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**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date:** 12/25/2019

**10) Description of Use:** *Cooperative Farming*

Cache River NWR has utilized agricultural practices as a means of waterfowl management from the beginning of the refuge's establishment in 1986. The refuge utilizes cooperative agreements signed with local farmers annually to fulfill the refuge's purposes. Farming will be conducted on a crop-share basis, with the farmer providing the equipment, seed, fertilizer, pesticides, and labor, while the refuge provides the land base. The refuge has two distinct farm units encompassing, about 3,106 acres in Prairie and Woodruff Counties. The Dixie Farm Unit, which lies in Woodruff County, maintains approximately 2,363.2 acres of cropland. The Plunkett Farm Unit, which lies in Prairie County, maintains approximately 742 acres of cropland. Cooperators are required to adhere to all refuge regulations and provide all necessary documentation, while performing agricultural practices on refuge property. It should be noted that the acreage on these two farm units is also utilized to meet refuge objectives for moist-soil plant production, winter browse, and migrating shorebird habitat in addition to row crop objectives for the refuge.

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**Availability of Resources:** The refuge does not have the staff or the funds to accomplish this critical habitat management program internally. Food production goals are accomplished through a cooperate agreement with a local farmer. Refuge staffing levels are adequate to administer the program through this cooperate arrangement.

**Anticipated Impacts of Use:**

- Food is produced to help meet refuge purposes and goals (high-energy foods to maintain body condition and health of migrating and wintering waterfowl, wading birds, and shorebirds).
- Partial restoration of hydrology on a portion of cropland acres.
- Increased habitat diversity due to inclusion of moist-soil management, addition of buffer strips, restoration of forested corridors, shorebird units management, and wading bird habitat.
- Increased numbers and diversity of waterfowl and other migratory birds using refuge habitats for wintering, staging, and migrating.
- Minor soil erosion impacts even though soil conservation measures are employed.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:**

The following stipulations would help ensure the refuge cooperative farming program is compatible with refuge purposes:

- The cooperative farmer may begin farming operations March 1. Farm field access after November 15 will be limited to that necessary to remove equipment or other necessary trips.
- The cooperators will participate in Farm Service Agency programs to extent possible to protect crop bases. All acreage reporting will be the responsibility of the cooperator, with final certification by refuge manager.
- Land alterations including, but not limited to, ditching, land leveling, filling, clearing, and mowing will be done only upon approval of refuge manager. No drainage of fields will be permitted prior to March 1 of each year.
- All crops shall be harvested as early as possible, with a target date for completion of harvesting operations of November 1. Refuge crops will be fertilized at the same rate as cooperator's and receive every other similar treatment (pesticides, tillage, etc.).
- The refuge's share of the crop will be left in the field. The refuge will receive 1/4 of rice acres planted as its share, anytime rice is planted. The refuge's rice share or an equal amount of acreage designated by the refuge manager will be flooded by the cooperator at the cooperator's expense by November 1, and maintained in a flooded condition by pumping through November 30.
- All cooperator rice fields shall be rolled after harvest and irrigation levees will be rebutted to hold rainfall. This practice shall be accomplished by November 1.
- Any set aside acreage will be planted to Farm Service Agency approved crop or managed for production of moist-soil plants as requested by refuge manager rather than be clean disked throughout the year.
- Only approved chemicals (pesticides) may be used on crops. Approved post-emergence chemicals will only be used after professional crop scouting results indicate that pest density is at, or beyond, the economic threshold level. Chemical application on any other vegetation is prohibited. Pesticide application instructions will be adhered to and efforts will be made by the cooperator to reduce use of chemicals through alternative non-chemical pest control techniques. The cooperator will keep accurate records of pesticide application and furnish a written copy to the refuge manager by December 1.

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- The cooperator will abide by all appropriate state and federal regulations pertaining to storage, use, and disposal of hazardous materials (oils, solvents, pesticides, etc.). The cooperator will immediately notify the refuge manager in event of any accidental hazardous materials release and take appropriate measures to contain the release.
  - No fall disking is allowed without prior approval from the refuge manager. Any acreage disked in the fall will require a winter cover crop.
  - All refuge crop share fields and cooperator harvested fields will be left standing and not manipulated in anyway, unless specifically directed to do so by the refuge manager.
  - Firearms are not permitted on the refuge and will not be used as a scare device. All refuge regulations will be adhered to.
  - No burning of any kind is allowed on the refuge.
  - The cooperator will leave all refuge boundary signs in existing locations. Any refuge boundary signs destroyed, as a result of the cooperator's operations, shall be replaced by the cooperator.
  - The cooperator shall report surface and groundwater usage annually to county NRCS office and pay reporting fees.
  - The Service reserves the right to install pipes and water control structures and construct levees, which may spot damage or destroy cooperator's crops.
  - Equipment stored on Service property will be allowed only to the extent used to farm the refuge. Surplus, non-operational, or salvaged equipment will be immediately removed. Miscellaneous farm scrap, such as old tires, old rice levee gates, and old irrigation pipes, will be removed from the refuge. Failure to comply will result in removal at the cooperators expense.
  - Soil testing on all fields should be accomplished once every 3 years to increase farm efficiency and conservation. Soil samples can be submitted to the local agricultural extension office at no cost to the farmer. A copy will be provided to the refuge manager.
  - The refuge manager/staff will conduct several site inspections of the farm facilities throughout the year to assure compliance. These site inspections will be signed by the refuge manager and cooperator to illustrate understanding and compliance.
  - The cooperator will be responsible for maintaining and repair of all wells, pumps, and all associated devices used for irrigations purposes.
  - The cooperator and their agents and guests shall save, hold harmless, defend, and indemnify the United States of America, its agents, and employees for loss, damages, or judgments and expenses on account of bodily injury, death or property damage, or claims for bodily injury, death, or property damage of any nature whatsoever, and by whomever made, arising out of the cooperator, his employees, subcontractors, or agents with respect to conducting activities connected with this agreement within the lands administered by Cache River National Wildlife Refuge.

**Justification:**

Agricultural crops are needed to meet the migratory waterfowl needs identified through approved Lower Mississippi Valley Joint Venture and North American Waterfowl Management Plans. Soil disturbance and crop rotation that result from refuge crop management allow the production and management of moist-soil vegetation, which is a valuable waterfowl food source and adds an element of habitat diversity. Cropland management is a necessary mechanism to keep some open land tracts from succeeding until they can be restored by planting seedlings of bottomland hardwood species. The refuge lacks personnel, funds, and equipment required to farm cropland by force account. This use will be administered in compliance with 50 CFR 29.1.

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**11) Description of Use:** *Commercial Fishing*

Allow commercial fishing by special use permit on specified areas of Cache River NWR for the benefit of priority fish species and their habitats. Fishing will conform to Arkansas Game and Fish Commission regulations. All refuge waters except sanctuaries are open February 1 – May 1, the Cache River and all lakes, bays, and all bodies of water accessible by boat are open May 1 – October 31, Cache River main channel open November 1 – January 31.

Commercial fishing is utilized to remove fish commonly known as rough fish from refuge waters. The species permitted for commercial harvest include German carp, silver carp, big head carp, grass carp, black carp, buffalo, and catfish. The five carp species are exotics, which as a group, compete with and negatively impact habitat of native fisheries within the refuge and ecosystem. The overly abundant native buffalo, and to a lesser degree, catfish also compete with other native fisheries.

**Availability of Resources:** Refuge staff and resources are adequate to cover management of fishing at current levels. However, it is anticipated that an increase in this use may occur over the coming years. In order to provide safe and quality fishing, additional resources and staff will be needed to enhance or develop additional access areas and provide law enforcement. A portion of the refuge's budget is spent annually managing for the benefit of freshwater fisheries, maintaining boat launching ramps, improving access, conducting law enforcement patrols, and ensuring refuge visitors are in compliance with boater safety and refuge regulations.

**Anticipated Impacts of Use:** The primary impact is the removal of exotic, non-game fish. The program involves reducing numbers of these fishes (because eradication is not feasible) and reducing negative impacts to aquatic habitats and certain sport fishes. Incidental take of sport fish may occur in association with this use, but is not expected to result in any long-term or cumulative negative impacts. There is no long-term adverse impact to habitat or native fish and wildlife. Commercial harvest of non-game fish should enhance water quality and survival of other fish species, and provide local economic benefit.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Law enforcement officers would ensure compatibility through routine law enforcement patrols enforcing state and refuge-specific regulations. Arkansas Game and Fish Commission officers also occasionally patrol refuge waters and monitor the access areas. A special regulation for the refuge has been initiated to ensure minimal disturbance to migrating waterfowl through closure of waterfowl sanctuaries November 15 – February 28. Turtle trapping is not permitted.

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**Justification:** One of the primary objectives of the National Wildlife Refuge System is to remove exotics from refuges and to restore historic native populations. Removal of exotics and a reduction in rough fish population by commercial harvest is a management practice aimed at reducing adverse impacts to water quality and aquatic habitats. Bottom feeders, such as carp and buffalo, stir up sediments which exacerbate turbidity and impacts fish nesting and spawning habitat for other fishes. Fishery biologists with the Service have long recommended commercial harvest of these species to refuge managers as a management tool with the objective to increase/restore native fish populations on refuges. Commercial harvest of these species is considered a management economic activity that will result in removing exotics, improving quality of aquatic habitats, favorably impacting recreational fishing opportunities, and providing economic benefits to the local community. This use will be administered in compliance with 50 CFR 29.1.

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## **12) Description of Use:** *Furbearer Trapping*

Regulated trapping of furbearers would be allowed on Cache River NWR under an annual special use permit. Regulated trapping is considered a refuge management economic activity. Furbearer species (as defined by the Arkansas Game and Fish Commission) include: badger, beaver, bobcat, coyote, grey fox, red fox, mink, muskrat, nutria, opossum, raccoon, river otter, spotted skunk, striped skunk, and weasel. Trappers would be required to maintain records of all trapping activities and captures as a condition of the permit. This information will be recorded on a Refuge Trapper Report and provided to the refuge at the close of each special use permit term. Trapping would be conducted in accordance with Arkansas Game and Fish Commission regulations, and permitted from December 1 through January 31. Access to trapping areas will involve the use of boat, motor vehicle, ATV, and foot travel on approved roads and trails.

**Availability of Resources:** Trappers would provide the necessary equipment and resources to carry out the program. Costs to the refuge will be minimal for issuing permits, oversight, and law enforcement. No additional fiscal resources are needed to conduct this use. In fact, this use should result in reduced operational costs to the refuge attributed to nuisance animal control and associated damage to refuge infrastructure.

**Anticipated Impacts of Use:** Setting and checking of traps/snares would result in only normal short-term disturbances similar to those associated with other refuge approved uses (e.g., hunting, fishing, and birding). Temporary displacement of waterfowl, other migratory birds, and some resident wildlife will occur in localized, specific areas in which trapping occurs and along routes of ingress/egress. Some trampling of vegetation and small vertebrates and invertebrates could occur. The occasional take of non-target species likely will result and must be reported on the Refuge Trapper Report. These impacts are not expected to result in any significant or cumulative negative impacts. Conflicts between trappers and other refuge users are expected to be minimal.

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Animals taken by trappers would serve as a positive population control measure, thus assisting in habitat protection, reducing damage to refuge infrastructure critical to performing habitat management for trust species, preventing disease outbreaks associated with high furbearer population levels, and reducing excessive predation of certain priority bird species. Regulated trapping, as conducted by the public, supplements nuisance animal control activities on the refuge and assists in maintaining these animals at acceptable population levels. Control of beaver populations will help ensure protection of important bottomland hardwood forests, including reforestation areas, and minimize beaver damming problems associated with the operation of more than 36 water control structures and associated culverts/drainage ditches necessary for management of habitat for trust species. As beaver numbers decrease, the number, size, and frequency of impoundments that are rebuilt should also decrease. The refuge should spend less time and money on the removal of impoundments/dams and repairing water control structure, roads, and levees.

Over the long-term, the habitats degraded by the animals (specifically, beaver, nutria, and muskrat) will return to a more normal hydrologic regime and be reclaimed by native hardwoods and natural riparian vegetation. Nest success by resident/migratory avian species would likely increase as the population density of nest-predating (e.g. raccoon, opossum, mink, skunk) species decreased. Overall health of refuge wildlife, staff, and visitors will be promoted by prevention of or reduction in severity of disease outbreaks. Local economic benefit will accrue to participants in this program and the refuge has the potential to collect information on wildlife habitat use trends, wildlife sightings, habitat/infrastructure damage, nuisance animal activities, and species interactions.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:**

- All trapping activities require a special use permit; permits are nontransferable. Trappers must carry in their possession the required state licenses and a copy of the permit while engaged in any trapping activities on the refuge.
- Trappers must meet all Arkansas Game and Fish Commission license requirements and comply with all subject regulations (as defined in Arkansas Hunting Guidebook, Furbearer Trapping section), unless exempted by conditions in the special use permit.
- The refuge will allow regulated trapping December 1 through January 31. Only the trapping of species designated as furbearers by the Arkansas Game and Fish Commission may be trapped under the special use permit.
- Waterfowl sanctuaries are closed to all public entry and use, including trapping.
- Traps must be checked daily (within every 24 hours).
- No live furbearers may be removed from the refuge; any furbearers captured in non-lethal sets must be humanely dispatched by the trapper immediately upon discovery.
- Every effort will be made to prevent the capture of non-target species and any caught will be immediately released, if not seriously injured. Any non-target species caught that are not able to be released shall be immediately taken to the refuge office or a law enforcement officer. A refuge officer will be immediately contacted to assist in the release of a black bear or bald eagle caught in a trap, if the trapper is unable to release the animal.
- During refuge hunting seasons, trappers may possess firearms legal for the hunt.
- Use of all motorized vehicles, including ATVs, must be in compliance with all refuge regulations and used only on designated roads.

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- Permittee is required to submit a completed Refuge Trapper Report to the refuge manager via certified mail or in person at the refuge office within 30 days of the close of the refuge trapping season. Report forms **MUST** be submitted whether or not any trapping was conducted or any animals were captured. **NOTE:** *Failure to submit this report will be grounds for denial of a refuge trapping permit for the following season.*
  - Failure of a permittee to comply with any of these special conditions or with any applicable federal or state law or regulation may be sufficient cause for cancellation of the special use permit and/or refusal of future refuge trapping permits or any other use or privilege on the Cache River NWR for which a special use permit is required. The permit may be revoked or suspended by the refuge manager for just cause, such as a violation, non-compliance with permit conditions, or nonuse.
  - The permittee and his/her agents and guests shall save, hold harmless, defend, and indemnify the United States of America, its agents, and employees for loss, damages, or judgments and expenses on account of bodily injury, death or property damage, or claims for bodily injury, death, or property damage of any nature whatsoever, and by whomever made, arising out of the permittee, employees, subcontractors, or agents with respect to conducting activities connected with the special use permit within the lands administered by Cache River NWR.

**Justification:** Regulated trapping of furbearers is a biologically sound management tool and legitimate wildlife-dependent activity with a longstanding tradition in the United States. This activity, as defined in this compatibility determination and by the conditions of the applicable special use permit, is compatible with the purposes for which the refuge was established, provides a scientifically accepted tool for wildlife population control, habitat management and protection, and wildlife-dependent recreational activity. Additionally, implementation of a regulated trapping program on the refuge affords a mechanism for collection of surveying and monitoring information; and could contribute to research on furbearer (and other wildlife) occurrence, activity, movement, population status, and ecology.

This use has been determined compatible provided the above stipulations are implemented. This use will facilitate the primary purposes of the refuge to provide waterfowl habitat, and to conserve other migratory birds and wildlife and will contribute to the mission of the National Wildlife Refuge System and provide renewable resources for the benefit of the American public, while conserving fish, wildlife, and plant resources on these lands. The refuge reserves the option to modify, limit, or discontinue this use at any time to ensure compatibility, maintain a safe and quality recreational environment for refuge visitors, or to resolve associated law enforcement problems. This use will be administered in compliance with 50 CFR 29.1 and EO 13112.

