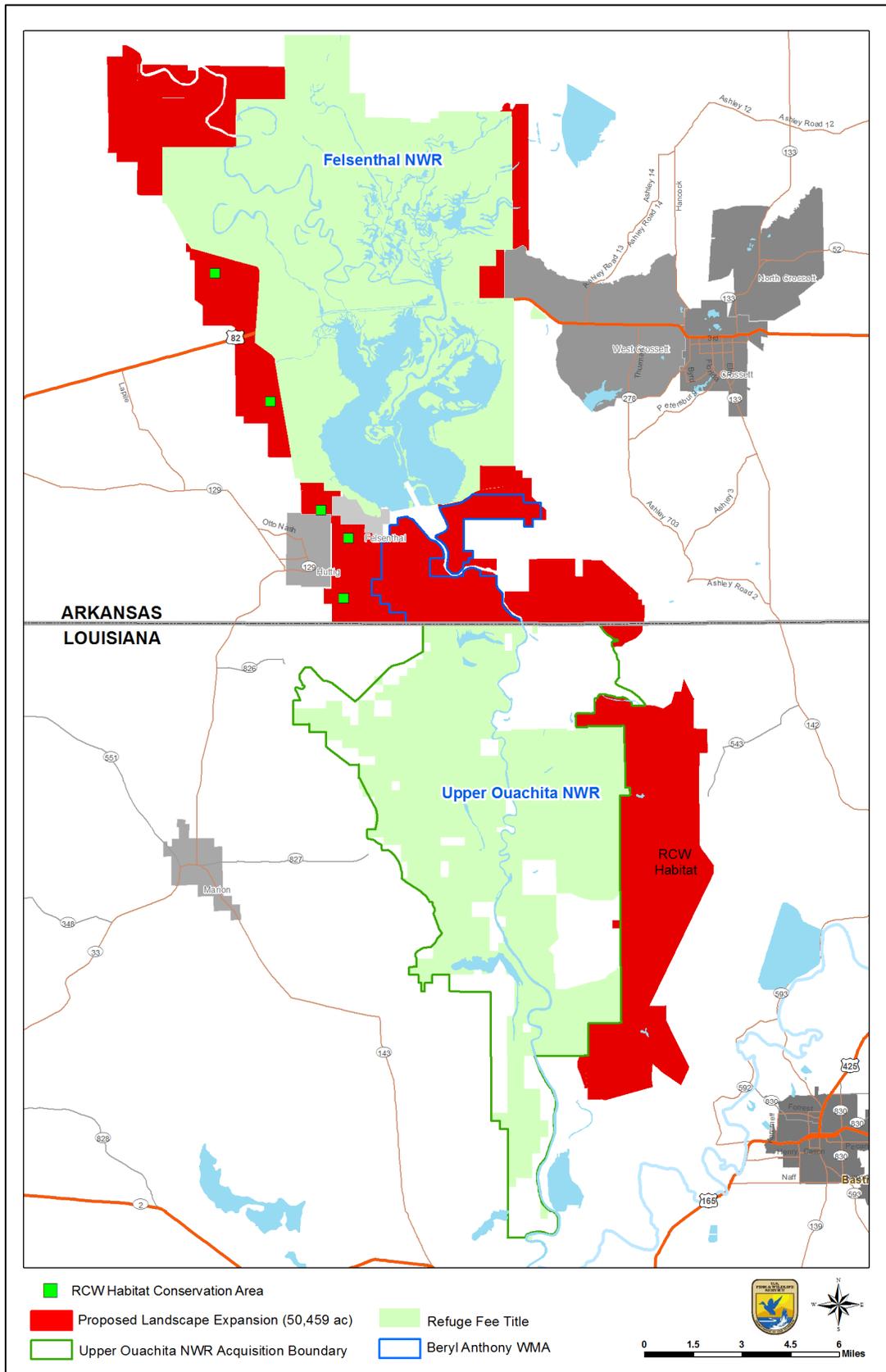


Figure 10. Proposed expansion lands, Felsenthal and Upper Ouachita NWRs



It is anticipated that funding for this proposal would be provided through the Migratory Bird Conservation Fund or the Land and Water Conservation Fund, and a Land for Timber Exchange. The authority for the use of these funds for land acquisition is the Emergency Wetlands Resources Act of 1986 and the Migratory Bird Conservation Act of 1929.

E. COORDINATION AND CONSULTATION

The Service has consulted and coordinated the development of this proposal with the Arkansas Game and Fish Commission, Louisiana Department of Wildlife and Fisheries, the Public Land Trust, and Plum Creek Timber Company.

Letters were sent to inform state, federal, tribal, and local agencies and conservation organizations of the Service's refuge expansion proposal. No negative responses were received.

The Service held two public scoping meetings, one at the Economic Development Commission in Crossett, Arkansas, on July 6, 2011, and the other at the Visitor Center in Bastrop, Louisiana, on July 7, 2011. There were approximately 35 citizens in attendance at the Arkansas meeting and 15 in attendance at the Louisiana meeting.

The Service received a total of 26 comments on the proposed expansion from the public scoping meetings. Initial public reaction to the proposed expansion of both refuges has been generally favorable. Many comments were directed towards wanting to expand the refuges to areas not initially delineated in the planning process. The Nature Conservancy, the Jena Band of Choctaw Indians, and the Mayor of Warren, Arkansas, were all in support of the expansion proposal.

During the two public meetings, support for the proposed expansion was expressed and several landowners indicated that they would be willing sellers. Some questions and concerns were raised by individuals regarding property taxes; where the money to purchase the proposed lands would come from; the more restrictive hunting seasons or regulations on refuges than those on private or state lands; buying up land where individuals have hunting leases; how the Corps of Engineers manages the Ouachita River; whether the acquisition of lands would affect the operation and maintenance of the Ouachita River Navigation Project in Arkansas and Louisiana; whether the Service is coordinating with the Corps of Engineers; whether the appraisal of lands would devalue the property due to RCW management; and concern that the Service would buy or take land from unwilling sellers.

II. Affected Environment

This chapter describes the environment that would be affected by the implementation of any of the alternatives. It is organized under the following impact topics, which include physical resources, habitat and land use, fish and wildlife resources, related resources, climate change, socioeconomic and sociocultural conditions, and cultural resources.

A. PHYSICAL RESOURCES

The affected environment includes 23,779 acres of upland pine and mixed pine-hardwoods and 26,680 acres of bottomland hardwood forests. These acreages are located in southern Arkansas and northern Louisiana adjacent to Upper Ouachita and Felsenthal NWRs, which lie within the Gulf Coastal Plains and Ozarks (GCPO) Landscape Conservation Cooperative (LCC).

CLIMATE

The climate of the project area is typical of northern Louisiana and southern Arkansas in that it is largely determined by the large land mass to the north, the subtropical latitude, and the Gulf of Mexico to the south. Prevalent winds are from the south or southeast. Summer weather is predictable, with regular thundershowers that develop rapidly. Occasionally, periods of hot, dry weather may interrupt the normally moist summer conditions. During late summer and fall, hurricanes and tropical storms may move across coastal Louisiana. Such occurrences may produce unusually heavy rainfall in the project area, and, at times, bring damaging winds. Fall, winter, and spring weather is more variable, with cold polar continental air alternately replacing the warmer humid subtropical air. Large cyclonic winter storms usually track north of the project area. Occasionally, when these storms track farther south, ice storms, heavy rains, sleet, or even snow may result.

Temperatures normally range between 20°F to 70°F during the winter and 70°F to 95°F during the summer. The average annual growing season is 237 days. Mean annual precipitation is 49.6 inches. Thirty percent of the total occurs in the wettest months of February through April, and 15.7 percent in the driest months of August through October. Snowfall and ice storms are uncommon occurrences.

TOPOGRAPHY AND HYDROLOGY

The majority of proposed lands is within the Lower Ouachita-Bayou de L'Outre watershed. The central physical feature of the area is the Ouachita River and includes an extensive system of bayous, sloughs, and lakes separated by woodlands and cleared bottomlands.

The Ouachita River originates in the Ouachita Mountains of west-central Arkansas, near the Oklahoma border. It flows south through northeastern Louisiana, drains into the Little River at Jonesville, Louisiana, and joins the Tensas River to form the Black River, which empties into the Red River. The drainage basin in Arkansas is mostly forested, resulting in extremely high-quality water when it flows through Louisiana, even during flood periods. A series of three major reservoirs are located on the Ouachita River in Arkansas. The Corps of Engineers operates a lock and dam at Felsenthal, Arkansas, approximately two river miles north of the state line. The combined effects of the dams on the river exert considerable influence on river stages. In northern Louisiana, the Ouachita River is a slow-moving, muddy river that averages 300 feet wide when at pool stage. The normal low-water (pool stage) elevation of the Ouachita River in northern Louisiana during the dry summer months is 52.4 feet above mean sea level (MSL), a level

maintained by a navigational lock and dam at the town of Columbia, approximately 98 river miles downstream from Upper Ouachita NWR. At Felsenthal NWR in southern Arkansas, the normal low-water (pool stage) elevation of the Ouachita River during the dry summer months is 65.0 feet above MSL, again a level maintained by the system of locks and dams on the river. The lock and dam controlling the pool stages at Felsenthal NWR is in the town of Felsenthal, which lies on the south boundary of the refuge. Bottomland hardwood forests within the proposed lands can flood when the Ouachita River rises. The duration of flooding during the growing season varies from one to five months. Flooding may begin as early as November, but in some years it may not occur until January or February. Floodwaters may persist until July, but usually recede in June. Thus, the flood season basically occurs January through June. The highest elevation on the proposed lands is approximately 120 feet above MSL.

