U.S. Fish & Wildlife Service

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

DAHOMEY NATIONAL WILDLIFE REFUGE

Bolivar County, Mississippi

USFWS Photo

Southeast Region

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SECTION A. DRAFT LAND PROTECTION PLAN

I. Introduction and Purpose

A. PROJECT DESCRIPTION

This Draft Land Protection Plan (Draft LPP) identifies the acquisition boundary for the proposed expansion of Dahomey National Wildlife Refuge (NWR). Working with partners, the Fish and Wildlife Service (Service) delineated approximately 46,600 acres between the refuge and the Mississippi River for restoration, enhancement, and management as part of Dahomey NWR. These acres are encompassed by the recommended acquisition boundary proposed in Alternative 2 of the Draft Environmental Assessment (Draft EA) (Section B) for the proposed expansion of this refuge (Figure 1). The purposes of this Draft LPP are to:

- Provide landowners and the public with an outline of Service 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 our long-standing policy of acquiring land only from willing sellers– we will not buy any lands or easements if the owners are not interested in selling.

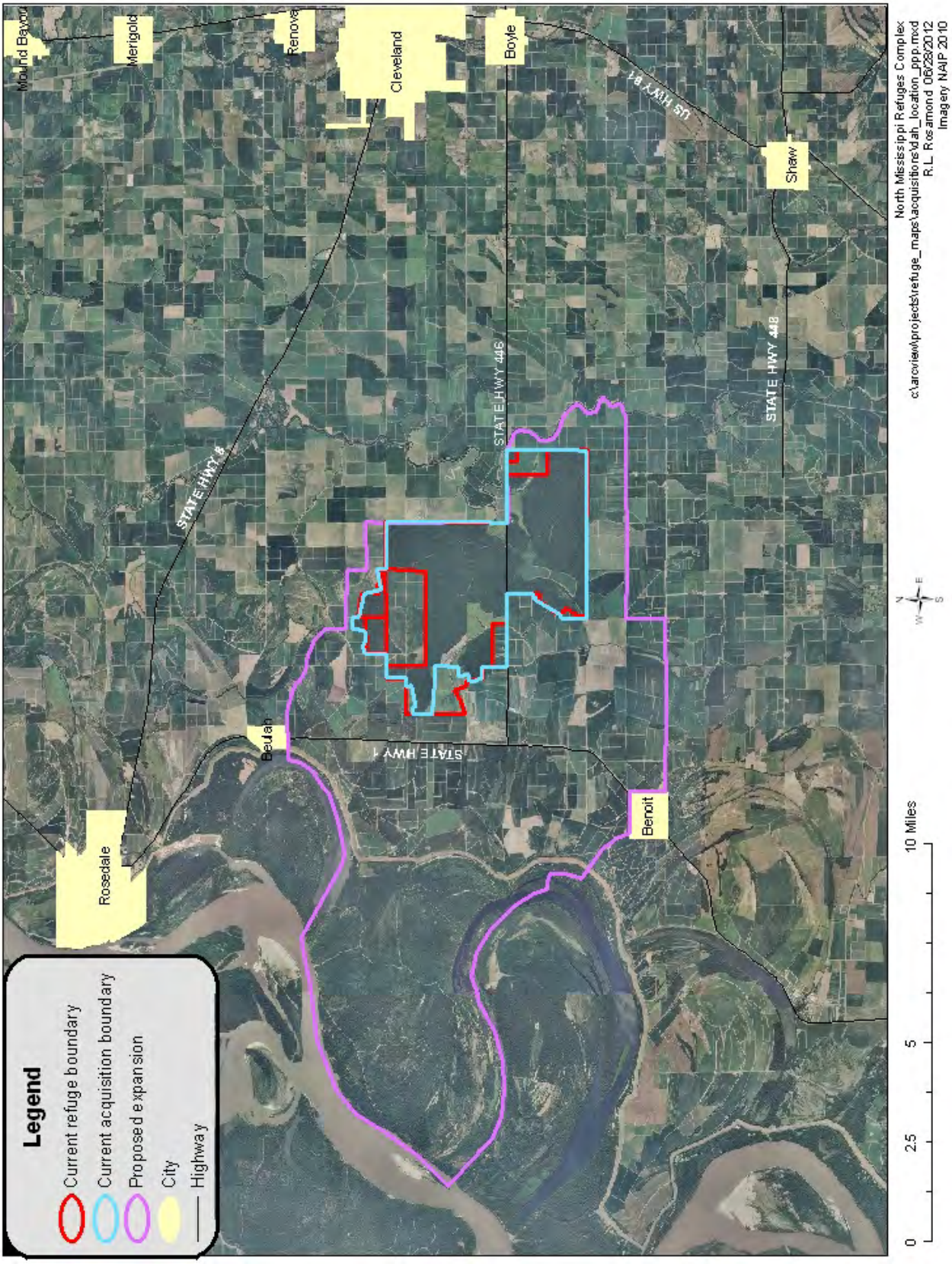
This Draft LPP presents the methods the Service and interested landowners could use to accomplish their objectives for wildlife habitat within the proposed refuge boundary.

B. REFUGE PURPOSES

Dahomey NWR was established in 1991 under the authority of the Migratory Bird Conservation Act and the Emergency Wetlands Resource Act. Under these Acts, the refuge purposes are: “for use as inviolate sanctuary, or for any other management purpose, for migratory birds,” “for the development, advancement, management, conservation, and protection of fish and wildlife resources,” 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”.

The goals of the proposed refuge expansion are to: (1) Provide for the restoration and conservation of native plant and animal communities on suitable sites; (2) provide habitat for migratory birds and threatened /endangered species; and (3) provide wildlife-dependent public use activities.

Figure 1. Dahomey NWR acquisition boundary and proposed expansion area



II. Resources

A. RESOURCES TO BE PROTECTED

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

- Create a travel corridor linking Dahomey NWR to Arkansas' "Big Woods."
- Link Whittington Bird Conservation Area (BCA) with Dahomey BCA and increase core forest area available for forest interior nesting songbirds.
- Provide habitat linkages between existing forests of Dahomey NWR and batture lands of the Mississippi River.
- Provide a vital travel corridor for black bears (state-listed species).
- Restore bottomland hardwood habitats.
- Reintroduce pondberry to Dahomey NWR.
- Restore, manage, and protect neotropical migratory songbird, wading bird, and waterfowl habitats.
- Protect occupied or historic habitat for one endangered bird and three birds of special concern.
- Provide forested wetland habitat to meet Lower Mississippi Valley Joint Venture waterfowl goals.
- Protect occupied or historic habitat for five rare plants.
- Restore and manage seasonal ponding of rainfall and pumped water to provide wetland and water quality functions.
- Improve habitat connectivity between the refuge and other regional conservation lands.
- Expand public use opportunities such as hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

B. RELATIONSHIP OF PROJECT TO LANDSCAPE CONSERVATION GOALS AND OBJECTIVES

The Lower Mississippi Valley Joint Venture (LMVJV) has developed habitat objectives for waterfowl throughout the Mississippi Alluvial Valley and further stepped down those objectives to individual national wildlife refuges and state wildlife management areas. For Dahomey NWR, those objectives include: 750 acres of forested wetland, 318 acres of managed moist-soil, and 218 acres of unharvested cropland. At the present time, Dahomey NWR provides 215 acres of unharvested crops on an annual basis. These crops are typically milo or corn and are flooded in the fall to allow

waterfowl access to these fields. The refuge also has a 560-acre greentree reservoir, which is flooded every other winter to provide forested wetland habitat for waterfowl.

Within this proposed acquisition boundary, moist-soil areas could be developed along the perimeter of the area to allow the refuge to meet its moist-soil management goals while still developing a contiguous forest area. At least some of this forest area could be flooded each year to provide forested wetland habitat to meet the LMVJV goals in their entirety. With the current refuge holdings, it is impossible to meet these goals.

In addition to waterfowl habitat objectives, the LMVJV has developed BCAs for forest birds. The BCAs are forested areas that can act as core acreage for the development of larger blocks of forest. These larger blocks ultimately will provide habitat for songbirds that nest in the forest interior. Dahomey NWR is located within the Dahomey BCA which totals approximately 20,000 acres with a core area of approximately 300 acres. The proposed expansion and subsequent reforestation would link the Dahomey BCA with the Whittington BCA, which encompasses the batture land due west of Dahomey NWR. The Whittington BCA totals approximately 95,000 acres, with an existing core area of 42,000 acres. Linking these two areas would provide a more contiguous forest which would result in higher quality habitat for nesting songbirds, travel corridors for black bears and other mammals, and the restoration of ecosystem functions.

One of the primary goals of the Service's Lower Mississippi River Ecosystem (LMRE) team is to protect, restore, and manage the wetlands of the LMRE. One objective is to restore and manage seasonal ponding of rainfall and pumped water to provide wetland and water quality functions. A strategy is to restore and manage wetland hydrology and provide food/forage on forested, moist-soil, and cropped wetlands on public lands to provide habitat for migratory waterfowl, wading birds, and shorebirds. Creating additional moist-soil units and forested wetland habitat within the proposed acquisition area would help to meet this objective. A second objective is to protect and restore bottomland hardwood forest habitat values and functions to support trust species. One strategy is to restore bottomland hardwood forests on national wildlife refuges to provide habitat for breeding forest birds. Another strategy is to connect forest patches to support viable populations of black bear (American and Louisiana) within their historic ranges. Reforestation of additional acreage within the proposed acquisition area would link existing forest patches, providing habitat for breeding forest birds and allowing black bears to move into areas they historically inhabited.

Acquisition and management of the proposed expansion area would contribute to the goals of the LMRE team and the LMVJV by providing connectivity between the existing Dahomey NWR and the Mississippi River batture lands, by increasing forest patch size as acquired lands are reforested, and by improving water quality as land is converted from agricultural land to natural and managed wetlands. This would provide habitat for wintering waterfowl, neotropical migratory birds, and black bears. Additionally, the reforestation of a large portion of these acquired lands could help offset impacts of climate change. Several proposed impacts of climate change in this area include higher average temperatures, decreased precipitation, and decreased groundwater availability. Forests provide shade, remove carbon from the atmosphere, and generally do not require irrigation. By reforesting these areas now, we would be decreasing the carbon load of the atmosphere, reducing the amount of water removed from groundwater for irrigation, and creating habitat to offset potential losses due to climate change. Because of the amount of time needed to develop a mature forest, this process needs to begin now, so the habitat would be there when needed.

