

COMPREHENSIVE CONSERVATION PLAN REVISION

WAPANOCCA NATIONAL WILDLIFE REFUGE

*Partial Revision of the Wapanocca National Wildlife Refuge Section
of the Central Arkansas National Wildlife Refuge Complex
Comprehensive Conservation Plan*



Southeast Region



Wapanocca National Wildlife Refuge
COMPREHENSIVE CONSERVATION PLAN REVISION
of the
WAPANOCCA NATIONAL WILDLIFE REFUGE SECTION
of the Central Arkansas National Wildlife Refuge Complex
Comprehensive Conservation Plan



U.S. Department of the Interior
Fish and Wildlife Service
Southeast Region

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SECTION A. REVISION OF THE COMPREHENSIVE CONSERVATION PLAN

Chapter I. Background

INTRODUCTION

The U.S. Fish and Wildlife Service (Service), Southeast Region, is partially revising the Wapanocca National Wildlife Refuge (NWR) Comprehensive Conservation Plan (CCP) by phasing out upland unharvested crops for wintering Canada geese. This revision modifies Objective 1-1 under Goal 1 and Objective 2-3 under Goal 2 (Pages 190-193 and 203-205 in USFWS 2009a) only. The CCP for Wapanocca NWR was included in the Central Arkansas National Wildlife Refuge Complex CCP for Bald Knob, Big Lake, Cache River, and Wapanocca National Wildlife Refuges (USFWS 2009a) (Figure 1).

BACKGROUND

The purpose and vision of the Refuge are outlined below, along with an overview of why the Service is revising some of the CCP objectives and strategies of the original plan.

REFUGE PURPOSE

Wapanocca NWR's official purpose is:

"...for use as an inviolate sanctuary, or for any other management purposes, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

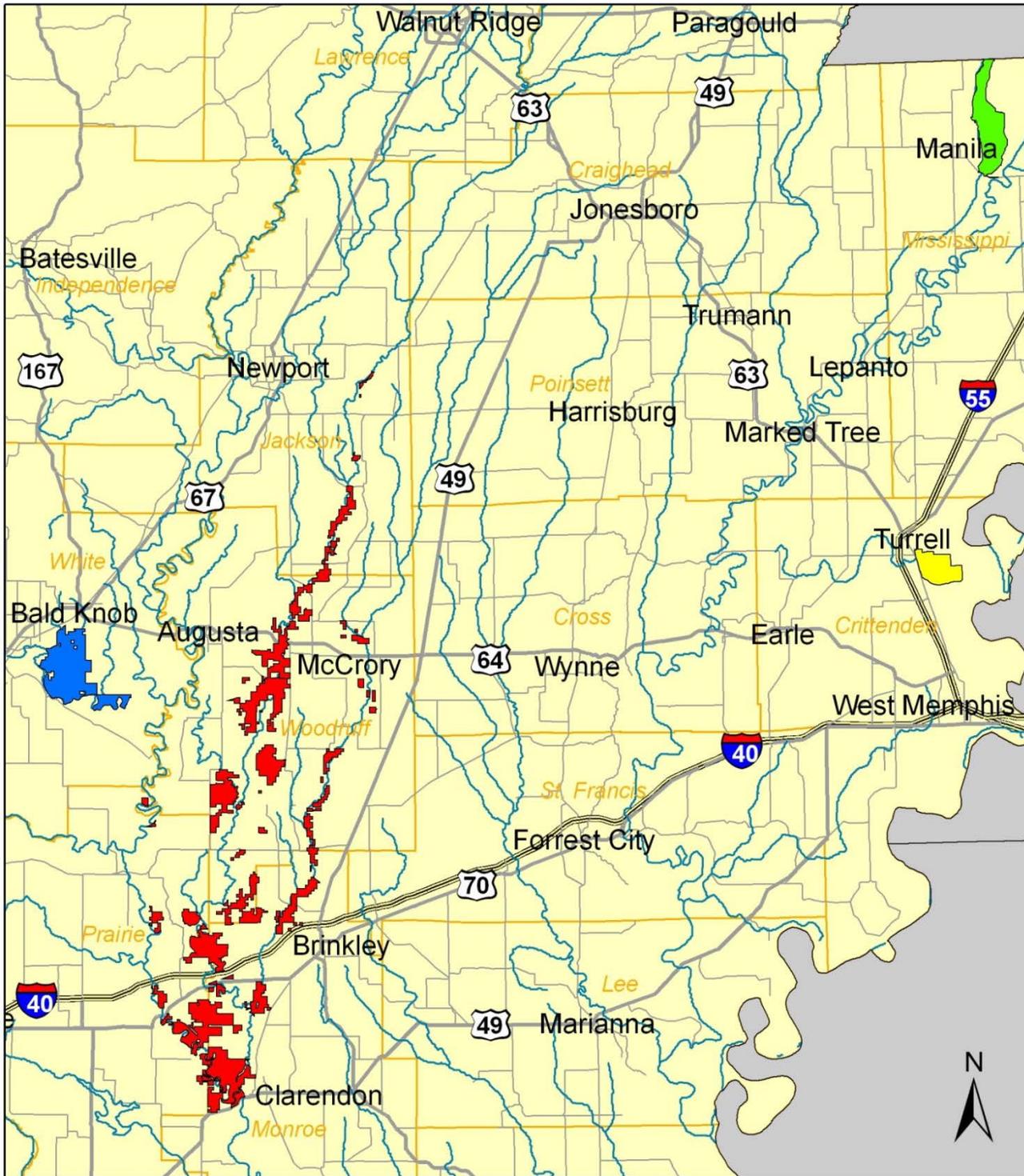
REFUGE VISION

"Refuges within the Central Arkansas NWR Complex will be conserved and managed as havens for migratory birds, especially waterfowl, in a region of the continent critically important for their survival. Working with partners, the Service will protect, restore, and enhance bottomland hardwood forest ecosystems, wintering waterfowl habitats, and other fish and wildlife habitats for the benefit of the American public. The Service will provide opportunities for the public to use and enjoy these refuges in a way that safeguards their values and promotes awareness of their importance (USFWS 2009a)."

RATIONALE FOR REVISION

Wapanocca NWR was a significant wintering area for the Mississippi Valley Population (MVP) and the Eastern Prairie Population (EPP) of Canada geese in the 1970's and 1980's. The Refuge accommodated these geese by seasonally closing sanctuary areas to prevent disturbance from humans and by providing unharvested corn and winter wheat for high energy forage. By the late 1980's, the majority of MVP and EPP birds had ceased migrating to Arkansas due to the abundance of secure roosting areas and cropland waste corn in Missouri, Illinois, and Wisconsin. Low numbers of MVP and EPP geese continued to winter in Arkansas, however the statewide Canada geese midwinter survey estimate five year averages have never exceeded 1% of the total population estimate. Due to its intensively managed habitat, Wapanocca hosted many of Arkansas' last wintering MVP and EPP geese through the early 2000s. In 2007, the Lower Mississippi Valley Joint

Figure 1. Central Arkansas NWR Complex



Cache River NWR Bald Knob NWR Big Lake NWR Wapanocca NWR

0 20 40 80 Miles

Venture (LMVJV) eliminated all goose-specific habitat objectives for the Mississippi Alluvial Valley (MAV), recognizing that significant numbers of MVP and EPP geese no longer winter in the region.

Large numbers of lesser snow geese began wintering in Northeast Arkansas in the 1990s. In addition to feeding in off-refuge agricultural lands, these birds readily consume Wapanocca NWRs unharvested crops grown for Canada geese. Snow geese are now the primary bird feeding in the Refuge's unharvested corn and winter wheat. The *USFWS' 2007 Final Environmental Impact Statement: Light Goose Management* encourages refuges to decrease the availability of snow goose forage whenever possible (USFWS 2007). For these reasons, the Service decided to partially revise the original CCP for Wapanocca NWR.

In December 2013, the Service released a Draft Revised CCP and EA for public comment and held a meeting in Turrell, AR on December 9, 2013. In addition to the public comments received at the public draft meeting, Wapanocca NWR received 13 private, NGO, and agency comments during its December 2, 2013 – January 6, 2014 Draft Revised CCP and EA comment period. Many comments urged the Service to develop a third alternative which would reduce the cooperative farmer's immediate and long-term financial impacts resulting from a cooperative farming phase out. Additional comments supported the Refuge's habitat restoration objectives, but encouraged the Refuge to reconsider whether intensifying its long-term impoundment farming management plan could increase its contribution to MAV duck forage objectives.

Based on these significant developments, Wapanocca NWR created a third management alternative (Alternative C), which is the Service's preferred alternative for Refuge management. This alternative addresses the above mentioned concerns by postponing reductions in the currently farmed Refuge area until 2017, continuing to cooperatively farm 60% of the currently farmed Refuge area beginning in 2017, increasing the Refuge's annual duck forage contribution by approximately 1.4 million duck energy days, and restoring 363 acres of bottomland hardwood forest for migratory birds.