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**13) Description of Use:** *Construction of an Environmental Education/Visitor Center at Cache River NWR*

The current office at Cache River NWR, located about 5 miles south of Gregory, Arkansas, in Woodruff County, is a renovated 1960s ranch house that is not fully accessible. It is inadequate to meet administrative and visitor services needs. Staff entry points, interior workspaces, and restrooms are not fully accessible. Exterior and interior walls are deteriorating and failing, the roof is irreparably leaking and needs to be replaced, the HVAC system is inefficient, rooms are not sufficiently lighted or ventilated, health and safety issues exist, there is a mold problem, and it is infested with rodents and insects. Furthermore, there are no suitable spaces for staff/partners meetings, visitor reception, public meetings, exhibit areas for education/interpretation, or secure storage. Extensive rehabilitation or renovations to correct these deficiencies are not cost effective or desirable.

The proposed facility, an environmental education/visitor center would be approximately 3,500 to 4,500 square feet in size, and would include conference room, auditorium, environmental classrooms, exhibit and display areas, break room, staff and public restrooms, staff offices, secure law enforcement storage, utility/storage closets, fax/photocopy/file rooms, mudroom, bookstore, friends group office, and volunteer/receptionist office. This facility would be fully ADA-compliant, would provide adequate administrative function, and would enable suitable opportunities for visitor reception, environmental education, interpretation, and public meetings. The building design would incorporate greening features, including energy-conserving lighting, HVAC and insulative qualities, water-conserving systems, and alternate energy. The building would be designed and constructed to reduce its carbon footprint and lessen environmental impacts, and also would provide a safe and comfortable environment for staff and visitors. Additionally, there would be sites for interpretive foot trails, wayside exhibits, and outdoor kiosks.

The new environmental education/visitor center would be sited within approximately 5 miles of I-40 on existing or newly acquired refuge lands accessed from either the Brinkley or Biscoe exits, on refuge lands accessible from Highway 64 near Augusta/McCrory, Arkansas, or in the current location at Dixie, Arkansas, whichever area is assessed to be the most feasible, practical, and desirable. The current office and maintenance buildings would be retained for operational purposes, unless the Dixie site is selected for the new facility, then the current office building would be removed and full administrative capabilities would be incorporated into the design. Project funding would include planning/design, engineering, construction, furniture, interpretive exhibits, landscaping, and parking areas.

**Availability of Resources:** Although resources are not currently available to construct a facility that would adequately meet the needs of the public and the staff, a project for a combined office and environmental education/visitor center is in the Region's 5-year construction plan for a project, estimated to cost approximately \$4 to \$6 million. The new facility would incorporate energy-conserving features and low maintenance design and components. Annual maintenance and operations needs are expected to remain within the capabilities of the staff and funding levels.

**Anticipated Impacts of the Use:** Permanent surface disturbance and vegetation destruction around the construction site would occur. Proper erosion control measures would be implemented and disturbed surfaces upon which infrastructure are not located would be revegetated following construction. Except for the existing headquarters site, some wildlife habitat destruction would occur in order to prepare the selected site for construction, but is not expected to significantly affect any fish or wildlife populations. No threatened or endangered species would be affected. Noise and activity around the construction site may temporarily displace some wildlife, such as birds, small mammals, reptiles, and amphibians. Some additional trampling of vegetation and perhaps small vertebrates and invertebrates may occur, but these losses will be minor. Except for impacts occurring on the actual

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building site, the impacts of construction activities would be temporary and not cumulative over the long term. The new building would incorporate green-building design and features that would lessen the environmental effects of the operation and use of the facilities. The public would use the facility on a daily basis, and such use associated with vehicular and pedestrian ingress and egress would create disturbance for wildlife, but it is expected that wildlife would adapt and become accustomed to the use, and impacts would not be cumulative in the long term.

**Determination:**

Use is Not Compatible

Use is Compatible with Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Energy-conserving features would be incorporated into building design, construction activities would be conducted in such a manner that disturbance to the site, habitat, and wildlife would be minimized, and safety precautions would be implemented to prevent risk of injury to visitors and staff. The new facilities would be used to enable achievement of the refuge purposes and facilitate management programs for the benefit of trust species.

**Justification:** This use would enable the refuge to better achieve refuge purposes, vision, and goals by promoting compatible public uses, especially environmental education and interpretation, which would serve to increase public awareness of the need for and value of Cache River NWR, the Central Arkansas NWR Complex, the Refuge System, and the Service. Such awareness and appreciation by the public would promote support for refuge programs and the mission of the Refuge System and the Service.

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## WAPANOCCA NATIONAL WILDLIFE REFUGE COMPATIBILITY DETERMINATIONS

**Uses:** The following uses were found to be appropriate and evaluated to determine their compatibility with the mission of the National Wildlife Refuge System and the purposes of the refuge.

1. Hunting
2. Fishing
3. Wildlife Observation and Photography
4. Environmental Education and Interpretation
5. Research and Monitoring
6. Forest Products Harvesting
7. Commercial Guiding for Wildlife Observation/Photography
8. Commercial Video and Photography
9. Nuisance Animal Control
10. Cooperative Farming
11. Commercial Fishing
12. Construction of Headquarters/Visitor Contact Station

**Refuge Name:** Wapanocca National Wildlife Refuge

**Date Established:** January 24, 1961

**Establishing and Acquisition Authority:**

Migratory Bird Conservation Act

**Refuge Purpose:**

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

**National Wildlife Refuge System Mission:**

The mission of the Refuge System, as defined by the National Wildlife Refuge System Improvement Act of 1997, 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.*

**Other Applicable Laws, Regulations, and Policies:**

Antiquities Act of 1906 (34 Stat. 225)

Migratory Bird Treaty Act of 1918 (15 U.S.C. 703-711; 40 Stat. 755)

Migratory Bird Conservation Act of 1929 (16 U.S.C. 715r; 45 Stat. 1222)

Migratory Bird Hunting Stamp Act of 1934 (16 U.S.C. 718-178h; 48 Stat. 451)

Criminal Code Provisions of 1940 (18 U.S.C. 41)

Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d; 54 Stat. 250)

Refuge Trespass Act of June 25, 1948 (18 U.S.C. 41; 62 Stat. 686)

Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j; 70 Stat. 1119)

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Refuge Recreation Act of 1962 (16 U.S.C. 460k-460k-4; 76 Stat. 653)  
Land and Water Conservation Fund Act of 1965  
National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et seq.; 80 Stat. 915)  
National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd, 668ee; 80 Stat. 927)  
National Environmental Policy Act of 1969, NEPA (42 U.S.C. 4321, et seq; 83 Stat. 852)  
Use of Off-Road Vehicles on Public Lands (Executive Order 11644, as amended by Executive Order 10989)  
Endangered Species Act of 1973 (16 U.S.C. 1531 et seq; 87 Stat. 884)  
Refuge Revenue Sharing Act of 1935, as amended in 1978 (16 U.S.C. 715s; 92 Stat. 1319)  
National Wildlife Refuge Regulations for the Most Recent Fiscal Year (50 CFR Subchapter C; 43 CFR 3101.3-3)  
Emergency Wetlands Resources Act of 1986 (S.B. 740)  
North American Wetlands Conservation Act of 1990  
Food Security Act (Farm Bill) of 1990 as amended (HR 2100)  
The Property Clause of the U.S. Constitution Article IV 3, Clause 2  
The Commerce Clause of the U.S. Constitution Article 1, Section 8  
The National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57, USC668dd)  
Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System. March 25, 1996  
Title 50, Code of Federal Regulations, Parts 25-33  
Archaeological Resources Protection Act of 1979  
Native American Graves Protection and Repatriation Act of 1990

NOTE: Compatibility determinations for each use listed were considered independently. However, for brevity within this Appendix, the preceding sections from “Uses” through “Other Applicable Laws, Regulations and Policies” and the succeeding sections, “Public Review” and “Approval of Compatibility Determinations” are not provided separately but only provided once for all refuges within the Complex. However, those sections omitted for brevity are applicable to each compatibility determination and should be included as part of any compatibility determination that may be printed separately from the CCP.

### **1) Description of Use: *Hunting***

Hunting opportunities on Wapanocca NWR include the take of squirrel, rabbit, deer, raccoon, and opossum. Additionally, hunters may take beaver, muskrat, nutria, armadillo, coyote, and feral hog incidental to the hunting of game species listed above. Migratory bird hunting on the refuge is allowed only for snow geese, after February 28 until the end of the State Conservation Order; hunting is allowed north of Ditch 8 only. Migratory bird hunting is not allowed on Round Pond Unit. All hunts fall within the framework of the Arkansas Game and Fish Commission (AGFC) open seasons and follow AGFC regulations. There are refuge-specific regulations that supplement and further restrict the AGFC regulations. Refuge-specific regulations are reviewed annually and incorporated into the refuge hunting brochure. All hunters are required to read the refuge brochure and adhere to all regulations contained therein. A hunting permit on the front cover of the brochure must be signed by the hunter and must be carried on his person while hunting on the refuge.

A waterfowl sanctuary established on Wapanocca Lake and all refuge lands East of Ditch 8, is closed to all public entry and use (including hunting) from December 1 to February 28. Dogs are allowed for squirrel, rabbit, raccoon, and opossum hunting. Hunter access to hunt areas is by motor vehicle, boat, bicycle, or foot. All vehicles, including bicycles, may only be used on designated roads and parking areas and are not allowed in fields or other areas. Mobility-impaired hunters may apply for a special use permit, allowing specialized access by ATV.

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**Availability of Resources:** Adequate resources are available to ensure and administer the proposed activity at its current level of participation. Enforcement of refuge regulations to protect trust resources and provide for a safe, quality recreational opportunity will occur via regular patrols by refuge law enforcement officers. Additionally, personnel from the AGFC and the Crittenden County Sheriff's Department will patrol the refuge and assist refuge officers when needed.

**Anticipated Impacts of Use:** The incidental taking of other wildlife species, either illegally or unintentionally, may occur with any consumptive use program. At current and anticipated public use levels for this program, this incidental take would be minor and would not directly or cumulatively impact population levels on the refuge or in the surrounding area. Implementation of a highly effective law enforcement program and continued development of special regulations for this use would eliminate most incidental take or other violations or safety problems.

Currently, the refuge does not have any known threatened or endangered species. Impacts, such as trampling small vertebrates or invertebrates, and crushing/trampling of vegetation, would be minimal. Additionally, the activities of hunters traveling to and from hunt areas and their activities while hunting would disturb some non-target wildlife, but these disturbances are temporary, short-term, non-lethal, and not highly repetitive. As a consumptive use, hunting would have some minimal and short-term direct negative impacts on refuge resources. Numbers of resident, as well as migratory, species would be temporarily reduced as animals are harvested, but these individual and collective losses would be compensated by recruitment during the following reproductive season; therefore, no long-term cumulative losses in populations would result.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Hunting is permitted in accordance with AGFC regulations and licensing requirements. Additional refuge-specific regulations further restrict the AGFC regulations. The waterfowl sanctuary (Wapanocca Lake and refuge lands north of Ditch 8) is closed to all public entry and use, including hunting, from December 1 to February 28. Monitor use of boats in flooded areas and modify activities if warranted to ensure compatibility. Possession or use of alcoholic beverages while hunting is prohibited. Public access to hunting areas may be closed at any time necessary to protect refuge resources or visitors.

Refuge-specific regulations that pertain specifically to waterfowl hunters include, but are not limited to:

- The refuge is closed to waterfowl hunting, except for snow geese, for which hunting is allowed after February 28 until the end of the State Conservation Order, according to applicable federal and state regulation. Hunting is allowed on refuge lands north of Ditch 8 only.
- Retriever dogs are allowed.
- Migratory bird hunting is not allowed on Round Pond Unit.

Refuge-specific regulations that pertain to small game hunting include:

- Dogs are allowed for squirrel and rabbit hunting.
- Dogs are required for night hunting of raccoons and opossums.
- Beaver, muskrat, nutria, armadillo, coyote, and feral hog may be taken incidental to any refuge hunt by the use of the device appropriate for that hunt and according to any applicable AGFC regulations.

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Refuge-specific regulations that pertain to big game hunting include:

- Harvested deer must be recorded at the self-checking station located at the refuge headquarters and the proper hunting zone must be recorded.
- Only portable stands capable of being carried by one person may be used and the owner's name and address must be permanently affixed to the stand.
- Stands may be erected 7 days prior to the refuge deer season and must be removed from the waterfowl sanctuary prior to December 1 and from the rest of the refuge by the last day of archery season.
- For all refuge hunts, the limit is one either-sex deer per hunt except for the archery season in which the statewide bag limit applies.
- Only shotguns with slugs, legal pistols, and muzzleloaders shooting a single projectile may be used or possessed during the Quota Gun Deer Hunt.
- Possession or use of buckshot is prohibited.
- The refuge is closed to all other public entry and use during the Quota Gun Deer Hunt.

**Justification:** According to the National Wildlife Refuge System Improvement Act of 1997, hunting is a priority public use activity that should be encouraged and expanded where possible. It is through compatible wildlife-dependent public uses such as this that the public becomes aware of and provides support for national wildlife refuges.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Mandatory 15-year Re-evaluation Date:** 12/25/2024

## 2) Description of Use: *Fishing*

Fishing on Wapanocca NWR is only permitted on Wapanocca Lake and Woody Pond from March 15 through October 31. During the remainder of the year, these areas are closed as established waterfowl sanctuaries. Big Creek and other ditches that flow through the refuge are closed to fishing year-round. Sport fishing is permitted in accordance with Arkansas Game and Fish Commission (AGFC) regulations. Fishing with rod and reel, pole and line, and bow and arrow (on line) only is permitted. Fishermen are also permitted to collect crawfish with rakes and/or traps for personal use only. Harvesting of frogs, turtles, and mussels is prohibited. Access to fishing areas is by motor vehicle, bicycle, boat, or foot.

Commercial fishing is authorized only by special use permit and is covered under a separate compatibility determination.

**Availability of Resources:** Refuge staff and resources are adequate to cover management of fishing at current levels. However, it is anticipated that an increase in this use may occur over the coming years. In order to provide safe and quality fishing, additional resources and staff will be needed to enhance or develop additional access areas and provide law enforcement. A portion of the refuge's budget is spent annually managing for the benefit of freshwater fisheries, maintaining

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boat launching ramps, improving access, conducting law enforcement patrols, and ensuring refuge visitors are in accordance with boater safety and following refuge regulations.

**Anticipated Impacts of Use:** Fishing is not expected to have substantial, long-term adverse impacts on fisheries or other wildlife resources at Wapanocca NWR including wildlife habitat. The activities associated with fishing, including travel to and from fishing areas, may cause trampling of vegetation, small invertebrates and vertebrates; however, these are short-term, relatively minor, and not highly repetitive. Also, fishing is not expected to result in negative indirect or cumulative impacts to refuge resources. As a consumptive use, fishing would have some minimal and short-term direct, localized impacts on refuge resources, including populations of target sport fish.

Fishing is a wholesome, enjoyable, and wildlife-dependent public use opportunity; however, participation in this activity generally results in litter on the refuge (fishing line, food, bait containers, soda/beer cans, and other “trash”) that must be removed numerous times per year in order to keep the refuge looking presentable. Trash is detrimental to the aesthetics of the refuge and can impact the digestive tracts of birds, turtles, fish, and other resident and migratory wildlife. The refuge would strive to reduce this problem by working with partners to pick up litter, educating anglers not to litter, and through law enforcement. Information contained in the refuge brochure concerning rules and regulations also helps keep negative impacts to a minimum. Regulations are reviewed annually and modifications are made as necessary to maintain compatibility and ensure a safe and quality fishing program.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Conflicts between fisherman and hunters or other visitors using the refuge for non-consumptive wildlife recreation have not been a problem and are not expected to be a problem in the future. Associated violations, such as taking under size fish, open fires and littering, can be minimized by public outreach and a continued law enforcement presence.

The following stipulations would help ensure the refuge fishing program is compatible with refuge purposes.

- All fishing tackle must be attended at all times.
- Crawfish may be collected for personal use only. All crawfish traps must have the owner’s name and address permanently affixed.
- Taking or possessing frogs, turtles, and mussels is prohibited.
- Only fishing with rod and reel, pole and line, and bow and arrow (on line) will be allowed; no other methods or tackle will be permitted unless issued under a special use permit.
- Fishing is permitted on Wapanocca Lake and Woody Pond from March 15 through October 31.
- The refuge is closed to all other entry and public use (including fishing) during the Quota Gun Deer Hunt.
- Personal watercraft (e.g., jet-skis, hover craft, and airboats) are prohibited.
- All-terrain vehicles (ATVs) are not allowed for this use.
- All fishing equipment must be removed from the refuge on a daily basis.
- Public access to fishing areas may be closed at any time necessary to protect refuge resources or visitor safety.