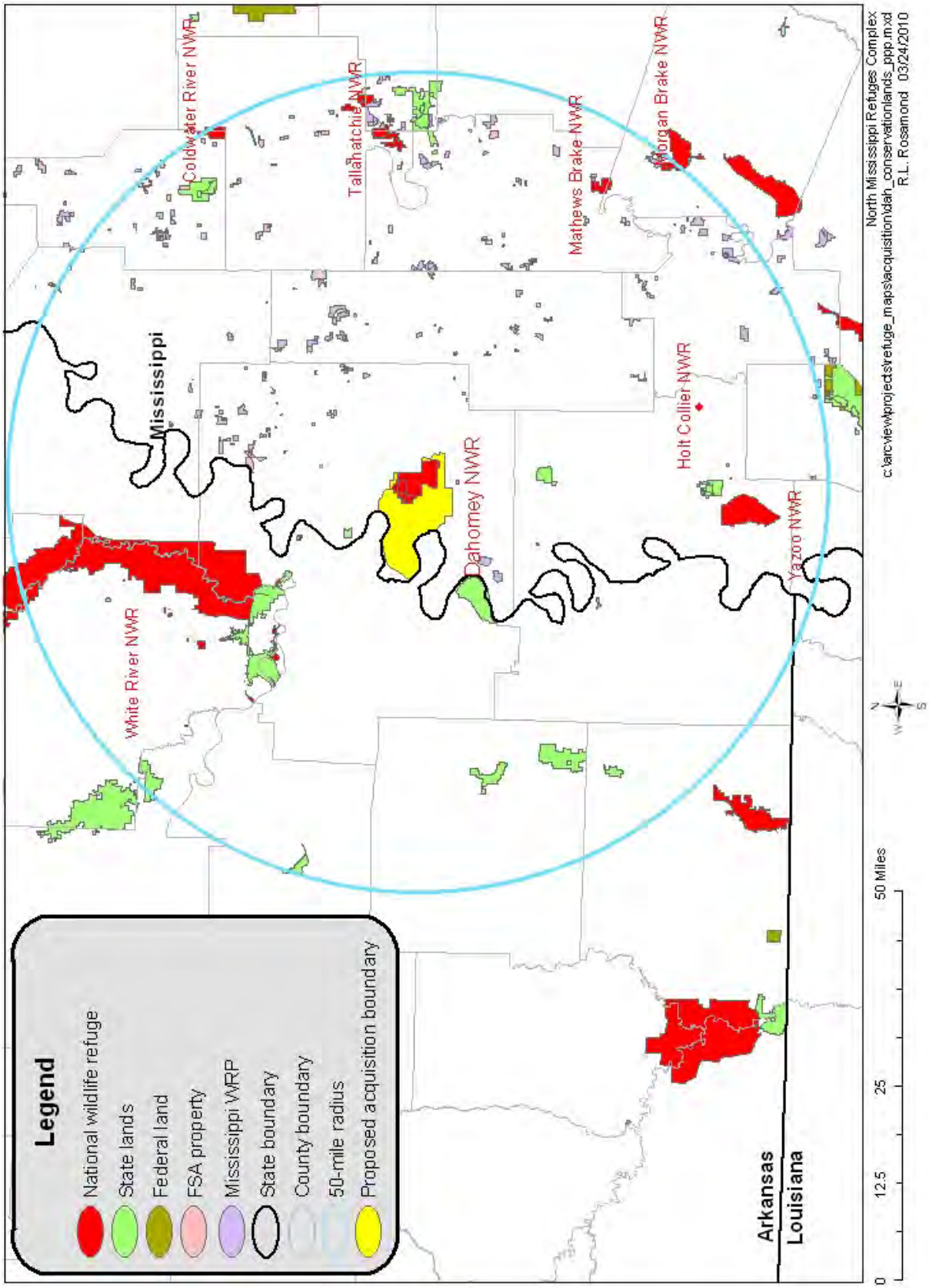
The proposal seeks to meet both present and future land conservation and resource protection needs for Dahomey NWR. By protecting additional conservation lands critical to the management of refuge resources, it is tied to many of the goals and objectives of the refuge's comprehensive conservation plan.

C. PARTNERSHIP EFFORTS/RELATED RESOURCES

Public attitudes are expected to be favorable if public uses such as hunting, fishing, birdwatching, and environmental education are made available on the new refuge lands. We have coordinated the development of this proposal with the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP), which supports the refuge expansion. Initial public reaction to the proposed refuge has been favorable. There is strong support for Service acquisition and management at Dahomey NWR. Public use programs at the refuge are extremely popular and sportsmen's groups favor the expansion and reforestation proposals. Conservation organizations have endorsed the project. Refuge staff is currently working with Delta State University to increase community involvement and use of the refuge. Delta State University, in partnership with the Mississippi Audubon Society, hosts a weekly seminar for teachers and educators to familiarize them with Dahomey NWR and the ecology of the Mississippi Alluvial Valley. One goal of this program is to increase the use of Dahomey NWR by local school systems as an outdoor classroom.

Dahomey NWR is centrally located among seven other national wildlife refuges (Figure 2). White River NWR is 30 miles northwest, Coldwater River NWR is 50 miles northeast, Tallahatchie NWR is 40 miles east, Mathews Brake NWR is 40 miles southeast, Morgan Brake NWR is 50 miles southeast, Holt Collier NWR is 35 miles south, and Yazoo NWR is 40 miles south of the project area. These refuges are managed primarily for migratory waterfowl. In addition, the North Mississippi National Wildlife Refuge Complex office in Grenada, Mississippi, manages or administers 128 Farm Service Agency (FSA) transfer properties and easements within 50 miles of the project area.

Figure 2. Related resources near Dahomey NWR



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, we considered and evaluated three alternatives. Alternative 2 is recommended, because it would better serve the outlined purposes and needs, as well as the stated goals and objectives, vision, and purposes of the refuge. This proposal seeks to meet both present and future land conservation and resource protection needs for Dahomey NWR. By protecting additional conservation lands critical to the management of refuge resources, it is tied to many of the goals and objectives of the refuge's comprehensive conservation plan.

B. LAND PROTECTION PRIORITIES

Our proposed action (Alternative 2) would result in the restoration, protection, and management of up to 46,600 acres of habitat as an expansion of Dahomey NWR, through a combination of fee-title purchases from willing sellers and less-than-fee-title interests (e.g., conservation easements and cooperative agreements) from willing sellers. We believe these are the minimum interests necessary to conserve and protect the fish and wildlife resources in the proposed area. The project areas have been prioritized for acquisition using the following criteria:

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

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 1 summarizes three land protection priorities and proposed methods of acquisition. Figures 3, 4, and 5 show the locations of the project areas and their respective priority groups.

PRIORITY GROUP I

This group consists of the agricultural lands which comprise the existing Angelina Farms property. The bulk of this area is adjacent to existing refuge holdings and is under a single ownership. Acquisition of this land would allow the refuge to double in size and would begin the process of linking the refuge to the Mississippi River. Restoration of this land to a bottomland hardwood forest would provide benefits at a landscape level by greatly reducing the pesticide and sediment loads entering streams and rivers, and by increasing the forested patch size to provide habitat for neotropical migratory birds and black bears.

PRIORITY GROUP II

This group represents agricultural lands protected by the Mississippi mainline levee under multiple ownerships. The acquisition and restoration of these lands would provide the landscape level benefits listed above, as well as linking the refuge to the forested land inside the mainline levee.

PRIORITY GROUP III

This group represents all lands in the proposed expansion area located within the batture, those lands between the mainline levee and the Mississippi River. These unprotected lands are subject to frequent flooding and are largely forested. Acquisition of these lands would provide protection against future land development, require minimal restoration, and offer additional public use opportunities.

With the above criteria in mind, we configured our 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 availability of 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.

Table 1. Protection priorities for the proposed expansion and recommended methods of acquisition*

Priority Group	Landowner ID #	Type of Landowners	Approximate Acreage	Number of Tracts	Methods of Acquisition (minimum interest)
1	4	Private	9339	18	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
2	1	Private	3.815369	1	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
	2	Private	8.984857	1	
	3	Private	1.388888	1	
	4	Private	223.3544792	2	
	5	Private	2.06484	1	
	7	Private	0.540375	1	
	8	Private	253.1816708	2	
	11	Local Govt	99.0589924	2	
	13	Private	.5323	1	
	14	Private	534.66	2	
	15	Private	3.27	2	
	16	Private	698.3505	10	
	18	Private	3.40	1	
	20	Private	8.433	1	

Priority Group	Landowner ID #	Type of Landowners	Approximate Acreage	Number of Tracts	Methods of Acquisition (minimum interest)
2	21	Private	264.5694	2	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
	22	Private	82.7414	1	
	24	Private	831.5548	10	
	25	Private	1316.963	16	
	27	Private	406.2172906	2	
	28	Private	334.7755	7	
	31	Private	77.73	1	
	32	Private	93.1111	1	
	33	Private	7.5800	1	
	34	Private	103.5885259	2	
	36	Private	332.8158766	3	
	39	Private	335.9033672	1	
	40	Private	14.71	1	
	41	Private	1690.813077	8	
	43	Private	1252.737244	17	
	44	Private	12.445	1	
	45	Private	787.8533913	4	
	47	Private	878.9298191	3	
	48	Private	267.34	2	
	49	Private	.495	1	
	50	Private	72.23785	2	
	51	Private	6.1918	1	
	52	Private	783.8483005	7	
	53	Private	7.4103	1	
	54	Private	216.4654502	3	
	56	Private	163.9680761	3	
	57	Private	344.3658155	2	
	58	Private	6.4810	1	
	61	Private	420.6283544	4	
	64	Private	6.6175	2	
	65	Private	1.069396773	2	

Priority Group	Landowner ID #	Type of Landowners	Approximate Acreage	Number of Tracts	Methods of Acquisition (minimum interest)
2	66	Private	657.9545735	2	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
	68	Private	1401.223959	5	
	70	Private	63.74242538	3	
	71	Private	19.593	1	
	72	Private	.4678	1	
	73	Private	115.3142656	2	
	74	Private	1.078136782	2	
	75	Private	40.095	1	
	77	Private	1.7916	1	
	78	Private	160.243	1	
	79	Private	345.3472161	3	
	82	Private	482.98	1	
	83	Private	1789.422523	5	
	86	Private	2.82696	1	
	89	Private	9.7657	2	
	90	Private	185.9727162	3	
	91	Private	5.5501	1	
	92	Private	81.038	1	
	93	Private	22.975	1	
	95	Private	260.0083018	2	
	96	Private	63.875	1	
	97	Private	477.3158796	6	
	98	Private	2.659	1	
	102	Private	32.853	1	
	103	Private	3.545	1	
	104	Private	10.961	1	
	105	Private	4.94135	1	
	106	Private	2.262	1	
	107	Private	494.1851007	2	
	108	Private	12.685	1	
	172	Private	1825.174511	13	

Priority Group	Landowner ID #	Type of Landowners	Approximate Acreage	Number of Tracts	Methods of Acquisition (minimum interest)
3	34	Private	39.555	1	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
	43	Private	207.088372	2	
	51	Private	27.508	1	
	55	Private	.055813	1	
	96	Private	14.906	1	
	110	Private	26.22459508	2	
	112	Private	.9562	1	
	114	Private	.432603	1	
	117	Private	2.426160509	2	
	118	Private	1.62135	1	
	119	Private	5.177873071	3	
	120	Private	62.9756994	1	
	122	Private	1730.961687	3	
	127	Private	0.40748	1	
	129	Private	83.79977	1	
	131	Private	6.025096	1	
	133	Private	171.4239297	2	
	135	Private	1.535741676	1	
	138	Private	27.86620965	1	
	139	Private	184.2779931	1	
	143	Private	1.258763906	2	
	146	Private	1.117023935	1	
	149	Private	.24262	1	
	151	Private	.6193	1	
	154	Private	2.639399974	2	
	155	Private	.401406	1	
	158	Private	1.1562	1	
	159	Private	.223743	1	
	160	Private	1.401358	1	
	161	Private	12569.50964	36	
	162	Private	1.864	1	

Priority Group	Landowner ID #	Type of Landowners	Approximate Acreage	Number of Tracts	Methods of Acquisition (minimum interest)
3	163	Private	1.696922786	1	Fee Title, Lease, Donation, Property Transfer, Conservation Easement, or Cooperative Agreement
	164	Private	2.78939624	2	
	166	Private	5.552753829	1	
	167	Private	7.930890557	1	
	168	Private	7.027768539	5	
	169	Private	0.406649334	1	
	171	Private	8.036201358	1	
	172	Private	62.69353815	1	
	173	Private	726.5430666	5	
	176	Private	62.32487551	2	
	177	Private	1.556495695	1	
	178	Private	44.83308463	1	
	179	Private	0.404648752	1	
	181	Private	73.86120784	1	
	183	Private	141.3300253	1	
	184	Local Govt	81.85688701	1	
	185	Private	719.385554	1	