A small percentage of the proposed expansion area to the northeast of Felsenthal NWR is in the Lower Saline watershed. The Saline River is about 204 stream miles long and is a tributary to the Ouachita River. It is the last free-flowing river in the Ouachita drainage basin. It originates in the Ouachita Mountains in central Arkansas and flows southward until it joins the Ouachita River at Felsenthal NWR, forming a delta-type bayou. The Saline River basin covers approximately 3,350 square miles of drainage area.

B. HABITAT AND LAND USE

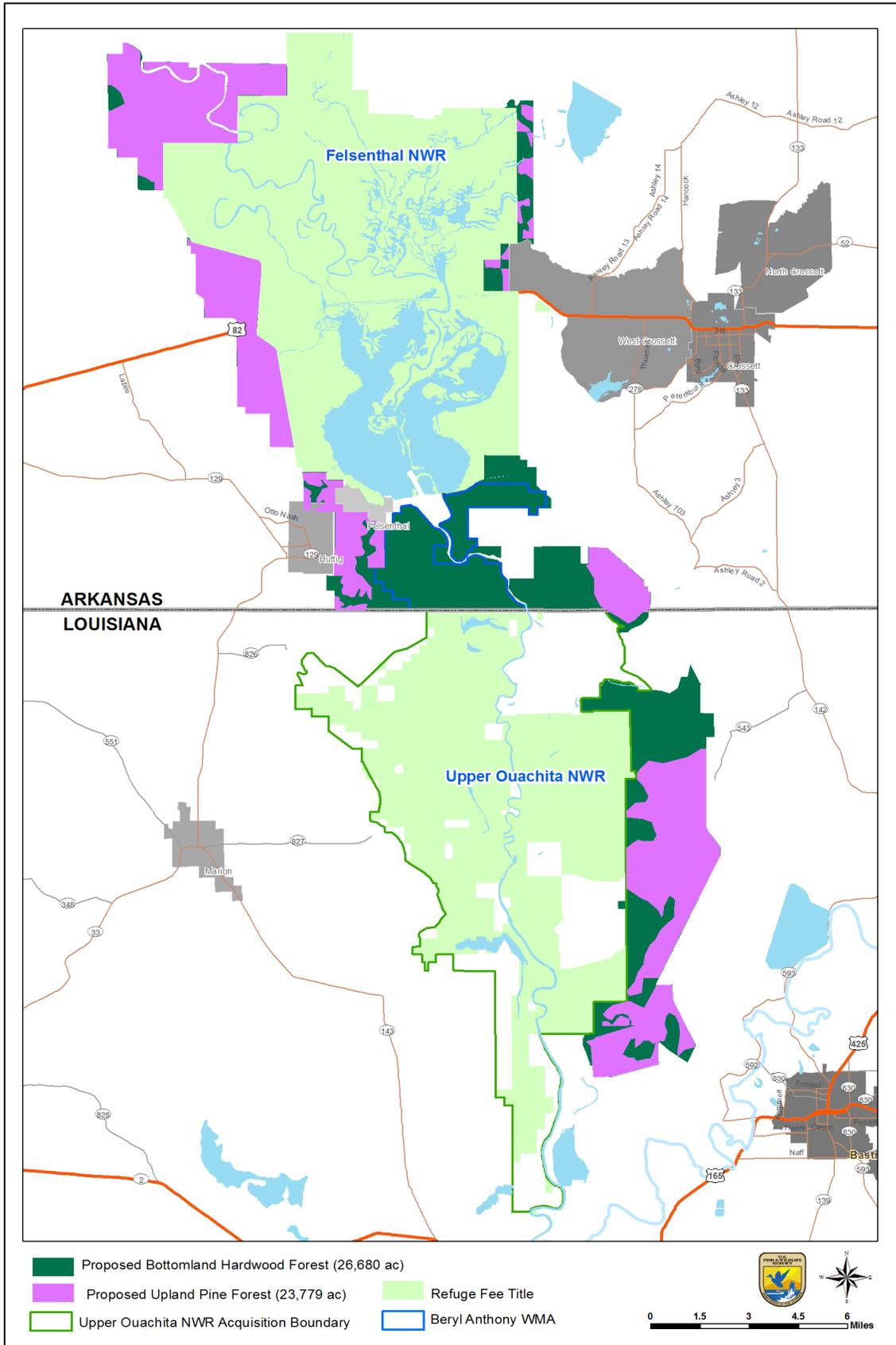
The 23,779 acres of upland pine and mixed pine-hardwoods include young pine plantations, mid-successional pine stands, and some mature pine-hardwood stands (Figure 11). This acreage is primarily owned by private timber companies that are managing the stands for pine timber production. Most of the pine is loblolly, with a few shortleaf pines present. Hardwood species present include white oak, Southern red oak, water oak, sweetgum, blackgum, hickory, and post oak. Understory species include little bluestem, Vaccinium, American beautyberry, sassafras, Smilax, Vitis, and deciduous holly. Midstory species include pine, oaks, red maple, hickory, dogwood, and cherry.

The 26,680 acres of bottomland hardwood forests (Figure 11) are owned by the Arkansas Game and Fish Commission, which manages the lands for wildlife; by timber companies that manage the lands for production; and by private individuals that manage the lands for hunting game. The bottomland forest consist of baldcypress, overcup oak, bitter pecan, locust, willow oak, Nuttall's oak, sweetgum, hackberry, and cedar elm. Understory and midstory species include swamp privet, deciduous holly, buttonbush, and water elm.

C. WILDLIFE RESOURCES

The upland pine forests provide habitat for the RCW. Other species of concern that utilize this habitat type include the brown-headed nuthatch, northern bobwhite, Henslow's sparrow, Bachman's sparrow, and red-headed woodpecker. Other wildlife present in the upland pine habitat includes wild turkey, white-tailed deer, three-toed box turtle, fox squirrel, and hog-nosed snake.

Figure 11. Habitat types of proposed expansion lands



The bottomland hardwood forests provide habitat for wintering waterfowl, other migratory birds, and the threatened Louisiana black bear. Other species of concern include the Kentucky warbler, wood stork, bald eagle, Swainson's warbler, prothonotary warbler, alligator snapping turtle, and hooded warbler. Other wildlife present in the bottomland hardwood habitat include wild turkey, white-tailed deer, squirrels, Acadian flycatchers, wood ducks, wintering waterfowl, wading birds, and shorebirds.

D. FISHERY RESOURCES

The area's fishery resources include those species that inhabit large river floodplains, such as the alligator gar, paddlefish, catfish, and American eel. The proposed areas also have numerous small creeks and bayous that are largely surrounded by forests. These areas harbor many species of minnows, shiners, sunfish, and bass. Freshwater mussels are also present in the Ouachita River and its tributaries. When the Ouachita River floods its banks in the spring, large areas of highly important fishery spawning grounds and nursery habitat become available within the flooded forests. Concurrently, primary producers thrive on the structure provided by the flooded timber, which forms the basis of the aquatic food chain.

E. RELATED RESOURCES

The Beryl Anthony Lower Ouachita Wildlife Management Area, administered by the Arkansas Game and Fish Commission, is within the proposed expansion boundary. On the western side of Felsenthal NWR, The Nature Conservancy owns 3,572 acres. The locations of both of these areas are shown in Figure 4.

F. CLIMATE CHANGE

The effects of global climate change will gradually increase in north Louisiana and south Arkansas over the next 100 years. According to the report entitled, *Global Climate Change Impacts in the United States* (Karl et al. 2009), it is expected there will be higher temperatures and less rainfall, particularly in the winter and spring, increased storm intensity and frequency, and more drought throughout the southeast. It is anticipated that temperatures may increase by at least 4.5°F by 2080 and fire severity will increase 10 to 30 percent within the next 50 years. Climate change impacts of higher temperatures may likely cause the spread of invasive species and small changes to native plant and animal distributions. Migratory birds may breed and winter farther north. More southern, tropical species such as black-bellied whistling ducks and wood storks may extend their ranges into Louisiana. Invasive species such as *Salvinia*, water hyacinth, and tallowtree may become more established and extend their ranges farther north. As sea levels rise, the coastal marshes of south Louisiana may be drastically reduced. Consequently, refuge lands north of the coast, such as those in north Louisiana and south Arkansas, will need to provide habitat for displaced migratory birds, such as wintering waterfowl.