Chapter II. Refuge Overview

For a complete description of the affected environment in addition to what is provided below, see Section A, Chapter II, Refuge Overview of the Central Arkansas NWR Complex CCP (USFWS 2009a) which is incorporated herein by reference. In response to comments received during the public comment period, the Service further conducted a cultural resources assessment of the action area. The results of this assessment are included in Appendix C and incorporated as an official, final Wapanocca CCP Chapter II section.

Chapter III. Plan Development

For a complete description of the Plan Development in addition to what is provided above in Chapter I, Introduction of this document, see Section A, Chapter III, Plan Development of the Central Arkansas NWR Complex CCP (USFWS 2009a) which is incorporated herein by reference.

Chapter IV. Management Direction

For a complete list of Wapanocca NWR goals, objectives, and strategies in addition to what is provided and revised below, see Section A, Chapter IV, Management Direction of the Central Arkansas NWR Complex CCP (USFWS 2009a) which is incorporated herein by reference. Only the goals, objectives, discussions and strategies that the Service is proposing to revise are provided below.

REVISED CCP OBJECTIVES & STRATEGIES

The following objectives (as listed on pages 190 and 203 of the Central AR NWR Complex CCP, USFWS 2009a) will be revised as follows:

Under Goal 1 of the original CCP for the Wapanocca NWR, ***Manage and protect migratory birds and native wildlife populations on Wapanocca NWR to fulfill the purposes for which it was established and to contribute to the mission of the Refuge System***, the revised objective (Objective 1-1) is as follows:

Wapanocca NWR Objective 1-1: Migratory Waterfowl

Within 5 years of the date of this CCP, increase DED's from current level of 613,193 to 1,999,320 DEDs of managed waterfowl habitat that includes moist-soil, bottomland forest, un-harvested cropland, and forested swamp habitats, flooded to a depth of two feet or less, with sanctuaries (November 1 – February 28) sufficient to meet the habitat and population goals of the NAWMP as stepped-down through the LMVJV.

Discussion: Concern over waterfowl population declines in the 1980s resulted in establishment of the NAWMP, which focused the attention of federal, state, and private conservation groups on critical wintering and breeding areas. The LMVJV, which encompasses all four refuges in the Complex, was selected as one of the wintering habitat focus areas. One of the first tasks faced by the LMVJV was to develop a model or decision tool for determining how much habitat was needed, and a method for relating this objective to the population goals of the NAWMP. The solution was to consider wintering areas as responsible for contributing to the spring breeding population goals of NAWMP proportional to the percentage of ducks historically counted in wintering areas (Loesch et al. 1994, Reinecke and Loesch 1996). In order to contribute ducks to spring breeding populations, wintering areas must provide sufficient habitat to ensure adequate winter survival. To quantify winter habitat requirements, the LMVJV had to identify limiting factors and made an assumption that foraging habitat was the most likely factor to limit waterfowl populations in the LMV (Reinecke et al. 1989). The process of relating habitat objectives for individual management areas to overall habitat objectives for the LMV involved several steps (Biological Review for Big Lake and Wapanocca NWRs, USFWS 2007). Step-down objectives were established for Wapanocca NWR (Table 1). DED objectives were calculated by multiplying the acreage objective by the assumed DED standard developed by the LMVJV for that habitat type.

Table 1. LMVJV wintering duck forage objectives assigned to Wapanocca NWR, including current refuge forage production capabilities and the difference between assigned objectives and current capabilities (Revised Table 12 from Central AR NWR Complex CCP (USFWS 2009a).

Habitat Type with Water Mgt. Capability	Assigned Objective¹ Acres (DED)³	Current Capability² Acres (DED)⁴	Difference (+ or -) Acres (DED)
Moist-soil	138 (257,784)	95 ⁵ (177,460)	-43 (-80,324)
Bottomland Forest	317 (39,942)	41 (7,831)	-276 (-32,111)
Unharvested Crop	85 (1,072,870)	75 ⁶ (1,722,525)	-10 (+649,655)
Harvested Crop	0 (0)	0 (0)	0 (0)
Forested Swamp	0 (0)	2,408 (91,504)	+2,408 (+91,504)
Total	540 (1,370,596)	2,619 (1,999,320)	+2,079 (+628,724)

¹ Acreage and DED objective provided by the LMVJV office.

² Current acreage and DED capability (has levees and water control structure, some have pumping capability) provided by refuge staff.

³ DED estimates calculated using original LMVJV habitat DEDs/acre.

⁴ DED estimates calculated using updated habitat DEDs/acre by the LMVJV Waterfowl Working Group in June 2006: moist-soil, 1,868 DEDs/ac; bottomland hardwood, 191 DEDs/ac; unharvested crop, 22,967 DEDs/ac (estimate based on 35 acres of corn [28,591 DEDs/ac] and 40 acres of milo [18,046 DEDs/acre]) left unharvested and flooded during the winter period; harvested crop, 287 DEDs/ac (estimate based on actual acres of various harvested grain crops flooded during the winter period), and forested swamp, 38 DEDs/ac (LMVJV 2007).

⁵ Does not include moist-soil unit E-1/WF31 (9.7 acres), which is managed as emergent marsh.

⁶ These acres may also be managed as moist-soil habitat. All moist-soil acreage may be managed as unharvested crop and vice versa.

In order to best achieve refuge purposes given the current and expected Canada goose use patterns at Wapanocca NWR and throughout the LMV, it is necessary to re-evaluate the current farming program which leaves upland unharvested crops for winter Canada goose forage. In the 1960's, the refuge's peak wintering Canada goose population averaged 1,000 birds, in the 70's 17,000 birds, in the 80's 15,000 birds, and in the 90's 6,000 birds. In the 2010's, the refuge's peak wintering Canada goose population averages 25 birds (likely year-round area-resident geese) which roost in Wapanocca Lake and do not feed in refuge uplands. Snow geese began wintering at the refuge in the 1970's and current annual peak population averages 40,000 birds. Snow geese are the primary waterfowl species feeding in the refuge's unharvested crops managed for winter Canada goose forage. The LMVJV has eliminated all goose-specific forage habitat objectives for the Refuge and remainder of the LMV. Additionally, the USFWS encourages refuges to decrease the availability of snow goose forage whenever possible. In response to these changes, the Refuge will cease annually providing upland unharvested crops for Canada geese and convert this farmed acreage to bottomland hardwood forest. See Wapanocca NWR Objective 2-3 for specific details in modifying this program.

The Refuge has 21 routinely floodable moist-soil units, totaling 180 acres. Unless intensively managed, the suitability of such units to provide needs of wintering waterfowl will decline. Greater flexibility is needed to intensify moist-soil management to include periodically cultivating these units as a means to set back woody encroachment and control pest plant invasions.

The Refuge has 11 additional moist-soil units, totaling 108 acres, which are not routinely floodable and have been reforested or are no longer managed as moist-soil habitat. The Refuge's wintering duck forage objective current capabilities (Table 1) reflect this reduction in manageable moist-soil unit area.

Flooded bottomland forest and forested swamp habitats not only provide food in the form of acorns, fleshy fruits, and invertebrates, but also provide cover, sanctuary, and nesting sites. However, the quantity of actual winter and early spring impounded bottomland hardwood forests and forested swamps provide only 7 percent of the Refuge's total assigned DEDs.

The Refuge's 600+ acre Wapanocca Lake is a site of major importance. Wapanocca Lake is the major regional sanctuary site for peaks of over 150,000 ducks and geese. Much care is needed to ensure the long-term biological integrity and environmental health of this lake system.

Another Refuge management practice of critical importance is maintaining a high degree of waterfowl sanctuary (area free of disturbance) in several areas within this relatively small refuge during key waterfowl use periods – November through February. Extensive movements and frequent flight induced by extensive disturbance can have immediate direct and subsequent indirect negative impacts to waterfowl. During this critical period, disturbance to waterfowl must be kept to a minimum to allow them to maintain proper body weight, conserve energy, and build fat and protein levels.

Strategies:

- Minimize human disturbance to wintering waterfowl on Wapanocca Lake by closing the lake to all public entry and use from November 1 through February 28, and limiting other activities, such as bird observation, use of observation blinds, and those aerial flyovers necessary for official avian surveys.
- Assess the current and expected waterfowl use of the Refuge. If Canada goose numbers of <12,000 per year are expected, then in conjunction with AGFC and the Service's Division of Migratory Birds, determine appropriate adjustments to the cooperative farming program to best achieve Refuge purpose and modify the cropland management program accordingly. Proposed modifications to current waterfowl habitat management practices (see Objectives 2-3 in Alternative B – (Proposed Alternative)) include:
 - Adjusting the types, acreages, and/or location of crops grown as necessary to provide forage that will be extensively used by wintering waterfowl;
 - Decreasing underutilized (by waterfowl) farmed acreages by converting such croplands to areas managed in grassland/scrub-shrub and bottomland hardwood forest habitats;
 - Intensifying and expanding moist-soil management practices in order to best accommodate waterfowl needs;
 - If additional cropland is later required to meet Canada goose forage objectives, return some grassland back to the farming program for use as winter green browse.