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**Justification:** According to the National Wildlife Refuge System Improvement Act of 1997, fishing is a priority public use activity that should be encouraged and expanded where possible. It is through compatible wildlife-dependent public uses such as this that the public becomes aware of and provides support for national wildlife refuges.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Mandatory 15-year Re-evaluation Date: 12/25/2024**

### **3) Description of Use:** *Wildlife Observation and Photography*

Wildlife observation and photography are important public uses at Wapanocca NWR. Abundant wildlife and convenient access make Wapanocca NWR a destination for visitors hoping to observe and photograph a variety of wildlife and their habitats. Visitors are especially interested in viewing and photographing waterfowl, shorebirds, other migratory birds, including bald eagles, and resident wildlife such as white-tailed deer, eastern wild turkey, turtles, and raccoons. There are no developed facilities for this use, such as photo blinds or observation platforms, but such facilities are planned. Access is by vehicle, bicycle, boat, or foot. ATVs are not permitted for this use. All vehicle use is restricted to designated roads and parking areas only, and is not allowed in fields or other areas.

**Availability of Resources:** Refuge staff and resources are adequate to administer the program at current levels. However, it is anticipated that an increase in these uses will occur over the coming years. In order to provide safe and quality wildlife observation and photography opportunities, additional resources and staff will be needed to enhance or develop additional viewing areas and provide improved facilities and programs.

**Anticipated Impacts of Use:** The activities of visitors engaging in wildlife observation and photography may result in some potential disturbance to wildlife. Minimal impacts in the form of trampling small vertebrates or invertebrates and vegetation, and littering may also occur. Significant indirect or cumulative adverse impacts to refuge resources are not expected from these activities. The establishment of specified viewing areas and facilities, such as blinds, boardwalks, platforms, towers, and trails, would enhance observation and photography, as well as minimize associated visitor impacts or conflicts with other uses. Plans to provide such facilities are in progress.

#### **Determination (check one below):**

Use is Not Compatible

Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Public access for specified wildlife observation and photography would be allowed in designated areas only. The waterfowl sanctuaries will be seasonally (December 1 to February 28) closed to all public entry and use. During the Quota Gun Deer Hunt, the refuge is closed to all public entry and use (including wildlife observation and photography) except by Quota Gun Deer Hunt permit holders. Regulations governing public use are reviewed annually and any necessary modifications are made to ensure refuge resources are

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protected and visitors can enjoy a safe and quality experience. Wildlife observation and photography uses will be monitored and appropriate management action will be taken to eliminate or reduce associated impacts. Public access to wildlife observation and photography areas or facilities may be closed at any time necessary to ensure protection of refuge resources and visitor safety. All vehicle use is restricted to designated roads and parking areas only.

**Justification:** According to the National Wildlife Refuge System Improvement Act of 1997, wildlife observation and photography are priority public use activities that should be encouraged and expanded where possible. It is through compatible wildlife-dependent public uses such as this that the public becomes aware of and provides support for national wildlife refuges.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**Mandatory 15-year Re-evaluation Date:** 12/25/2024

**4) Description of Use:** *Environmental Education and Interpretation*

On Wapanocca NWR, environmental education and interpretation activities are conducted to inform and educate the public and provide an understanding of natural resource values and refuge purposes and the mission of the National Wildlife Refuge System. The environmental education and interpretation program facilities will include visitor contact areas, kiosks, platforms or towers, routes or trails, and other designated public use facilities or access areas. In addition, refuge staff provide off-site environmental education and interpretation services at local events, such as festivals, fishing derbies, school classes, and civic or conservation group meetings. Access is by vehicle, boat, or foot. All vehicles may only be used on designated roads and parking areas and are not allowed in fields or other areas.

**Availability of Resources:** Refuge staff and resources are adequate to administer the program at current levels. However, it is anticipated that an increase in these uses will occur over the coming years. In order to provide safe and quality environmental education and interpretation opportunities, additional resources and staff will be needed to develop or provide enhanced programs and interpretive facilities (such as visitor contact stations, observation platforms, interpretative trails, kiosks, and other facilities). Plans are being developed to provide additional or improved facilities as described herein. Additionally, the utilization and development (training) of volunteers may supplement environmental education and interpretation programs.

**Anticipated Impacts of Use:** Outdoor environmental education and interpretation activities may result in minimal disturbance to wildlife from visitors. It is possible that some small vertebrates, invertebrates, and vegetation could be trampled. Littering may also occur. Significant indirect or direct cumulative adverse impacts to refuge resources are not expected from these activities. Environmental education and interpretation facilities, such as blinds, boardwalks, exhibits, kiosks, platforms, and towers, will be designed and established as feasible to minimize potential disturbance to wildlife and impacts to resources.

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**Determination (check one below):**

Use is Not Compatible

Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Environmental education and interpretation activities conducted outdoors should be appropriately located to minimize impacts and may need to be rotated or moved periodically. The waterfowl sanctuaries will be seasonally closed to all public entry and use. The refuge is closed to all public entry and use (including environmental education and interpretation) during the Quota Gun Deer Hunt, except for Quota Gun Deer Hunt permit holders. Regulations concerning public use are reviewed annually and any necessary modifications are incorporated into refuge brochures or otherwise conveyed to visitors. Environmental education and outreach can be taken into the classroom, incorporated into presentations, and will be used at other forums; these activities will have no deleterious affect on fish and wildlife at the refuge.

**Justification:** According to the National Wildlife Refuge System Improvement Act of 1997, environmental education and interpretation are priority public use activities that should be encouraged and expanded where possible. It is through compatible wildlife-dependent public uses such as this that the public becomes aware of and provides support for national wildlife refuges.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Mandatory 15-year Re-evaluation Date:** 12/25/2024

**5) Description of Use:** *Research and Monitoring*

Wapanocca NWR would allow university students and professors, as well as governmental or non-governmental employees and volunteers, to conduct short- or long-term research and monitoring studies. Such research and monitoring would be conducted in various habitats throughout the refuge and with various species of migratory birds, resident wildlife, and fish. The information collected would provide a better understanding of ecosystem functions and responses to management actions. Research and monitoring results would help managers to evaluate prior management actions, identify adaptive management options, and develop "Best Management Practices." The knowledge gained through research and monitoring studies would allow more effective management decisions. All research and monitoring project requests would be evaluated on individual project merit and applicability to refuge programs on a project-by-project basis.

**Availability of Resources:** Resources are adequate to administer research and monitoring activity at the current level. The refuge will also seek to establish and/or expand partnerships for continued research and monitoring projects conducted by other organizations on refuge lands.

**Anticipated Impacts of Use:** There could be some negative impacts from scientific research and monitoring on the refuge. Impacts, such as trampling vegetation, ATV and motor boat use, and temporary disturbance to wildlife, would occur. A small number of individual plants or animals may be collected for further study. These collections would not likely adversely affect refuge plant and animal

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populations. Removal of plant and animal material from the refuge, as well as the potential to accidentally introduce exotic plants and animals, must be carefully monitored and controlled. Some other impacts from research include: (1) Noise disturbance from helicopter, motorboat, airplane, airboat, truck, car, or ATV use that may temporarily disturb and/or displace wildlife; (2) physical presence of people or equipment that may temporarily disturb and/or displace wildlife; (3) ground disturbance from walking on site or the use of equipment; and (4) water disturbance by stirring sediments and causing temporary turbidity from equipment or walking. Despite these impacts, which are short-term, the knowledge gained from carefully considered and properly executed scientifically defensible research and monitoring would provide information and justification to improve management techniques and better meet the needs of trust species. Research/monitoring activities on the refuge are not expected to indirectly or cumulatively impact refuge resources negatively, even though some minimal short-term and direct impacts may occur.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** All researchers would be required to obtain and possess a refuge special use permit. Individual requests to use specialized equipment, all-terrain vehicles, etc., would be evaluated on a project-by-project basis and specified on each permit. Researchers would periodically be evaluated for compliance with requirements. Periodic progress reports would be required and final copies of all reports and publications would be provided to the refuge. The refuge would not directly supply personnel or equipment unless arrangements were made prior to issuance of the special use permit. The refuge manager would reserve the right to delegate a staff member to accompany permittee(s) at any time. All plants or animals sampled, collected, or released would be done in a scientifically accepted manner, such as those specified by scientific societies. Examples of these societies include the Society for the Study of Amphibians and Reptiles, the American Society of Mammologists, the American Ornithological Society, the Ichthyologists League, the Entomological Society of America, and the Botanical Society of America. Incidental take and inadvertent trampling of vegetation or wildlife are expected to be minimal and will be addressed with each special use permit request. Given compliance with the restrictions set in each permit, research and monitoring conducted on the refuge is considered to be compatible with the purposes for which the refuge was established.

**Justification:** Sound research and monitoring programs provide a better understanding of species, habitats, and the environmental communities present on the refuge. Additional research and monitoring is needed to assess management programs used on the refuge and to evaluate alternative options. The benefit of additional knowledge will greatly outweigh any temporary or short-term disturbance or loss of individual plants or animals that may occur. This activity will provide guidance to management for fulfilling refuge purposes and meeting established goals and objectives through adaptive management.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement  
 Categorical Exclusion and Environmental Action Statement  
 Environmental Assessment and Finding of No Significant Impact  
 Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date:** 12/25/2019

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## 6) Description of Use: *Forest Products Harvesting*

Conduct a comprehensive forest management program on Wapanocca NWR in accordance with an approved forest management plan. Refuge forest habitats will be evaluated over a 3-year cycle. Prescriptions detailing needed actions will then be developed, approved from the Service's Regional Office, and carried out on a yearly basis. It is proposed that select trees be sold, and then removed by commercial operations. The forest habitat may also be manipulated by permittees/staff when commercial sales are not feasible. Only trees needing to be removed in order to improve the forest habitat for wildlife or to restore the integrity of the forested wetlands ecosystem will be taken or manipulated. Special use permits may be issued for firewood cutting (personal use) when there is excess downed wood from silvicultural operations or when roads are widened. Seasonal special use permits may be issued for gathering seed, on a limited basis, when forest seed crops are abundant.

Operations may be conducted throughout the year, but only according to the guidelines detailed in the Forest Habitat Management Plan. Operations may involve numerous individuals using hand tools such as chain saws and heavy equipment such as feller-bunchers, skidders, bulldozers, and log trucks.

**Availability of Resources:** Some elements of needed resources are already in place, such as the forester's time and salary, and the small amount of time needed by other positions in maintenance, law enforcement, management, and administration. Additional expenses for equipment maintenance, operating expenses, and habitat restoration can be funded out of the refuge's budget. The Forest Habitat Management Plan allows that management will be carried out to the extent of available resources (see Section 3.2; Physical Plant and Equipment Use Requirements for a more detailed description).

**Anticipated Impacts of the Use:** Timber harvest operations will result in short-term disturbances and long-term benefits to forest habitats. Short-term impacts will include disturbance and displacement of wildlife, vegetation, and soils typical of any heavy equipment operation. Operation of heavy equipment and removal of some vegetation will also result in a short-term increase in soil erosion. Additionally, wildlife species dependent on undisturbed forest habitat will be temporarily displaced. As vegetation is disturbed, other wildlife species may also be temporarily displaced. Over time, these short-term impacts will wane as the effects of improvement treatments develop and the benefits are realized. The refuge is divided into seven forest compartments; therefore, short-term impacts will be minimized by implementing the proposed actions in only a small percentage of the refuge at any given time.

Firewood cutting and forest seed collecting will result in temporary disturbances. Seeds are gathered by hand and sold to local nurseries that, in turn, grow seedlings. The refuge has a need for seedlings to restore marginal cropland and other open fields. By allowing a limited forest seed harvest, the refuge is ensuring a continued supply of suitable seedlings of local origin for forest restoration. In the past, participation in refuge firewood cutting and hand collecting of forest seeds has been low, and future participation is also expected to be low. The quantity and frequency of firewood cutting and seed harvesting is not expected to result in significant disturbance, diminish wildlife food resources, or jeopardize wildlife survival. Short-term disturbance to wildlife may occur during these activities, but will be insignificant because of the small scale of the projects. Most of the use will occur in late summer or fall, after ground nesting birds have completed the nesting season. Firewood cutting or seed collecting should not result in short- or long-term impacts that adversely affect the purpose of the refuge or the mission of the National Wildlife Refuge System.

### Determination (check one below):

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

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**Stipulations Necessary to Ensure Compatibility:**

See General and Specific Guidelines in the Forest Habitat Management Plan, Appendix 7.10 and Appendix 7.11.

### 7.10 General Conditions Applicable To Timber Harvesting Permits

**Subcontractors:** Subcontractors or agents may be employed with authorization from the refuge forester.

**Safety Requirements:** The contractor must perform this contract in a safe manner, observing any necessary safety precautions. The contractor will promptly correct any condition, which, in the opinion of the refuge manager or his authorized representative, endangers the safety of personnel, the public, and/or property during the performance of this contract. Failure to observe this requirement will result in contract termination, with the contractor liable for any such damages that may occur.

**Liabilities of the Contractor:** The contractor will hold the government and all its representatives harmless from all suits, actions, or claims of any character arising out of the injuries to any person or damage to any property resulting from any neglect in the performance of the services required by this contract, or from any claims arising or recovered under the Workman's Compensation laws or any other law, by-law, ordinance, order or decree, or on account of any other act or omission by the contractor or his employees while carrying on operations under this contract. This responsibility will terminate when suits, actions, or claims have been satisfied.

**Insurance Coverage:** The contractor must be covered by adequate insurance, as the government will assume no liability whatsoever as a result of the contractor's operations under this contract.

**Inspection of Work Site:** Before submitting a bid, prospective bidders are urged to personally inspect the site. Arrangements to view may be made by contacting Cache River National Wildlife Refuge, Augusta, Arkansas. Telephone (870) 347-2614.

### 7.11 Special Conditions Applicable To Timber Harvesting Permits

- A pre-entry conference between the refuge forester and the designated permittee representative will be required before the permittee starts logging operations. The purpose of the pre-entry conference is to be sure that the permittee completely understands what is expected and thus minimizes conflicts.
- All refuge wildlife is protected. All reasonable efforts will be made by the permittee to protect wildlife from harm and harassment.
- All logging will be within the boundaries specified on the attached map.
- Trees will be cut so as to leave ground-level paint spots visible after the tree has been cut. All marked trees are to be cut, with the exception of marked leave trees in shelterwood, seed tree, or small open areas as described in the special use permit.
- Only marked or designated trees will be cut. Care will be taken to protect all other trees and vegetation from damage. Unmarked trees that are cut or injured through carelessness will result in a fine of \$5 per inch diameter at stump height or breast height if present.
- Trees and tops will not be left hanging or supported by any other tree and will be laid down immediately after felling.
- Tops and logging debris will be lopped to within 6 feet of the ground in all areas 100 feet or less from major roads.

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- All roads, rights-of-way, active agricultural fields, designated openings, ditches, and streams must be kept clear of tops and debris. The permittee is required to repair all damage resulting from operations conducted under this permit.
  - The skidding of logs greater than 20 feet in length may be prohibited in designated areas.
  - The refuge manager or his authorized representative must approve the location of additional roads. Additional trees removed for roads or loading sites will be marked by the refuge forester and paid for at bid price.
  - Loading of forest products on public roads or shoulders, or regeneration areas is prohibited.
  - Logging will not be permitted when the ground is wet and subject to rutting and severe compaction. The permittee and his employees will do all in their power to prevent rutting and erosion.
  - The permittee and his employees will do all within their power to prevent and suppress forest fires. Fires will be reported immediately to the refuge office.
  - Ownership of all products remaining on a sale area will revert back to the government upon termination of the permit.
  - Littering in any manner is a violation of the Code of Federal Regulations. The entire work area will be kept free of all litter at all times.
  - The possession or use of firearms or other weapons on the refuge is prohibited outside of hunting seasons.
  - The government accepts no responsibility to provide rights-of-way over private lands for materials sold under this contract.
  - The refuge manager or his authorized representative will have the authority to temporarily close down all or any part of the operation during a period of high fire danger, wet ground conditions, or for any other reason deemed necessary. Additional time, equal to the closing period, will be granted to the permittee.
  - The decision of the refuge manager will be final in the interpretation of the regulations and provisions governing the sale, cutting, and removal of the timber products covered by this permit.