** - Parcels with the same ID # are under the same ownership.*

Figure 3. Priority Group I

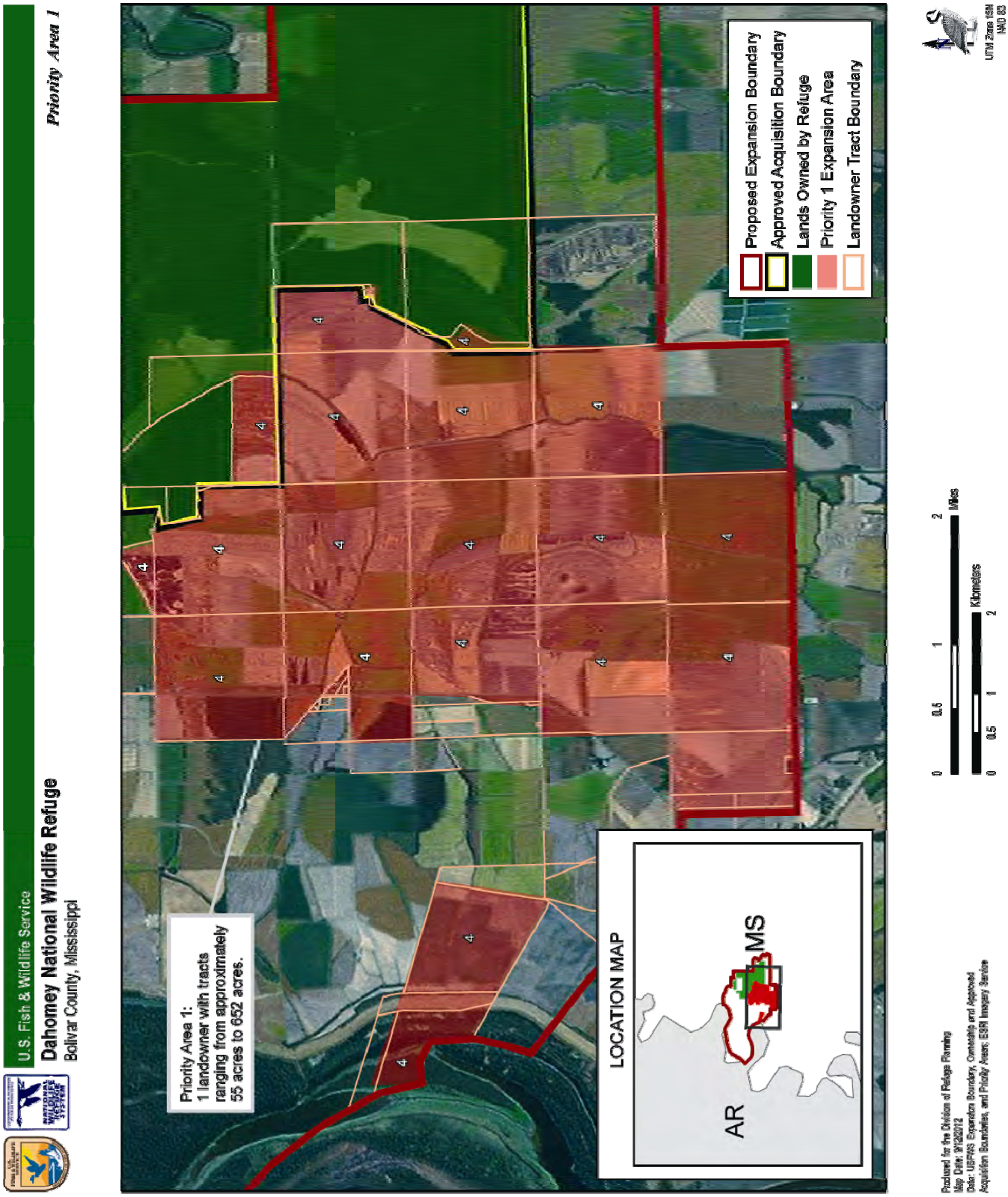


Figure 4. Priority Group II

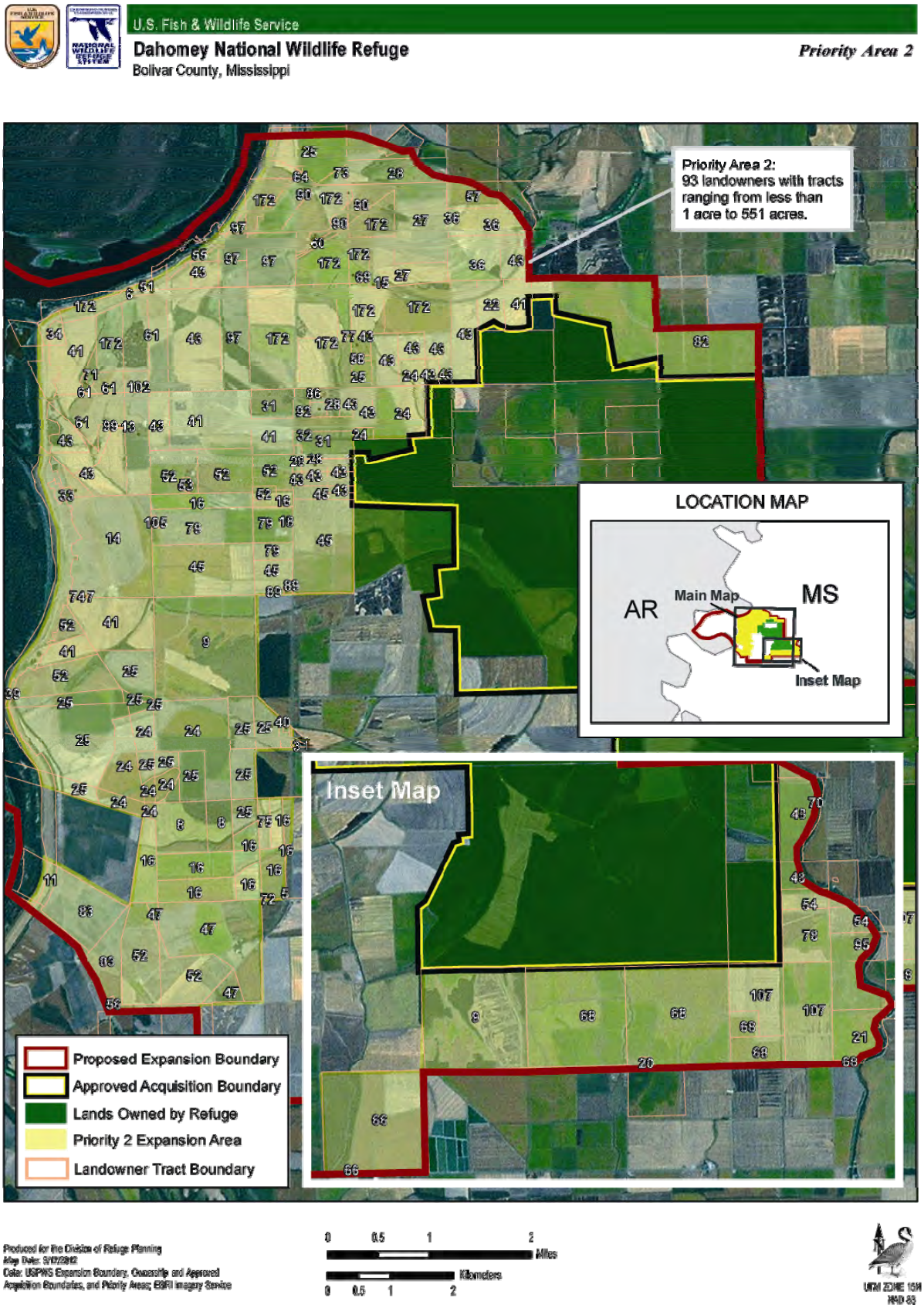


Figure 5. Priority Group III

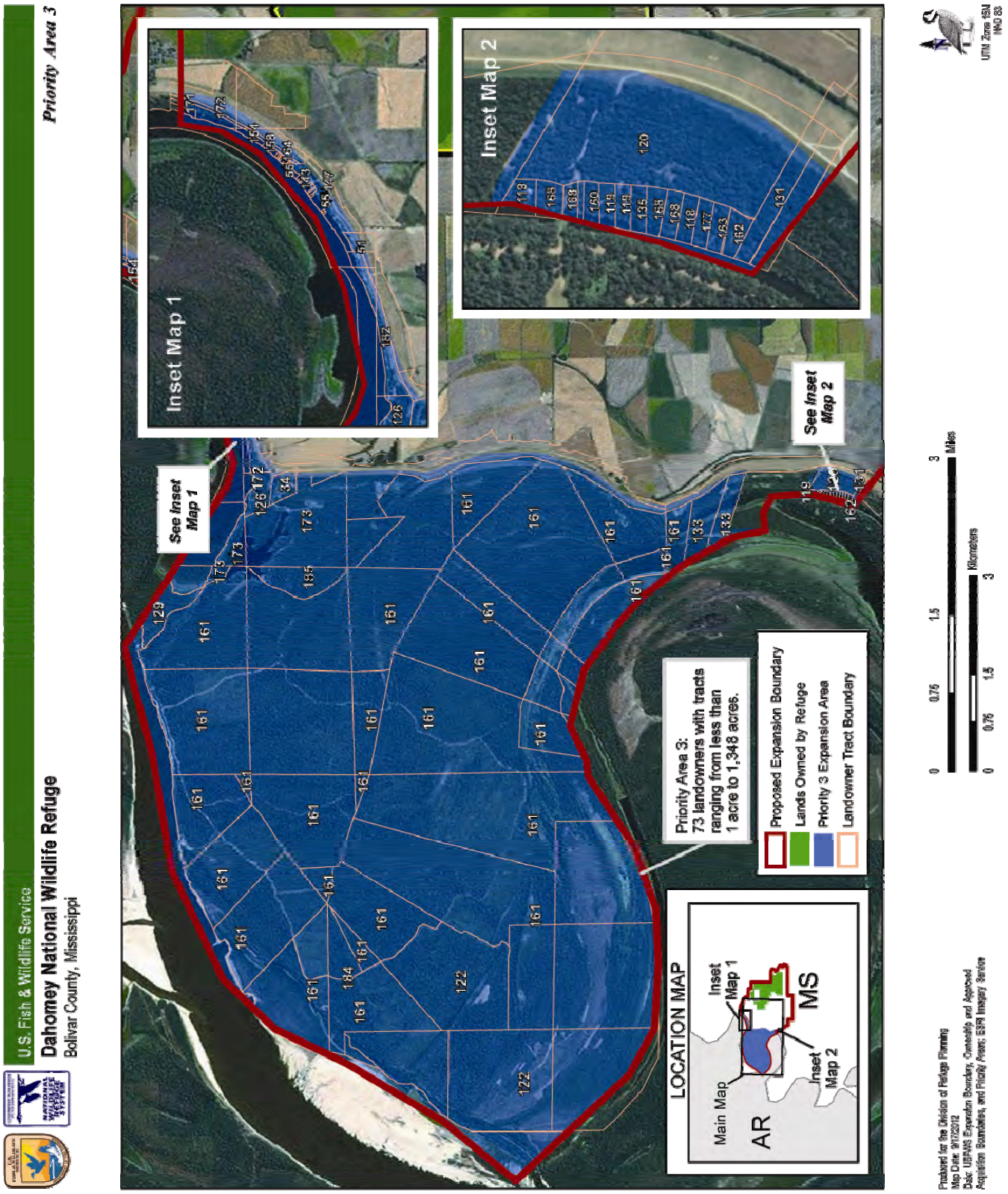
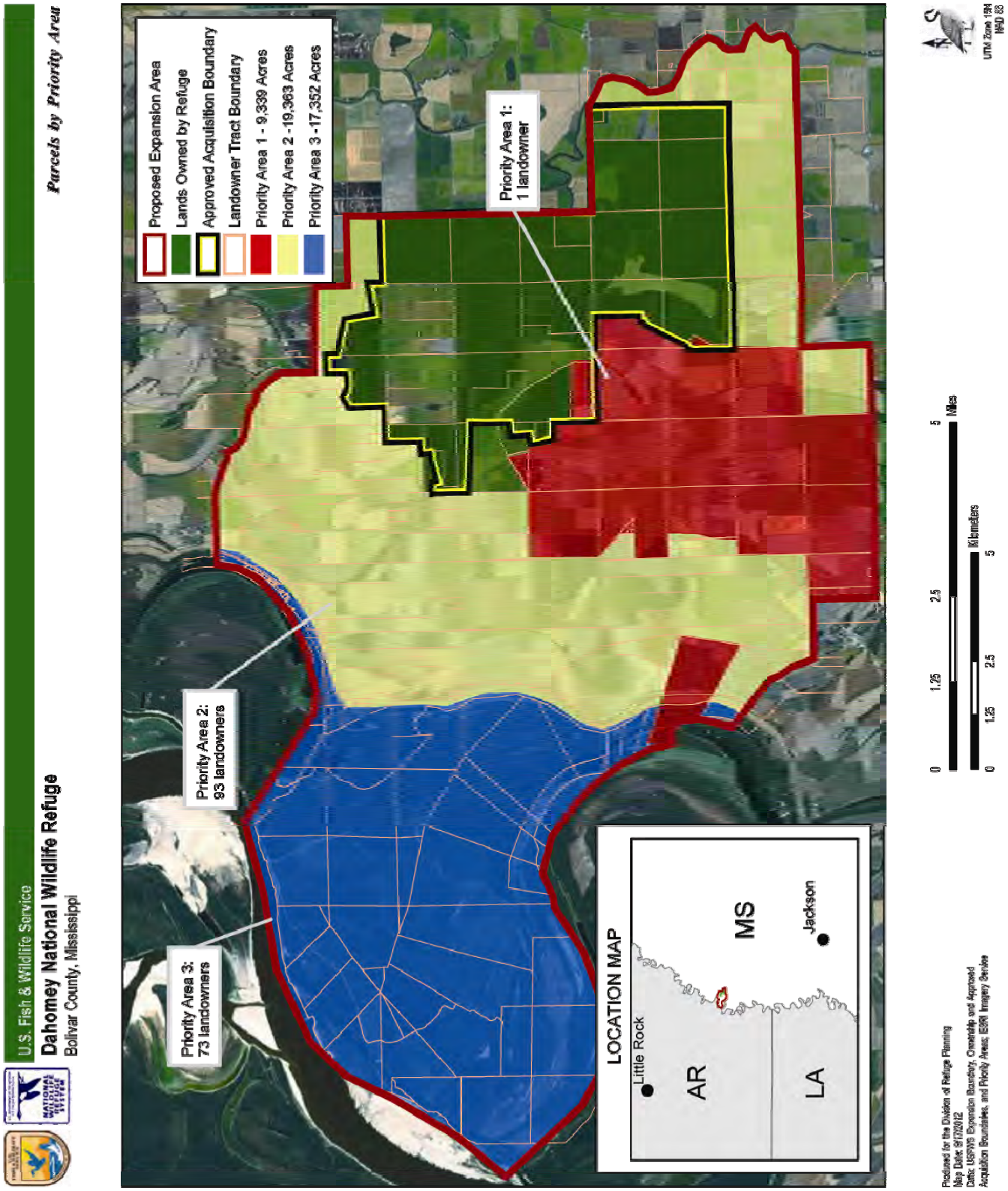