Under Goal 2 of the original CCP for the Wapanocca NWR, ***Protect, restore, and manage the functions and values associated with diverse bottomland hardwood forests and open wetland systems in order to achieve Refuge purposes, wildlife population objectives, and to benefit migratory waterfowl and other native wildlife***, the revised objective (Objective 2-3) is as follows:

Wapanocca NWR Objective 2-3: Cropland Habitat Management

In 2017, convert 363 acres of upland cropland and grassland habitat to bottomland hardwood forest habitat. Continue to supplement naturally produced wintering waterfowl forage by annually providing 75 acres of unharvested crops in moist-soil units to contribute to the NAWMP wintering waterfowl forage objectives as stepped-down through the LMVJV.

Discussion: High-energy cereal grain crops artificially fill a void left by the loss of acorn-producing bottomland hardwood stands that once made up the majority of the habitats in the surrounding area. When these hardwood stands were cleared for farmland in the mid-1900s, a major component of the diet of wintering waterfowl was lost. The cereal grain crops planted through the Refuge's farming program assist in substituting for that natural food component during the harsh winter months when a high-energy diet is critically needed.

In 1984, an objective of 1,200,000 Canada Goose Use Days was established by the LMVJV for Wapanocca NWR and management of the Refuge's cropland habitat management program has since worked toward accomplishing that goal. However, the full utilization of crops grown for Canada Geese has only occurred in 3 years in the history of the refuge. Wapanocca NWR has not witnessed large numbers of Canada Geese in recent years, and the 52 acres of unharvested corn and 117 acres of winter wheat that have been the established minimum requirements to meet these goals have been severely under-utilized by wintering waterfowl. From 2010-2012, approximately 105 acres of unharvested corn were unused by Canada geese each winter. In 2007, the LMVJV eliminated all goose-specific forage objectives for Wapanocca NWR and the remainder of the LMV.

In recent years, wintering snow goose populations in the Mississippi Flyway have continued to increase and they are now the primary bird feeding in the Refuge's farmed uplands. The USFWS' *2007 Final Environmental Impact Statement: Light Goose Management* encourages refuges to decrease the availability of snow goose forage whenever possible (USFWS 2007).

The soil and topography of the Refuge farm units on Wapanocca NWR are somewhat diversified. The soil ranges from mild clays in the lower areas to slightly to extremely sandy loams in the upper hills. Historically, these lands provided a great diversity of plant life within a relatively small area, ranging from swampy bottoms to hardwood stands.

The National Wildlife Refuge System Improvement Act of 1997 directs the Service to ensure that the biological integrity, diversity, and environmental health (BIDEH) of the Refuge System are maintained for the benefit of present and future generations of Americans. In simplistic terms, elements of BIDEH are represented by native fish, wildlife, plants, and their habitats as well as those ecological processes that support them. The Service's policy on BIDEH (601 FW 3) also provides guidance on consideration and protection of the broad spectrum of fish, wildlife, and habitat resources found on refuges, and associated ecosystems that represent BIDEH on each refuge.

The majority of the Refuge's 180 acres of moist-soil habitats should be cultivated on a rotational basis as needed in order to set back plant succession, control invasive plant species, and stimulate growth of native, moist-soil vegetation. Although these native plants do not provide the high-energy of cereal grain crops, they provide a nutritionally complete, balanced diet which is vital to the overall health of wintering waterfowl.

Strategies:

- Cease providing upland unharvested crops for Canada geese beginning in 2017, but continue to use cooperative farming on a 75:25 crop-share basis in 225 acres of uplands and 75 acres of moist-soil units annually. .
- Monitor vegetation responses to habitat management practices and associated waterfowl use throughout the Refuge, as well as shifting trends in migratory bird use within the Mississippi Flyway, and adapt management of the moist-soil units as conditions warrant to ensure that the purposes of Wapanocca NWR are achieved and the Refuge can fulfill its necessary role within the context of the Mississippi Flyway.
- Modify existing landscape structure within the current upland cropland and grassland areas by reforesting up to 363 acres bordering the existing reforested areas (Figure 2). If funding is not immediately available for reforesting this area, manage the planned reforestation areas as grassland/scrub-shrub habitat until funding is secured.
- Continue to administer the cooperative farming program in compliance with 50 CFR 29.1, 5 RM 17, 6 RM 4, and 603 FW 2.

Chapter V. Plan Implementation

The following projects from the Central Arkansas NWR Complex CCP, Section A, Chapter V, Plan Implementation (USFWS 2009a; pages 226-227) are also revised. All other projects remain the same and are herein incorporated by reference (USFWS 2009a).

REVISED PROPOSED PROJECTS

The following projects from the Central AR NWR Complex CCP, Section A, Chapter V, Plan Implementation (USFWS 2009a; pages 226-227) are revised as follows:

Grassland/Scrub-Shrub Maintenance

This project will maintain the existing 27 acres of grassland/shrub-scrub habitat along Tananger Rd. to provide a long-term grassland habitat component at Wapanocca NWR.

Estimated Annual Maintenance Cost: \$324.

(Linkages: Wapanocca NWR Objectives 1-5 and 1-6)

Bottomland Hardwood Forest Restoration

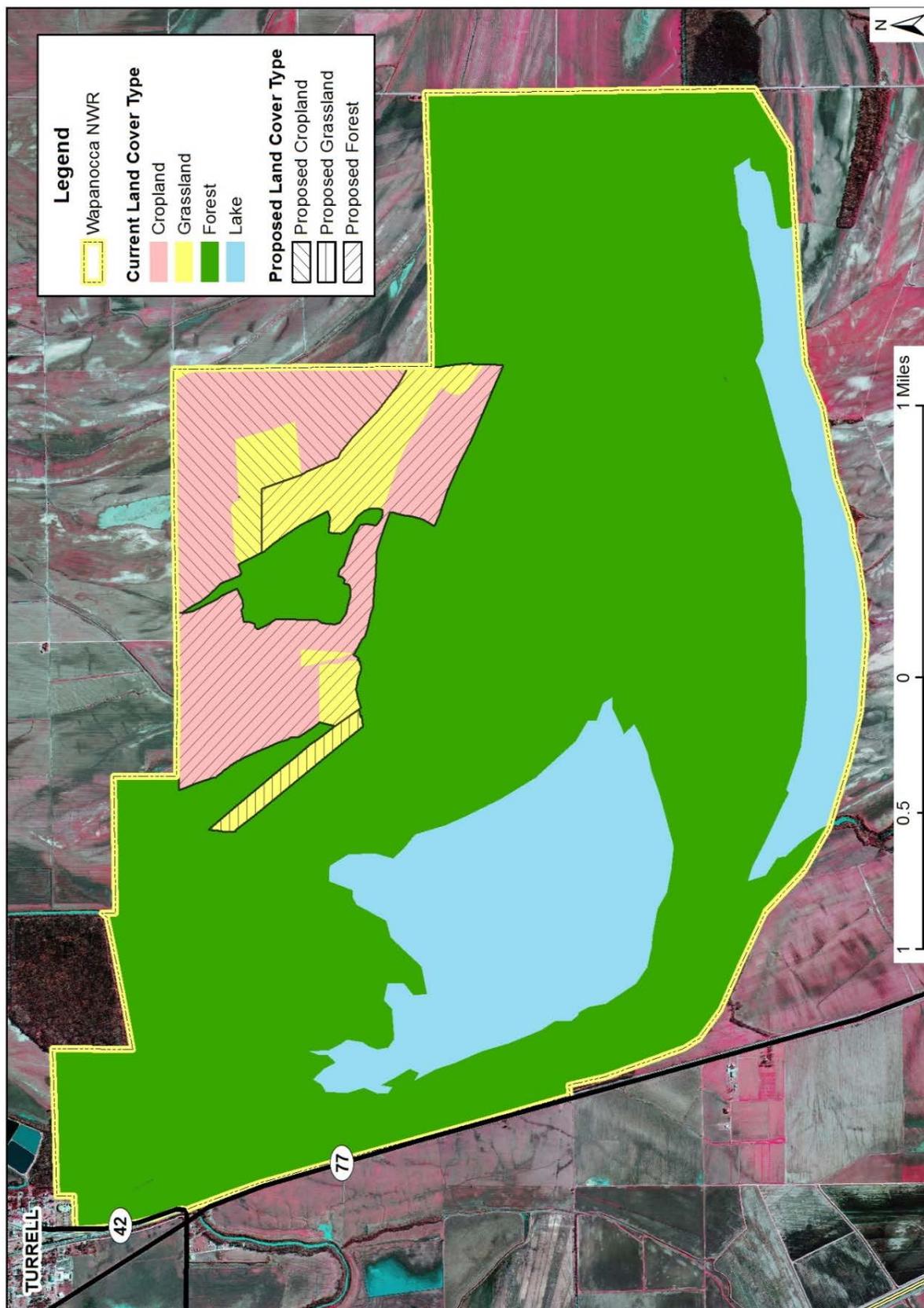
This project will restore 363 acres of bottomland hardwood forest at Wapanocca NWR. The Refuge is one of the largest remaining forested blocks in Northeast Arkansas; however, its current forest core area is below the minimum size needed by many forest interior birds. Bottomland hardwood forest trees will be planted in 363 acres of current cropland and grassland habitat. This action will further expand the Refuge's forest core size by reconnecting it to an additional 90 acres of existing forest which are currently surrounded by cropland.