G. SOCIOECONOMIC AND SOCIOCULTURAL CONDITIONS

The rural setting and sparse population of the project area are characteristic of much of north Louisiana and south Arkansas. The population estimates, percentage of population change, percentage of individuals below the poverty level, and per capita annual incomes are listed in Table 3 (U.S. Census Bureau 2010). Forest products, natural gas production, agriculture, and light industry provide the main economic bases in this area.

Table 3. Population estimates, percent population change, percentage of individuals below poverty level, and per capita annual incomes in Morehouse Parish, Louisiana, and Ashley, Bradley, and Union Counties, Arkansas

Parish/County	Population	% Change in Population	% of people below poverty	Median Household Income (\$)
Morehouse (LA)	27,979	-9.8	25.9	28,908
Ashley (AR)	21,853	-9.7	21.7	35,773
Bradley (AR)	11,508	-8.7	27.6	29,221
Union (AR)	41,639	-8.7	23.3	35,005

Source: U.S. Census Bureau 2010.

H. CULTURAL RESOURCES

The National Register of Historic Places (NRHP), established by Congress in 1966, is the nation's official list of significant historic properties. The NRHP recognizes five basic types of historic properties: historic buildings, such as plantation houses; courthouses or log cabins; historic structures, such as old bridges, lighthouses or forts; historic districts, such as old residential or commercial neighborhoods; historic sites, such as battlefields or Indian mounds; and historic objects, such as old steamboats or fire engines. It is important to note that not every historic site or old building or neighborhood is eligible for the NRHP. Properties must have some type of significance: properties that are closely associated with an important person, event, or development; buildings that are architecturally significant because they are important examples of a particular style or type, or a method of construction; and, properties that are archaeologically significant because the remains yield information about the nation's history or prehistory. Generally, properties are not placed on the NRHP if they are less than 50 years old, if the period of their historical significance is less than 50 years old, or if they have been significantly altered.

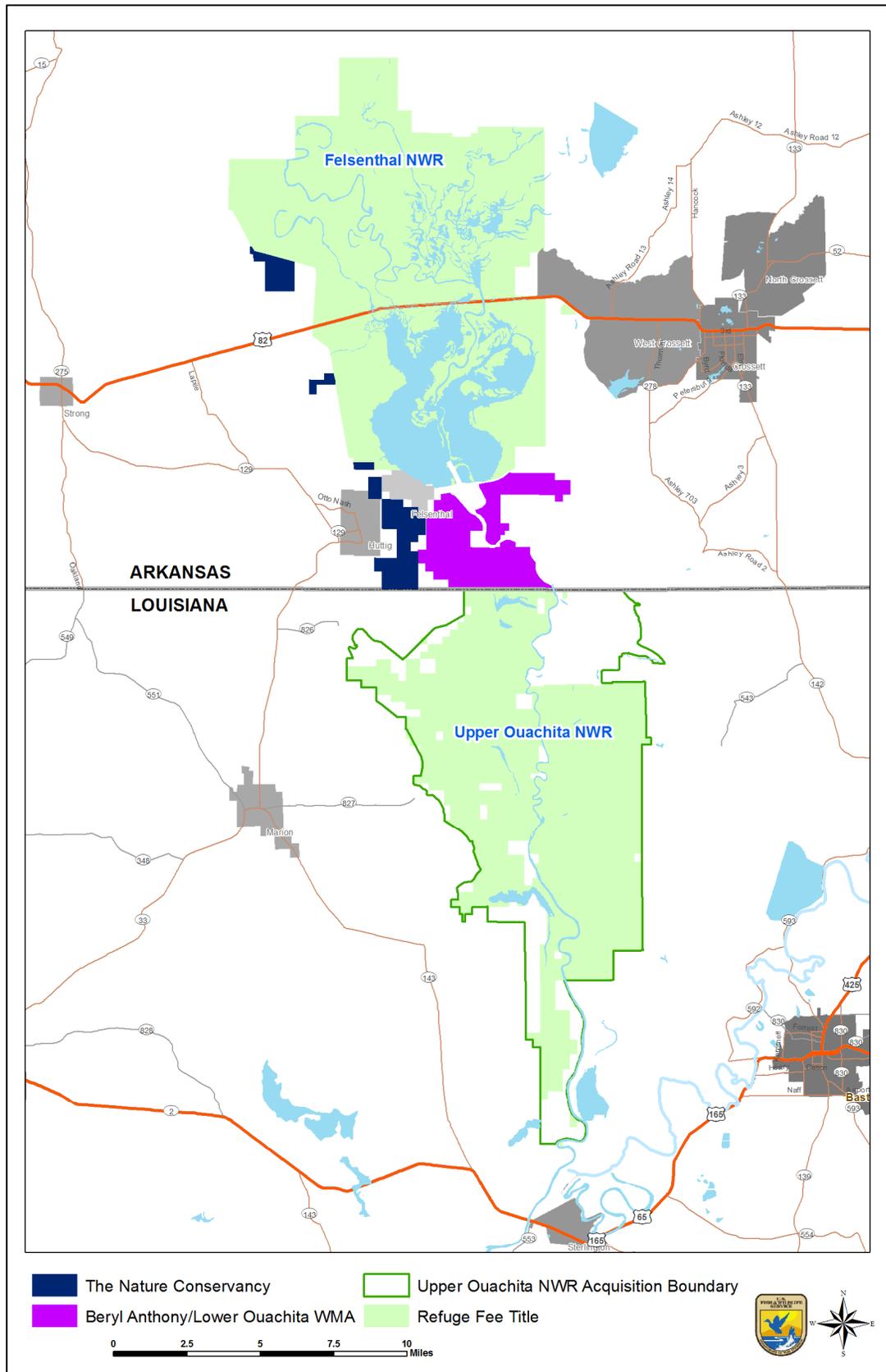
Each state has a historic preservation office which is responsible for nominating buildings, sites, districts, etc., to the NRHP. In Louisiana, this program is administered by the Division of Historic Preservation, which is part of the Office of Cultural Development, Department of Culture, Recreation and Tourism. In Arkansas, this program is administered by the Arkansas Historic Preservation Program. None of the proposed refuge expansion areas are known to contain any sites that may be eligible for inclusion on the NRHP at this time, and they would not be designated as scientific sites. Official designation as scientific sites, as part of the planning process, also carries the risk of alerting illegal artifact collectors to the location of these sites. The Archaeological Resources Protection Act of 1979 specifically prohibits making available to the general public the location of any archaeological site, if such notification may create a risk of harm to the site.

Section 106 of the National Historic Preservation Act of 1966, as amended, and Section 14 of the Archaeological Resources Protection Act require the Service to evaluate the effects of any of its actions on cultural resources (e.g., historical, architectural and archaeological) that are listed or

eligible for listing in the NRHP. In accordance with these regulations, the Service has coordinated the review of this proposal with the Arkansas and Louisiana State Historic Preservation Offices.

The Service believes that the proposed acquisition of lands would have no adverse effect on any known or yet-to-be-identified NRHP-eligible cultural resources. However, in the future, if the Service plans or permits any actions that might affect eligible cultural resources, it would carry out appropriate site identifications, evaluations, and protection measures as specified in the regulations and in Service directives and manuals.

Figure 12. Other conservation lands located within and near the proposed expansion areas



III. Alternatives Including the Proposed Action

In determining how to achieve the fish and wildlife habitat protection goals for the project lands and waters identified in this document, the Service considered and evaluated three alternatives. These are:

A. ALTERNATIVE 1: NO ACTION

This is the "status quo" alternative. Under this alternative, the Service would not acquire any of the lands proposed for the expansion of the refuges. The proposed project lands would remain in private ownership and current land uses would continue. Protection of the fish and wildlife habitats and natural resource values of these lands would be contingent upon the enforcement of existing federal, state, and local environmental regulations (the Clean Water Act, state water quality and pollution laws, etc.), and the discretion of the private landowners.

B. ALTERNATIVE 2: PROTECTION AND MANAGEMENT OF UP TO 50,459 ACRES BY THE FISH AND WILDLIFE SERVICE (PROPOSED ALTERNATIVE)

Under this alternative, the Service would acquire up to 50,459 acres of bottomland hardwood and upland pine habitat for their protection and management as part of the Felsenthal and Upper Ouachita NWRs (Figure 13). These areas would be included in the approved acquisition boundary for both refuges. This alternative provides the maximum potential to manage for RCWs, Louisiana black bears, wintering waterfowl, and neotropical migratory songbirds.

The acquisition methods that could be used by the Service under this alternative are described as follows:

1. LEASES AND COOPERATIVE AGREEMENTS

Potentially, the Service can protect and manage habitat through leases and cooperative agreements. Management control on privately owned lands could be obtained by entering into long-term renewable leases or cooperative agreements with the landowners. Short-term leases can be used to protect or manage habitat until more secure land protection can be negotiated.