Figure 6. Project area land acquisition priority groups



C. LAND PROTECTION OPTIONS

The Service acquires lands and interests in lands, such as easements, and management rights in lands through 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 use 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 this Draft LPP:

Option 1: Less-than-fee-title acquisition by the Service
Option 2: 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 acquires it only from willing sellers. Our proposal includes a combination of the two options above. We believe 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.

OPTION 1. LESS-THAN-FEE-TITLE ACQUISITION

Under option 1, 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 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 would also allow for public use where appropriate. The Service would negotiate with each landowner, on a case-by-case basis, as to the extent of the rights it would be interested in purchasing. Those 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 on easement rights. Where conservation easements are identified, the Service 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 further describes the conditions and structure of easements.

OPTION 2. FEE-TITLE ACQUISITION

Under Option 2, 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 ensures 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, planting, or managing for the six priority public uses). The Service would propose fee-title acquisition when adequate land protection could not be assured under other ownerships, when active land management would be required, or when the current landowner would be unwilling to sell a partial interest, such as a conservation easement.

In some cases, it could become necessary to convert a previously acquired conservation easement to fee-title acquisition (e.g., 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

We may use several methods of acquiring either a full or a partial interest in the parcels identified for Service 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 or Easement; however, the method we would ultimately use depends partly on the 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 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 (as the availability of funding allows).

Easement Purchase

Easement purchase refers to the purchase of limited rights (less-than-fee) 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 our 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 Refuge System. 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.

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.

DONATION

We encourage donations in fee-title or conservation easement in the approved areas. We are not aware currently of any formal opportunities to accept donations of parcels in our land protection boundary.

EXCHANGE

We have the authority to exchange land in Service ownership for other land that has greater habitat or wildlife value. Inherent in this concept is the requirement to get 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, neighboring landowners are contacted to determine whether they are interested in selling their properties. If a landowner expresses an interest and gives us permission, a real estate appraiser will appraise the property to determine its market value. Once an appraisal has been approved, we can present an offer for the landowner’s consideration.

Appraisals conducted by 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.

We based 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. Our long-established policy is to work with willing sellers as funds become available, and we continue 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

The Service draws funding for land acquisition from the Migratory Bird Conservation Fund (MBCF) and the Land and Water Conservation Fund (LWCF). These funds 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 land and/or permanent conservation easements.

IV. Coordination

Scoping was conducted during May and June 2012. The purpose of scoping was to seek input from the public regarding the expansion of Dahomey NWR and to identify the issues that needed to be addressed in the planning process.

An intergovernmental meeting was held to inform state, federal, and local agencies of the Service's refuge expansion proposal. This meeting was held at Delta State University in Cleveland, Mississippi, on May 17, 2012, and was attended by MDWFP, Board of Mississippi Levee Commissioners for Bolivar County, and Friends of Dahomey NWR. Three weeks later, a public scoping meeting was held at the Bolivar County Extension Office in Cleveland on June 6, 2012. This meeting was attended by landowners, members of the refuge's Friends Group, and a representative from the Mississippi Farm Bureau Federation. Press coverage included a reporter/cameraman from a television station in Greenville, Mississippi. Both meetings generated several questions regarding the proposed expansion.

The initial public reaction to the proposed refuge expansion has been generally favorable. Dahomey NWR and other refuges and wildlife management areas in Mississippi are popular with sportsmen, and most conservation groups support the Service's land acquisition program. During the public meetings, support for the proposed expansion was expressed by the Friends group. Some questions and/or concerns were raised by individuals regarding condemnation or eminent domain. The Service's policy of acquiring land only from willing sellers was reiterated. One question was asked regarding the formula for calculating refuge revenue sharing payments to the county.

SECTION B. ENVIRONMENTAL ASSESSMENT

I. Purpose and Need For Action

A. INTRODUCTION

The U.S. Fish and Wildlife Service (Service), Southeast Region, proposes to restore, protect, and manage bottomland hardwood habitat in Bolivar County, Mississippi, through the expansion of Dahomey National Wildlife Refuge (NWR).

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 30 million visitors annually hunt, fish, observe and photograph wildlife, or participate in educational and interpretive activities on refuges.

The scope of this environmental assessment is limited to the proposed acquisition of lands for the expansion of Dahomey NWR. It is not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. Once the refuge boundary is expanded and the needed lands or interests in lands are acquired, the Service will update the North Mississippi National Wildlife Refuge Complex Comprehensive Conservation Plan (2005) to incorporate the new lands and resources under its control, as it is referenced in Section 4(b) of Public Law 106-300.

B. PURPOSE AND NEED

This environmental assessment presents a proposal for restoration and protection of additional wildlife habitat in Bolivar County, through the expansion of the Dahomey NWR. This proposal would expand the acquisition boundaries for the refuge.

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 jurisdictions unless and until an interest is acquired. Land interests are acquired from willing sellers/owners only. Any landowner that is 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, control of trespass; the right to sell the property to any other party; and the responsibility to pay local real estate or property taxes. Additional information regarding the Service's land acquisition policy is provided in subsection F.

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:

- Create a travel corridor linking Dahomey NWR to Arkansas' "Big Woods."
- Link Whittington Bird Conservation Area (BCA) with Dahomey BCA and increase core forest area available for forest interior nesting songbirds.
- Provide habitat linkages between existing forests of Dahomey and Mississippi River batture lands.
- Provide a vital travel corridor for black bear (state-listed species).
- Restore bottomland hardwood habitat.
- Reintroduce pondberry to Dahomey NWR.
- Restore, manage, and protect neotropical migratory songbird, wading bird, and waterfowl habitats.
- Protect occupied or historic habitat for one endangered bird and three birds of special concern.
- Provide forested wetland habitat to meet LMVJV waterfowl goals.
- Protection of occupied or historic habitat for five rare plants.
- Restore and manage seasonal ponding of rainfall and pumped water to provide wetland and water quality functions.
- Improve habitat connectivity between the refuge and other regional conservation lands.
- Expand public use opportunities such as hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

C. BACKGROUND

Dahomey NWR was established in 1991 under the Migratory Bird Conservation Act and the Emergency Wetlands Resources Act. Under these Acts, the refuge's purpose is "for use as inviolate sanctuary, or for any other management purpose, for migratory birds," "for the development, advancement, management, conservation, and protection of fish and wildlife resources," 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."

From 1991 to 1993, the initial 9,272 acres were purchased from The Nature Conservancy, the agency that purchased the land in 1990 to hold for the Service. Additionally, in 1991, the Mississippi Department of Transportation transferred 162 acres to the refuge as a mitigation bank. The most recent addition was 260 acres, originally leased in 1991 from the Bolivar County School District. This lease was renewed in 2011 for 15 years (Figure 7). At the present time, all available land within the current acquisition boundary has been purchased.

Located in Bolivar County, Mississippi, Dahomey NWR is approximately 10 miles west-southwest of Cleveland, and approximately 9 miles west of Boyle on Mississippi Highway 446 (Figure 1). The proposed expansion area is located west of the current refuge holdings. The lands within this proposal lie between the Dahomey NWR and the Mississippi River and cover a total of approximately 46,600 acres (Figure 1). Access within this area is well-developed. U.S. Highway 1 runs north-south through the length of the area and several county access roads connect to U.S. Highway 1.

Dahomey NWR is managed as part of the North Mississippi National Wildlife Refuge Complex (Complex), headquartered in Grenada, Mississippi. The Complex is comprised of Coldwater River, Dahomey, and Tallahatchie NWRs and a number of smaller fee-title properties and floodplain and conservation easements. The Complex provides habitat for large concentrations of wintering waterfowl, numerous species of neotropical migratory birds, and resident wildlife species.

D. PROPOSED ACTION

The Service proposes to acquire, restore, and manage certain lands between the refuge and the Mississippi River by acquisition through fee-title purchases from willing sellers and through leases, conservation easements, and/or cooperative agreements from willing landowners. All lands and waters acquired would be managed by the Service as part of Dahomey NWR. The goals of the proposed refuge expansion would be to: (1) Provide for the restoration and conservation of native plant and animal communities on suitable sites; (2) provide habitat for migratory birds and threatened /endangered species; and (3) provide wildlife-dependent public use activities.