**Justification:** This use has been determined compatible provided the above stipulations are implemented. This use will facilitate the primary purpose of the refuge, which is to provide waterfowl habitat and to conserve other migratory birds and wildlife. This use will meet the mission of the National Wildlife Refuge System and enhances fish, wildlife, and plant resources on these lands by providing renewable resources for the benefit of the American public. This use will be administered in compliance with 50 CFR 29.1.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date: 12/25/2019**

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## 7) **Description of Use:** *Commercial Guiding for Wildlife Observation/Photography*

Allow commercial guiding to facilitate Wildlife Observation/Photography on Wapanocca NWR. The objective is to provide the opportunity to experience wildlife observation and photography to the segment of the public lacking the knowledge or equipment required to view/photograph fish, wildlife, plants, or their habitats in compliance with the legal mandates of the National Wildlife Refuge System Improvement Act of 1997 concerning compatibility and priority public use. The surrounding communities, including Turrell, Gilmore and Clarksdale, are dependent on supporting refuge visitors throughout the year. Within these communities, grocery stores, sporting goods stores, restaurants, lodges, and other businesses obtain a large proportion of their annual income from the influx of refuge visitors. Although wildlife observation and photography is involved on guided trips, the commercial nature of guiding activities associated with this use does not qualify as one of the six priority public uses of refuges (Federal Register/Vol.65, No.202/Wednesday, October 18, 2000/Rules and Regulations-Issue 13: Priority Uses, Pages 62471 and 62472). All commercial activities, including guiding of wildlife observers and photographers, are special type uses that may be authorized when they are appropriate and compatible with the purpose of the refuge, the mission of the National Wildlife Refuge System, and can be administered in a way that minimizes conflicts with priority uses and does not hinder the activities of visiting public not using guide services.

Guiding and equipment may involve the use of vehicles, buses, motor boats, paddle boats, canoes, and hiking. Guiding will be allowed only in designated areas and according to conditions specified by the refuge manager. Several miles of refuge roads are also used to access remote sloughs, bayous, and lakes where wildlife observers and photographers may conduct their activities.

Guides will be allowed to operate through issuance of a special use permit, which must be renewed annually. Special conditions are attached and part of the permit designed to meet the above objectives and provide liability protection to the government. The annual fee for the special use permit will be \$500.

Increased requests for special use permits to conduct wildlife observation and photography guiding on Wapanocca NWR are expected in the future. Permits will be issued on a first-come, first-serve basis. The refuge reserves the option to limit the number of permits issued as necessary to ensure compatibility. If requests increase for commercial wildlife observation and photography guiding permits, they will be reviewed by management and additional steps taken, including limiting the number of guides, increasing annual permit fees, designating observation areas, or discontinuing this use entirely, as may be necessary to maintain safe and quality wildlife observation and photography opportunities for all refuge visitors.

**Availability of Resources:** Adequate resources and staff exist to administer refuge regulations and special use permit conditions at the current level of interest for this activity. An increase in permit issuance may not be possible with the current existing staff. Any increase will be reviewed by management to ensure compatibility.

**Anticipated Impacts of the Use:** Commercial guiding for wildlife observation/photography would increase opportunities for the public to experience wildlife and gain an added appreciation for the value of Wapanocca NWR and the National Wildlife Refuge System. This use would benefit a diverse set of participants from within and outside this local area. The use also would allow some economic benefit to local communities from refuge visitation. Minor impacts such as short-term and temporary wildlife disturbance could result. In addition, there could be minor trampling of vegetation and small vertebrates and invertebrates. These impacts are not expected to be significant.

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**Determination (check one below):**

Use is Not Compatible

Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** A special use permit is required.

- No special privileges are granted to the permittee other than those stated in the special use permit. Interfering with any other individual lawfully participating in any authorized activity on the refuge will be grounds for immediate revocation of the permit and for possible legal prosecution.
- The permittee and assistant each must comply with all applicable federal, state, and refuge laws, regulations, and policy.
- A copy of the special use permit must be in the possession of the permittee and assistant while engaged in commercial guiding activities.
- Guided parties are limited to fifteen (15) members and the permittee and his assistant who must all stay together as one (1) party on the refuge. Only one (1) party may be guided per day. The permittee must accompany all parties. Any exception to this requirement must be applied for and approved by the refuge manager prior to such event.
- Within one (1) week after the end of the calendar year, the permittee must furnish the refuge manager a written report on the number of individuals taken onto the refuge and fees charged.
- The special use permit may be terminated or revoked at any time without refund to the permittee for non-compliance with any of the terms thereof. Any violation may be grounds for future permit denial.
- The permittee and their agents and guests shall save, hold harmless, defend, and indemnify the United States of America, its agents, and employees for loss, damages, or judgments and expenses on account of bodily injury, death or property damage, or claims for bodily injury, death, or property damage of any nature whatsoever, and by whomever made, arising out of the permittee, his employees, subcontractors, or agents with respect to conducting activities connected with the special use permit within the lands administered by Wapanocca NWR.
- Permittee must provide proof of liability insurance (\$300,000 each occurrence, \$500,000 aggregate) with the U.S. Fish and Wildlife Service named as co-insured prior to issuance of the special use permit.
- ALL equipment must be removed from the refuge daily.
- The refuge may limit the number of special use permits issued or discontinue this use entirely in order to ensure appropriateness, compatibility, and safe, quality opportunities for visitors not using guide services.

**Justification:** Commercial activities can be allowed on refuges when they do not conflict with the provisions of the National Wildlife Refuge System Improvement Act of 1997 and resulting policies and regulations. The special use permit conditions provide adequate regulation of this specialized activity and quality wildlife observation and photography opportunities for all refuge visitors will be ensured. Commercially guided wildlife observation and photography is a public use that will allow the unskilled or inexperienced participants to enjoy, experience, and learn about native wildlife and habitats in this bottomland hardwood environment. This commercial wildlife observation/photography use is being implemented in compliance with the legal mandates of the National Wildlife Refuge System Improvement Act, including compatibility.

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**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement  
 Categorical Exclusion and Environmental Action Statement  
 Environmental Assessment and Finding of No Significant Impact  
 Environmental Impact Statement and Record of Decision

**Mandatory 10-Year Re-evaluation Date:** 12/25/2019

**8) Description of Use:** *Commercial Video and Photography*

Allow commercial video and photography activities on Wapanocca NWR for the purpose of exposing the public to the refuge and to promote recognition of the diverse wildlife and habitats found there. Over the past several years, Wapanocca NWR has been contacted as to the possibility of producing commercial audio-visual productions such as video and still photographs. The refuge provides a variety of natural habitats abundant with wildlife and is an ideal setting for filmmakers. As central Arkansas and Service programs for visitors are promoted, demand for commercial filming on the refuge may increase.

**Availability of Resources:** Adequate refuge staff and resources are available to administer this activity at the current level.

**Anticipated Impacts of Use:** Commercially produced video and photography could result in some disturbance to wildlife. Some minimal trampling of vegetation, invertebrates, and small vertebrates may also occur. However, it is anticipated that this disturbance would be minimal, short-term, localized, and not highly repetitive. Commercially produced video and photography activities are not expected to indirectly or cumulatively impact refuge resources negatively.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Access for commercially produced video and photography activities would be allowed in designated areas only under special use permit. Activities would be monitored to document any negative impacts to wildlife; if negative impacts are found, corrective action would be taken to reduce or eliminate these impacts. Access to key observation and photography areas may be closed during adverse weather conditions for protection of infrastructure (roads, levees, etc.), and visitor safety.

Public Law 106-206, signed by the President on May 26, 2000, directed the Secretary of the Interior to require a special use permit and establish a reasonable fee for commercial filming activities on federal lands administered by the Secretary. This law further stated that for still photography neither a special use permit nor a fee is assessed if the activities take place on lands where members of the public are generally allowed. The Secretary may require a special use permit and fee if photographic activities take place at locations where the general public is not allowed or where additional administrative costs are likely.

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The Secretary shall not permit any filming, still photography, or other related activity if the Secretary determines:

- There is a likelihood of resource damage;
- There would be an unreasonable disruption of the public's use and enjoyment of the site; or
- That the activity poses health or safety risks to the public.

Further guidance is found in 43 CFR 5.1 and 50 CFR 27.71, which regulate the making of pictures, television productions, or sound tracks on national wildlife refuges.

- A special use permit is required of any party except amateur photographers or bona fide newsreel and news television photographers and soundmen. All other parties must obtain written permission from local officials having administrative responsibility for the area involved.
- However, the Secretary has determined that no fee will be charged for the making of such motion pictures, television productions, or sound tracks on areas administered by the U.S. Fish and Wildlife Service (Note: this provision is currently under Departmental review).
- A bond shall be furnished, or deposit made in cash or by certified check, in an amount to be set by the official in charge of the area to insure full compliance with all conditions prescribed in the special use permit. Such bond may be refunded to the applicant if all special use permit requirements are met and no costs to the government are incurred.
- Permission to make a motion picture, television production, or sound track will be granted by the head of the Service or his/her authorized representative in his/her discretion and on acceptance by the applicant of conditions set forth in a special use permit. Applicants must describe the area where filming is requested and the scope of the filming or production or recording. Dependent upon weather conditions, applicants will state when filming or other production will begin and end.

Other stipulations include:

- Utmost care will be exercised to see that no natural features are injured, and after completion of the work, the area will, as required by the refuge manager, either be cleaned up and restored to its prior condition or left, after cleanup, in a condition satisfactory to the refuge manager.
- Credit will be given to the Department of the Interior and the U.S. Fish and Wildlife Service through the use of an appropriate title or announcement, unless the refuge manager issues a written statement that no such courtesy credit is desired. A copy of the final product will be provided pro bono to the refuge staff.
- Pictures will be taken of wildlife only when such wildlife will be shown in its natural state or under approved management conditions, if such wildlife is confined.
- Any special instructions received from refuge manager will be complied with.
- Any additional information relating to the privilege applied for by the applicant will be furnished upon request.
- Other stipulations may be warranted depending upon the proposed location and season of the year the activity is conducted.

Further guidance on this activity is found in the Service Manual 650 FW 5.

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The following stipulations apply to special use permits issued for commercially produced video and photography activities. To minimize impacts on refuge lands and resources, the refuge manager will ensure that filmmakers comply with policies, rules, and regulations, and will monitor and assess all activities of filmmakers.

- Failure to abide by any part of a special use permit: violation of any refuge-related provision in Titles 43 or 50, Code of Federal Regulations; or any pertinent state regulation (e.g., fish or game violation) will be considered grounds for immediate revocation of the special use permit and could result in denial of future permit requests for lands administered by the U.S. Fish and Wildlife Service. This provision applies to all persons working under the authority of the permit.
- The permittee is responsible for ensuring that all employees, party members, and any other persons working for the permittee and conducting activities allowed by the special use permit are familiar with and adhere to the conditions of the special use permit.
- The special use permit may be canceled or revised at any time by the refuge manager for non-compliance or in case of emergency (e.g., public safety, unusual resource problems). The permittee and permittee's clients do not have exclusive use of the site(s) or lands covered by the special use permit.
- Prior to beginning any activities allowed by the special use permit, the permittee shall provide the refuge with: (1) A copy of current business license; and (2) proof of comprehensive general liability insurance.
- Prior to conducting commercial filming activities, the permittee shall provide the refuge manager with the name and method of contact for the field party chief or supervisor.
- A valid copy of the special use permit, signed by the refuge manager or designee, must be in the party leader's possession at all times, while exercising the privileges of the permit.
- Endorsement of the special use permit signifies the permittee's understanding and concurrence with all the conditions set forth in the General Conditions found on the reverse side of the special use permit and the above Special Conditions.

Under the stipulations described above, commercially produced filmmaking, production, or sound track recording is viewed as compatible with the purposes for which the refuge was established.

**Justification:** Commercial video and photography are economic uses that must contribute to the achievement of refuge purposes or the mission of the National Wildlife Refuge System. The products derived may educate groups of people that may not normally know about the refuge, such as the elderly, handicapped, or urban youth groups. The services provided by commercial filmmakers will be beneficial to extend public appreciation and understanding of wildlife, natural habitats, and the mission of the Refuge System. Conditions imposed in the special use permit of filmmakers ensure that these wildlife-dependent activities can occur without adverse effects to refuge resources or other visitors. The activity will be required to have a primary focus on education and information about refuge purposes and the Refuge System mission.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date: 12/25/2019**

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## 9) Description of Use: *Nuisance Animal Control*

This activity would allow a managed and highly targeted program for the take of nuisance animals on Wapanocca NWR that are harmful to refuge habitat and/or infrastructure critical to refuge habitat management and operations, and therefore a threat to the trust species that inhabit or utilize the refuge. Currently, this program will specifically address beaver, nutria, and feral hogs, but may be expanded to other species if necessary and in compliance with Arkansas Game and Fish Commission (AGFC) regulations, to address future harmful impacts caused by exotic or invasive species and prevent or control problems such as disease outbreaks involving furbearers or excessive predation on trust species.

### Semi-aquatic Component

The hydrology and habitat of the refuge is such that semi-aquatic animals, specifically, beaver (*Castor canadensis*) and nutria (*Myocastor coypus*), have become prolific and their dense populations have degraded habitat for other wildlife usage. Beaver naturally impound water to enhance accessibility and extend usable habitat beyond the stream channel. Under normal hydrologic and population conditions, beavers are held in check by availability of water and natural predators, and under these conditions their impoundments may provide beneficial aquatic microhabitats containing scrub-shrub vegetation and trees. However, the amount of irrigated cropland on the refuge provides beavers with a “dry” season water supply from irrigation runoff. Beaver and nutria have little pressure from natural predators. Beaver populations have grown to the point that impoundments have been rebuilt for many years and impounded areas have grown in size. Over the long term, these impoundments degrade the habitat both within and surrounding the area, because the woody vegetation within the impoundments decreases in diversity and abundance, and trees eventually will be excluded altogether. The water table surrounding the impoundment is elevated, altering the forest species composition and degrading quality and health. The hydrology itself is impacted as sediment and organic material from decomposing aquatic vegetation accumulates in the impoundment and impedes the ability of the site to dewater. Additionally, water quality in impounded areas is negatively affected due to increased water temperature and turbidity and decreased dissolved oxygen, and reduced species diversity.

Nutria are non-native herbivores that cause negative impacts on wildlife habitat by consuming and destroying aquatic vegetation, and burrowing in levees of migratory bird impoundments. Their constant burrowing causes roads and levees to collapse, which ultimately poses a major safety issues for refuge personnel and visitors. These activities degrade habitat managed for waterfowl, shorebirds, and other desired species. Their foraging activities also result in competition with waterfowl for food resources.

Refuge staff remove beaver impoundments annually and opportunistically, and conduct wintertime trapping and shooting, but do not have resources to consistently and effectively pursue sufficient control to protect the habitat resources from beaver and nutria impacts.

### Terrestrial Component

The presence of feral hogs (*Sus scrofa*) has been documented on the refuge and observed on several occasions in the recent past. The animals are not native and have few natural predators. The hogs compete with resident wildlife for forage, which includes herbaceous vegetation, roots, acorns, invertebrates, and mammals. Additionally, the animals degrade habitat by rooting and digging wallows. Hardwood plantings used to restore marginal agricultural lands to productive, forested, wildlife habitat are threatened by these animals. Also, there is the potential for the feral hog to carry and transmit a number of infectious diseases to resident wildlife and humans. Currently, the refuge allows the take of feral hogs during any legal refuge hunt, but the staff has implemented no

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further control measures. Similar to the beaver and nutria problem, the refuge does not have the resources to pursue sufficient control to protect the habitat and wildlife from this threat.

#### Permit System

As necessary to protect refuge resources, the staff may issue special use permits to individuals for the take of nuisance beaver, nutria, and feral hogs. Permits may be issued refuge-wide, or permittees may be directed to certain areas with known overpopulation or habitat damage issues. The take may consist of trapping, shooting, or other methods approved by the AGFC, and the permittee will be allowed to retain the animals, pelts, tails, and any bounties from animals taken under the special use permit. Because there are advantages to trapping or shooting in virtually all seasons, permits will be valid year-round, unless otherwise specified in the permit, or specified later by the refuge manager. In the case of feral hogs, control measures will be limited to shooting and/or live trapping. Captured animals will be dispatched by gunshot.