2. CONSERVATION EASEMENTS

Conservation easements give the Service the opportunity to manage lands for their fish and wildlife habitat values. Such management precludes all other uses that are incompatible with the Service's management objectives. Only land uses that would have minimal or no conflicts with the management objectives are retained by the landowner. In effect, the landowner agrees to transfer certain development rights to the Service for management purposes as specified in the easement.

Easements would likely be useful when: (1) Most, but not all, of a private landowner's uses are compatible with the Service's management objectives, and (2) the current owner desires to retain ownership of the land and continues compatible uses under the terms set by the Service in the easement.

Land uses that are normally restricted under the terms of a conservation easement include:

- Development rights (agricultural, residential, etc.);
- Alteration of the area's natural topography;
- Uses adversely affecting the area's floral and faunal communities;
- Private hunting and fishing leases;
- Excessive public access and use; and
- Alteration of the natural water regime.

3. *FEE-TITLE ACQUISITION*

A fee-title interest is normally acquired when: (1) The area's fish and wildlife resources require permanent protection not otherwise assured, (2) land is needed for visitor use development, (3) a pending land use could adversely impact the area's resources, or (4) it is the most practical and economical way to assemble small tracts into a manageable unit.

Fee-title acquisition conveys all ownership rights to the Federal Government and provides the best assurance of permanent resource protection. A fee-title interest may be acquired by donation, exchange, transfer, or purchase.

C. ALTERNATIVE 3: PROTECTION AND MANAGEMENT OF UP TO 48,426 ACRES BY THE FISH AND WILDLIFE SERVICE

Under this alternative, the Service would acquire up to 48,426 acres of bottomland hardwood and upland pine habitats for protection and management as part of Felsenthal and Upper Ouachita NWRs (Figure 14). The Service would acquire sufficient interest in the identified lands to prevent conflicting land uses and to manage the areas for their wildlife values.

The same acquisition methods as described in Alternative 2 would apply to this alternative.

Figure 13. Lands included in the proposed project under Alternative 2

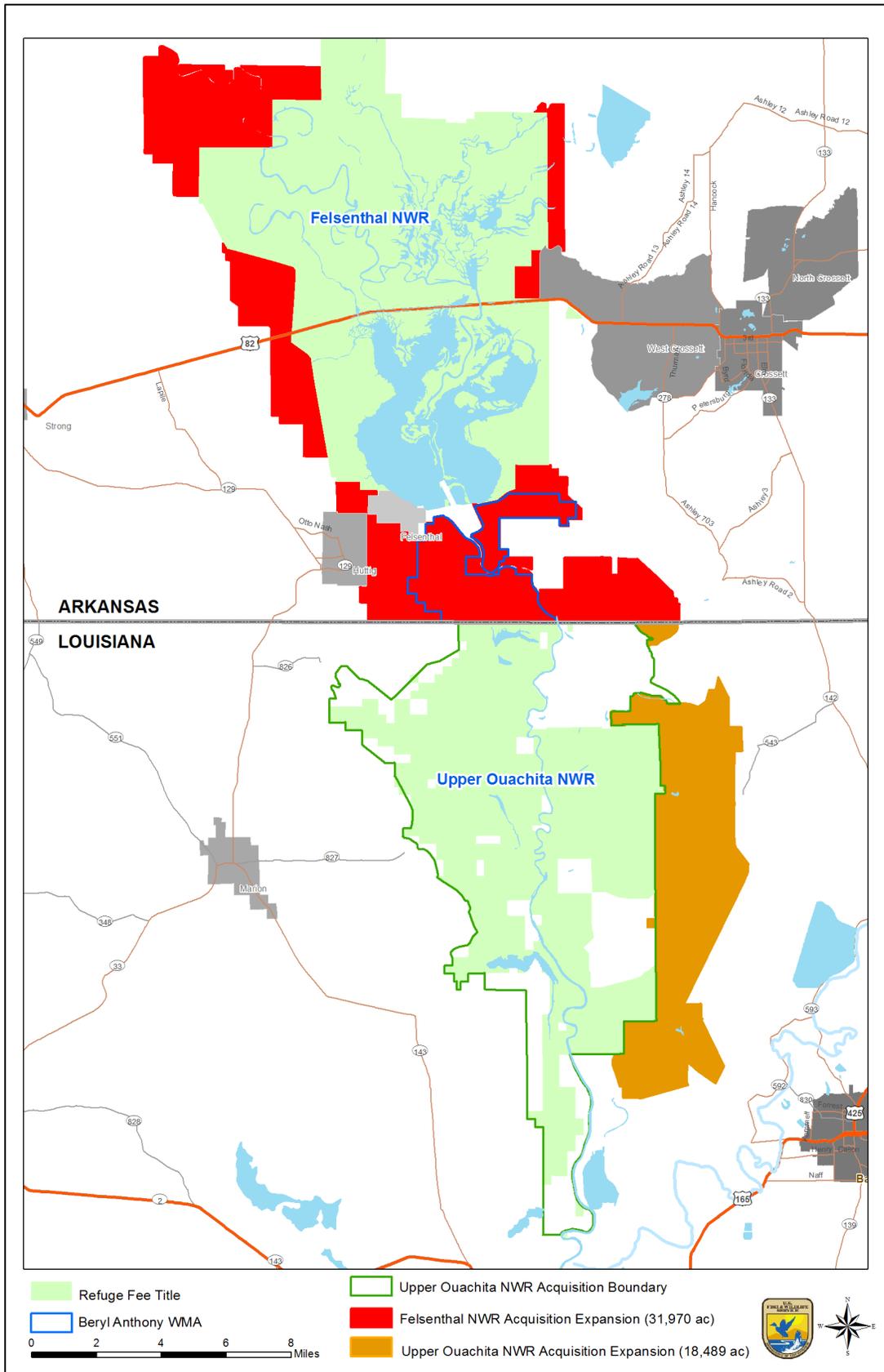
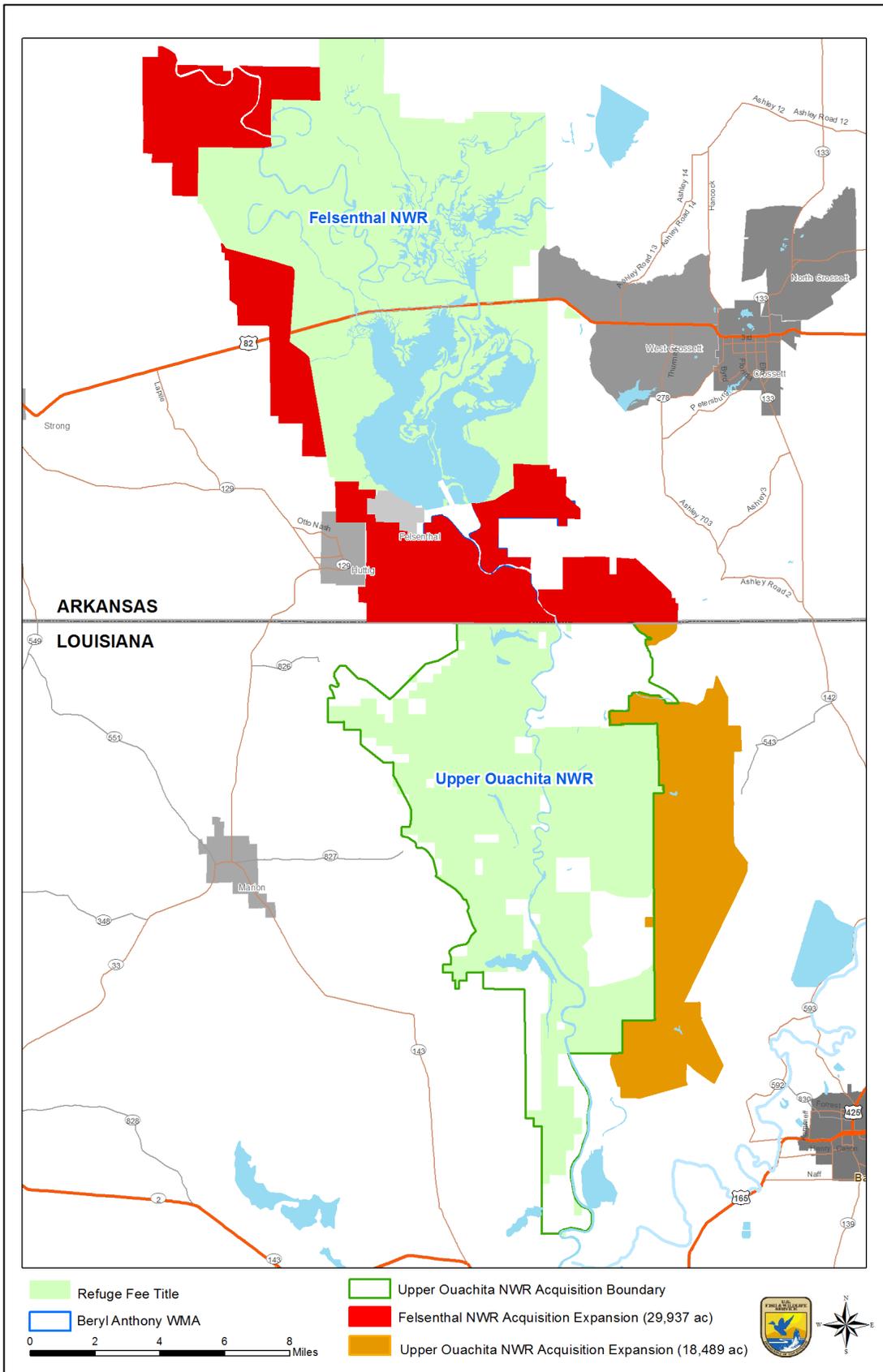


Figure 14. Lands included in the proposed project under Alternative 3



IV. *Environmental Consequences*

This chapter analyzes and discusses the potential environmental impacts of the three management alternatives described in Chapter III.