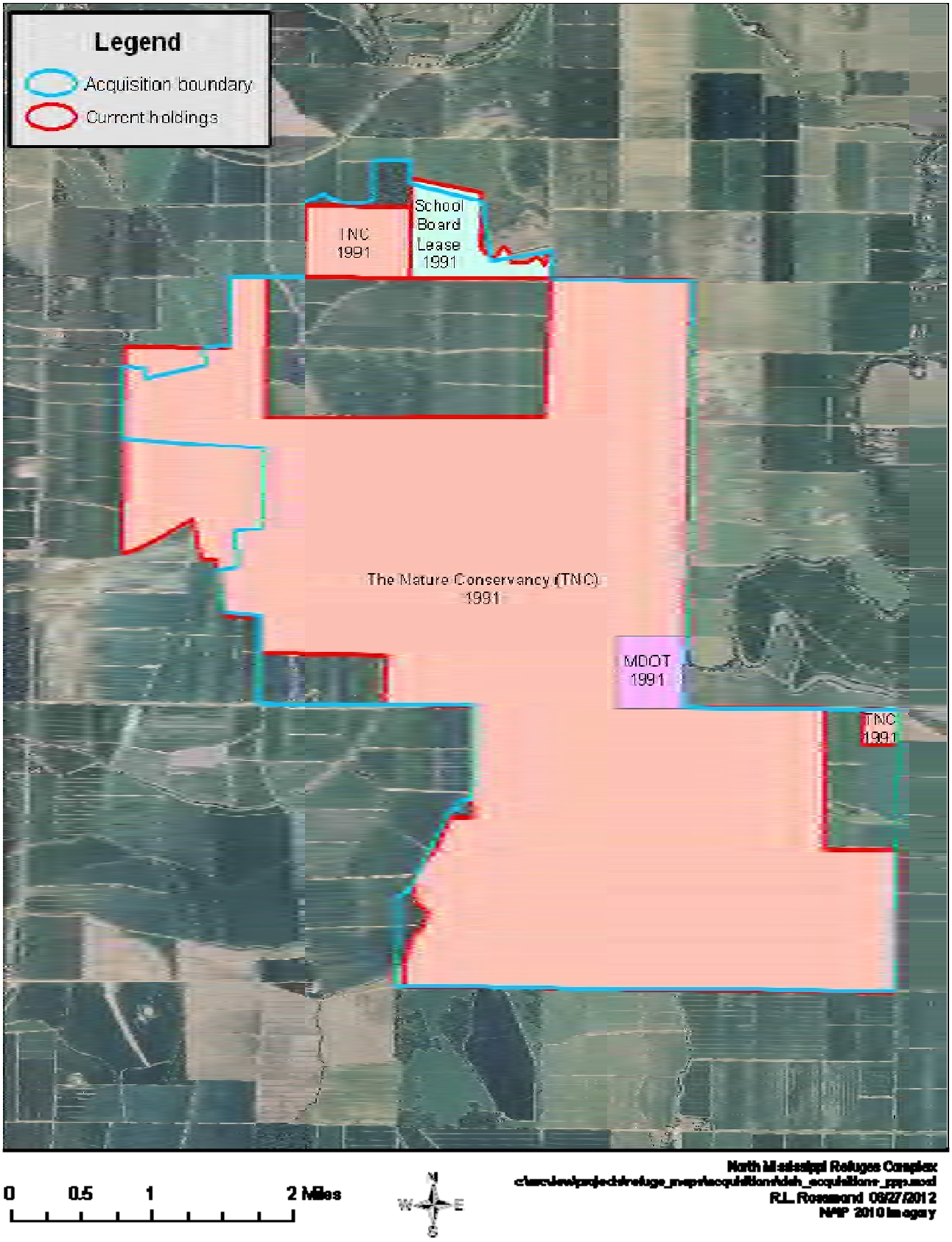
In acquiring these lands, the Service would coordinate with the State of Mississippi to seek concurrent law enforcement jurisdiction over the area.

E. COORDINATION AND CONSULTATION

Public attitudes are expected to be favorable if public uses such as hunting, fishing, birdwatching, and environmental education are made available on the new refuge lands. The Service has coordinated the development of this proposal with the Mississippi Department of Wildlife, Fisheries, and Parks, which supports the refuge expansion. Initial public reaction to the proposed refuge expansion has been favorable. There is strong support for Service acquisition and management at Dahomey NWR. Public use programs at the refuge are extremely popular and sportsmen's groups favor the expansion and reforestation proposals. Conservation organizations have endorsed the project. Refuge staff is currently working with Delta State University to increase community involvement and use of the refuge as an outdoor classroom. Delta State University, in partnership with the Mississippi Audubon Society, has hosted seminars for teachers and educators to familiarize them with Dahomey NWR and the ecology of the MAV. One goal of this program is to increase the use of Dahomey NWR by local school systems as an outdoor classroom.

The Service has also coordinated the development of this proposal with MDWFP, Board of Mississippi River Levee Commissioners for Bolivar County, Mississippi Natural Heritage Program, Mississippi Farm Bureau Federation, Bolivar County Board of Supervisors, and Wildlife Mississippi.

Figure 7. Acquisitions by tract at Dahomey NWR



II. Affected Environment

This section describes the environment that would be affected by the implementation of the alternatives. It is organized under the following impact topics, which includes the area's natural vegetation, land use, fish and wildlife resources, related resources, landscape perspective, climate change factors, cultural resources, and socioeconomic and sociocultural conditions.

A. GENERAL

Historically, the project area was bottomland hardwood forest. Construction of the Mississippi River mainline levee and drainage projects afforded flood protection to approximately 28,000 acres and enabled the majority of this area to be cleared. Currently, less than 5 percent of the protected area contains bottomland hardwood forest. The bulk of the land is still being used for agricultural production, primarily rice, soybeans, cotton, and winter wheat. The remaining 18,000 acres are located inside the Mississippi River mainline levee and are classified as batture land. This area is largely forested and subjected to annual flooding. Primary use of this area is for recreational hunting. The majority of additional lands acquired would be restored to bottomland hardwood forest by planting bare-root seedlings. The ultimate goal of this project is to provide habitat linkages between the existing forests of Dahomey NWR and the batture land, which would provide a travel corridor between Dahomey NWR and the 150,000-acre White River NWR.

B. HABITAT AND LAND USE

Fragmented Bottomland Hardwood Wetlands

These small scattered tracts are generally unmanaged and contain poor quality bottomland hardwood habitat.

Mississippi River Batture Lands

The batture lands are those lands which lie between the river and the mainline Mississippi River levee. Habitat is a mix of sand and gravel bars, old oxbows, blowout holes, old forests, young forests, and cropland.

The bottomland hardwood forest is the dominant natural plant component of batture lands. It is maintained by regular back- and head-water flood events and localized ponding on poorly drained soils. Site conditions within the batture lands range from permanently flooded areas supporting only emergent or floating aquatic vegetation to high elevation sites that support mature hardwood forests.

The distribution of bottomland hardwood communities is determined by timing, frequency, and duration of flooding. Elevation differences of only a few inches can result in great differences in soil saturation characteristics and plant species. As a result, much variability exists within a bottomland hardwood ecosystem, ranging from the bald cypress/tupelo swamp community that develops on frequently inundated sites with permanently saturated soils, to the cherrybark oak/pecan community found on the sites subjected to temporary flooding. Between these rather distinct community types are the more transitional, less distinguishable overcup oak/water hickory, elm/ash/hackberry, and sweetgum/red oak communities (Connor and Sharitz 2005).

Agricultural Lands

Most of the agricultural lands are very productive, precision land-leveled fields. Crops generally grown include corn, rice, soybeans, and winter wheat.

C. WILDLIFE RESOURCES

The diversity of forests and other habitat characterizing the batture lands provides an extraordinary habitat for a range of species utilizing the Mississippi River Alluvial Plain. River floodplain systems are highly productive and provide exceptional habitat for a variety of vertebrates, including foraging and spawning fish, amphibians, and reptiles. Over 240 fish species, 45 species of reptiles and amphibians, and 37 species of mussels depend on the river and floodplain system of MSRAP. In addition, 50 species of mammals and approximately 60 percent of all bird species in the contiguous United States currently utilize the Mississippi River and its tributaries and/or their associated floodplains.

Waterfowl, Shorebirds, and Other Migratory Birds

The batture lands provide significant habitat for migrating neotropical songbirds as well as wintering waterfowl. These lands are included in the Whittington Bird Conservation Area. Bird Conservation Areas (BCA's) were developed by the LMVJV as focal areas for forest bird management. Acquisition of lands within this project area and subsequent reforestation would link the Whittington BCA with the Dahomey BCA and increase the core forest area available for forest interior nesting songbirds (Figure 8). Historical evidence of ivory-billed woodpeckers in the Dahomey woods (1939), coupled with recent (2005) sightings of the woodpeckers at Cache River NWR in Arkansas, increases the importance of creating a travel corridor linking Dahomey NWR to Arkansas' "Big Woods."

Mammals

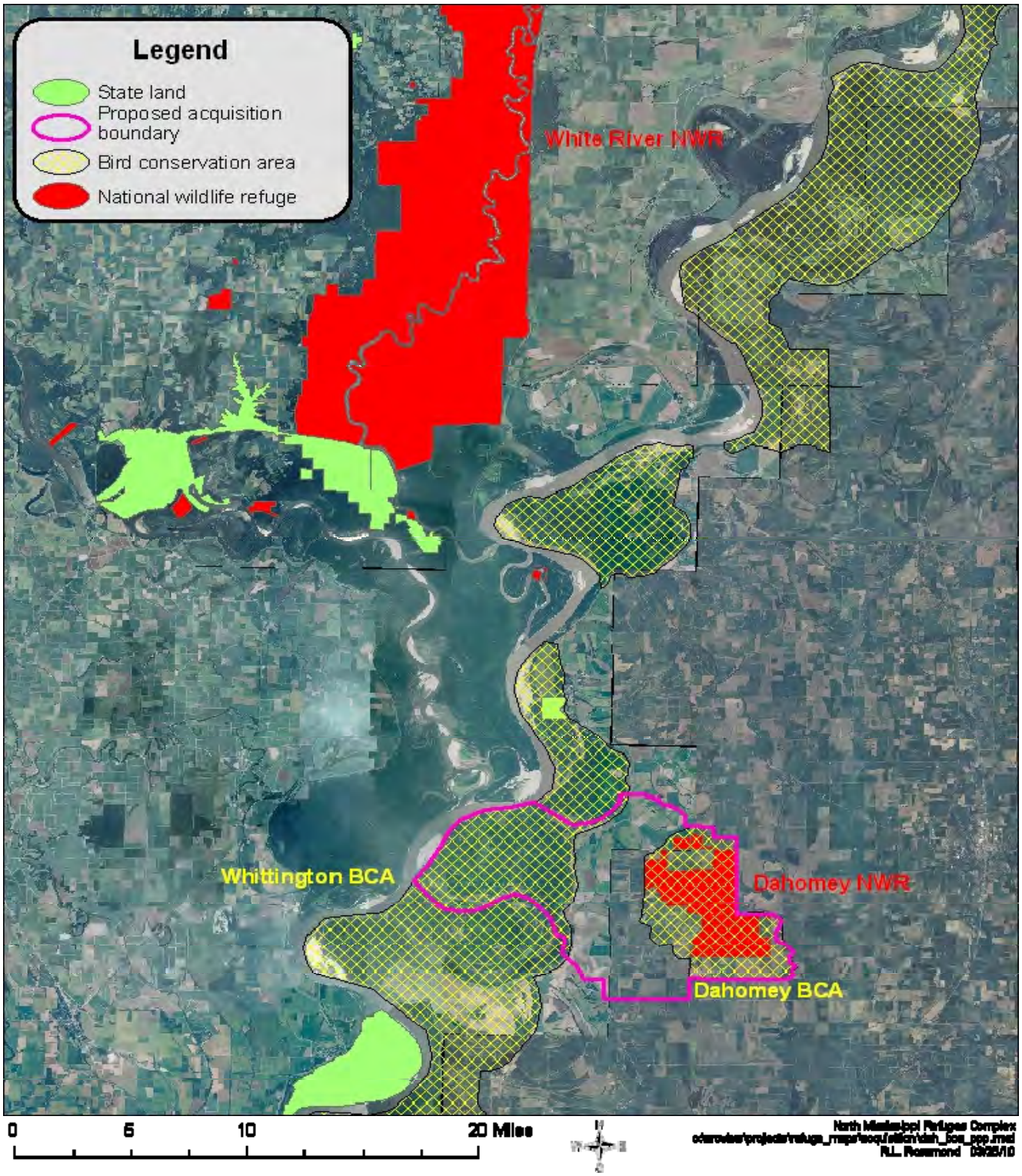
The MDWFP has several radio-collared black bears (a state-listed species) that use the batture land year-round. Reforesting the area between Dahomey NWR and the batture land would provide a vital travel corridor for the black bear. Additionally, Mississippi State University has a major bear research project in the state, investigating the expansion of the black bear population into areas where it once occurred. The ability to monitor bears' use of a newly created travel corridor would be invaluable to the project.