**Availability of Resources:** Refuge staff and resources are adequate to administer this program. Refuge expenditures for issuing special use permits, oversight, and enforcement will be minimal. To closely monitor the program and to protect non-target animals, the refuge may issue only a small number of special use permits annually.

**Anticipated Impacts of Use:** The take of nuisance animals will involve the use of vehicles, boats, ATVs, or walking in approved areas, setting of traps or snares, and discharge of firearms, which will result in only normal short-term disturbances similar to those associated with other refuge approved uses (e.g., hunting, fishing, birding).

With respect to beavers and nutria, the short-term benefits of this program should result in decreased nuisance animal populations and reduced inundation of refuge habitats and damage to infrastructure. As nuisance animal populations decrease, the number, size, and frequency of rebuilt beaver impoundments should also decrease. The refuge will spend less time and expense on the removal of impoundments and can redirect these resources to other habitat restoration and management activities. Damage to infrastructure and habitat should be reduced. In the long-term, degraded habitats will return to a more normal hydrologic regime and will be reclaimed by native hardwoods and natural riparian vegetation, which will result in increased benefits to trust resources and associated wildlife-dependent recreation.

With respect to feral hogs, the short-term benefits of this program should be realized in re-growth and/or recovery of hardwood plantations, and other young plant communities and soils that were formerly disturbed. In addition, local wildlife populations will have relief from this non-native competitor/predator. In the long-term, a reduction in feral hog numbers and associated damage and disease potential will result in enhanced conditions for trust resources and associated wildlife-dependent recreation.

#### Determination (check one below):

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

#### Stipulations Necessary to Ensure Compatibility:

- The use will be administered under conditions of a special use permit issued by the refuge manager that will enable control efforts to be directed to problem areas and specify methods and procedures to ensure protection of staff, visitors, and refuge resources.
- Use will be conducted to minimize risk of injury or take of non-target species and disturbance to refuge habitats.

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- Use will be conducted to avoid any conflicts with refuge visitors.
  - Permittee will comply with all applicable state and federal regulations.
  - Activities under this special use permit will not be conducted in waterfowl sanctuaries during annual closure periods.
  - Permittee will provide locations of beaver dams and lodges and other problem areas, as well as number and location of species taken.
  - All target animals will be immediately dispatched by gunshot.
  - The permittee and their agents and guests shall save, hold harmless, defend, and indemnify the United States of America, its agents, and employees for loss, damages, or judgments and expenses on account of bodily injury, death, or property damage, or claims for bodily injury, death, or property damage of any nature whatsoever, and by whomever made, arising out of the permittee, his employees, subcontractors, or agents with respect to conducting activities connected with the special use permit within the lands administered by the refuge.
  - Special use permit may be revoked at any time by the refuge manager.
  - Refuge manager may discontinue this use at any time.

**Justification:** This use has been determined compatible provided the above stipulations are implemented. This use will facilitate the primary purpose of the refuge, which is to provide waterfowl habitat and to conserve other migratory birds and wildlife. This use will meet the mission of the National Wildlife Refuge System by conserving fish, wildlife, and plant resources on these lands and providing renewable resources for the benefit of the American public. This use will be administered in compliance with 50 CFR 29.1 and EO 13112.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date:** 12/25/2019

**10) Description of Use:** *Cooperative Farming*

Continue the cooperative farming program on Wapanocca NWR that includes the production of approximately 500 acres of primarily wheat, soybean, grain, milo, sunflowers, and moist-soil habitats on this 5,620-acre refuge. Approximately 160 acres of moist-soil management units will be rotated into the refuge crop-share as needed to accomplish habitat management objectives. Cropland acres not currently utilized by waterfowl will be converted to grassland management to provide benefits for other migratory birds. The farming program is necessary for meeting refuge purpose, goals, and objectives by providing supplemental food resources and/or habitat for waterfowl, shorebirds, other migratory birds, and other native wildlife. Farming would be conducted on a crop-share basis with the farmer providing all equipment, seed, fertilizer, labor, and other costs associated with growing and selling a crop. The refuge would not be required to provide any costs associated with growing the crop and only provides the land base and oversight for the program.

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**Availability of Resources:** The refuge does not have the staff or the funds to accomplish this critical habitat management program internally. Food production goals are accomplished through a cooperative agreement with a local farmer. Staffing levels are adequate to administer the program through this cooperative arrangement.

**Anticipated Impacts of Use:**

- Food is produced to help meet refuge purposes and goals (high-energy foods to maintain body condition and health of migrating and wintering waterfowl, wading birds, and shorebirds).
- Hydrology is partially restored on a portion of cropland acres.
- Woody plant encroachment and invasive plant invasions are controlled in moist-soil management units.
- Increased diversity of habitats and forage for waterfowl and other migratory birds.
- Numbers and diversity of waterfowl and other migratory birds using refuge habitats for wintering, staging, and migration will increase.
- Soil erosion will occur, but impacts will be minor due to soil conservation measures.

**Determination (check one below):**

Use is Not Compatible

Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Farming will be accomplished only on areas vital to meet refuge objectives. Fall tillage will not be permitted unless planted to a cover crop. Only Service-approved pesticides will be used. No approved post-emergence pesticide will be used unless crop scouting indicates pest density is at or beyond the economic threshold. Pesticide applicator must comply with all label and other written instructions pertaining to the use of the specific pesticide. Regular scouting must be conducted to keep track of insect infestations and microbial products given the first consideration in fighting insect pests.

Continue to use cooperative farming on a 75:25 crop-share basis on 498 acres of existing agricultural lands on Wapanocca NWR to maintain overall health and diversity of refuge habitats and provide critical foraging habitats for waterfowl, shorebirds, and other migratory birds and native wildlife.

Due to extended trends of low populations of wintering Canada geese on Wapanocca NWR, convert up to 263 acres of the current 761 acres of cropland to grassland habitat. These acres will include the higher elevation sandy ridges spread throughout the farm acreage that prior to European settlement, consisted of native grassland habitat. If numbers of wintering Canada Ggese return to their former levels, these acres will be recycled back into the farm program for use as winter browse habitat. Implement the transition to grassland habitat over a period of 3 to 5 years, beginning in the 2010 farm year.

Incorporate up to 160 acres of moist-soil units into the refuge's 25 percent share of the crops as necessary to assist in control of invasive vegetation, set back woody encroachment, and to allow cultivation of crops in the moist-soil units to increase the supply of hot foods available to wintering waterfowl.

**Justification:** The Biological Review, conducted in 2003 of farming on the refuge, reiterated the need for supplemental foods on the refuge to help meet waterfowl objectives. The refuge lacks personnel and equipment to farm by force account. Cooperative farming must be utilized, which increases the amount of cropland necessary to meet objectives. However, the amount of acreage being farmed for the refuge share is not in excess of direct need for the benefit of migratory birds in fulfillment of refuge purpose. Agricultural lands in conjunction with native habitats increase the biological diversity of the refuge and are utilized by a large variety of migratory and resident species.

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Wildlife observation is enhanced by attracting species to uplands and wetlands managed through the cooperative farming program. This use will be administered in compliance with 50 CFR 29.1.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement  
 Categorical Exclusion and Environmental Action Statement  
 Environmental Assessment and Finding of No Significant Impact  
 Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date:** 12/25/2019

**11) Description of Use:** *Commercial Fishing*

Allow commercial fishing on Wapanocca NWR to remove rough fish, including buffalo, carp, drum, bowfin, and gar, for the benefit of priority fish species and their habitats through the issuance of a special use permit.

Commercial fishing is utilized to remove fish commonly known as rough fish from refuge waters. The species permitted for commercial harvest include German carp, silver carp, big head carp, grass carp, black carp, buffalo, and catfish. The five carp species are exotics, which as a group, compete with and negatively impact habitat of native fisheries within the refuge and ecosystem. The overly abundant native buffalo, and to a lesser degree, catfish also compete with other native fisheries.

**Availability of Resources:** Current facilities, equipment, and staff are adequate to properly and safely administer this use.

**Anticipated Impacts of Use:** The primary impact is the removal of exotic, non-game fish. The program involves reducing numbers of these fishes (because eradication is not feasible) and reducing negative impacts to aquatic habitats and certain sport fishes. Incidental take of sport fish may occur in associated with this use, but is not expected to result in any long-term or cumulative negative impacts. There is no long-term adverse impact to habitat or native fish and wildlife. Commercial harvest of non-game fish should enhance water quality and survival of other fish species, and provide local economic benefit.

**Determination (check one below):**

- Use is Not Compatible  
 Use is Compatible with the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** All sport fish caught must be released back into the lake. Minimum net mesh size will be 4 1/2 inches. Nets must be attended daily. Commercial fishing will not be allowed from November 1 – February 28 to minimize disturbance to waterfowl and wintering eagles.

**Justification:** One of the primary objectives of the National Wildlife Refuge System is to remove exotics from refuges and to restore historic native populations. Removal of exotics and a reduction in rough fish population by commercial harvest is a management practice aimed at reducing adverse impacts to water quality and aquatic habitats. Bottom feeders, such as carp and buffalo, stir up sediments which exacerbate turbidity and impacts nesting and spawning habitat for other fishes.

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Fishery biologists with the Service have long recommended commercial harvest of these species to refuge managers as a management tool with the objective to increase/restore native fish populations on refuges. Commercial harvest of these species is considered a management economic activity that will result in removing exotics, improving quality of aquatic habitats, favorably impacting recreational fishing opportunities, and providing economic benefits to the local community. This use will be administered in compliance with 50 CFR 29.1.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date:** 12/25/2019

**12) Description of Use:** *Construction of Headquarters/Visitor Contact Station at Wapanocca NWR*

The current headquarters/visitor contact station, located 1/4-mile south of Turrell, Arkansas, in Crittenden County, has deteriorated to the point where renovation and rehabilitation to correct deficiencies and inadequacies in structural integrity, accessibility features, HVAC and water systems, lighting, insulation, and health/safety aspects are neither advisable nor cost effective. Funding has been obtained through the American Reinvestment and Recovery Act (ARRA) for replacement of the existing headquarters/visitor contact station with a suitable facility to allow for efficient management of public use and administration of a visitor services program, including opportunities for environmental education and interpretation. The proposed headquarters/visitor contact station would be 1-story, approximately 2,500 square feet in size, would be fully ADA-compliant, and would include a volunteer/receptionist area, exhibit area, conference room, break room, law enforcement storage, public restrooms, staff offices, and public parking. The existing building would be removed and the new facility would be constructed on the same site, thereby minimizing site disturbance and habitat loss, and would incorporate energy- and resource-conserving features to reduce environmental impacts. The new facility would be used as headquarters from which all management and public use programs for Wapanocca NWR would be administered, including environmental education and interpretation programs. More than 20,000 visitors would use this facility annually. The visitor contact station would be open to public during regular business hours.

**Availability of Resources:** The planning/design, engineering, and construction would be funded through ARRA. The new facility would incorporate energy-conserving features and low maintenance design and components. Annual maintenance and operations needs are expected to remain within the capabilities of the staff and funding levels.

**Anticipated Impacts of the Use:** Minor, temporary surface disturbance would occur around the construction site. Proper erosion control measures would be implemented and disturbed surfaces would be revegetated following construction. The new headquarters/visitor contact station would replace the existing office, utilizing the same footprint; therefore, no wildlife habitat would be destroyed. Noise and activity around the construction site may temporarily displace some wildlife, such as birds, small mammals, reptiles, and amphibians. Some trampling of vegetation and perhaps small vertebrates and invertebrates may occur, but these losses would be minor. The impacts of these activities would be temporary and not cumulative over the long term. The new building would

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incorporate green-building design and features that would lessen the environmental effects of the operation and use of the facility.

**Determination:**

Use is Not Compatible

Use is Compatible with Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** Energy-conserving features would be incorporated into building design, construction activities would be conducted in such a manner that disturbance to the site and wildlife would be minimized, and safety precautions would be implemented to prevent risk of injury to visitors and staff. The new facility would be used to enable achievement of the refuge purposes and facilitate management programs for the benefit of trust species.

**Justification:** This project is not a new construction but a replacement of existing facilities utilizing an existing building footprint. Work activities would have no or negligible environmental effects. This project would be completely funded through ARRA and would enable the refuge to better fulfill the refuge purpose by facilitating habitat restoration, management, and conservation programs for trust species. Furthermore, the construction and operation of this facility would promote compatible public uses, including environmental education and interpretation that would serve to increase public awareness of the need for and value of Wapanocca NWR and the Refuge System, and garner support for refuge programs.

**NEPA Compliance for Refuge Use Decision:** *Place an X in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Mandatory 10-year Re-evaluation Date: 12/25/2019**

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**Public Review and Comment:**

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). These compatibility determinations were included in Appendix E of the Draft CCP/EA. 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. None of the comments received were specific to these compatibility determinations.

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## Approval of Compatibility Determinations

The signature of approval is for all compatibility determinations considered within the Comprehensive Conservation Plan for Central Arkansas National Wildlife Refuge Complex. If one of the descriptive uses is considered for compatibility outside of the comprehensive conservation plan, the approval signature becomes part of that determination.

Refuge Manager:

**Signed**

[Signature] 12/1/09  
(Signature/Date)

Regional Compatibility  
Coordinator:

**Signed**

[Signature] 12-17-09  
(Signature/Date)

*Acting*

Refuge Supervisor:

**Signed**

[Signature] 12/22/09  
(Signature/Date)

*Acting*

Regional Chief, National  
Wildlife Refuge System,  
Southeast Region:

**Signed**

[Signature] 12/22/09  
(Signature/Date)

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The following Compatibility Determinations for Cache River NWR were completed prior to the completion of the CCP and are included herein for reference purposes.

**COMPATIBILITY DETERMINATION**

**REPLACEMENT OF U.S. HIGHWAY 79 STRUCTURE AND APPROACHES NEAR  
THE CITY OF CLARENDON  
IN MONROE COUNTY, ARKANSAS**

**USE:** Granting of replacement right-of-way for existing Hwy. 79 for the purpose of new bridge (and approaches) construction over the White River and associated floodplain.

**REFUGE NAME(S):** White River National Wildlife Refuge (Established in 1935), Cache River National Wildlife Refuge (Established in 1986)

**ESTABLISHING AND ACQUISITION AUTHORITIES:**

White River NWR

*Executive Order 7173, 4 September 1935; Migratory Bird Conservation Act*

Cache River NWR

*Emergency Wetlands Act; Migratory Bird Conservation Act; Fish and Wildlife Act of 1956*

**REFUGE PURPOSE(S):**

White River NWR

"... As a refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7173, 4 September 1935).

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

"... Shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements...and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon..."(Fish and Wildlife Coordination Act).

"...Suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." 16 U.S.C., 460k-1 "... the Secretary...may accept and use ...real...property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors..." 16 U.S.C., 460k-2 (Refuge Recreation Act; 16 U.S.C., 460k-460k-4, as amended).

"...Provide environmental and economic benefits to the State of Arkansas...and to the Nation." (Arkansas-Idaho Exchange Act of 1992).

**COPY**

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Cache River NWR

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

"... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and help to fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901 (b) (Emergency Wetlands Resources Act of 1986).

"... for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f (a) (4). (Fish and Wildlife Act of 1956).

"... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C. 742(b) (1) (Fish and Wildlife Act of 1956),

"(1) to protect, enhance, restore, and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife in North America;

(2) to maintain current or improved distributions of migratory bird populations; and,

(3) to sustain an abundance of waterfowl and other migratory birds consistent with the goals of the North American Waterfowl Management plan and the international obligations contained in the migratory bird treaties and conventions and other agreements with Canada, Mexico, and other countries." 16 U.S.C. 4401 (North American Wetlands Conservation Act)."