Estimated Cost: \$54,450

(Linkages: Wapanocca NWR Objectives 1-4, 1-5, and 2-2)

These revisions only change the aforementioned projects of the Wapanocca NWR Section of the Central AR NWR Complex CCP (USFWS 2009a). The remainder of the CCP and accompanying environmental analysis and appendices (USFWS 2009, USFWS 2009a) would remain unchanged.

Figure 2. Land cover types, Wapanocca NWR in 2017 (Alternative C – Proposed Alternative).



Chapter V. Consultation and Coordination

OVERVIEW

This chapter summarizes the consultation and coordination that has occurred to date in identifying the issues, alternatives, and proposed alternative, which are presented in this CCP. It lists the meetings that have been held with the various agencies, organizations, and individuals who were consulted in the preparation of the CCP.

A 30-day public review and comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment (Draft CCP/EA) for the Central Arkansas National Wildlife Refuge Complex was published in the *Federal Register* on August 27, 2009 (74 FR 43716). A mailing list, representing conservation organizations, private landowners, public citizens, tribal governments, and state and federal government agencies, was compiled during the development of the Draft CCP/EA. Copies of the Draft CCP/EA were distributed for review to those on the list, as well as to all others as requested, and were available to the public at each of the four refuge offices in the Complex. Additionally, public notices and press releases were published in multiple area-wide newspapers to announce five open house meetings to provide additional information and opportunities for public comments on the Draft CCP/EA. The five meetings occurred from 5 to 8 p.m. as follows: September 15, 2009 at the Bald Knob Municipal Building, 3713 Highway 367, Bald Knob, Arkansas; September 17, 2009 at the Brinkley Convention Center, 1501 Weaterby Drive, Brinkley, Arkansas; September 21, 2009 at the Manila Community Center, 855 Airport Road, Manila, Arkansas; September 22, 2009 at the Wapanocca National Wildlife Refuge Headquarters, Highway 42 East, Turrell, Arkansas; and September 24, 2009 at the National Guard Armory, 500 Highway 64 East, Augusta, Arkansas. Twenty-four individuals attended the open houses where two oral and two written comments were received. Six additional comments were received by mail and four by e-mail.

The initial CCP revision and EA went through a 30-day public review and comment period and a public meeting in Turrell, Arkansas. The Service also consulted and coordinated with the Arkansas Game and Fish Commission, LMVJV, and the USFWS Office of Migratory Bird Management.

In addition to the public comments received at the public draft meeting in Turrell, Arkansas, on December 9, 2013, Wapanocca NWR received 13 private, NGO, and agency comments during its December 2, 2013 – January 6, 2014, Draft Revised CCP and EA comment period. Many comments urged the Service to develop a third alternative which would reduce the cooperative farmer's immediate and long-term financial impacts resulting from a cooperative farming phase out. Additional comments supported the Refuge's habitat restoration objectives, but encouraged the Refuge to reconsider whether intensifying its long-term impoundment farming management plan could increase its contribution to MAV duck forage objectives.

Based on these significant developments, Wapanocca NWR has created a third management alternative (Alternative C), which it proposes as the Service's new preferred alternative for Refuge management. This alternative addresses the abovementioned concerns by postponing reductions in the currently farmed Refuge area until 2017, continuing to cooperatively farm 60% of the currently farmed Refuge area beginning in 2017, increasing the Refuge's annual duck forage contribution by approximately 1.4 million duck energy days, and restoring 363 acres of bottomland hardwood forest for migratory birds.

This revision and EA amendment were made available for public comment from May 6, 2014, through May 27, 2014. Seven comments were received on the new proposed alternative. Comments from the first draft CCP/EA (December 2013) and the second draft CCP/EA (May 2014) released to the public in May 2014 were combined and denoted below, respectively. Commenters from both comment periods included Arkansas Game and Fish Commission, the Department of Arkansas Heritage – Arkansas Historic Preservation Program and Arkansas Natural Heritage, the State of Arkansas Department of Finance and Administration (State Clearinghouse), Crittenden County Farm Bureau, Audubon Arkansas, the Chitimacha Tribe of Louisiana, the Quapaw Tribe of Oklahoma, and the general public.

Appendix A. Literature Cited

The Final CCP for the Central Arkansas NWR Complex CCP, Appendix A, Literature Cited Section and all other original Appendices (USFWS 2009a) are incorporated herein by reference and any additions are provided below.

Federal Reserve Bank of St. Louis. 2013. Unemployment Rate in Crittenden County, AR (ARCTURN). Source: U.S. Department of Labor: Bureau of Labor Statistics. [http://research.stlouisfed.org/fred2/graph/?s\[1\]\[id\]=ARCTURN](http://research.stlouisfed.org/fred2/graph/?s[1][id]=ARCTURN)

U.S. Department of Commerce, U.S. Census Bureau. 2012b. State and County Quick Facts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report. Washington, DC. <<http://quickfacts.census.gov/qfd/states/00000.html>> (Accessed 3/21/2012).

U.S. Department of Commerce, U.S. Census Bureau. 2012c. USA Quick Facts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report. Washington, DC. <<http://quickfacts.census.gov/qfd/states/00000.html>> (Accessed 3/21/2012).

U.S. Department of Agriculture. 2007. National Agriculture Statistics Service. Arkansas Census of Agriculture by County.

U.S. Fish and Wildlife Service. 2009. Central Arkansas National Wildlife Refuge Complex Draft Comprehensive Conservation Plan and Environmental Assessment. 567 pp.

U.S. Fish and Wildlife Service. 2009a. Central Arkansas National Wildlife Refuge Complex Comprehensive Conservation Plan. 523 pp.

U.S. Fish and Wildlife Service. 2007. Final Environmental Impact Statement: Light Goose Management. 254 pp.

US Fish and Wildlife Service. 2013. Draft Comprehensive Conservation Plan Revision and Environmental Assessment of the Wapanocca National Wildlife Refuge Section of the Central Arkansas National Wildlife Refuge Complex Comprehensive Conservation Plan. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region.

US Fish and Wildlife Service. 2014. Revised Draft Comprehensive Conservation Plan Revision and Environmental Assessment of the Wapanocca National Wildlife Refuge Section of the Central Arkansas National Wildlife Refuge Complex Comprehensive Conservation Plan. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region.

U.S. Fish and Wildlife Service. 2014a. Wapanocca National Wildlife Refuge, Crittenden County, Arkansas Revised Comprehensive Conservation Plan: Cultural Resource Evaluation. 32 pp.

Appendix B. Intra-Service Section 7 Biological Evaluation Form

REGION 4 INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Bill Peterson
Telephone Number: 870-343-2595 **E-Mail:** bill_peterson@fws.gov
Date: February 12, 2014

PROJECT NAME (Grant Title/Number):
Bottomland Hardwood Forest Restoration at Wapanocca 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
 - Refuges/Wildlife