Threatened and Endangered Species

E - Least tern (*Sterna antillarum*)
* Bald eagle (*Haliaeetus leucocephalus*)

* Bald eagle is now delisted. Nesting bald eagles and their nest trees are protected by law under the Bald and Golden Eagle Protection Act. As population numbers increase, eagles may be found throughout the state.

Figure 8. Bird Conservation Areas



Other Species of Special Concern

According to the Natural Heritage Program in Mississippi, the following species of special concern have been documented to occur or are likely to occur within the proposed expansion area.

Mammals

Black bear (*Ursus americanus*)

Birds

Golden eagle (*Aquila chrysaetos*)
White ibis (*Eudocimus albus*)

Fish

Mud darter (*Ethostoma asprigene*)

Freshwater mussels

Louisiana fatmucket (*Lampsilis hydiana*)
Wartyback (*Quadrula nodulata*)

Rare Plants

Table 2. Documented or likely occurrences of rare plant species*

Scientific Name	Common Name	Global Rank	State Rank
Carya laciniosa	**Big Shellbark Hickory**	G5	S2S3
Fraxinus profunda	**Pumpkin Ash**	G4	S3
Glyceria arkansana	**Arkansas Manna-Grass**	G5	S3
Iris fulva	**Red Flag Iris**	G5	S3
Menispermum canadense	**Canada Moonseed**	G5	S3

** see Appendix D for the Global- and State-Ranking Systems*

D. FISHERY RESOURCES

The most significant fishery resources within the proposed expansion area are the backwater habitats along the Mississippi River. Spawning and early life history dynamics of fishes found in this backwater floodplain system are directly associated with the height and duration of the flooding. During springtime flooding, the shallow water throughout the batture lands provides essential spawning and foraging habitat for a variety of fish species. After the eggs hatch, the floodplain also provides the slack-water, structure-filled habitat needed by the young fish. Permanent habitats, such as oxbow lakes and abandoned channels (Lake Beulah, Lake Vermillon, and Lake Whittington), provide the pond-like conditions preferred by important sportfishes such as crappie, bream, and largemouth bass (Jackson 2005).

Of the 109 species of freshwater fish in the Lower Mississippi River, more than half depend on the backwater habitats provided by the floodplain. The floodplain also provides a rich food supply for not only the young fish, but for all fish in the river. In lakes and ponds, phytoplankton and aquatic plants convert the sun's energy to chemical energy that fuels the aquatic food web.

E. RELATED RESOURCES

Dahomey NWR is centrally located among seven other national wildlife refuges (Figure 2). White River NWR is 30 miles northwest, Coldwater River NWR is 50 miles northeast, Tallahatchie NWR is 40 miles east, Mathews Brake NWR is 40 miles southeast, Morgan Brake NWR is 50 miles southeast, Holt Collier NWR is 35 miles south, and Yazoo NWR is 40 miles south of the project area. These refuges are managed primarily for migratory waterfowl. In addition, the Complex office in Grenada manages or administers 128 Farm Service Agency transfer properties and easements within 50 miles of the project area.

F. CLIMATE CHANGE

Global climate change poses risks to human health and to terrestrial and aquatic ecosystems. Important economic resources, such as agriculture, forestry, fisheries, and water, also may be affected. Warmer temperatures, more severe droughts and floods, and sea level rise could have a wide range of impacts. All these stresses can add to existing stresses on resources caused by other influences such as population growth, land-use changes, and pollution.

The climate in Mississippi has always been variable and sometimes extreme—and climate change may intensify this historical pattern. Average state temperatures have varied substantially over the past century, with a warming trend since the late 1960s. Average rainfall has changed only a little, with summers becoming slightly drier and winters slightly wetter, and extreme rainfall events have become more frequent. Sea level along the Gulf coast has risen by as much as 8 inches over the past 100 years due to a combination of globally rising seas and substantial local sinking of the land (subsidence) (UCS 2009).

G. SOCIOECONOMIC AND SOCIOCULTURAL CONDITIONS

The county of Bolivar was created on February 9, 1836, from the Choctaw Cession of 1830, during the administration of Governor Charles Lynch. It was named for General Simon Bolivar, a South American patriot, and contained 40 townships with an area of 1,440 square miles. Its present area is 879 square miles.

The first Bolivar County courthouse was a frame building erected in 1841, on a high sand ridge about two miles northwest of the present town of Beulah, at a cost of $595. Over the next 30 years, the county seat of government was moved several times, finally coming to rest in Rosedale, in the early 1870s. A courthouse was built there in 1872. Rosedale originally was known as Floreyville, but the name was changed to Rosedale in 1876 (Sillers 1948).

The county is now divided into two judicial districts, the line of division running north and south. Rosedale, situated on the Mississippi River, is the county seat of the first district, and Cleveland, situated on the main line of the Yazoo and Mississippi Valley Railroad, is the county seat of the second district.

The first settlers of Bolivar County were planters who found the 40- to 60-foot-deep Delta soil to be rich and fertile. The land had to first be laboriously cleared of the evergreen, cane, and bamboo, but once cleared, the settlers found rivers, bayous, and lakes filled with edible fish, such as bream, crappie, and bass, and big river catfish, weighing as much as 200 pounds. Game, such as wild ducks, turkeys, deer, and quail were found in large numbers. The Mississippi River levee system was first implemented during the 1850s to the 1860s.

The first settlement in Bolivar County was Georgetown, located in the southern part of the county. Georgetown was a river landing, and was located on a plantation called Timber Lake Place, belonging to John L. Martin of Kentucky.

Bolivar County had 2,577 residents in 1850 and 10,471 in 1860. The vast majority of the county's pre-Civil War populace was made up of slaves.

The Civil War brought a temporary end to what had been a period of tremendous material progress in Bolivar County. The county suffered numerous assaults by Union troops. At Prentiss, the county seat during the Civil War, invading Union forces burned much of the town, including Bolivar County's first brick courthouse. While the county's able-bodied men were off fighting for the losing cause of the confederacy, their homes and properties were destroyed.

The Mississippi River always has been a factor in the socioeconomic and sociocultural conditions in Bolivar County. The lower alluvial valley of the Mississippi River is a relatively flat plain of about 35,000 square miles bordering on the river which would be overflowed during time of high water, if it were not for man-made protective works. Floods of 1849 and 1850, which caused widespread damage in the Mississippi River Valley, revealed the national interest in controlling the mighty river. By the year 1879, the need for improvement of the Mississippi River had become widely recognized. Accordingly, in that year, Congress established the Mississippi River Commission. In 1882, three years after establishment of the Commission, one of the most disastrous floods ever known devastated the entire delta area. The losses were appalling. During that flood there were hundreds of crevasses, and the outlook for a permanent solution to flooding in the Mississippi Valley was disheartening. Major floods again occurred in 1912, 1913, and 1927. The flood of 1927 was the most disastrous in the history of the Lower Mississippi Valley. An area of about 26,000 square miles was inundated. Levees were breached, and cities, towns, and farms were laid waste. Crops were destroyed, and industries and transportation paralyzed.

Today, the main stem Mississippi River levee system, comprised of levees, floodwalls, and various control structures, is 1,607 miles long. The levees, constructed by the Federal Government, are maintained by local interests, except for government assistance as necessary during major floods. Periodic inspections of maintenance are made by personnel from the Corps of Engineers

and from local levee and drainage districts, as it is essential that the levees be maintained in good condition for their proper functioning in the flood control plan. However, the river remains a formidable force throughout the alluvial valley as evidenced by flood damages from 1993-98.

Today, in Bolivar County, there are 25 manufacturing industries employing over 3,000 people, and a strong effort is being made to attract additional industrial employers by a team of local government, business, and industry leaders and private citizens (Bolivar County n. d.).

Bolivar County has fully developed industrial parks in Cleveland, Shelby, and Rosedale, totaling approximately 2,260 developed acres. These parks have the location, space, utility, and transportation requirements needed to attract new prospective industries.

The Rosedale-Bolivar County Port is among the fastest-growing ports on the Inland Waterway System.

A large portion of Bolivar County is in the federally designated Empowerment Zone, and Bolivar County is included in the newly formed Delta Regional Authority (DRA), a federally funded agency covering an eight-state region of 236 counties. The DRA helps economically distressed communities to leverage other federal and state programs focused on basic infrastructure development and transportation improvements, business development, and job training services.

The quality of life in Bolivar County is strongly influenced by Delta State University, two community colleges, advanced healthcare facilities, opportunities for outdoor recreation, various cultural activities, and safe, friendly neighborhoods.

Bolivar County is bordered by Coahoma County (north), Sunflower County (east), Washington County (south), and Desha County, Arkansas (west). Cities and towns include Alligator, Benoit, Beulah, Boyle, Cleveland, Duncan, Gunnison, Merigold, Mound Bayou, Pace, Renova, Rosedale, Shaw, Shelby, and Winstonville.

Outdoor recreation pursuits such as hunting and fishing are traditional and favored pastimes for local residents and tourists in Bolivar County and the Mississippi Delta. The State of Mississippi manages several wildlife management areas and public lakes within the delta. In addition, the leasing of private land for hunting is becoming increasingly popular.

If the proposed project lands are acquired for Dahomey NWR, the cost would be based on the fair market values of the properties as determined by appraisals. The lands acquired would become part of the National Wildlife Refuge System, and some land use changes may occur, however, these are not expected to cause any significant economic or sociocultural impacts to the local communities.

H. CULTURAL RESOURCES

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 National Register of Historic Places (NRHP). In accordance with these regulations, the Service has coordinated the review of this proposal with the Mississippi State Historic Preservation Office.

The Service believes that the proposed acquisition of lands would have no adverse effects 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.

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 project lands identified in this proposal. 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 (i.e., Clean Water Act and state water quality and pollution laws, and the discretion of the private landowners).

B. ALTERNATIVE 2: PROTECTION AND MANAGEMENT OF UP TO 46,600 ACRES BY THE FISH AND WILDLIFE SERVICE (PROPOSED ACTION)

Under this alternative, the Service would acquire an interest in up to 46,600 acres for restoration, enhancement, and management as part of Dahomey NWR (Figure 9). These areas would be included in the approved acquisition boundary for the refuge. This is the proposed action, as the Service has the expertise and means to manage these lands for a diversity of wildlife habitats, with special emphasis on migratory birds and endangered species in order to provide lasting benefits to the public.

C. ALTERNATIVE 3: ALTERNATIVE 3: PROTECTION AND MANAGEMENT OF UP TO 63,500 ACRES BY THE FISH AND WILDLIFE SERVICE

Under this alternative, the Service would acquire an interest in up to 63,500 acres for restoration, enhancement, and management as part of Dahomey NWR (Figure 10). 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 9. Lands included in the proposed project under Alternative 2