**NATIONAL WILDLIFE REFUGE SYSTEM MISSION:** 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."

**DESCRIPTION OF USE:** The proposed project consists of providing replacement right-of-way to the State of Arkansas through the Arkansas Highway and Transportation Department (AHTD) for the construction of new structures spanning the White River, Old River Lake, Roc Roe Bayou, and the St. Louis Southwestern Railroad on the White River National Wildlife Refuge (Refuge). An environmental assessment conducted as part of National Environmental Policy Act compliance by the Federal Highway Administration (FHWA) and the AHTD (Environmental Assessment AHTD Job Number 110123 FAP Number BRN-0048(12) White River & Relief Strs. & Apprs. (Clarendon) (Hwy. 79) Monroe, County Arkansas; approved February 29, 2000) and an accompanying Finding of No Significant Impact issued by FHWA December 20, 2006 demonstrated that there

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was no feasible and prudent alternative to the currently proposed location for the project on national wildlife refuge lands due to the fact that the current right-of-way for U.S. Hwy. 79 serves as the southern boundary of Cache River NWR and the northern boundary for White River NWR. The White River NWR boundary extends uninterrupted for over 50 miles to the south, making a southern avoidance alternative unfeasible. The Cache River NWR boundary extends uninterrupted for over 10 miles to the north with the exception of one small break in ownership approximately 5.5 miles north of the current location of Hwy. 79. However, this area is not suitable to bridge construction due to a sharp bend in the river that would cause navigation, engineering, and safety concerns.

The proposed project will consist of approximately 4.7 miles of construction on new alignment immediately south of the existing alignment with a roadway cross-section of two 12-foot lanes with eight-foot shoulders. The White River Bridge will provide a minimum of 52 feet clearance above the two percent flow line of 170 feet for the width of the proposed 283-foot wide channel span (between piers). This project will replace the existing roadway approaches and bridges over the White River, Old River Lake, and Roc Roe Bayou because these structures are functionally and structurally deficient and pose public safety concerns. The replacement structures will enable safe vehicular passage and improve the hydrological conditions for the Refuges due to increased elevated spans across the floodplain.

**AVAILABILITY OF RESOURCES:** All resources for the actual project costs will be provided by funds made available by the FHWA and the AHTD. Resources provided by the Service will include replacement right-of-way for the existing Hwy. 79 structures and approaches, and staff participation needed to process permits, monitor and ensure compliance with SUP conditions, and various other administrative tasks associated with the project.

**ANTICIPATED IMPACTS OF THE USE:** There are numerous negative impacts from construction of the proposed highway project that could potentially affect wildlife and/or their habitats on refuge lands. These include, but are not limited to, impacts to threatened or endangered species, migratory birds, forested wetlands and uplands, and other wildlife (black bear, white-tailed deer, turkey, small mammals). Public use impacts will also result from the proposed project. Positive impacts on aquatic and terrestrial habitats and associated fish and wildlife populations also will result from implementation of this project. These issues are addressed in the following paragraphs.

#### Threatened and Endangered Species

Three federally listed endangered species potentially occur within the project vicinity: the endangered pink mucket mussel (*Lampsilis abrupta*), the endangered fat pocketbook mussel (*Potamilus capax*), and the recently rediscovered Ivory-billed Woodpecker. The endangered plant pondberry (*Lindera melissifolia*) has been recorded from Monroe County but is not known to occur within the project action area. Extensive surveys for all endangered species revealed that none were present in the area of impact. A determination that the project was "not likely to adversely affect" any of the endangered species listed above was made by the FHWA and concurrence was issued by the Service

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on June 21, 2006. Conditions ultimately will be improved for mussels as well other aquatic organisms because of enhanced hydrologic function and habitat restoration.

#### Migratory Birds

The primary purpose of the Refuges is migratory bird conservation, specifically waterfowl. Impacts to waterfowl and other birds such as neotropical migrants resulting from construction work will be in the forms of noise disturbance and destruction of habitat. Such impacts will occur over five to seven years of construction. Habitat restoration and enhanced management that will occur as a result of this project will provide potential long-term benefits to these species by increasing available habitat.

#### Forested Wetlands and Uplands

A total of 79 acres of forested and farmed wetlands and 0.8 acre of forested upland will be directly impacted through permanent conversion to right-of-way for the new alignment of Hwy. 79. However this loss will be countered by restoration of adjacent habitat and management of replacement habitat for wildlife values. Additional acreage may be temporarily impacted through construction of work roads, soil compaction, and interruption of floodplain flows.

#### Other Wildlife

Wildlife such as black bear, white-tailed deer, turkey, small mammals, and aquatic fauna will be affected during the course of the project as a result of habitat destruction, noise, and other disturbance associated with large scale construction projects. These disturbances may result in direct mortality or interruption in important life history aspects such as feeding or breeding. Removal of existing bridge superstructures and piers will likely result in minor, temporary, localized fish kills and death of other aquatic fauna such as freshwater mussels, turtles, etc.; however, overall conditions ultimately will be improved. Reclamation and restoration of former right-of-way could result in direct mortality of wildlife within the project area; however, the ultimate outcome will be a positive benefit to wildlife due to improved habitat conditions.

#### Public Use

Construction activities will occur over five to seven years in areas frequently accessed by the public for fishing, hunting, camping, and wildlife viewing. Noise and construction activity will negatively impact these public uses in portions of the project area at least periodically throughout the duration of the project. Reclamation of the historic borrow pits will eliminate popular fishing areas used by local anglers, but will provide long-term benefits to other users interested in hunting, or observing/photographing wildlife that will be attracted to habitats restored to a more natural (pre-construction) condition.

#### **PUBLIC REVIEW AND COMMENT:**

This Draft Compatibility Determination was available for comment from October 22, 2007 – November 21, 2007 through a local news release provided to the following newspapers: *Brinkley Argus*, *Daily Leader*, *Daily World*, *DeValls Bluff Times*, *Grand Prairie Herald*, *Monroe County Sun*, *Stuttgart Daily Leader*, *Times Herald*, *White River Delta Dispatch*, *White River Journal*, and *Woodruff County Monitor*. In addition, public

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notices were printed in *Monroe County Sun* and the *Arkansas Democrat-Gazette*. Copies of the Proposed Draft Compatibility Determination were available for public review at White River NWR headquarters in St. Charles, Arkansas or Cache River NWR headquarters in Dixie, Arkansas. Copies of the Draft Compatibility Determination were requested and sent to Tricia Rogers of Clarendon and J.T. Davis of Roe. No comments were received by the close of comment period.

**DETERMINATION (CHECK ONE BELOW):**

**USE IS NOT COMPATIBLE**

**USE IS COMPATIBLE WITH THE FOLLOWING STIPULATIONS**

**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

1. Bridge Numbers 01253, B1253, and A1253 crossing White River, Old River Lake, and Roc Roe Bayou will be demolished and all resultant materials removed, the right-of-way will be restored to natural topography, and native hardwood vegetation will be re-established at these sites.
2. Borrow pits adjacent to the existing roadway fill sections will be restored to natural topography utilizing the existing roadway fill, and native hardwood vegetation will be re-established at these sites. A special provision will specifically direct the construction sequencing for filling of the borrow pits in order to minimize adverse impacts to aquatic resources during the restoration. As borrow pits are restored from east to west, passageways for fishes and other aquatic organisms will be maintained to allow retreat into Roc Roe Bayou.
3. Abandoned right-of-way that is legally entitled to the United States of America will be so deeded in fee title for incorporation into the Refuges.
4. Vehicular access for Refuge visitors will be provided to Roc Roe Bayou and the Refuges on both the east and west sides of the bayou.
5. Vehicular access, paved parking area to accommodate 20 vehicles and boat trailers, and a concrete boat ramp for use by Refuge visitors will be provided in the vicinity of the existing First Old River Lake boat ramp.
6. Property identified for reforestation in order to achieve enhanced hydrologic conditions on the Refuges as a result of two dimensional surface water velocity conditions described in Alternative 2 in Water-Resources Investigations Report 02-4256, and as subsequently defined by correspondence provided to the AHTD dated March 18, 2004 and June 17, 2005 will be acquired by AHTD. The portion required as replacement property for taking Refuge land will be provided to the United States in fee title. Any remaining property acquired by AHTD and not deeded to the United States will be

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managed as part of the Refuges contingent on mutually acceptable Memorandum of Agreement between the responsible agencies.

7. Large "entering and leaving" refuge signs will be furnished and erected on the new highway right-of-way. Service personnel will be consulted concerning sign design.

8. Useable material from the project that is salvageable will be made accessible to the Service upon request for use on the Refuges. However, all material excess to the Service needs will be removed from the Refuges and properly disposed of off site.

9. AHTD will complete all necessary environmental, cultural resource, and other reviews and analyses, properly fulfill all public and agency coordination processes, and secure all required local, state, and federal permits prior to performing any construction activities on the Refuges.

**JUSTIFICATION:** The following justification(s) for the proposed project will be addressed in relation to the anticipated impacts of the use.

Threatened and Endangered Species

Surveys were conducted for three federally listed endangered species that potentially occur within the project vicinity: the pink mucket mussel (*Lampsilis abrupta*), the fat pocketbook mussel (*Potamilus capax*), and Ivory-billed Woodpecker. No specimens of any species were encountered. A determination that the project was "not likely to adversely affect" any of the endangered species listed above was made by the FHWA and concurrence was issued by the Service on June 21, 2006. Habitat for each species is present in the project area and could become occupied in the future. Short term impacts to available habitat will be offset by the benefits of habitat restoration that will occur as a result of the proposed project. Restoration of former right-of-way, acquisition of adjacent agricultural properties with subsequent reforestation, and substantially longer elevated spans for all bridges will improve hydrologic functions (as demonstrated by the U.S. Geological Survey Water-Resources Investigations Report 02-4256) that were disturbed by the historic project.

Migratory Birds

As discussed previously, negative short-term impacts to available habitat for migratory birds will be offset by the positive benefits of habitat restoration that will occur as a result of the proposed project. Also, acreage added to the Refuges as a result of the project will provide additional habitat for migrating waterfowl and other species of migratory birds. More than 212 acres of current agricultural field will be reforested. Some of this will be deeded to the United States in fee title to be incorporated into the Refuges as replacement property, and the remainder acquired for flow velocity mitigation of impacts to fish and wildlife resources and will be made available for Service management through a formal Memorandum of Agreement. Management rights to the 320-acre AHTD Brushy Lake Wetland Mitigation Bank, which is adjacent to the project area and the White River NWR on the east side of the White River, will also be granted to the Service through

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formal Memorandum of Agreement. In total, an additional 532.2 acres of habitat suitable for migratory birds will be made available for refuge management.

#### Forested Wetlands and Uplands

Forested and farmed wetlands that will be negatively impacted by the project will be mitigated through replacement lands and through Section 404 of the Clean Water Act compliance. A total of approximately 79.8 acres (west of White River) will be negatively impacted by the project. Of this acreage, 51.9 acres is Service property with 51.1 acres of wetlands and 0.8 acre of upland. The remaining 27.9 acres of private in-holdings are also delineated as farmed or forested wetlands. Approximately 212.2 acres (195 acres south of Hwy. 79 and 17.2 acres north of Hwy. 79) of farmed wetland within the area of impact will be added to the Refuges (either deeded in fee title or through management rights) and restored as replacement property or for mitigation purposes. Any additional wetland impacts will be debited from the 320-acre Brushy Lake Wetland Mitigation Bank. The relatively small amount of upland (0.8 acre) to be converted to right-of-way is negligible in the context of the Refuges resources.

#### Other Wildlife

Black bear, white-tailed deer, turkey, small mammals, and aquatic fauna that will be negatively affected as a result of the project will also receive some benefits. Longer elevated bridge spans around water bodies and in the Refuges floodplains will provide greater opportunity for wildlife passage through the area without the need to cross the roadway surface. Greater sight distances for motorists will help reduce wildlife mortality from vehicle strikes. Acreage added to the Refuges will provide additional habitat for the benefit of numerous species of wildlife, and improved hydrologic functions that result from the project will improve habitat for aquatic flora and fauna as well.

#### Public Use

Conditions of the current highway and bridge spans are obsolete, structurally deficient, and not up to current standards for safety of roadway users, including visitors to the Refuges. Bridge approach embankments are unstable, and the travel lanes and shoulders require frequent maintenance. The project area serves as a major access artery to the Refuges and the completed project will result in increased safety and reduced risk of visitor injury or death. Following project construction, public access to Roc Roe Bayou and Old River Lake in particular will be safer and much improved due to wider shoulders, improved sight distances, safer ingress/egress points, new boat launches, and adequate parking areas.

Noise and construction activity will negatively impact most of the project area for public uses such as fishing, camping, and hunting at least periodically throughout the duration of the project. However, public access to all current facilities will be maintained throughout project construction. Additional acreage added to the Refuges will also provide hunting, fishing, and wildlife viewing opportunities to the public in areas not previously accessible due to private ownership. Restored areas will provide additional benefit to visitors seeking to engage in Priority Public Uses on the Refuges.

NEPA COMPLIANCE FOR REFUGE USE DECISION (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact (FONSI)  
The proposed project was evaluated in a February 29, 2000 Environmental Assessment and subsequent re-evaluation dated June 29, 2005 by the FHWA and the AHTD. The FONSI was issued by the FHWA on December 20, 2006.

Environmental Impact Statement and Record of Decision

Signature: Refuge Manager: **Signed** 11/23/07  
(Signature and Date)

Signature: Refuge Manager: **Signed** 11/26/07  
(Signature and Date)

REVIEW: REGIONAL  
COMPATIBILITY COORDINATOR **Signed** 2/6/07  
Review: Refuge Supervisor: (Signature and Date) 11/30/07

Concurrence: Regional Chief: **Signed** 12-6-07  
(Signature and Date)

MANDATORY RE-EVALUATION DATE (provide month and year):

Mandatory 15-year Re-Evaluation Date (for priority public uses)

Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)

Mandatory 10- or 15-year Re-evaluation Date: 12-06, 2017

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**COMPATIBILITY DETERMINATION FOR REPLACEMENT OF COUNTY ROAD 51  
BRIDGE OVER THE CACHE RIVER NEAR THE TOWN OF AMAGON  
IN JACKSON COUNTY, ARKANSAS**

**USE:** Bridge replacement and minor expansion of existing right-of-way (ROW) to address public safety concerns – Jackson County Road 51, near Amagon, Arkansas.

**REFUGE NAME:** Cache River National Wildlife Refuge (Established in 1986)

**ESTABLISHING AND ACQUISITION AUTHORITIES:**

*Emergency Wetlands Act; Migratory Bird Conservation Act; Fish and Wildlife Act of 1956*

**REFUGE PURPOSE:**

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

"... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and help to fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901 (b) (Emergency Wetlands Resources Act of 1986).

"... for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f (a) (4) (Fish and Wildlife Act of 1956).

"... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C. 742(b) (1) (Fish and Wildlife Act of 1956).

**NATIONAL WILDLIFE REFUGE SYSTEM MISSION:** 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."

**DESCRIPTION OF USE:** The proposed project involves constructing a new bridge over the Cache River located on Jackson County Road 51, approximately 3 miles north of Highway 14 near the town of Amagon, Arkansas. The project involves removal and disposal of the existing bridge, reconstruction of approaches and construction of a new bridge, and is approximately 0.26 mile long. Existing Jackson County Road 51 consists of two nine-foot travel lanes with no shoulders. The existing Cache River Bridge is 16 feet wide, 207 feet long, and consists of timber plank decking supported by a timber substructure. The existing bridge is considered functionally obsolete by the Arkansas Highway and Transportation Department (AHTD) and represents a danger to public safety. No feasible alternative route exists for this roadway or river crossing.

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The existing right of way along the route is 50 feet. The new roadway will consist of two ten-foot travel lanes with four-foot shoulders. The new bridge will consist of thirteen 31 foot continuous composite plate girder spans supported by concrete pile bents on concrete pilings. The structure will be built at the existing location and will be 27 feet wide and 406.6 feet long. The county road will be closed during construction, no detour will be provided. Two 54-inch diameter by 64-foot long steel culverts will be placed underneath the road to provide additional relief for high flows. Right-of-way will average 95 feet in width. The project will require approximately 2.17 acres of additional ROW, of which approximately 1.11 acres is located on Cache River National Wildlife Refuge (NWR). The duration of the project is expected to be approximately two years.

There are no cultural resources, endangered species, contaminant issues, or wellhead protection areas associated with this project. The entire project area is located within the Cache River floodplain and there is no practical alternative to avoid wetland impacts. Construction of this project is allowable under terms of a Section 404 of the Clean Water Act Nationwide Permit Number 23.

**AVAILABILITY OF RESOURCES:** All resources for the actual project costs will be provided by funds made available by Jackson County and AHTD. Resources provided by the Service will include approximately 1.11 acres of additional ROW to be granted as a permanent easement to AHTD, and staff participation needed to process permits and various other administrative tasks associated with the project.