A. ALTERNATIVE 1: NO ACTION

Under this alternative, the Service would take no action to acquire, protect, and manage any lands for the expansion of either the Felsenthal or Upper Ouachita NWRs.

Future habitat protection under existing laws and regulations may be insufficient to prevent significant degradation of the proposed areas' fish and wildlife resource values. Federal executive orders involving the protection of wetlands and floodplains only apply to federal agencies. They do not apply to habitat alterations by non-federal entities, which receive no federal funds.

The primary deterrent against the loss of resource values is the Corps of Engineers' Section 404 permit program, which is administered under the authority of the Clean Water Act. This program requires permits for most types of work in wetlands. Most of the wetlands in the project areas qualify for protection under this program. In addition, the States of Arkansas and Louisiana have regulatory authority over the area and will not permit any developments that would violate either state's water quality standards.

However, there is no assurance that the protection offered by these regulations would be consistent with protection of the proposed areas' fish and wildlife resources. The regulatory programs are designed to accomplish different objectives. In addition, these programs are subject to changes in the law and to varying definitions and interpretations, often to the detriment of wetlands. The Corps of Engineers' regulatory authority provides for the issuance of Section 10 and/or Section 404 permits when it is not contrary to the public interest to do so and provided other conditions are met. Fish and wildlife conservation is only one of several public interest factors considered in permit issuance decisions. If fish and wildlife conservation is outweighed by other factors, permits that would alter the wetlands in the proposed areas could be issued.

The desired fish and wildlife protection objectives, therefore, cannot be achieved to any degree under this alternative. Specifically, implementation of "No Action" would adversely impact the areas' valuable fish, waterfowl, and wildlife habitats.

The potential adverse impacts of Alternative 1, the "No Action" alternative, include increased development and urbanization on the proposed areas. Forest fragmentation, road-associated impacts, degradation, habitat fragmentation and loss of habitat, incompatible public uses, exotic species introduction, hydrologic modifications, and introduced predators are some of the potential human impacts to the proposed areas. One of the primary threats to wildlife in the proposed areas is destruction of habitat due to residential and commercial development.

Another potential threat to the proposed areas is incompatible forestry practices, such as clear-cutting; application of herbicides that decrease plant diversity; development of original forest stands to monocultural stands for even-aged timber management; and bedding of land to convert forests to offsite species. The practice of clear-cutting large acreages causes forest fragmentation, habitat loss, erosion, and decreased water quality. The application of herbicides to kill hardwood or broadleaf plants is a common private industry practice that decreases plant diversity and, in some cases, converts the habitat

to a different type. The promotion of the profitable pine plantation has led to monocultural stands devoid of plant diversity, leading to a loss of wildlife diversity. Another common practice on private timber lands is to bed the soil, forever altering the hydrology, to plant offsite species. Locally, this practice is often used to convert a bottomland hardwood forest into a loblolly pine plantation.

A potential threat to the proposed areas is a decline in the fishery resources as a result of incompatible land management practices. Disturbance to the soil from clear-cutting and development leads to sedimentation in nearby creeks and bayous. This then causes a decline in water quality. Water temperatures also increase when forests are cleared, causing less oxygen to be present in the water.

Another potential threat to the proposed areas, if the “No Action” alternative is implemented, would be a decline in the population of RCWs. Federal regulations do not require private landowners to conduct management practices that are favorable to the endangered RCW, such as prescribed burning, hardwood control, or artificial cavity installation (USFWS 2003). When these management tools are not utilized, RCW populations often decline.

Under Alternative 1, the two refuges would still allow the current wildlife-dependent recreational uses of hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. However, the proposed areas would not be acquired for protection and management by the refuges, and therefore, would not be opened to the public for wildlife-dependent recreational uses. Most of the proposed areas are leased by owners for hunting and fishing purposes. The members of each hunt club must pay an annual fee and membership is restricted.

B. ALTERNATIVE 2: PROTECTION AND MANAGEMENT OF UP TO 50,459 ACRES BY THE FISH AND WILDLIFE SERVICE (PROPOSED ALTERNATIVE)

Under this alternative, the Service would acquire up to 50,459 acres of habitat for protection and management as part of the Felsenthal and Upper Ouachita NWRs. The land protection priorities and proposed methods of acquisition are summarized in Chapter III of the Draft LPP.

The purpose of the proposed project would be to:

- Protect contiguous bottomland hardwood forest adjacent to the Ouachita River;
- Protect lands between both national wildlife refuges to increase core habitat for neotropical migratory songbirds, wintering waterfowl, and black bears;
- Protect existing and potential habitat for the endangered RCW; and
- Protect existing and potential habitat for the threatened Louisiana black bear.

Under this alternative, the desired fish and wildlife protection objectives could be achieved. The proposed alternative would ultimately allow for the conservation of over 150,000 contiguous acres of wildlife habitat, and the protection of 120,000 acres of bottomland floodplain habitat and 58 river miles. And, 50 RCW groups would come under federal protection.

Only 20 percent of the historic bottomland hardwood forests are left today, most of which are highly fragmented (Tiner 1984). Black bears have been reintroduced to Felsenthal NWR to the north and these animals disperse to Upper Ouachita NWR regularly. The proposed expansion areas would increase the core area size of forested blocks and provide necessary corridors for the bears and other wildlife. These lands are also important to neotropical migratory birds that follow the Ouachita River during their spring and fall migrations, as well as to nesting prothonotary, Swainson’s and worm-eating warblers, Mississippi kites, and wood ducks.

Large expanses of bottomland hardwood forests are important for breeding cerulean warblers. This species is thought to have bred in this area historically, but has not been recorded in recent times. Wood storks use these areas during late summer to feed after dispersing from their breeding grounds. Bald eagles winter on the refuges, and several breeding pairs exist on the refuges and neighboring lands. Rookeries of great and little blue herons, anhingas, egrets, ibises, and night-herons are also present in these bottomlands. Hundreds of thousands of migratory waterfowl use these lands as wintering habitat, and the invertebrates and acorns found in flooded bottomlands are excellent food sources to help these birds store energy for breeding in the spring. Rafinesque's big-eared and southeastern myotis bats, both of which are species of concern, utilize the water tupelo-baldcypress brakes within the bottomland forests.

The major value of the upland pine communities would be the conservation and management of the endangered RCW. The RCW population on the proposed expansion area east of Upper Ouachita NWR has 29 family groups, the highest density population in north Louisiana. In addition to this population of woodpeckers, 21 active RCW groups are known to occur on the proposed expansion areas surrounding Felsenthal NWR. Many old-growth pine stems (60 + years) distributed across this area provide suitable cavity sites, as well as much-needed foraging habitat. With enhanced management, these habitats could support additional groups. Located immediately adjacent to refuge upland pine communities, the upland sites within the expansion boundary are extremely important in that they provide much-needed additional foraging habitat for the 14 existing RCW groups on Felsenthal NWR (at the current refuge population, the existing refuge acreage of upland pine communities is not sufficient to meet federal landowner guidelines for RCW foraging habitat requirements). If these lands are acquired, long-term intensive habitat management would benefit RCWs in both Louisiana and Arkansas. Large populations of RCWs exist on Ouachita National Forest in central Arkansas and Kisatchie National Forest in central Louisiana. Habitat restoration in the proposed expansion areas would provide a link between the two larger RCW populations for dispersing birds, thereby increasing their genetic diversity (Will McDearman, RCW Recovery Coordinator, personal comm.).

These uplands provide a retreat for resident species such as white-tailed deer and wild turkey during periods of extended flooding (up to six months or more in duration). They also support numerous migratory and resident bird species that utilize or require pine and pine-hardwood habitats. A few of these species are the red-tailed hawk, yellow-billed cuckoo, pileated woodpecker, pine warbler, red-headed woodpecker, eastern wood-peewee, eastern phoebe, brown-headed nuthatch, Bachman's sparrow, pine siskin, and American goldfinch.