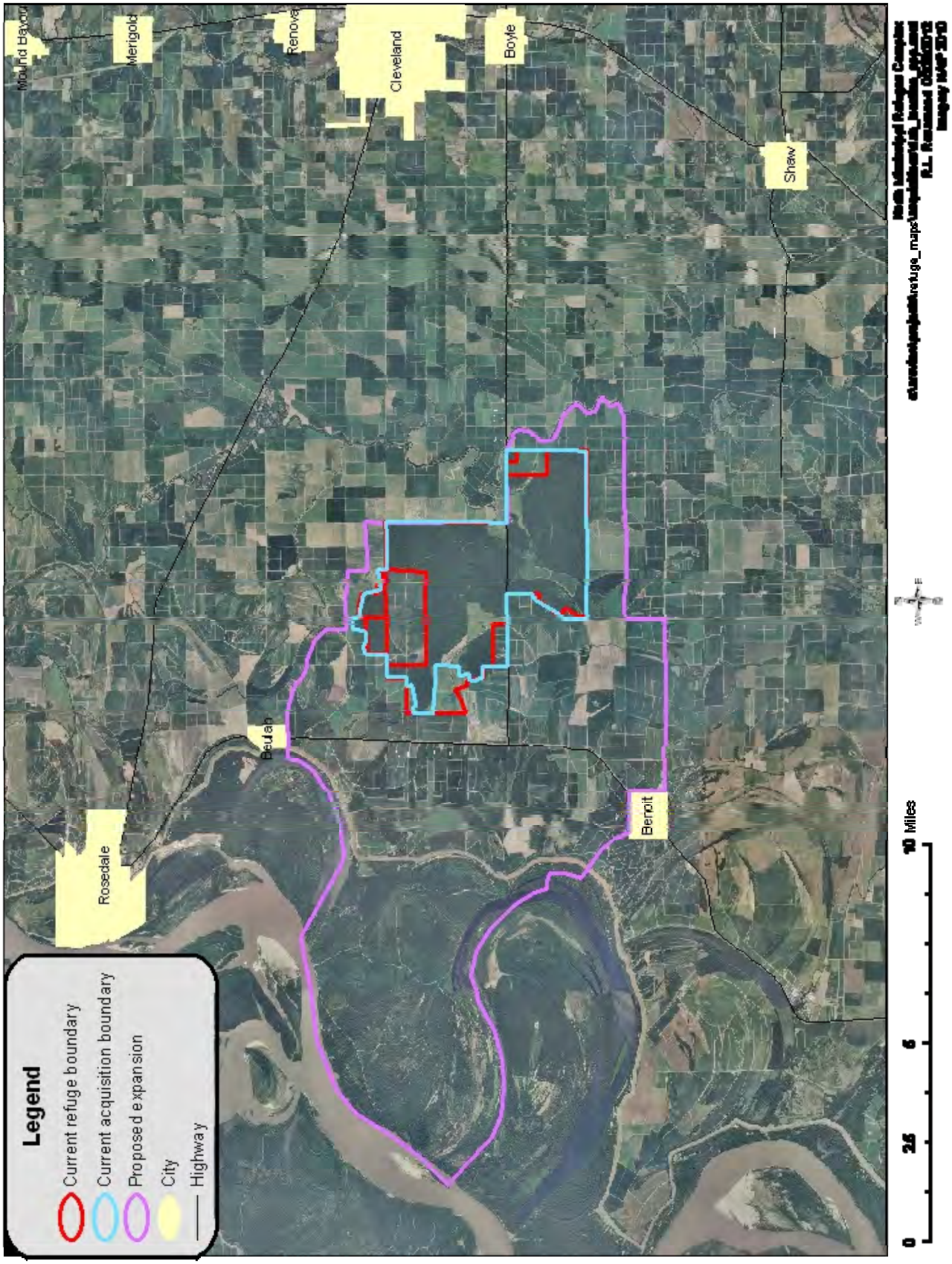
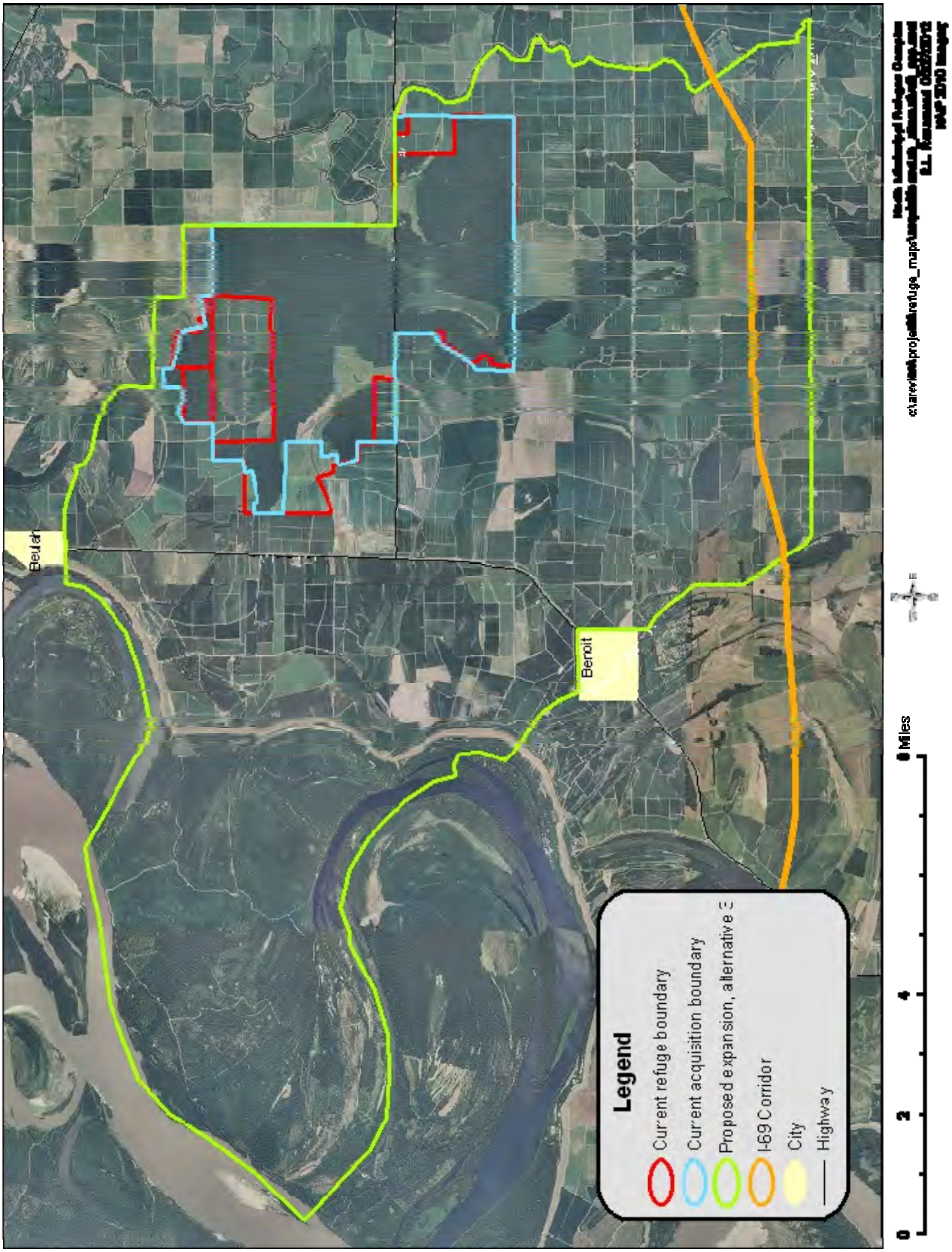


Figure 10. Lands included in the proposed project under Alternative 3



IV. Environmental Consequences

This section analyzes and discusses the potential environmental impacts of the three management alternatives described in Chapter III of this Draft EA.

A. ALTERNATIVE 1: NO ACTION

Under this alternative, no action would be taken to expand Dahomey NWR. The project lands would remain in private ownership and current land uses would continue. Enhancement, restoration, and management of the area's fish and wildlife habitats and natural resource values would be at the discretion of the private landowners. Any significant cultural and historical resources within the proposed refuge would remain in private ownership and the protection of existing state and federal laws would apply. Such protection is limited, however, and the area's cultural and historical resources would be subject to greater risks of loss during potential land use changes.

Future habitat protection under existing laws and regulations may be insufficient to prevent significant degradation of the area's 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 area qualify for protection under this program. In addition, the State of Mississippi has regulatory authority over the area, and would not permit any developments violating the state's water quality standards.

However, there is no assurance that the protection offered by these regulations would be consistent with protection of the area's 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 that are considered in permit issuance decisions. If fish and wildlife conservation is outweighed by other factors, permits that would alter the wetlands in the proposed refuge unit area could be issued.

Also, Bolivar County would receive no additional payments from the Refuge Revenue Sharing Act under the No Action Alternative, and public use would continue to be restricted.

The desired habitat enhancement, restoration, and management objectives cannot be achieved to any degree under this alternative. Specifically, implementation of "No Action" would adversely impact the area's potential for valuable waterfowl and wildlife habitat improvements over the long-term.

B. ALTERNATIVE 2: PROTECTION AND MANAGEMENT OF UP TO 46,600 ACRES BY THE FISH AND WILDLIFE SERVICE (PROPOSED ACTION)

The Service would acquire under the proposed alternative up to 46,600 acres of habitat as part of Dahomey NWR. This would allow the Service to actively manage these lands for a wide variety of fish and wildlife, including migrating and wintering waterfowl, endangered species, and neotropical migratory birds.

The LMVJV has developed habitat objectives for waterfowl throughout the Mississippi Alluvial Valley and further stepped down those objectives to individual national wildlife refuges and state wildlife management areas. For Dahomey NWR, those objectives include: 750 acres of forested wetlands, 318 acres of managed moist-soil areas, and 218 acres of unharvested croplands. At the present time, Dahomey NWR provides 215 acres of unharvested crops on an annual basis. These crops are typically milo or corn and are flooded in the fall to allow waterfowl access to these fields. The refuge also has a 560-acre greentree reservoir, which is flooded every other winter to provide forested wetland habitat for waterfowl.

With this acquisition, moist-soil areas could be developed along the perimeter of the area to allow the refuge to meet its moist-soil management goals while still developing a contiguous forest area. At least some of this forest area could be flooded each year to provide forested wetland habitat to meet the LMVJV goals in their entirety. With the current refuge holdings, it is impossible to meet these goals.

In addition to waterfowl habitat objectives, the LMVJV has developed bird conservation areas (BCA's) for forest birds. The BCA's are forested areas that can act as core acreage for the development of larger blocks of forest. These larger blocks ultimately could provide habitat for songbirds that nest in the forest interior. Dahomey NWR is located within the Dahomey BCA, which totals approximately 20,000 acres with a core area of approximately 300 acres (Figure 8). The proposed expansion and subsequent reforestation would link the Dahomey BCA with the Whittington BCA, which encompasses the batture land due west of Dahomey NWR. The Whittington BCA totals approximately 95,000 acres with an existing core area of 42,000 acres. Linking these two areas would provide a more contiguous forest which would result in higher quality habitat for nesting songbirds, travel corridors for black bears and other mammals, and the restoration of ecosystem functions.

One of the primary goals of the Service's LMRE team is to protect, restore, and manage the wetlands of the LMRE. One objective is to restore and manage seasonal ponding of rainfall and pumped water to provide wetland and water quality functions. A strategy is to restore and manage wetland hydrology and provide food/forage on forested, moist-soil, and cropped wetlands on public lands to provide habitat for migratory waterfowl, wading birds, and shorebirds. Creating additional moist-soil units and forested wetland habitat within the proposed acquisition area would help to meet this objective. A second objective is to protect and restore bottomland hardwood forest habitat values and functions to support trust species. One strategy is to restore bottomland hardwood forests on national wildlife refuges to provide habitat for breeding forest birds. Another strategy is to connect forest patches to support viable populations of black bear (American and Louisiana) within their historic ranges. Reforestation of additional acreage within the proposed acquisition area would link existing forest patches, providing habitat for breeding forest birds and allowing black bears to move into areas they historically inhabited.

Acquisition and management of the proposed expansion area would contribute to the goals of the LMRE team and the LMVJV by providing connectivity between the existing Dahomey NWR and the Mississippi River batture lands, increased forest patch size as acquired lands are reforested, and improved water quality as land is converted from agriculture to natural and managed wetlands. This would provide habitat for wintering waterfowl, neotropical migratory birds, and black bears.

Additionally, the reforestation of a large portion of these acquired lands could help offset impacts of climate change. Several proposed impacts of climate change in this area include: higher average temperatures, decreased precipitation, and decreased groundwater availability. Forests provide shade, remove carbon from the atmosphere, and generally do not require irrigation. By reforesting these areas now, we would be decreasing the carbon load of the atmosphere, reducing the amount of water removed from groundwater for irrigation, and creating habitat to offset potential losses due to climate change. Because of the amount of time needed to develop a mature forest, this process needs to begin now, so the habitat would be there when needed.

The proposal seeks to meet both present and future land conservation and resource protection needs for Dahomey NWR. By protecting additional conservation lands critical to the management of refuge resources, it is tied to many of the goals and objectives of the refuge's Comprehensive Conservation Plan including:

GOAL 1 – Promote the conservation and management of migratory birds within northern Mississippi in a manner that supports treaties and national and international plans and initiatives.