**ANTICIPATED IMPACTS OF THE USE:** There are numerous impacts from construction of the proposed bridge replacement project which could potentially affect wildlife and/or their habitats on refuge lands. These include but are not limited to impacts to aquatic species, migratory birds, forested wetlands and uplands, and other wildlife. Public use impacts will also result from the proposed project.

#### Impacts to Fish and Wildlife Resources

There are no federally listed threatened or endangered species known to occur within the project vicinity. The project is located within an area which could potentially support the recently rediscovered Ivory-billed woodpecker (*Campephilus principalis*; IBWO). However, the suboptimal habitat within the project site (narrow wooded corridor surrounded by agricultural fields) and negative field surveys for IBWO make it unlikely that a project of this size would affect the species.

The primary purpose of the Cache River NWR is migratory bird conservation, specifically waterfowl. Impacts to waterfowl and other birds such as neotropical migrants resulting from construction work will be in the forms of noise disturbance and minimal alteration of habitat. Such impacts will be relatively short lived over the two year project duration.

Wildlife such as white-tailed deer, turkey, raptors, small mammals, reptiles and amphibians, and aquatic fauna could be affected as a result of habitat alteration,

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equipment operation, noise, and other disturbance associated with bridge construction projects. This disturbance could result in direct mortality of smaller animals (e.g., herptiles, terrestrial and aquatic invertebrates), or interruption in important life history aspects such as feeding or breeding. Removal of the existing wooden bridge piers and decking should have minimal impact to fish and wildlife resources.

The project will require approximately 1.11 acres of additional ROW located on Cache River NWR. Additionally, 0.20 acres (0.10 hectares) will be impacted through temporary construction easements. Other minor secondary impacts may occur as a result of interrupted floodplain flows.

Impacts to Public Use

Construction activities will occur over a two year period in an area intermittently accessed by the public for fishing and hunting. No detour will be provided. The public access boat ramp near the project site will only be accessible from the east side of the river. Additionally, local farmers who frequently use the bridge will be forced to use alternative routes to cross the Cache River while undertaking day to day farming operations.

**PUBLIC REVIEW AND COMMENT:** This Draft Compatibility Determination was available for comment from March 21, 2008 – April 3, 2008 through a local news release provided to the following newspapers: *Brinkley Argus*, *Daily Citizen*, *Newport Daily Independent*, and *Woodruff County Monitor*. In addition, a public notice was printed in *the Arkansas Democrat-Gazette*. Copies of the Proposed Draft Compatibility Determination were available for public review at the Cache River NWR headquarters in Dixie, Arkansas. No comments or requested copies of the Draft Compatibility Determination were received by the close of comment period.

**DETERMINATION (CHECK ONE BELOW):**

**USE IS NOT COMPATIBLE**

**USE IS COMPATIBLE WITH THE FOLLOWING STIPULATIONS**

**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

1. Suitable replacement property will be provided at a location and in an amount deemed appropriate by the U.S. Fish and Wildlife Service (Service).
2. Work roads for the project will be constructed in a manner that minimizes site disturbance and allows unobstructed passage of boats or other watercraft through the project site on the Cache River.

**JUSTIFICATION:** The existing wooden bridge spanning the Cache River on Jackson County Road 51 is in a deteriorated condition, constitutes a risk to public safety, and needs to be replaced. The existing roadway embankment floods on a regular basis and serves as a source of undesirable sediment input into the Cache River. Hydrologic conditions will be improved by doubling the elevated portion of roadway and providing additional floodplain relief that will accommodate more natural flood flows. Sedimentation into the Cache River will be reduced because the road will be elevated to the 25-year flood level. The project will restore about 0.25 acre of the Cache River floodplain, and divert undesirable agricultural runoff from the main channel of the Cache River. The granting of a permanent easement by the Service on approximately 1.11 acres of Cache River NWR will be required to accomplish this project. Provision of suitable replacement property will be required and will result in a net gain of acreage to the refuge. Minor temporary impacts to fish and wildlife resources during construction will be offset by lasting environmental improvements that result from the project.

The proposed project will resolve critical public safety concerns by replacing a failed and unsafe bridge with a modern, safe structure. Use of County Road 51 and the Cache River bridge by local farmers, area residents, refuge staff, and visitors to Cache River NWR also will be greatly enhanced by the safety improvements resulting from the construction of the new bridge and an improved roadway that will not be subjected to the hazards of frequent flooding. Additionally, a by-product of the project will be the upgrading (by Jackson County) of an existing primitive dirt boat ramp at the site to a concrete high-water boat ramp that will be used by refuge visitors to access Cache River NWR and conduct priority public uses. The project will not result in increased burden on refuge financial or staff resources and will be manageable given expected budget and staff levels.

**MANDATORY RE-EVALUATION DATE** (provide month and year): April 2018

Mandatory 15-year Re-Evaluation Date (for priority public uses)

Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)

**NEPA COMPLIANCE FOR REFUGE USE DECISION** (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact (FONSI)

Environmental Impact Statement and Record of Decision



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Signature: Refuge Manager: **Signed** 4/9/08  
(Signature and Date)

Review: Refuge Supervisor: **Signed** 4/11/08  
(Signature and Date)

Concurrence: Regional Chief: **Signed** 4-14-08  
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date: April 2018



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**COMPATIBILITY DETERMINATION**

**USE:** Gas pipeline relocation to accommodate the Arkansas Highway and Transportation Department's bridge replacement project to address public safety concerns – Jackson County Road 51, near Amagon, Arkansas.

**REFUGE NAME:** Cache River National Wildlife Refuge (Established in 1986)

**ESTABLISHING AND ACQUISITION AUTHORITIES:**

*Emergency Wetlands Act; Migratory Bird Conservation Act; Fish and Wildlife Act of 1956*

**REFUGE PURPOSE:**

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

"... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and help to fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901 (b) (Emergency Wetlands Resources Act of 1986).

"... for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f (a) (4) (Fish and Wildlife Act of 1956).

"... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C. 742(b) (1) (Fish and Wildlife Act of 1956).

**NATIONAL WILDLIFE REFUGE SYSTEM MISSION:** 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."

**DESCRIPTION OF USE:** CenterPoint Energy proposes to relocate approximately 850 feet of 4-inch-diameter below ground, plastic natural gas distribution pipeline to accommodate the Arkansas Highway and Transportation Department's (AHTD) construction of a new bridge over the Cache River located on Jackson County Road 51. The existing bridge is considered functionally obsolete by AHTD and represents a danger to public safety. CenterPoint Energy's pipeline relocation activities are necessary to accommodate construction of the new bridge. CenterPoint Energy's existing pipeline is located where the new bridge's structure footing will be placed; therefore it must be relocated. The relocation of the distribution pipeline is required

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for the bridge to meet Department of Transportation regulations. No feasible alternative route exists for this river crossing.

The existing pipeline will be abandoned in place and new pipe will be installed 24 feet east of the centerline of Jackson County Road 51 and installed at a depth of 4 feet underneath the Cache River by using a low-impact pipeline installation technique - the Horizontal Direction Drill (HDD) Method. The HDD method allows for trenchless construction across an area by drilling a hole under the waterbody and installing a prefabricated segment of pipe through the hole, thereby minimizing surface, ground, aquatic, and subterranean disturbance to the surface of the right-of-way and to the waterbody proper. More specifically, the use of the HDD method will avoid direct impacts to the bed and banks of the Cache River and will minimize impacts within the Cache River National Wildlife Refuge (NWR). All ground disturbance activities associated with this project will occur within the existing road way right-of-way.

Three temporary workspace areas located within the existing Jackson County Road 51 right-of-way will be used for this project. Two 6' x 6' x 6' temporary workspaces will be located within the boundaries of the Cache River NWR and one 6' x 6' x 6' temporary workspace area will be located outside the Cache River NWR - all will be located on the existing gravel road (Jackson County Road 51). These workspaces will be used to drill the entry hole, insert the pipeline, which will be steered and monitored underground as to precise depth and course, until it emerges from the exit hole.

There are no cultural resources, endangered species, contaminant issues, or wellhead protection areas associated with this project. No floodplains, waterbodies, or wetlands will be impacted from project activities.

**AVAILABILITY OF RESOURCES:** All resources for the pipeline relocation will be provided by CenterPoint. No additional resources will be needed for this project.

**ANTICIPATED IMPACTS OF THE USE:** There are minimal to no impacts from the relocation of the proposed distribution pipeline on wildlife and/or their habitats on refuge lands. All ground disturbance activities will be located within the existing roadway right-of-way and be temporary in nature. The project area will be restored to pre-construction contours and no permanent surface impacts will occur as a result of the proposed project. Public use impacts will not result from the proposed project.

Impacts to Fish and Wildlife Resources

There are no federally listed threatened or endangered species known to occur within the project vicinity. The project is located near an area that could potentially support the recently rediscovered Ivory-billed woodpecker (*Campephilus principalis*). However, the suboptimal habitat within the project site (narrow corridor surrounded by agricultural fields) makes it unlikely that a project of this size would adversely affect the species.

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The primary purpose of the Cache River NWR is migratory bird conservation, specifically waterfowl. Impacts to waterfowl and other birds such as neotropical migrants resulting from construction work will be in the forms of equipment operation and noise disturbance. Such impacts will be relatively short lived over the duration of the project, which is expected to be completed in three or four days.

Wildlife such as white-tailed deer, turkey, raptors, small mammals, reptiles and amphibians, and invertebrates could be minimally affected as a result of equipment operation and noise associated with gas pipeline relocation project.

Project activities will occur within the existing roadway right-of-way, no habitat alteration will occur from project activities. The project will temporarily impact approximately 0.003 acre. The project area will be restored to pre-construction contours and no permanent surface impacts will occur as a result of the proposed project.

Impacts to Public Use

Public use impacts will not result from the proposed project. Project activities will be completed within four days and wholly contained within the existing right-of-way of County Road 51.

**PUBLIC REVIEW AND COMMENT:** This Draft Compatibility Determination was available for public review and comment for seven days beginning October 15, 2008, through a local news release provided to the following newspapers: *Brinkley Argus*, *Daily Citizen*, and *Woodruff County Monitor*. In addition, a public notice was printed in *Newport Daily Independent*, and the *Arkansas Democrat-Gazette*. Copies of the Draft Compatibility Determination were available for public review at the Cache River NWR headquarters in Dixie, Arkansas. Copies of the draft were available by contacting the Cache River NWR headquarters by phone, mail, fax, or email. Comment period closed October 22, 2008, with no comments received.

Additionally, a notice in the *Federal Register* will be published notifying all interested parties and the public of the Service's consideration of a ROW permit request for installation of this pipeline.

**DETERMINATION (CHECK ONE BELOW):**

USE IS NOT COMPATIBLE

USE IS COMPATIBLE WITH THE FOLLOWING STIPULATIONS

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**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

1. Bore pits will be located wholly within the graveled surface of Jackson County Road 51. Operations will be conducted in a manner that minimizes risks to the public, wildlife, and habitat.
2. The new gas pipeline will be installed at a minimum depth of four feet beneath the river bed of the Cache River.
3. Exact location of the course of the new gas pipeline will be provided to the Cache River NWR Refuge Manager.

**JUSTIFICATION:** The relocation of the gas distribution pipeline is required to accommodate the replacement of the bridge over the Cache River located on Jackson County Road 51 to safely be constructed to Department of Transportation regulations. No feasible alternative route exists for this river crossing. The existing pipeline will be abandoned in place and the new line relocated 24 feet east of the centerline of County Road 51 and installed at a depth of 4 feet underneath the Cache River by using a low-impact pipeline installation technique, the HDD Method. The HDD method allows for trenchless construction across an area by drilling a hole under the waterbody and installing a prefabricated segment of pipe through the hole, thereby avoiding disturbance to the surface of the right-of-way and to the waterbody proper. More specifically, the use of this method will avoid direct impacts to the bed and banks of the Cache River and minimize impacts within the Cache River NWR. All ground disturbance activities associated with this project will occur within the existing gravel road surface and be temporary in nature. The project will temporarily impact approximately 0.003 acre. The project area will be restored to pre-construction contours and no permanent surface impacts will occur as a result of the proposed project.

Minor temporary impacts to fish and wildlife resources may occur during construction in the form of noise disturbance or activities associated with the operations. Such impacts will be relatively short lived over the three to four day project duration. The project will allow for the proposed bridge to be safely constructed and will not result in increased burden on NWR financial or staff resources and will be manageable given expected budget and staff levels.

MANDATORY RE-EVALUATION DATE (provide month and year): October 2018

Mandatory 15-year Re-Evaluation Date (for priority public uses)

Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)

NEPA COMPLIANCE FOR REFUGE USE DECISION (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact (FONSI)

Environmental Impact Statement and Record of Decision

Signature: Refuge Manager: **Signed**  
(Signature and Date) 10/22/08

Review: Compatibility Coordinator: **Signed** 10/23/08  
(Signature and Date)

Review: Refuge Supervisor: **Signed** 10/24/08  
(Signature and Date)

Concurrence: <sup>Acting</sup> Regional Chief: **Signed** 10/24/08  
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date: April 2018



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## Appendix F. Intra-Service Section 7 Biological Evaluation

### REGION 4

#### INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

[Note: This form provides the outline of information needed for intra-Service consultation. If additional space is needed, attach additional sheets, or set up this form to accommodate your responses.]

**Originating Person:** Keith Weaver

**Telephone Number:** 870-347-2074

**E-Mail:** keith\_weaver@fws.gov

**Date:** November 3, 2008

**PROJECT NAME (Grant Title/Number):**

CCP for the Central Arkansas NWR Complex

**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:**

Bald Knob National Wildlife Refuge

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

The subject action would result in the implementation of the Preferred Alternative developed for the Comprehensive Conservation Plan for the Central Arkansas National Wildlife Complex, which includes the 15,022-acre Bald Knob National Wildlife Refuge (Refuge) in White County, Arkansas. This action would result in enhanced management and administration of the Refuge in fulfillment of the establishing purposes for the Refuge, which are:

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986)

"...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. § 742f(a)(4) ...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956)

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

Management of the Refuge would be guided by the Preferred Alternative over the next 15 years in the broad areas of Fish and Wildlife Population Management, Habitat Management, Resource Protection, Visitor Services, and Administration. Within these focal areas detailed goals, objectives, and strategies have been developed to fulfill Refuge purposes, comply with laws, regulations, and policies (including the protection of listed species), support regional and national plans and initiatives in conjunction with numerous partners such as Arkansas Game and Fish Commission, and consider public needs and benefits. See attached Comprehensive Conservation Plan and Environmental Assessment for detailed description of the Preferred Alternative.

**V. Pertinent Species and Habitat:**

**A. Include species/habitat occurrence map:** Due to the transient nature of piping plover and least tern use on the refuge, a map indicating occurrence is not available

**B. Complete the following table:**

SPECIES/CRITICAL HABITAT	STATUS <sup>1</sup>
Interior Least Tern ( <i>Sterna antillarum</i> )	E
Piping Plover ( <i>Charadrius melodus</i> )	T

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

**VI. Location (map attached):**

**A. Ecoregion Number and Name:**

Ecosystem Area I, Ecosystem 27: Lower Mississippi River Ecosystem

**B. County and State:**

White County, Arkansas.

**C. Section, township, and range (or latitude and longitude):** Section 6, T7N, R5W

**D. Distance (miles) and direction to nearest town:** 3 miles N to Bald Knob, AR

**E. Species/habitat occurrence:**

Interior Least Tern: Interior least tern occurs infrequently and for short durations (1-2 days) on the refuge, using mudflats, irrigation canals, and other wetlands for foraging. Least Tern presence on the refuge is similar to the Piping Plover with occurrences documented in late summer. Breeding does occur in Arkansas but is limited to large river systems such as the Arkansas, Red and Mississippi Rivers.

Piping Plover: The plover is a transient migrant that utilizes mudflats and shallowly-flooded wetlands on the refuge during the spring and late summer months. Occurrences are infrequent and of short duration (1-2 days). Breeding occurs along the Atlantic coast from North Carolina to southern Canada and along rivers and wetlands of the northern Great Plains from Nebraska to the southern Prairie Provinces. Plover use on the refuge occurs on mud flats that are created in June-

September from fields that were planted in rice the previous year. Only these fields are managed for shorebirds, however shorebirds may also occur on other croplands and wetlands on the refuge such as ditches, canals, etc.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Interior Least Tern	Limited occurrence on Bald Knob NWR. Proposed management activities will enhance refuge habitat and foraging areas. Potential nesting sites will not likely be impacted by the proposed actions.
Piping Plover	Limited occurrence on Bald Knob NWR. Proposed management activities will enhance refuge habitat and foraging areas. Potential nesting sites will not likely be impacted by the proposed actions.