The proposed areas also contain some upland hardwoods that are becoming an endangered ecosystem upon which many wildlife species depend. Hardwood species such as white, southern red and cherry-bark oak, along with various hickories, are disappearing due to intensive pine management by the forest industry. In fact, the mixed species pine-pine hardwood ecosystem of the West Gulf Coastal Plain is perhaps one of the most imperiled systems in the United States due to massive conversion to short-rotation, pine plantation monoculture by the commercial forest industry.

The historic range of black bears included all forested areas of North America. In the southeastern United States, the species was eliminated from 90 percent of its former habitat. The black bears in Louisiana are federally listed as threatened. Repatriation efforts took place between 2000 and 2007, when 55 females and 116 cubs were reintroduced to their former range in southern Arkansas, mainly Felsenthal NWR (USFWS 2010). Black bears are present on both Upper Ouachita and Felsenthal NWRs and often travel back and forth among the two. The acquisition of the proposed expansion lands would connect the two refuges, providing a contiguous block of bottomland hardwood forest. Because habitat fragmentation can result in increased mortality as the bears are forced to forage on

less-protected sites, travel farther to forage, or cross barriers such as well-travelled roads (Pelton 2001), the black bear would benefit from the protected corridor and the increase in core area.

The proposed areas also attract thousands of mallards, teal, pintail, shovelers, gadwall, and wood ducks during the winter. A study conducted by Louisiana State University found that female mallards captured and fitted with transmitters on Upper Ouachita NWR spent the majority of the winter in bottomland hardwood forest habitat (Davis 2008), underscoring the importance of these forests for wintering waterfowl. The hardwood bottomlands are rich in high-energy natural seeds (e.g., acorns) and aquatic invertebrates. These areas are vital to waterfowl for pair bonding, loafing, sanctuary, thermal cover, and feeding.

The Lower Mississippi Valley Joint Venture (LMVJV) considers forest interior songbirds that utilize bottomland hardwood forests a priority resource, particularly the Kentucky, Swainson's and cerulean warblers. The cerulean warbler is classified as a bird of conservation concern requiring critical recovery and immediate management activities in the Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative. The cerulean warbler has experienced dramatic declines over the last 30 years. Estimates from researchers suggest that forest tracts as large as 8,000 hectares (19,700 acres) may be required to ensure sustainable cerulean warbler populations in the LMRE (LMVJV HSI Model). Breeding birds have higher reproductive success in large core areas of forest blocks than in small, isolated blocks (Robinson et al. 1995).

Two federal species of concern, the Rafinesque's big-eared bat and southeastern myotis bat, are found in bottomland hardwood forests in the proposed areas. Known roosts of both species exist on Upper Ouachita NWR. These bats most often use large, hollow water tupelo and blackgum trees as roost sites (Cochran 1999; Hoffman 1999; Gooding and Langford 2004), but they have also been found in baldcypress, magnolia, willow oak, sweetgum, and many other species of hollow trees in mature bottomland hardwood forests. The bottomland hardwoods in the proposed expansion areas provide important foraging habitat and roost sites for these bats. The protection of cavity trees is critical to their conservation.

The proposed areas, if they are acquired under Alternative 2, would be protected from development and urbanization. Forest fragmentation, degradation, hydrologic modifications, and loss of fish and habitats would not occur on the proposed areas.

In addition, incompatible forestry practices would not occur under this alternative. If the proposed areas are acquired, the two refuges' forestry management practices would be directed towards meeting wildlife and habitat objectives.

The proposed areas' fishery resources would be protected under this alternative, because the land would not be developed or clear-cut. Spawning grounds and nursery habitat would be protected, water quality (i.e., temperature, turbidity, and dissolved oxygen levels) would remain high, and primary production would occur.

Based on the nature of the proposal, the location of the sites, and the current land use, the proposed alternative would not have any significant effects on the quality of the human environment, including public health and safety. Further, because the purpose of the proposal is to protect, maintain, and where possible, enhance the natural habitat of the lands within the proposed acquisition areas, the proposal is not expected to have any significant adverse effects on the area's wetlands and floodplains, pursuant to Executive Orders 11990 and 11988.

Implementation of the proposed alternative would not involve any highly uncertain, unique, unknown, or controversial effects on the human environment. The proposed action would not establish a precedent for future actions with significant effects, nor would it represent a decision in principle about a future consideration. No cumulatively significant impacts on the environment would be anticipated.

In addition, the proposal would not significantly affect any unique characteristic of the geographic area, such as historical or cultural resources, wild and scenic rivers, or ecologically critical areas. The proposal would not significantly affect any site listed in or eligible for listing in the National Register of Historic Places, nor would it cause loss or destruction of significant scientific, cultural, or historic resources. The areas' cultural resources would be protected under the regulations of the National Historic Preservation Act of 1966, as amended, the Archaeological Resources Protection Act, and the Advisory Council on Historic Preservation (36 CFR 800). The Arkansas and Louisiana state historic preservation offices would be contacted whenever any future management activities have the potential to affect cultural resource sites.

Under this alternative, the proposed areas would have the same wildlife-dependent recreational uses as those that are available on Felsenthal and Upper Ouachita NWRs. Portions of the two refuges would be open to the public for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. Hunting and fishing regulations on the refuges are more restrictive than those on private land. Individuals who currently have memberships in private hunting clubs within the proposed areas would no longer have exclusive access to those lands, and they would have to abide by the more restricted hunting and fishing regulations. However, the proposed areas would be open to all members of the public at little to no cost, as opposed to private hunting clubs that charge up to \$2,000 per year per member. The quota deer and turkey hunts on Felsenthal NWR, by comparison, currently cost less than \$15 per year.

All tracts acquired by the Service in fee title would be removed from local real estate tax rolls, because federal government agencies are not required to pay state or local taxes. However, the Service makes annual payments to local governments in lieu of real estate taxes, as required by the Refuge Revenue Sharing Act (Public Law 95-469). Payment for acquired land is computed on whichever of the following formulas is greatest: (1) Three-fourths of 1 percent of the fair market value of the lands acquired in fee title; (2) 25 percent of the net refuge receipts collected; or (3) 75 cents per acre of the lands acquired in fee title. The estimated annual revenue-sharing payment that would be made to Morehouse Parish, Louisiana, depending on the amount of acreage acquired in fee title, would range from \$13,556 to \$271,125. In Arkansas, the estimated annual revenue-sharing payments, depending on the amount of acreage acquired in fee title, would range as follows: Bradley County, from \$1,738 to \$43,462; Union County, from \$14,017 to \$420,525; and Ashley County, from \$6,989 to \$139,785.

Finally, under Alternative 2, no actions would be taken that would lead to a violation of federal, state, or local laws imposed for the protection of the environment.

C. ALTERNATIVE 3: PROTECTION AND MANAGEMENT OF UP TO 48,426 ACRES BY THE FISH AND WILDLIFE SERVICE

Under this alternative, the Service would acquire up to 48,426 acres of bottomland hardwood and upland pine forest habitats as part of Upper Ouachita and Felsenthal NWRs. Felsenthal NWR would acquire 29,937 acres and Upper Ouachita NWR would acquire 18,489 acres. The proposed acreage in this alternative would include all of the acreage in Alternative 2, except for the 2,033-acre tract on the northeast side of Felsenthal NWR.

The 2,033-acre tract consists mostly of transitional habitat from bottomland hardwood forest to upland pine, making it botanically diverse. The southern portion of this tract provides needed foraging habitat for the nearby RCW group. Under present ownership, this pine habitat would be clear-cut in the future. The bottomland areas provide habitat for waterfowl and other wetland-dependent species. This tract also would ensure needed access for the public into the Goose Lake area, which is popular with both anglers and hunters.

The potential adverse impacts of this alternative include increased development and urbanization on the 2,033-acre tract. Forest fragmentation, road-associated impacts, degradation, loss of habitat, incompatible public uses, exotic species introduction, hydrologic modifications, and introduced predators are some of the potential human impacts. One of the primary threats to wildlife in this area is destruction of habitat due to residential and commercial development.

Another potential threat to the area is incompatible forestry practices, such as clear-cutting; application of herbicides that decrease plant diversity; development of original forest stands to monocultural stands for even-aged timber management, and bedding of land to convert forests to offsite species. The practice of clear-cutting large acreages causes forest fragmentation, habitat loss, erosion, and decreased water quality. The application of herbicides to kill hardwood or broadleaf plants is a common private industry practice that decreases plant diversity and, in some cases, converts the habitat to a different type. The promotion of the profitable pine plantation has led to monocultural stands devoid of plant diversity, leading to a loss of wildlife diversity. Another common practice on private timber lands is to bed the soil, forever altering the hydrology, to plant offsite species. Locally, this practice is often used to convert a bottomland hardwood forest into a loblolly pine plantation.