Objective 1-1: Migratory Waterfowl - Over the next 15 years, provide habitat to increase current objectives for migrating and wintering waterfowl.

GOAL 2 – Implement a program of science-based stewardship of the fish and wildlife resources associated with the North Mississippi National Wildlife Refuge Complex.

Objective 2-1: Game Species - For the duration of the plan, manage game populations to maximize quality hunting opportunities while maintaining habitat for federal trust resources.

Objective 2-2: Non-Game Species - Within 10 years of the date of the CCP, reestablish historical hydrological and habitat regimes to increase refuge biodiversity to the maximum extent feasible.

GOAL 5 – Increase the land base of the Complex and contribute to the protection and restoration of fish and wildlife resources found within northern Mississippi.

Based on the nature of the proposal, the location of the site, and the current land use, the proposed action 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 area, 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 action 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 area's 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 Mississippi State Historic Preservation Office would be contacted whenever any future management activities have the potential to affect cultural resource sites.

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 (Pub. 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 lands acquired in fee title; (2) 25 percent of the net refuge receipts; or (3) 75 cents per acre of the lands acquired in fee title. The estimated annual revenue-sharing payment that would be made to Bolivar County would depend on the amount of acreage acquired in fee title. No actions would be taken that would lead to a violation of federal, state, or local laws imposed for the protection of the environment.

Based on the nature of the proposal, the location of the site and the current land use, the proposed action 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 area, 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 action 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 area's 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 Mississippi State Historic Preservation Office would be contacted whenever any future management activities have the potential to affect cultural resource sites.

C. ALTERNATIVE 3: PROTECTION AND MANAGEMENT OF UP TO 63,500 ACRES BY THE FISH AND WILDLIFE SERVICE

Under this alternative, the Service would seek to expand Dahomey NWR up to an additional 63,500 acres (Figure 10). This would allow the Service to actively manage these lands for a wide variety of fish and wildlife, including migrating and wintering waterfowl, endangered species, and neotropical migratory birds.

This larger expansion would maximize the restoration and management opportunities for the refuge. It would also create an easily recognizable and manageable refuge boundary along the south by following two state highways.

This alternative is not recommended, however, due to potential conflicts with the I-69 corridor (Figure 10). The Service has previously coordinated with the Federal Highway Administration and the State of Mississippi to avoid conflicts between Dahomey NWR and future I-69 construction.

D. CUMULATIVE IMPACTS

A cumulative impact is defined as an impact on the natural or human environment, which results from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions (40 Code of Federal Regulations, 1508.7).

Cumulative impacts are the overall, net effects on a resource that arise from multiple actions. Impacts can "accumulate" spatially, when different actions affect different areas of the same resource. They can also accumulate over the course of time, from actions in the past, the present, and the future. Occasionally, different actions counterbalance one another, partially canceling out each other's effect on a resource. But more typically, multiple effects add up, with each additional action contributing an incremental impact on the resource. In addition, sometimes the overall effect is greater than merely the sum of the individual effects, such as when a reduction in population crosses a threshold of reproductive sustainability, and threatens to extinguish the population.

A thorough analysis of impacts always considers their cumulative aspects, because actions do not take place in a vacuum; there are virtually always some other actions that have affected that resource in some way in the past, or are affecting it in the present, or will affect it in the reasonably foreseeable future. So any assessment of a specific action's effects must in fact be made with consideration of what else has happened to that resource, what else is happening, or what else will likely happen to it.

The Service is not aware of any past, present, or future planned actions that would result in a significant cumulative impact when added to the refuge's proposed expansions, as outlined in the proposed alternative. The proposal is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Orders 11990 and 11988. The action does not involve highly uncertain, unique, or unknown environmental risks to the human environment. The effects on the quality of the human environment are not likely to be highly controversial. The project would not significantly affect any unique characteristics of the geographic area nor would the action have a significant effect on public health and safety.

Direct and Indirect Effects or Impacts

Direct effects are caused by an action and occur at the same time as the action. Indirect effects are caused by an action but are manifested later in time or further removed in distance, but still reasonably foreseeable.

The actions for implementation under the proposed alternative include wildlife and population management, resource protection, public use, and administrative programs. These actions would result in both direct and indirect effects. For example, increased public use, a direct effect, would in turn lead to indirect effects such as increased littering, noise, and vehicular traffic.

Other indirect effects that may result from implementing the proposed alternative include minor impacts from siltation due to the disturbance of soils and vegetation while expanding habitat management and research activities, as well as expanding or creating new foot trails and providing greater visitor access through additional boat ramps.

Short-term Uses versus Long-term Productivity

Any habitat restoration, protection, and management actions undertaken by the Service on lands acquired within the proposed expansion areas would be dedicated to restoring and maintaining their long-term productivity. The benefits of this restoration and long-term productivity would far outweigh any impacts from short-term actions, such as the new signage, construction of observation towers, and creation of new trails. While these activities would cause short-term negative impacts, the educational values and associated public support gained from the improved visitor experience would produce long-term benefits for the entire Mississippi Delta. Therefore, implementing the proposed alternative would lead to long-term benefits for wildlife protection and land conservation that far outweigh any short-term impacts.

E. RECOMMENDATION

Alternative 2 is recommended because it better serves the outlined purpose and need, as well as the stated goals and objectives, vision, and purposes of the refuge. This proposal seeks to meet both present and future land conservation and resource protection needs for Dahomey NWR. By protecting additional conservation lands critical to refuge resources, it is tied to many of the goals and objectives of the CCP.

Appendix A. Interim Recreation Act Funding Analysis

DRAFT INTERIM
RECREATION ACT FUNDING ANALYSIS

Station Name: Dahomey National Wildlife Refuge Expansion

Date Refuge Established: 1991

Purposes for which the Refuge was Established:

Dahomey NWR was established in 1991 under the Migratory Bird Conservation Act and the Emergency Wetlands Resource Act. Under these Acts, the refuge's purposes are "for use as inviolate sanctuary, or for any other management purpose, for migratory birds," "for the development, advancement, management, conservation, and protection of fish and wildlife resources," 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."

(1) Recreational uses evaluated for the proposed expansion of Dahomey NWR:

Recreational hunting of resident game and migratory birds in accordance with federal and state regulations; recreational fishing of freshwater fish species in accordance with state regulations; wildlife observation/photography ; and environmental education/interpretation.

(2) Funding required for management of the recreational uses:

Minimal funding in the amount of $150,000 would be made available to implement initial protection, hunt implementation, data collection, and non-consumptive uses.

(3) Availability of funding:

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 B. References and Literature Citations

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Appendix C. Information on Preparers

Mike Dawson, FWS Contractor, CCITE

Steve Gard, Project Leader, North Mississippi NWR Complex, USFWS

Eva Kristofik, former Refuge Manager, Dahomey NWR, USFWS

Becky Rosamond, Biologist, Dahomey NWR, USFWS

Laura Housh, Regional Planner, USFWS

Kimberly Eldridge, Regional Planner, USFWS

Appendix D. Global and State Ranking Systems

GLOBAL RANKING SYSTEM

G1 Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 Secure – Common; widespread and abundant.

GX Presumed Extinct (species) – Not located despite intensive searches and virtually no likelihood of rediscovery.

Eliminated (ecological communities) – Eliminated throughout its range, with no restoration potential due to extinction of dominant or characteristic species.

GH – Of historical occurrence throughout its range.

Possibly Extinct (species) – Missing; known from only historical occurrences but still some hope of rediscovery.

Presumed Eliminated – (Historic, ecological communities) – Presumed eliminated throughout its range, with no or virtually no likelihood that it will be rediscovered, but with the potential for restoration (e.g., American chestnut forest).

GU Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

GNR – Not ranked to date.

G#T# Infraspecific Taxon (trinomial) – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning a “T-rank” follow the same principles outlined above for global conservation status ranks. A “T-rank” cannot imply the subspecies or variety is more abundant than the species as a whole, for example, a G1T2 cannot occur. At this time, the “T-rank” is not used for ecological communities.

STATE RANKING SYSTEM

S1 – Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences of very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation from Mississippi.

S2 – Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from Mississippi.

S3 – Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

S4 – Apparently secure in Mississippi, with many occurrences.

S5 – Demonstrably secure in Mississippi and essentially "ineradicable" under present conditions.

SX – Presumed Extirpated – Species or community is believed to be extirpated from Mississippi. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH – Historical (Possibly Extirpated) – Species or community occurred historically in Mississippi, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed, or if it had been extensively and unsuccessfully searched for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

SNR – Unranked – State conservation status not yet assessed.

SA – Accidental in Mississippi, including species.

Usually birds or butterflies - recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded.

SU – Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SE – An exotic established in Mississippi (Mississippi Natural Heritage Program 2006).

Appendix E. Intra-Service Section 7 Biological Evaluation

REGION 4
INTRA-SERVICE BIOLOGICAL EVALUATION FORM

Originating Person: Stephen Gard, Manager, North MS NWR Complex

Telephone Number: 662-226-8286 **E-Mail:** stephen_gard@fws.gov

Date: June 28, 2012

PROJECT NAME (Grant Title/Number): Proposed Expansion of Dahomey NWR

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**
_X_ **Refuges/Wildlife**

II. State/Agency: USFWS

III. Station Name: Dahomey NWR

IV. Description of Proposed Action (attach additional pages as needed):
The Service proposes to restore, protect, and manage certain lands in Bolivar County, Mississippi, by acquisition through fee-title acquisition from willing sellers and through leases, conservation easements, and/or cooperative agreements from willing landowners. All lands and waters acquired would be managed by the Service as part of the Dahomey National Wildlife Refuge. The goals of the proposed refuge expansion would be to: (1) Provide for the restoration and conservation of bottomland hardwood habitat on suitable sites; (2) provide habitat for migratory birds and threatened /endangered species; and (3) provide wildlife-dependent public use activities.

The proposed expansion includes approximately 46,000 acres (Figure 1).

V. Pertinent Species and Habitat:

A. Include species/habitat occurrence map: (see attachment)

B. Complete the following table:

SPECIES	CRITICAL HABITAT	STATUS[1]
Interior least tern	None	E

STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened, CH=critical habitat, PCH=proposed critical habitat, C=candidate species

VI. Location:

A. Ecosystem Number and Name: Ecosystem 27 Lower Mississippi River

B. County and State: Bolivar County, Mississippi

C. Latitude and longitude: +32.700249 -089.609622

D. Distance (miles) and direction to nearest town: Dahomey NWR is approximately 10 miles west, southwest of Cleveland, and approximately 9 miles west of Boyle on Mississippi Highway 446.

E. Species/habitat occurrence:

Interior Least Tern (*Sterna antillarum anthalassos*) – The Interior least tern is sighted occasionally along the Mississippi River near the proposed expansion area. At this time, no nesting activity has been documented.

VII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item V. B (attach additional pages as needed):

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Interior least tern	Neutral to positive. Increased information.

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MINIMIZE IMPACTS
Interior least tern	No mitigation measures needed unless nesting is observed; implement buffer zone around nesting area.

VIII. Effect Determination and Response Requested:

SPECIES/ CRITICAL HABITAT	DETERMINATION [1]			RESPONSE REQUESTED [1]
Interior least tern	NE	NA	AA	

[1]DETERMINATION/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 or candidate species is "Conference."

_____ 7/3/12
Signature (originating station) **date**

_Project Leader_____
Title

IX. Reviewing Ecological Services Office Evaluation:

A. Concurrence __ Nonconcurrence ___

B. Formal consultation required ___

C. Conference required __

D. Remarks (attach additional pages as needed): ___

_____ _____
Signature ***date***

_____ _____
Title ***office***

Appendix F. Literature Cited

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Dahomey National Wildlife Refuge

Stephen Gard – *Refuge Manager*
North Mississippi National Wildlife Refuge Complex
2776 Sunset Drive
Grenada, MS 38901

PHONE: 662/226-8286

E-mail: Stephen_Gard@fws.gov

http://www.fws.gov/dahomey

U.S. Fish & Wildlife Service
1 800/344 WILD
http://www.fws.gov

February 2013