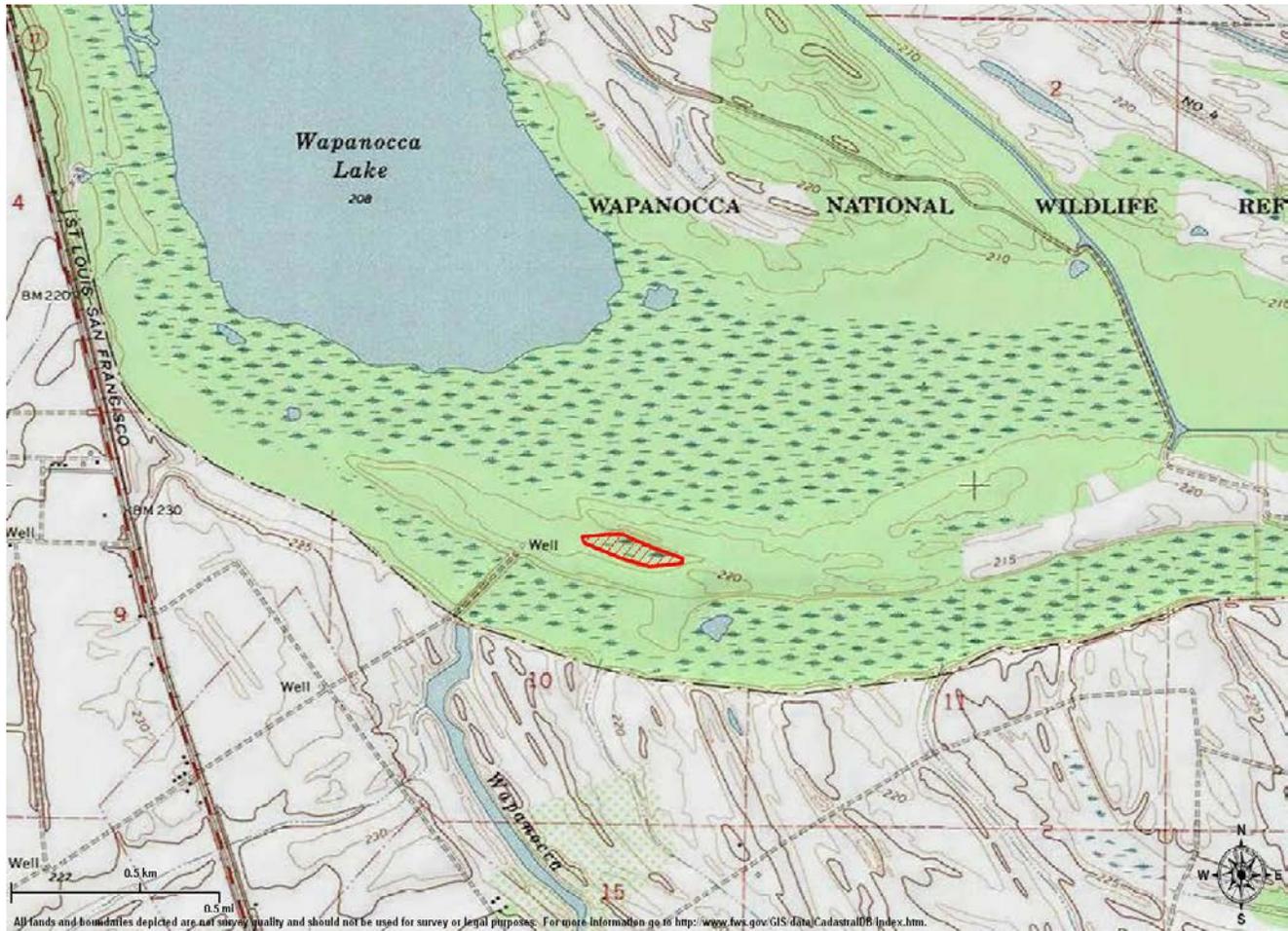
II. State/Agency: n/a

III. Station Name: Wapanocca NWR

IV. Description of Proposed Action (attach additional pages as needed):

The refuge proposes to convert 363 acres of cropland and grassland to bottomland hardwood forest. This restoration area is located >1.5 miles from the nearest pondberry population.

V. Pertinent Species and Habitat:

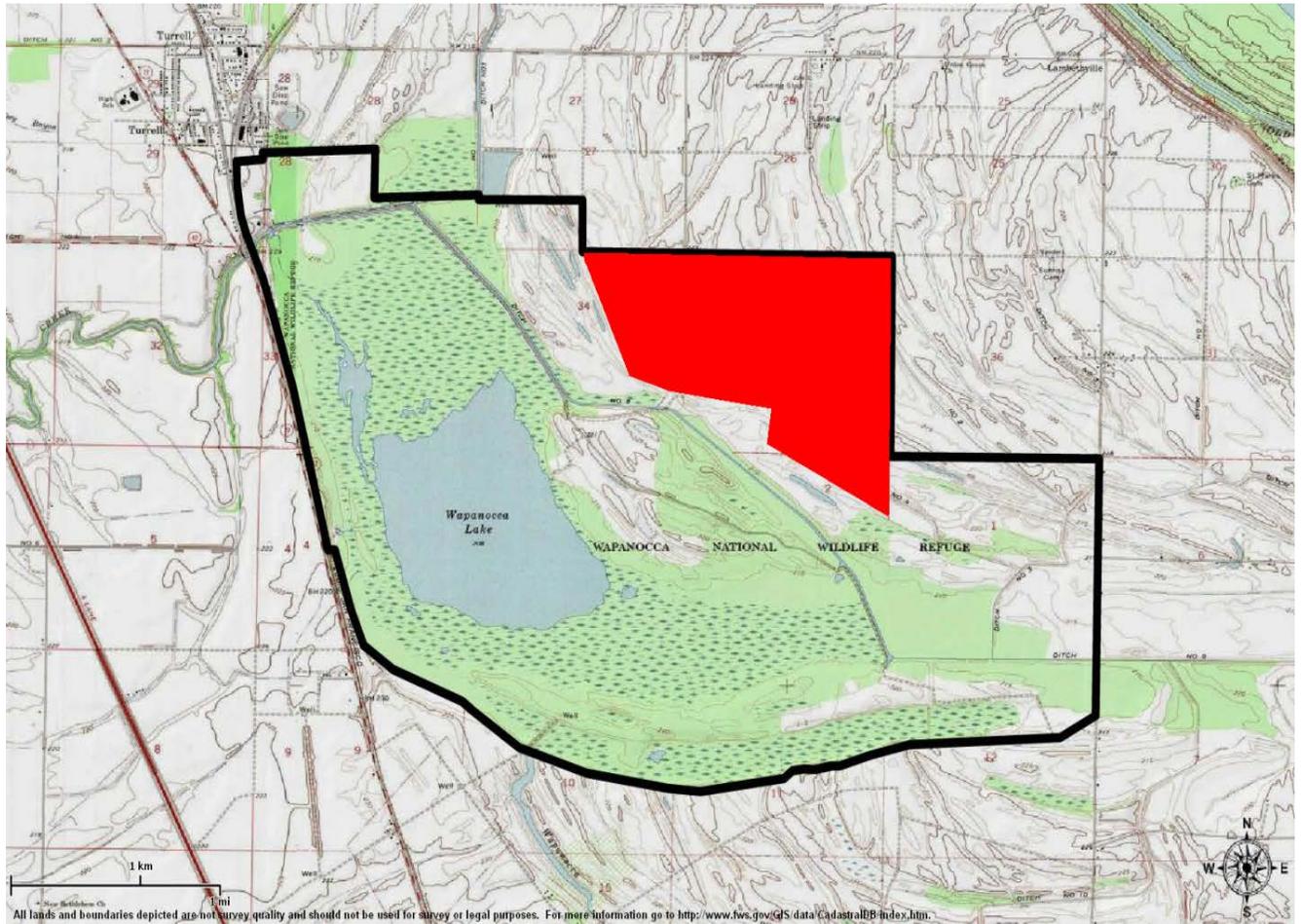


Complete the following table:

SPECIES/CRITICAL HABITAT	STATUS ¹
Pondberry (<i>Lindera melissifolia</i>)	E

¹STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened, CH=critical habitat, PCH=proposed critical habitat, C=candidate species

VI. Location:



- A. **Ecoregion Number and Name:** Ecosystem Area I, Ecosystem 27: Mississippi Alluvial Valley
- B. **County and State:** Crittenden County, Arkansas
- C. **Section, township, and range (or latitude and longitude):** Sections 34 and 34 of Twp. 9N – Rge. 8E and section 2 of Twp. 8N – Rge. 8E.
- D. **Distance (miles) and direction to nearest town:** 1.5 miles southeast of Turrell, Arkansas.
- E. **Species/habitat occurrence:** Pondberry – Discovered in Oct, 2012 in a wet depression in Pecan Ridge.

VII. Determination of Effects:

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

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Pondberry	<p>No cropland or grassland conversion will occur within 1.5 miles of known pondberry plants. All activities will occur in prior-disturbed areas, which are unsuitable pondberry habitat. Pondberry colonies at Wapanocca are limited to one depression area. In October 2012, after the plant's discovery, refuge staff surveyed Wapanocca NWR for additional plants.</p>

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Pondberry	<ol style="list-style-type: none"> 1. No cropland or grassland conversion within 1.5 miles of pondberry plants. 2. Cropland and grassland conversion only in prior-disturbed areas.

Appendix C. Public Involvement, Consultation, Coordination, and Comments

This appendix summarizes the efforts taken to solicit public comments, the results of the public consultation process, the public comments (both oral and written) that were received on the Draft CCP/EA, and the Service responses to the public comments.

SUMMARY OF PUBLIC DRAFT CCP COMMENTS

In December 2013, the Service released the Wapanocca NWR Draft Revised CCP and EA for public comment. Over 100 postcards were mailed out announcing the availability of the Draft CCP/EA, comment period, and public meeting. News releases were sent out to numerous media outlets. Comments on the Draft CPP/EA were submitted in a variety of ways (e.g., at the public meeting and by mail, fax, and e-mail). Approximately 25 people attended the public meeting on December 9, 2014, at the Wapanocca NWR Headquarters Office in Turrell, Arkansas. An article about the proposal was published in the Crittenden County newspaper on December 28, 2013. In addition to the public comments received at the public meeting in Turrell, Arkansas on December 9, 2013, the Service received 13 comments from private individuals, non-governmental organizations, and agencies during its December 2, 2013 – January 6, 2014, comment period. In response to these comments, the Service created a third management alternative (Alternative C), which it proposed as the new proposed action for Refuge management. This alternative maintains the current farming acreage through 2016, reduces the annual farming area from 498 acres to 300 acres in 2017, increases the annually cultivated impoundment area to 75 acres, and restores 363 acres of bottomland hardwood forest. These changes were made available for public comment from May 6, 2014, through May 27, 2014. Seven comments were received on the new proposed alternative, Alternative C. Commenters from the combined comment periods included Arkansas Game and Fish Commission, the Department of Arkansas Heritage – Arkansas Historic Preservation Program and Arkansas Natural Heritage, the State of Arkansas Department of Finance and Administration (State Clearinghouse), Crittenden County Farm Bureau, Audubon Arkansas, the Chitimacha Tribe of Louisiana, the Quapaw Tribe of Oklahoma, and the general public.