Still another potential threat to this area is a decline in the fishery resources as a result of incompatible land management practices. Disturbance to the soil from clear-cutting and development leads to sedimentation in nearby creeks and bayous. This then causes a decline in water quality. Water temperatures also increase when forests are cleared, causing less oxygen to be present in the water.

The proposed areas under this alternative would have the same wildlife-dependent recreation as those that are available on Felsenthal and Upper Ouachita NWRs. Portions of the two refuges would be open to the public for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. Hunting and fishing regulations on the refuges are more restrictive than those on private land. Individuals who currently have memberships in private hunting clubs within the proposed areas would no longer have exclusive access to those lands, and they would have to abide by the more restricted hunting and fishing regulations. However, the proposed areas would be open to all members of the public at little to no cost, as opposed to private hunting clubs that charge up to \$2,000 per year per member. The quota deer and turkey hunts on Felsenthal NWR, by comparison, currently cost less than \$15 per year.

D. CUMULATIVE EFFECTS

According to the Council on Environmental Quality's NEPA implementing regulations in 40 CFR 1508.7, "cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

PHYSICAL RESOURCES

Some minimal and minor impacts on physical resources are expected under each of the alternatives, but none of these are anticipated to be cumulatively significant. Cumulative effects on individual physical resource categories are further discussed below.

Land Use

Alternative 1, the "No Action" alternative, would be expected to have a minor cumulative effect on land use in the proposed lands due to continued urbanization over the next decades. Currently, these lands are largely owned by private timber companies, but projected population growth would likely result in the spread of developed areas. State and other land protection efforts would have a difficult time keeping pace with the loss of natural and other open areas. Alternatives 2 and 3, on the other hand, would have positive cumulative effects on land use of the area by helping to protect portions of the landscape from urbanization.

Climate Change

Under Alternative 1, a minimal cumulative impact on climate change is expected as land currently functioning as carbon sinks would likely become net sources of greenhouse gases. Conversely, lands protected under Alternatives 2 and 3 would not have a significant cumulative negative effect on climate change. Under Alternatives 2 and 3, additional lands that are believed to function as net carbon sinks would be protected. Growing vegetation and natural soil formation processes would continue to sequester carbon.

Topography

Alternative 1 would have a minimal negative cumulative effect on the topography of the proposed lands. Without protection, the raising or hipping of the soil for pine production would continue. Under Alternatives 2 and 3, no adverse cumulative effects are predicted to this resource.

Hydrology and Water Quality

Hydrology and water quality would suffer some minimal cumulative effects under the No Action alternative. Deforestation is a strong possibility, thus affecting water quality. Increased urbanization and associated changes in drainage patterns would adversely affect water quality. Under Alternatives 2 and 3, the proposed lands would be protected from development and other damaging land practices, such as clear-cutting. Intact forests slow the runoff of water, thereby increasing water quality.

BIOLOGICAL RESOURCES

The No Action Alternative would have cumulative adverse impacts to the biological community within the proposed areas. Habitat loss, degradation, and fragmentation over time would have cumulative negative effects on wildlife resources. RCW populations on private lands are legally allowed to be managed much less intensely than those on Service lands, often causing a decline in populations. Under Alternatives 2 and 3, the habitats of the proposed areas would be protected from habitat loss, fragmentation, and degradation, thereby increasing the health of forests over the long term. Consequently, the wildlife resources would benefit cumulatively due to increased populations.

CULTURAL RESOURCES

There could be some minimal cumulative adverse impacts to cultural resources under the No Action alternative. Less land would be protected from development, increasing the risk of disturbance or destruction of cultural resources. Under Alternatives 2 and 3, beneficial effects would occur because of increased land protection. In addition, increased field surveys would likely be conducted on Service-owned lands to identify and protect any sites discovered.

SOCIOECONOMIC ENVIRONMENT

Under Alternative 1, no long-term, significant cumulative change in the local economy would be expected. Current development rates, tax revenues, and business revenues would remain subject to market influences. There could be some loss of economic opportunities associated with wildlife-dependent recreation (e.g., hunting, fishing, wildlife watching). In addition, there could be increased costs to local communities associated with the loss of vegetated areas as urban sprawl continues on unprotected lands. Vegetated areas have been shown to reduce costs of providing clean water and air. Furthermore, vegetated lands help reduce stormwater runoff, providing additional cost savings (e.g., less frequent repairs to water control structures) to nearby communities.

Alternatives 2 and 3 would have some positive effects on socioeconomic resources. Wildlife-dependent recreation would provide additional direct and indirect economic benefits to the region by drawing visitors. Increased opportunities for wildlife-dependent recreational opportunities would further help improve the quality of life in the area, particularly as open space available to the public becomes increasingly scarce over the next decades. Further, no significant negative impacts would be anticipated to neighboring landowners from the implementation of either Alternative 2 or Alternative 3, including from management and public use activities.

UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects are the effects of those actions that could cause significant harm to the human environment and that cannot be avoided, even with mitigation measures. There would be some minor, localized unavoidable adverse effects under all the alternatives. The No Action alternative would maintain the status quo for development and growth in the area, thus contributing to the unavoidable effects of such development (e.g., increased air emissions, increased impervious surface and stormwater runoff).

Under Alternatives 2 and 3, there would be property tax losses to towns and increased visitation that could be unavoidable effects in those years when revenue-sharing payments are less than local property taxes. However, none of these effects rises to the level of significance. All would be mitigated, so there would in fact be no significant unavoidable adverse impacts under any of the alternatives.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The No Action alternative would be expected to diminish the long-term productivity and sustainability of natural resources within the proposed land expansion. In contrast, Alternatives 2 and 3 would strive to maintain or enhance the long-term productivity and sustainability of natural resources on proposed refuge lands. These alternatives would strive to conserve federal trust species and state-listed species and the habitats they depend on.

POTENTIAL IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Alternative 1 would have no long-term effect on potential irreversible and irretrievable commitments of federal financial resources. Expanding the refuges, as described under Alternatives 2 and 3, may contribute to irreversible and irretrievable commitments of federal financial resources. Another irreversible commitment of resources impacting local communities is Service land acquisition. Once the proposed lands become part of the two refuges, it is unlikely that they would revert back to private ownership.

ENVIRONMENTAL JUSTICE

Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (February 11, 1994), requires that federal agencies consider as part of their action, any disproportionately high and adverse human health or environmental effects to minority and low income populations. Federal agencies are required to ensure that these potential effects are identified and addressed. The communities surrounding the two refuges are relatively homogenous; minority groups do not represent a substantial portion of the affected community. No differential impacts based on minority status would therefore be anticipated under any of the alternatives.

E. RECOMMENDATION

Alternative 2 is recommended because it better serves the outlined purpose and need, as well as the stated goals, objectives, vision, and purposes of the two refuges. Under Alternative 2, the bottomland hardwood forests along the Ouachita River would be protected; the lands between the two refuges would increase the core habitat for neotropical migratory songbirds, wintering waterfowl, and black bears; and existing and potential habitat for RCWs and the Louisiana black bear would be protected. In addition, the current access point along the northeastern boundary of Felsenthal NWR, which includes the Goose Lake area, would be protected and secured for refuge users.

Alternative 3 would also achieve these objectives; however, one RCW group would not benefit from additional foraging habitat protected by the Service; access to the northeastern portion of Felsenthal NWR, namely the Goose Lake area, would not be obtained; and a botanically rich bottomland-upland transitional forest surrounding the Saline River would not be protected.

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APPENDICES

Appendix A. Compatibility Determinations

The comprehensive conservation plans (CCPs) for Felsenthal (USFWS 2010) and Upper Ouachita (USFWS 2008) NWRs have been completed along with their compatibility determinations. The proposed lands covered under this Draft EA would be brought into the National Wildlife Refuge System and would be managed as current lands of the Felsenthal and Upper Ouachita NWRs.

Lands purchased to expand Felsenthal NWR have the following uses already found compatible: bicycling; boating; swimming; beach use; hiking/backpacking; horseback riding; furbearer trapping; forest management; firewood cutting; dog field trials; commercial fishing; camping; berry picking; all-terrain vehicle use; and power boating.

Lands purchased to expand Upper Ouachita NWR have the following uses already found compatible: hunting; fishing; wildlife observation; wildlife photography; environmental education; interpretation; boating; all-terrain vehicle use; hiking; jogging; walking; timber harvest; firewood cutting; plant gathering; and dog field trials.

For detailed descriptions of the uses that were found to be compatible, please refer to the CCPs for Felsenthal NWR (USFWS 2010) and Upper Ouachita NWR (USFWS 2008).