Under NEPA, the Service must respond to substantive comments. For purposes of this Final CCP, a substantive comment was one that was submitted during the public review and comment periods, which was within the scope of the proposed action (and the other alternatives outlined in the Draft EA), was specific to the proposed action, had a direct relationship to the proposed action, and included reasons that the Service should consider it in the decision-making process. The comments submitted during the public review and comment periods were evaluated and summarized. Comments on like topics were grouped together. The Service's responses to the comments are provided. Comments from the first draft CCP/EA (December 2013) and the second draft CCP/EA (May 2014) released to the public in May 2014 were combined and denoted below, respectively.

General Comments

Comment: The Crittenden County Farm Bureau and numerous other respondents support the No Action Alternative since Alternative B, especially, economically impacts the local refuge cooperative farmer and his livelihood. In fact, all in attendance at the public meeting did not support the proposed action, Alternative B (prior to release of second draft CCP/EA with the new Alternative C).

Service Response: Under Alternative C, the refuge will postpone any reduction in the currently farmed acreage until 2017 and thereafter, continue using cooperative farming to achieve its annual duck forage objectives.

Comment: Multiple respondents, including the AGFC, have expressed support for the proposed Alternative B, in the earlier draft (December 2013), and Alternative C in the later draft (May 2014).

Service Response: Comments noted.

Comment: The AGFC further supports Alternative C, because the conversion of farmland and scrub/shrub acreage into bottomland hardwoods will increase forest block size, support greater numbers of forest interior Neotropical migratory birds, and reduce the cropland acreage available for use by snow geese.

Service Response: Comment noted.

Comment: Audubon Arkansas supported the original Alternative B, specifically because bottomland hardwood forest provides critical wintering habitat for the Rusty blackbird. The Arkansas Department of Parks and Recreation also supported Alternative B, as it increased public use and visitation and expands natural areas.

Service Response: The refuge will expand the bottomland hardwood forest core area by 363 acres under Alternative C, to achieve similar objectives to the 388 acre forest expansion area under Alternative B.

Comment: In regards to Alternative B, multiple commenters wondered if the Federal government could sell, transfer, rent, or give the land that was condemned back to the original owners. A few commenters wondered if the Federal government was just trying to take away more land from property owners and felt that taking the land out of agricultural production was condemning the land twice.

Service Response: The refuge proposes to reduce the currently farmed area because upland unharvested crops are no longer substantially benefitting wintering Canada geese and other migratory birds, other than overabundant snow geese. Restoring bottomland hardwood forest in the affected uplands supports the refuge's migratory bird establishing purposes.

Comment: Multiple respondents encouraged the Service to come up with Alternative Management approaches that would benefit both the birds and the people affected by the proposed action. For example, multiple respondents recommended extending the phase-in period to take from three to ten years to the lifetime of current farmers, reducing corn acres, and harvesting all crops in the fields to decrease snow geese populations.

Service Response: Under Alternative C, the Refuge will continue using cooperative farming to meet its annual duck forage objectives. The currently farmed acreage will not be reduced until 2017, after which upland unharvested crops will no longer be present to benefit wintering snow geese.

Comment: In regards to Alternative B, multiple commenters believed we needed to stop taking land out of agricultural production because studies estimate that population growth by 2020 will exceed 9 billion people and the current agricultural production will not be able to support this growth...

Service Response: The refuge is managed to fulfill its purpose “...for use as an inviolate sanctuary, or for any other management purposes, for migratory birds,” and in order to meet refuge objectives, agricultural production will be used to provide high energy foods for waterfowl. Alternative C, the preferred alternative, will maintain 300 acres of Refuge lands in agricultural production.

Fish and Wildlife Population Management

Comment: In regards to Alternative B, some respondents questioned the validity of reported Canada goose numbers, noted that it seemed when Canada goose numbers in the area were high was during cold northern years, and that Canada geese may redistribute south again if conditions in the north become harsher.

Service Response: A very small percentage of the overall populations of Mississippi Valley and Eastern Prairie Pothole Canada Geese migrate to Northeast Arkansas during very harsh winters, however there is an extremely low likelihood of increasing long-term winter severities in their primary wintering area.

Comment: AGFC strongly supports the intensification of moist-soil management to benefit wintering and migrating waterfowl as outlined in Alternative C and believes this will enable the refuge to meet its DED as outlined in the LMVJV’s waterfowl objectives which are stepped down from NAWMP.

Service Response: Comment noted.

Comment: If the Service decides to pick Alternative B and phases out farming, multiple respondents believe this could lead to decreased deer and turkey abundance and that this will not be remedied by planting trees since consistent mast takes over 30 years to produce.

Service Response: Refuge deer and turkey populations are expected to increase above current levels in the short- and long-terms following cropland reforestation in 2017 due to the expanded forest habitat. Also, Alternative C maintains more agricultural production than Alternative B.

Comment: In regards to Alternative B, one respondent is concerned that by planting grassland habitat the coyote population will explode.

Service Response: The refuge coyote population may increase under Alternatives B; however, under the Service’s preferred alternative, Alternative C, the Service will only maintain 27 acres of grassland, having negligible effects on coyote populations.

Habitat Management

Comment: One respondent believes Alternative B will increase soil erosion.

Service Response: Under Alternatives B and C, soil erosion will decrease following bottomland hardwood restoration due to the cessation in annual cultivation and other soil disturbances and other soil disturbances on those sites.

Comment: In regards to Alternative B, the respondent notes that grassland habitat did not exist in the area of the refuge, only existed on the other side of Crowley’s Ridge, and is too small of an area for grassland birds and should not be maintained on Wapanocca NWR. One commenter also notes that maintaining grassland habitat is labor and economically intensive.

Service Response: The Service agrees that prairie was not historically present in Crittenden County; however Wapanocca NWR grasslands contribute to mitigating habitat losses in the Arkansas Grand Prairie and are extensively used by declining grassland bird species.

Comment: Multiple respondents believe that planting trees and shrubs will result in decreased waterfowl use. They believe that newly planted trees will not produce any short-term waterfowl benefits and that waterfowl prefer open areas. Multiple respondents also believe that Woody Pond needs to be cleared out to increase waterfowl use.

Service Response: Refuge impoundments located within existing forests are heavily used by mallards, gadwall, wood ducks, and other waterfowl that commonly occur in flooded bottomland hardwood forests. Woody Pond holds the refuge's highest waterfowl densities during cold weather periods, due to the thermal cover provided by its extensive buttonbush stands.

Comment: One respondent is concerned that if the Service phases out farming, weeds that develop in grasslands under Alternative B will spread into adjacent private fields. One respondent believes the Service will need to plant buffers to surrounding land or wonders if the Service will just let pigweed and cocklebur spread.

Service Response: Pigweed, cocklebur, and many other cropland weeds are early successional plants that become less abundant in established grasslands and reforested areas. However, in Alternative C, fewer acres of newly planted grasslands will result in fewer weed species developing and possibly spreading to adjacent lands.

Comment: In regards to Alternative B, multiple respondents are concerned about the spread and development of noxious weeds, such as marestail and pigweed.

Service Response: Marestail, pigweed, and many other cropland weeds are early successional plants that become less abundant in established grasslands and reforested areas.

Comment: If the Service does intend to keep upland farming, one respondent believes sunflowers could be planted instead of corn.

Service Response: Under Alternative C, the refuge's annual share of the cooperative farming program will be planted in impoundments, beginning in 2017.

Comment: Multiple respondents believe the Service needs to plant the farmland for ducks instead of phasing out farming, just move the farmed acreage to areas that can be flooded.

Service Response: Under Alternative C, the refuge will continue using cooperative farming to meet its annual duck forage objectives. Beginning in 2017, the refuge's annual share of the cooperative farming program will be planted in impoundments.

Economics

Comment: One respondent noted that when refuge was first established, the Service said it was going to help the community economically but since the Service does not pay taxes, it seems to not be helping Turrell or Crittenden County.

Service Response: While the Service does not pay property taxes, it provides annual Refuge Revenue Sharing Payments to local governments to offset tax base losses. Wapanocca NWR's average annual Refuge Revenue Sharing payment to Crittenden County from 2007-2012 was \$23,099. Additionally, all public roads and other infrastructure on the refuge are maintained by the Service, eliminating much of the City of Turrell's and Crittenden County's maintenance burden for this area. The refuge receives 70,000 annual visits for wildlife observation, fishing, hunting, and other outdoor activities. Many of these visitors support the local economy by purchasing their food and drinks, fuel, fishing bait, and other supplies from Crittenden County businesses.

Comment: In regards to Alternative B, multiple respondents commented that if the Service stops farming, you will not only lose income tax money but property taxes, sales tax on seed – this is a domino effect to local economy by loss of money to seed/ag industry inputs and outputs.

Service Response: Under Alternative C, the refuge will continue using cooperative farming to meet its annual duck forage objectives. The bottomland hardwood forest expansion will increase wildlife observation, hunting, and other recreation opportunities resulting in additional refuge visitation and increased economic benefits to local businesses.

Comment: One commenter noted that with the dismal shape of the federal government, hiring freezes, and low budgets, not much could be done on the refuge with only one staff member when the refuge used to have five permanent employees?

Service Response: Wapanocca NWR has reduced the scope of several lower priority management objectives due to staff and budget reductions; however it continues to fulfill its migratory bird purpose.

Comment: In regards to Alternative B, multiple respondents believe the Service will put the current cooperative farmer out of business and question why the Service would not utilize the cooperative farmer since it is no cost to the Service.

Service Response: Under Alternative C, the Service will continue using cooperative farming to meet its annual duck forage objectives. Additionally, the currently farmed acreage will not be reduced until 2017

Comment: In regards to Alternative B, one respondent wondered if the Service considered the maintenance costs to maintain grassland in good condition. This and other respondents believe the estimates in the plan are not accurate and are too low.

Service Response: The grassland annual maintenance cost is based on the refuge's average annual expenses for managing existing refuge grasslands; however, under Alternative C, very few grassland acres will be maintained.

Comment: In regards to Alternative B, one respondent wondered if the Service could take the 25 percent crop share in money or in-kind services (such as mowing or bush hogging).

Service Response: Long-term refuge cooperative farming programs are only for producing wildlife food.

Resource Protection

Comment: In regards to Alternative B, the Arkansas Natural Heritage Commission believes that if the Service plants grassland habitat, native prairie grass species, such as local switchgrass and active management with fire should be used.

Service Response: Comments noted.

Comment: In regards to Alternative B, the Arkansas Natural Heritage Commission requests that a list of invasives present on the refuge be documented in the CCP. ANHC also notes that Cuban bulrush (*Oxycaryum cubense*), which is a major aquatic weed that forms large, dense floating mats and can exclude other native vegetation and choke out open water, is found on Wapanocca NWR. ANHC believes this weed, left untreated, could negatively affect some of the Refuge goals. ANHC recommends a survey be conducted to gather baseline data followed by management and monitoring.

Service Response: The refuge will determine the location(s) of Cuban bulrush and implement control actions.

Comment: The Arkansas Historic Preservation Program and the Quapaw Tribe of Oklahoma notes that the Draft CCP does not address the potential for impact to cultural resources and commented that because the refuge has had numerous previously recorded archeological sites on the refuge and has demonstrated a high density of prehistoric archeological sites in the area, additional unrecorded archeological sites are likely present. The AHPP believe that planting of trees in former agricultural areas could have an adverse effect on those archeological sites, both through site preparation process prior to planting and the roots of trees themselves. The AHPP urges to the Service to consider potential for impacts to historic properties in the next draft of the CCP. Specifically, Dr. Ann Early, Arkansas' State Archaeologist, and Everett Bandy, the Tribal Historic Preservation Officer for the Quapaw Tribe of Oklahoma, expressed concerns over potential impacts of this undertaking on the Refuge's historic properties (Fig. 2; Tables 1 & 2). A number of well-known archaeological sites are near the Refuge, such as the Bradley Site, the Lambethville Cemetery Site, the Pacific Site, the Golightly Place Site, and the Banks Site (Jackson 1979; Phillips, Ford, and Griffin 1951). As Dr. Early noted, ".....the nationally renowned Bradley Site, a Mississippian town site and source of one of the most iconic of the Mississippian 'head pots', and the Wapanoca Site, location of the first county seat in the early 19th century, are less than three miles from the refuge....."

Service Response: The EA for the Central Arkansas NWR Complex Draft CCP/EA, Section B, Chapter IV, Environmental Consequences (USFWS 2009) was incorporated by reference and only changes to that analysis were provided in the revised Draft CCP/EA (USFWS 2013/2014). The Central Arkansas NWR Complex Draft CCP and EA included an effects analysis of the alternatives, including planting trees, on Cultural Resources (USFWS 2009; Pages 282-283, 301, and 309-317). Converting this acreage to forest eliminates the on-going annual discing, crop bedding and other major soil disturbing activities, thereby protecting historic properties. The reforested areas will provide a stable vegetative cover. The planned land use change will not affect significant historic properties. However, the points made regarding the limitations of Jackson's 1979 archaeological survey, specifically the lack of information regarding locations and numbers of test units and observed soil horizons, are well taken. In addition to the changing archaeological fieldwork and report standards, our understanding of the precolumbian and historic landscapes in northeast Arkansas has also evolved over the last 30 years. We have a two-year window prior to the planned re-forestation. As part of a Section 110 effort, we'll conduct a more comprehensive archaeological survey of this portion of the Refuge. Part of this effort will involve a re-examination of Jackson's field notes to determine whether additional testing is warranted at the sites that he determined ineligible. A second part of the effort will be to more fully develop the historic contexts associated with the Wapanocca Outing Club, the club's African American employees, and the early 20th century agricultural landscape and associated tenant farms. The resulting information and report will aid us in making more informed decisions about conservation actions on this Refuge, as well as provide a useful interpretive tool. The Service has also prepared a preliminary report to evaluate the effects of the proposed alternative on cultural resources in the area (USFWS 2014a).

Visitor Services

Comment: In regards to Alternative C, multiple respondents believe the Service should not restrict access to Wapanocca Lake to birders during November to February 28. They believe birders have very minimal or no impact on birds using the refuge as a sanctuary. Restricting access to the lake will also interrupt bird monitoring that has been going on since the 1960's.

Service Response: The Service prohibits seasonal access only to the open water portion of Wapanocca Lake. The refuge will continue its partnership with local birders to complete the Christmas Bird Count and improve access to the Wapanocca Lake open water edge via the Winter Waterfowl Observation Blind Access Trail.

Appendix D. Finding of No Significant Impact

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) is revising part of the Wapanocca NWR section of the Central Arkansas National Wildlife Refuge (NWR) Complex (Complex) Comprehensive Conservation Plan (CCP). An Environmental Assessment (EA) has been prepared to inform the public of the possible environmental consequences of implementing the partially revised CCP for Wapanocca NWR (USFWS 2013, 2014). A description of the alternatives, the rationale for selecting the preferred alternative, the environmental effects of the preferred alternative, the potential adverse effects of the action, and a declaration concerning the factors determining the significance of effects, in compliance with the National Environmental Policy Act of 1969, are outlined below. The supporting information can be found in the Environmental Assessment, Section B of the partially revised Draft Comprehensive Conservation Plan (USFWS 2014) and the Central Arkansas NWR Complex Comprehensive Conservation Plan and Environmental Assessment (USFWS 2009a).

ALTERNATIVES

In developing this partial revision Final CCP for the Wapanocca NWR, the Service evaluated three alternatives with different approaches

- Alternative A – Current Management (No Action Alternative)
- Alternative B – Original Proposed Alternative
- Alternative C – Preferred Alternative

The Service adopted Alternative C as the “Preferred Alternative,” to revise the Wapanocca NWR portion of the Complex CCP and guide management for the next 15 years. The overriding concern reflected in this CCP is that wildlife conservation assumes first priority in refuge management; wildlife-dependent recreational uses are allowed if they are compatible with wildlife conservation. Priority wildlife-dependent recreation uses (e.g., hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation) will be emphasized and encouraged.

ALTERNATIVE A - (CURRENT MANAGEMENT - NO ACTION)

This is the "status quo" alternative. Under this alternative, the Service would do nothing to change the goals and objectives of the Wapanocca NWR Section of the Central AR NWR Complex CCP (USFWS 2009a). The entire CCP and accompanying environmental analysis (USFWS 2009) would remain.

Under Alternative A, cropland habitat management will continue on 498 acres annually. Snow geese will continue to be the primary bird benefitting from upland unharvested crops. 177 acres of fallow field habitat will remain in scattered blocks and would not provide a contiguous large block of habitat for grassland birds.

ALTERNATIVE B - (ORIGINAL PROPOSED ACTION)

Under Alternative B, cropland habitat management will be reduced from 498 acres annually in 2013 to 230 acres in 2014 and then to 55 acres (located only in moist-soil impoundments) in 2017 causing changes in the habitat types available for wildlife. Upland unharvested crops will no longer be available to benefit snow geese; however, reforesting upland cropland habitat will create a larger block of bottomland forest habitat, thereby benefitting forest breeding birds. The Refuge will restore 388 acres of bottomland hardwood forest for forest birds and establish 55 acres of grassland/scrub-shrub habitat for grassland birds.

All other goals, objectives, strategies, and projects as described in the original CCP (USFWS 2009a) and accompanying EA (USFWS 2009) would remain as the preferred alternative for managing the Refuge through the remainder of the CCP's 15 year time frame.

ALTERNATIVE C - (PREFERRED ALTERNATIVE)

Under Alternative C, cropland habitat management will continue on 498 acres annually through 2016. In 2017, the cropland habitat management area will be reduced to 300 acres annually, with the Refuge's share (75 acres) located in moist-soil impoundments and the cooperative farmer's share (225 acres) largely located east of Ditch 4. Beginning in 2017, upland unharvested crops will no longer be available to benefit snow geese. The Refuge will restore 363 acres of bottomland hardwood forest in 218 acres of current cropland and cropland filter strips, and in 145 acres of current grassland habitat. The Refuge will restore bottomland hardwood forest only, rather than the combination of forest and grassland proposed in Alternative B, to reduce forest fragmentation and maximize its long-term habitat for forest breeding birds.