Appendix B. Interim Recreation Act Funding

Station Name: Upper Ouachita National Wildlife Refuge Expansion

Date Refuge Established: 1978

Purposes for which the refuge was established: Upper Ouachita NWR was established in 1978 when 20,834 acres were purchased under the authority of the Migratory Bird Conservation Act of 1929, as amended, and the Wetlands Extension Act of 1976. In 1997 and 1998, an additional 16,191 acres were purchased east of the Ouachita River, known as the Mollicy Unit, under the Migratory Bird Conservation Act of 1929. Between 1997 and 2004, the Service acquired 4,939 acres of upland pine from the Nature Conservancy of Louisiana. In 2011, the Service purchased 4,000 acres of bottomlands from The Conservation Fund. Currently, the fee-title lands for Upper Ouachita NWR cover 46,594 acres. The refuge's current acquisition boundary encompasses 57,633 acres and includes the area to the north of the Mollicy Unit, all inholdings, and areas west and south of the refuge on the west side of the Ouachita River.

The refuge was established "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 U.S.C. 715d) and for "the conservation of the wetlands of the nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions" (16 U.S.C. 3901b).

Recreational uses evaluated for the proposed expansion of Upper Ouachita NWR:

(1) Hunting; (2) Fishing; (3) Wildlife observation and photography; (4) Environmental education and interpretation; (5) Bicycling, hiking, walking, jogging; (6) Boating; (7) All-terrain vehicles; (8) Field trials; (9) Plant gathering; and (10) Firewood cutting

Funding required to administer and to manage the recreational uses: Minimal funding in the amount of \$100,000 would be made available to implement initial protection, hunt implementation, data collection, and non-consumptive uses.

Based on a review of the refuge budget allocated for recreational use management, I certify that funding is adequate to ensure compatibility and to administer and manage the recreational uses.

Project Leader:

(Signature/Date)

Refuge Supervisor:

(Signature/Date)

**Chief, National
Wildlife Refuge System,
Southeast Region:**

(Signature/Date)

Station Name: Felsenthal National Wildlife Refuge Expansion

Date Refuge Established: 1985

Purposes for which the refuge was established: Felsenthal NWR was authorized by Congress as mitigation for the Ouachita-Black Rivers Navigation Project. Refuge establishment occurred with the fee-title transfer of 65,000 acres from the Corps of Engineers (by direct authority granted in the navigation project legislation) to the Service in 1985.

The refuge was established "for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon" 16 U.S.C. 664 (Fish and Wildlife Coordination Act) and "for incidental fish and wildlife-oriented recreational development; the protection of natural resources; and the conservation of endangered species or threatened species" 16 U.S.C. 460k-1.

Recreational uses evaluated for the proposed expansion of Felsenthal NWR: (1) Hunting; (2) Fishing; (3) Wildlife observation; (4) Wildlife photography; (5) Environmental education and interpretation; (6) Bicycling; (7) Boating; (8) Swimming; (9) Beach use; (10) Hiking/backpacking; (11) Horseback riding; (12) Furbearer trapping; (13) Firewood cutting; (14) Dog field trials; (15) Commercial fishing; (16) Camping; (17) Berry picking; (18) All-terrain vehicle use; and (19) Power boating.

Funding required to administer and to manage the recreational uses: Minimal funding in the amount of \$100,000 would be made available to implement initial protection, hunt implementation, data collection, and non-consumptive uses.

Based on a review of the refuge budget allocated for recreational use management, I certify that funding is adequate to ensure compatibility and to administer and manage the recreational uses.

Project Leader:

(Signature/Date)

Refuge Supervisor:

(Signature/Date)

**Chief, National
Wildlife Refuge System,
Southeast Region:**

(Signature/Date)

Appendix C. Section 7 Biological Evaluation

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Gypsy Hanks
Telephone Number: 318-726-4222
E-Mail: gypsy_hanks@fws.gov
Date: January 9, 2012

PROJECT NAME: Draft Environmental Assessment and Draft Land Protection Plan for the Proposed Expansion of Upper Ouachita and Felsenthal National Wildlife Refuges

I. Service Program:

- Ecological Services
- Federal Aid
- Clean Vessel Act
- Coastal Wetlands
- Endangered Species Section 6
- Partners for Fish and Wildlife
- Sport Fish Restoration
- Wildlife Restoration
- Fisheries
- Refuges/Wildlife

II. State/Agency: Louisiana and Arkansas/USFWS

III. Station Name: Upper Ouachita NWR and Felsenthal NWR

IV. Description of Proposed Action: The Service proposes to acquire, protect, and manage up to 50,459 acres of bottomland hardwood and upland pine forests through fee-title purchases, leases, conservation easements, and/or cooperative agreements from willing sellers. All lands and waters acquired in Arkansas would be managed by the Service as Felsenthal National Wildlife Refuge and all lands and waters acquired in Louisiana would be managed by the Service as Upper Ouachita National Wildlife Refuge. The objectives of the proposed expansion would be to:

- 1) Protect contiguous bottomland hardwood forest adjacent to the Ouachita River
- 2) Protect lands between both national wildlife refuges to increase core habitat for neotropical migratory songbirds, wintering waterfowl, and bears
- 3) Protect existing and potential habitat for the endangered red-cockaded woodpecker
- 4) Protect existing and potential habitat for the threatened Louisiana black bear

V. Pertinent Species and Habitat:

- A. Include species/habitat occurrence map:** See Attached Map
- B. Complete the following table:**

SPECIES/CRITICAL HABITAT	STATUS¹
Red-cockaded woodpecker	Endangered
Louisiana black bear	Threatened

¹STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened, CH=critical habitat, PCH=proposed critical habitat, C=candidate species, S/A=Similar Appearance

VI. Location (attach map):

- A. Ecoregion Number and Name:** West Gulf Coastal Plain
- B. County and State:** Ashley, Bradley and Union Counties, Arkansas, and Morehouse Parish, Louisiana
- C. Section, township, and range (or latitude and longitude):** Please see attached map. Louisiana black bear habitat would include all lands in red *in Louisiana*. All upland pine areas in red for both Louisiana and Arkansas are currently or potentially RCW habitat. The lands in Louisiana are currently home to 29 family groups. The green squares on the map in Arkansas indicate Habitat Conservation Areas for RCWs that have another 21 groups.
- D. Distance (miles) and direction to nearest town:** The lands in Louisiana are 6 miles northwest of Bastrop, Louisiana. The lands in Arkansas are anywhere from 5-15 miles west of Crossett, Arkansas.
- E. Species/habitat occurrence:** The RCW population on the expansion area east of Upper Ouachita NWR has 29 family groups, the highest density population in north Louisiana and the largest private land subpopulation in the state. In addition to this large population of RCWs, 21 active RCW groups are known to occur on the proposed expansion areas surrounding Felsenthal NWR.

Although Morehouse Parish is not designated critical habitat for Louisiana black bears, they do travel through Morehouse Parish, Louisiana, at various times of the year and will sometimes den on these lands in the both upland pine and bottomland hardwood forests. The proposed lands in Arkansas are not considered Louisiana black bear habitat; however, we know Louisiana black bears cross the state line and habitat management efforts in Arkansas will benefit recovery efforts for Louisiana black bears.

VII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item V. B:

SPECIES/CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Red-cockaded Woodpecker	No adverse impacts are expected
Louisiana black bear	No adverse impacts are expected

The proposed project is to expand the refuges to include adjacent bottomland hardwood and upland pine forests. Red-cockaded woodpeckers and Louisiana black bears can only benefit from the Service acquiring these additional lands. These lands if acquired would be protected from development, fragmentation, and clear-cutting. Red-cockaded woodpeckers would be managed for habitat restoration utilizing prescribed burning, artificial insert installation, translocation, and timber management. Timber management would be directed towards improving habitat for both species.

B. Explanation of actions to be implemented to reduce adverse effects:

SPECIES/CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
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Not applicable. No adverse impacts are expected.

VIII. Effect Determination and Response Requested:

SPECIES/CRITICAL HABITAT	DETERMINATION ¹			REQUESTED
	NE	NA	AA	
Red-cockaded woodpecker		X		Concurrence
Louisiana black bear		X		Concurrence

¹DETERMINATION/ RESPONSE REQUESTED:

NE = no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested is optional but a "Concurrence" is recommended for a complete Administrative Record.

NA = not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response Requested is a "Concurrence".

AA = likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested for listed species is "Formal Consultation". Response requested for proposed and candidate species is "Conference".



Signature (originating station)
Gypsy Hanks, *Wildlife Biologist*

03/09/12

Date

IX. Reviewing Ecological Services Office Evaluation:

A. Concurrence _____ Nonconcurrency _____

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):

Signature _____ **Date** _____

Title _____ **Office** _____

Appendix D. Information on Preparers

This document was prepared by Gypsy Hanks, Wildlife Biologist at Upper Ouachita NWR, with assistance from regional planner Tina Chouinard and the staff at Felsenthal NWR.

Draft Land Protection Plan
and Draft Environmental Assessment
for the Proposed Expansion of
**Felsenthal and Upper Ouachita
National Wildlife Refuges**

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January 2013