All other goals, objectives, strategies, and projects as described in the original CCP (USFWS 2009a) and accompanying EA (USFWS 2009) would remain as the preferred alternative for managing the Refuge through the remainder of the CCP's 15 year time frame.

SELECTION RATIONALE

Alternative C is selected for implementation because it directs the development of programs to best achieve the vision of the Complex and Wapanocca NWR's purposes and goals; emphasizes improvements to the capacity and capability of the refuges to better manage the habitat and wildlife resources, as well as expand visitor services and public use programs; collects habitat and wildlife data; and ensures long-term achievement of refuge and Service objectives. At the same time, these management actions provide balanced levels of compatible public use opportunities consistent with existing laws, Service policies, and sound biological principles. It provides the best mix of program elements to achieve desired long-term conditions.

Under this alternative, all lands under the management and direction of Wapanocca NWR will be protected, maintained, and enhanced to best achieve national, LCC, and Refuge-specific goals and objectives within anticipated funding and staffing levels. In addition, the action positively addresses significant issues and concerns expressed by the public.

ENVIRONMENTAL EFFECTS

Implementation of the Service's selected management action is expected to result in environmental, social, and economic effects as outlined in the CCP. Habitat management activities on the Central Arkansas NWR Complex will result in forest enhancement and restoration, increased migratory bird use, increased protection for threatened and endangered species, enhanced wildlife populations, and enhanced opportunities for wildlife-dependent recreation and environmental education. These effects are detailed as follows:

1. Increased and intensified habitat management efforts and the implementation of adaptive management practices will improve habitats for priority Refuge wildlife populations.
2. Migratory waterfowl, neotropical migratory bird, forest breeding birds, game mammals, amphibians, and reptiles are expected to benefit from enhanced wetland and forest habitat management. Similarly, benefits to early successional birds, grassland birds, shorebirds, marshbirds, and colonial waterbirds are anticipated.
3. Habitat management efforts will enhance the quality of bottomland hardwood forest, moist-soil, cropland, and wetland habitats to fulfill the mission and purposes of the refuges by sustaining the biological needs of migratory birds and native wildlife.
4. Habitat restoration will result in improved wildlife-dependent recreational opportunities.

POTENTIAL ADVERSE EFFECTS AND MITIGATION MEASURES

WILDLIFE DISTURBANCE

Alternative C, the proposed alternative, will have unavoidable impacts. Off-Refuge snow goose crop depredation may increase slightly, however most refuge-area snow goose foraging currently occurs on private lands and the Refuge may attract fewer snow geese once on-Refuge upland unharvested cereal grains are no longer present. Off-Refuge crop depredation by deer will increase if the Refuge deer population increases due to on-Refuge habitat restoration.

The following unavoidable impacts and mitigation measures apply to Alternative C, the proposed alternative:

WATER QUALITY FROM SOIL DISTURBANCE AND USE OF HERBICIDE EFFECTS UNDER ALTERNATIVE C

Water quality will improve following bottomland hardwood forest restoration because this habitat's long-term management requires very little soil disturbance. Long-term herbicide use for exotic plant control in bottomland hardwood forest areas could impact water quality however the overall volume of applied herbicide would be much lower than when the area was cropland.

WILDLIFE DISTURBANCE EFFECTS UNDER ALTERNATIVE C (REVISED)

Wildlife disturbance will decrease following bottomland hardwood forest restoration because this habitat provides greater year-round visual barriers and escape cover than cropland.

USER GROUP CONFLICTS UNDER ALTERNATIVE C

Public use of the affected areas will increase once bottomland hardwood forest is restored. User group conflicts have not occurred in similar Refuge areas and are not expected under the proposed action. Should this occur, the Refuge will adjust its programs as needed to eliminate or minimize any public use issues. The Refuge will use methods that have proven to be effective in reducing or eliminating public use conflicts including: establishing separate use areas, different use periods, and limits on the numbers of users in order to provide safe, quality, appropriate and compatible wildlife-dependent recreational opportunities.

COOPERATIVE FARMER EFFECTS UNDER ALTERNATIVE C

There will be unavoidable economic impacts to the cooperative farmer as the Refuge's cropland area is reduced by 40%. The Refuge will mitigate these effects by postponing this farming area reduction until 2017 to provide the cooperative farmer with three years to secure replacement farmland.

ADJACENT LANDOWNERS EFFECTS UNDER ALTERNATIVE C

Snow goose crop depredation may decrease in adjacent winter wheat fields if the Refuge attracts fewer snow geese once upland unharvested cereal grains are no longer present. Deer crop depredation may increase when the Refuge deer population increases due to the additional natural habitat; however it is expected to remain at low levels.

LAND OWNERSHIP AND SITE DEVELOPMENT EFFECTS UNDER ALTERNATIVE C

Implementation of the proposed action will not affect land ownership near the Refuge. The proposed action does not entail site development.

The management action is not expected to have significant adverse effects on wetlands and floodplains pursuant to Executive Orders 11990 and 11988, since actions would not result in development of buildings and/or structures within floodplain areas.

COORDINATION

The management action has been thoroughly coordinated with all interested and/or affected parties. Parties contacted include the following:

- All landowners within the Expansion Area
- Congressional representatives
- Arkansas' Governor's office
- Arkansas Game and Fish Commission
- Arkansas Natural Heritage Commission
- Arkansas Forestry Commission
- Arkansas Parks and Tourism Department
- Arkansas Department of Environmental Quality
- Arkansas Natural Resources Commission
- Arkansas Department of Agriculture
- Arkansas Farm Bureau
- Natural Resources Conservation Service
- National Park Service
- USDA Farm Service Agency

U.S. Army Corps of Engineers
Farm Bureaus for Monroe, Prairie, and Woodruff Counties
The Nature Conservancy
The Conservation Fund
National Wildlife Refuge Association
Ducks Unlimited
Audubon Arkansas
Arkansas Wildlife Federation
County Judges in Monroe, Prairie, Woodruff, Jackson, Cross, and Poinsett Counties
Chitimacha Tribe of Louisiana
Tunica-Biloxi Indian Tribe of Louisiana
Coushatta Tribe of Louisiana
Jena Band of Choctaw Indians
Mississippi Band of Choctaw Indians
Area farmers and landowners
Interested citizens and local businesses
Conservation organizations
Statewide media

FINDINGS

It is my determination that the management action does not constitute a major federal action significantly affecting the quality of the human environment under the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969 (as amended). As such, an environmental impact statement is not required. This determination is based on the following factors (40 CFR 1508.27), as addressed in the Environmental Assessment for the Central Arkansas NWR Complex (USFWS 2009a; 2013; 2014) (page numbers listed are from the USFWS 2009a first; then USFWS 2014):

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the human environment. (Environmental Assessment, pages 281-317; 35-40).
2. The actions will not have a significant effect on public health and safety. (Environmental Assessment, pages 281, 283, 307, and 316; 35-40).
3. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas. (Environmental Assessment, pages 282-289; 35-40).
4. The effects on the quality of the human environment are not likely to be highly controversial. (Environmental Assessment, pages 281-317; 35-40).
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment. (Environmental Assessment, pages 281-317; 35-40).
6. The actions will not establish a precedent for future actions with significant effects nor do they represent a decision in principle about a future consideration. (Environmental Assessment, pages 281-317; 35-40).

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7. There will be no cumulatively significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past action, and in foreseeable future actions. (Environmental Assessment, pages 309-317; 35-40).
 8. The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources. (Environmental Assessment, pages 282, 283, and 309; 35-40).
 9. The actions are not likely to adversely affect threatened or endangered species, or their habitats. (Environmental Assessment, pages 288 and 314; 35-40).
 10. The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment. (Environmental Assessment, pages 281-317; 35-40).

SUPPORTING REFERENCES

US Fish and Wildlife Service. 2009a. Central Arkansas National Wildlife Refuge Complex – Draft Comprehensive Conservation Plan and Environmental Assessment. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region.

US Fish and Wildlife Service. 2013. Draft Comprehensive Conservation Plan Revision And Environmental Assessment of the Wapanocca National Wildlife Refuge Section of the Central Arkansas National Wildlife Refuge Complex Comprehensive Conservation Plan. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region.

US Fish and Wildlife Service. 2014. Revised Draft Comprehensive Conservation Plan Revision And Environmental Assessment of the Wapanocca National Wildlife Refuge Section of the Central Arkansas National Wildlife Refuge Complex Comprehensive Conservation Plan. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region.

DOCUMENT AVAILABILITY

The Environmental Assessment was Section B of the Draft Comprehensive Conservation Plan and Environmental Assessment and was made available in December 2013 and March 2014. Additional copies are available by writing: Central Arkansas National Wildlife Refuge Complex, 26320 Highway 33 South, Augusta, Arkansas 72006.

Acting for

Signed

David Viker
Regional Chief, Southeast Region

3/3/15

Date