**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):**

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Interior Least Tern	Habitats potentially used by this species are not slated for active management. Additional mudflat and shallow water acreage may be created in the future where appropriate. Ownership and law enforcement are key elements to protection of this species and its habitats.
Piping Plover	Habitats potentially used by this species are not slated for active management. Additional mudflat and shallow water acreage may be created in the future where appropriate. Ownership and law enforcement are key elements to protection of this species and its habitats.

**VIII. Effect Determination and Response Requested:**

SPECIES/ CRITICAL HABITAT	DETERMINATION <sup>1</sup>			RESPONSE <sup>1</sup> REQUESTED
	NE	NA	AA	
Least Tern		X		Concurrence

SPECIES/ CRITICAL HABITAT	DETERMINATION <sup>1</sup>			RESPONSE <sup>1</sup> REQUESTED
	NE	NA	AA	
Piping Plover		X		Concurrence

**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".

**Signed**

\_\_\_\_\_ 12/10/08  
signature (originating station)      date

Project Leader  
\_\_\_\_\_

title

**IX. Reviewing Ecological Services Office Evaluation:**

A. Concurrence   X   Nonconcurrence \_\_\_\_\_

B. Formal consultation required \_\_\_\_\_

C. Conference required \_\_\_\_\_

D. Informal conference required \_\_\_\_\_

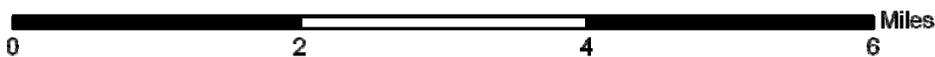
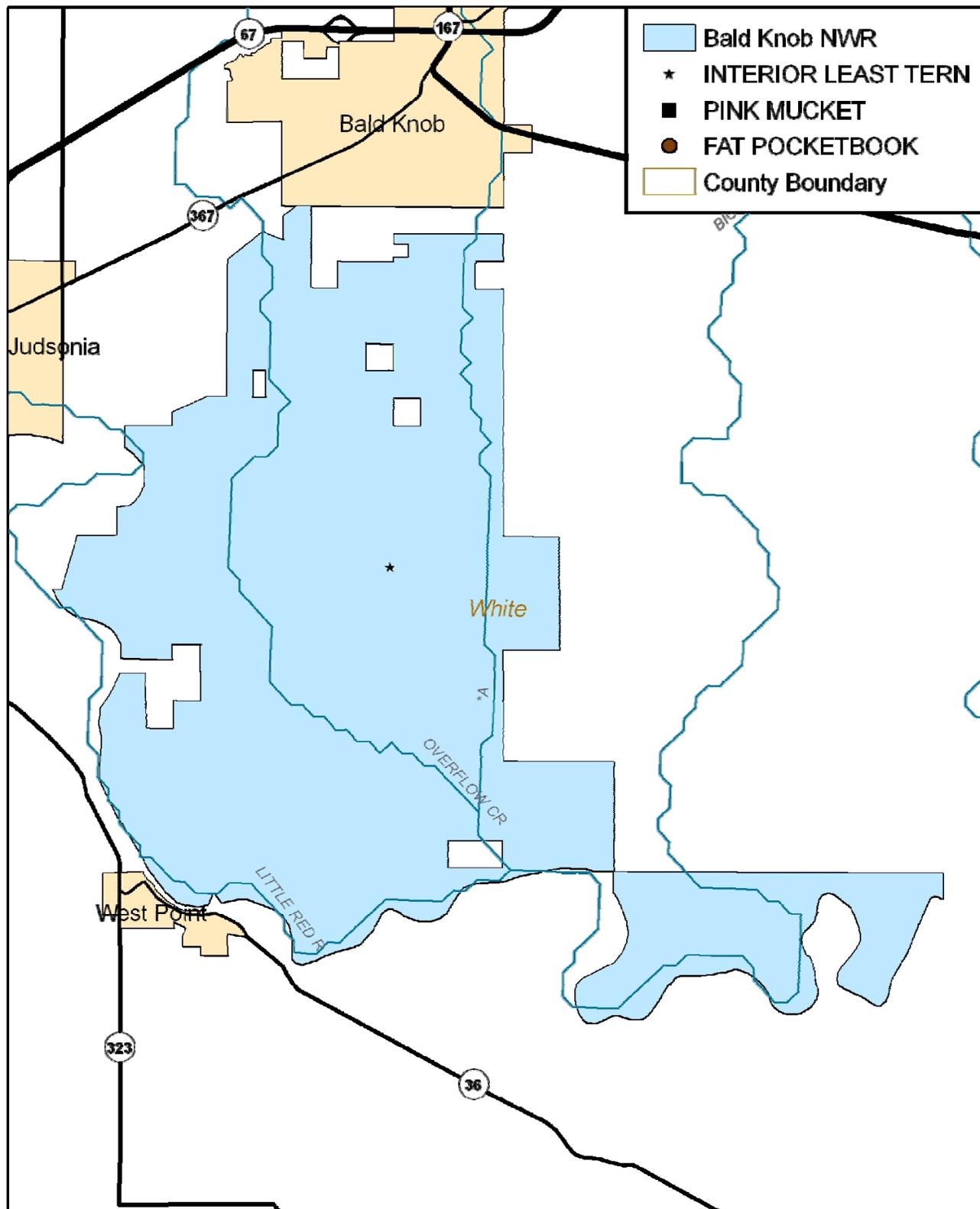
**E. Remarks (attach additional pages as needed):**

**Signed**

\_\_\_\_\_ 12/10/08  
signature      date

Field Supervisor      AR ESFO  
\_\_\_\_\_

title      office



**REGION 4  
INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

[Note: This form provides the outline of information needed for intra-Service consultation. If additional space is needed, attach additional sheets, or set up this form to accommodate your responses.]

**Originating Person:** Keith Weaver  
**Telephone Number:** 870-347-2074    **E-Mail:** keith\_weaver@fws.gov  
**Date:** November 3, 2008

**PROJECT NAME (Grant Title/Number):**  
CCP for the Central Arkansas NWR Complex m

- 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:**  
Big Lake National Wildlife Refuge

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

Description of the Proposed Action:

The subject action would result in the implementation of the Preferred Alternative developed for the Comprehensive Conservation Plan for the Central Arkansas National Wildlife Complex, which includes the 11,038-acre Big Lake National Wildlife Refuge (Refuge) in Mississippi County, Arkansas. This action would result in enhanced management and administration of the Refuge in fulfillment of the establishing purposes for the Refuge, which are:

"...as a refuge, reserve and breeding ground for native birds" (Executive Order 2230, dated August 2, 1915.

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

Management of the Refuge would be guided by the Preferred Alternative over the next 15 years in the broad areas of Fish and Wildlife Population Management, Habitat Management, Resource Protection, Visitor Services, and Administration. Within these focal areas detailed goals, objectives, and strategies have been developed to fulfill Refuge purposes, comply with laws,

regulations, and policies (including the protection of listed species), support regional and national plans and initiatives in conjunction with numerous partners such as Arkansas Game and Fish Commission, and consider public needs and benefits. See attached Comprehensive Conservation Plan and Environmental Assessment for detailed description of the Preferred Alternative.

**V. Pertinent Species and Habitat:**

**A. Include species/habitat occurrence map:**

**B. Complete the following table:**

SPECIES/CRITICAL HABITAT	STATUS <sup>1</sup>
Fat Pocketbook ( <i>Potamilus capax</i> )	E

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

**VI. Location (map attached):**

**A. Ecoregion Number and Name:**

Ecosystem Area I, Ecosystem 27: Mississippi Alluvial Valley

**B. County and State:**

Mississippi, Craighead, Lawrence, and Greene Counties, Arkansas.

**C. Section, township, and range (or latitude and longitude):**

Main refuge is located in R9E, T14N & T15N, also one tract in R3E, T17N, and another tract in R3R2E, T18N

**D. Distance (miles) and direction to nearest town:**

The refuge is located 3 miles west of Manila, Arkansas on Hwy 18. One additional tract is located 1.5 miles west of Hwy 349 approximately 4.5 miles west of Jonesboro, Arkansas and another is located 0.5 miles north of County Rd 216 5 miles north of Light, Arkansas.

**E. Species/habitat occurrence:**

Fat Pocketbook – The fat pocketbook mussel inhabits the Little River System and has been found in Big Lake NWR and also juveniles were restocked in 2000.

**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
Fat Pocketbook	Proposed management activities will improve water quality through sound forest management and hydrologic restoration; public use, research, and other proposed activities will likely have no impact to the aquatic habitat. Efforts to fortify Ditch 81, modify/replace water control structures, or remove sediment from Big Lake or adjacent ditches may result in negative impacts to the Fat Pocketbook.

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Fat Pocketbook	State Best Management Practices will be followed for silvicultural operations. Refuge ownership and therefore management and law enforcement will ensure protection of this species and its habitats. Any bank armoring, water structure modification/replacement, or sediment removal projects will incorporate mussel surveys as deemed appropriate in coordination with the Arkansas Field Office (Ecological Services).

**VIII. Effect Determination and Response Requested:**

SPECIES/ CRITICAL HABITAT	DETERMINATION <sup>1</sup>			RESPONSE <sup>1</sup> REQUESTED
	NE	NA	AA	
Fat Pocketbook		X		Concurrence

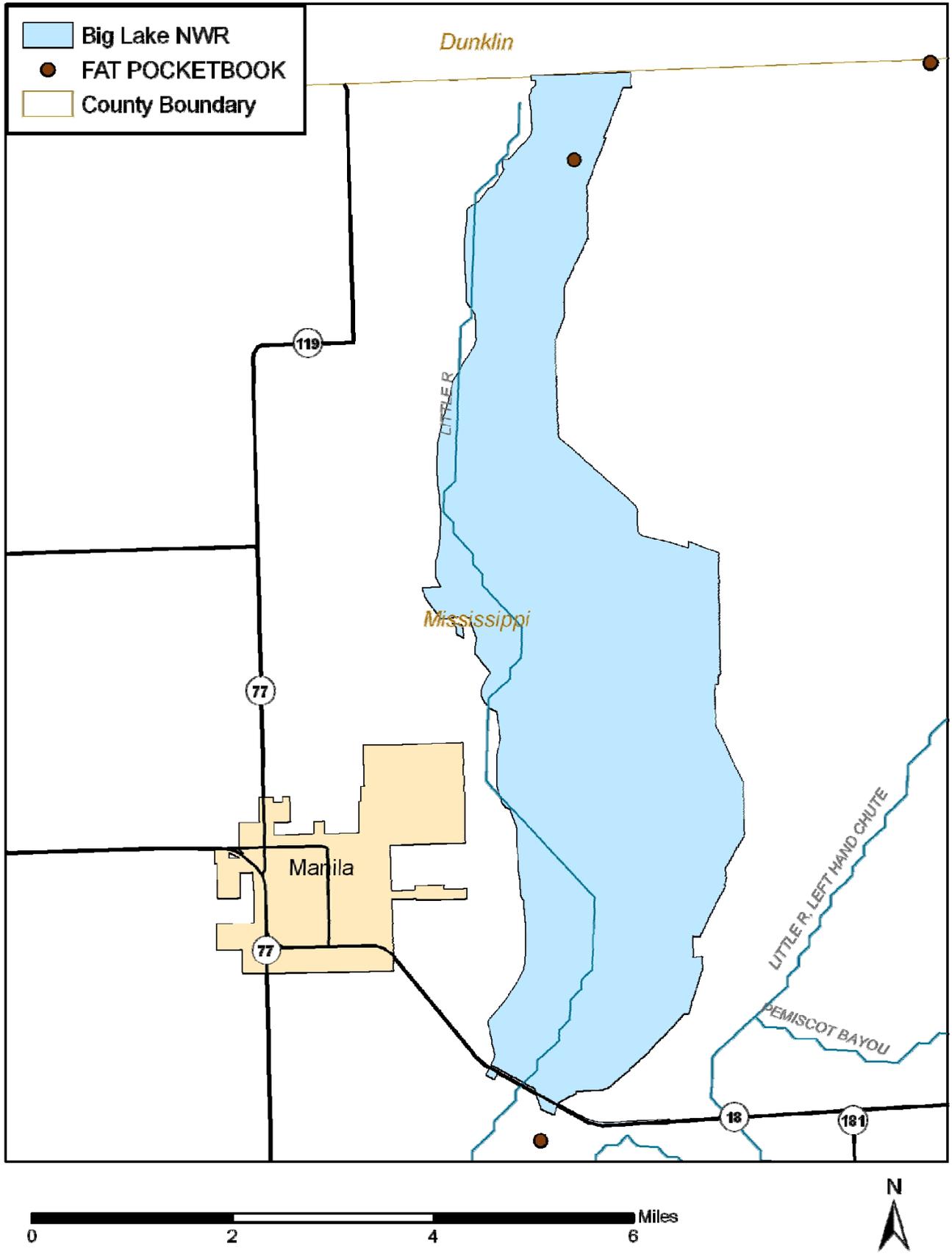
<sup>1</sup>DETERMINATION/RESPONSE REQUESTED:

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





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**REGION 4  
INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

[Note: This form provides the outline of information needed for intra-Service consultation. If additional space is needed, attach additional sheets, or set up this form to accommodate your responses.]

**Originating Person:** Keith Weaver  
**Telephone Number:** 870-347-2074    **E-Mail:** keith\_weaver@fws.gov  
**Date:** November 3, 2008

**PROJECT NAME (Grant Title/Number):**  
CCP for the Central Arkansas NWR Complex m

- 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:**  
Cache River National Wildlife Refuge

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

Description of the Proposed Action:

The subject action would result in the implementation of the Preferred Alternative developed for the Comprehensive Conservation Plan for the Central Arkansas National Wildlife Complex, which includes the 66,000-acre Cache River National Wildlife Refuge (Refuge) in Jackson, Monroe, Prairie, and Woodruff Counties, Arkansas. This action would result in enhanced management and administration of the Refuge in fulfillment of the establishing purposes for the Refuge, which are:

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986)

"...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. § 742f(a)(4) ...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956)

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

Management of the Refuge would be guided by the Preferred Alternative over the next 15 years in the broad areas of Fish and Wildlife Population Management, Habitat Management, Resource Protection, Visitor Services, and Administration. Within these focal areas detailed goals, objectives, and strategies have been developed to fulfill Refuge purposes, comply with laws, regulations, and policies (including the protection of listed species), support regional and national plans and initiatives in conjunction with numerous partners such as Arkansas Game and Fish Commission, and consider public needs and benefits. See attached Comprehensive Conservation Plan and Environmental Assessment for detailed description of the Preferred Alternative.

**V. Pertinent Species and Habitat:**

**A. Include species/habitat occurrence map:**

**B. Complete the following table:**

SPECIES/CRITICAL HABITAT	STATUS <sup>1</sup>
Ivory-billed Woodpecker ( <i>Campephilus principalis</i> )	E
Interior Least Tern ( <i>Sterna antillarum</i> )	E
Pink Mucket ( <i>Lampsilis abrupta</i> )	E
Fat Pocketbook ( <i>Potamilus capax</i> )	E

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

**VI. Location (map attached):**

**A. Ecoregion Number and Name:**

Ecosystem Area I, Ecosystem 27: Mississippi Alluvial Valley

**B. County and State:**

Woodruff, Jackson, Monroe, and Prairie Counties, Arkansas.

**C. Section, township, and range (or latitude and longitude):**

Various holdings in T1N R3W, T1N R4W, T2N R3W, T2N R4W, T3N R2W, T3N R3W, T3N R4W, T4N R2W, T4N R3W, T4N R4W, T5N R2W, T5N R3W, T5N R4W, T6N R2W, T6N R3W, T7N R1W, T7N R2W, T7N R3W, T8N R1W, T8N R2W, T8N R3W, T9N R1W, T9N R2W, T10N R1W, T11N R1W, of the 5<sup>th</sup> Principal Meridian.

**D. Distance (miles) and direction to nearest town:**

See maps. Large holdings of Cache River NWR are 1 mile northwest of Clarendon, 2 miles southeast of Biscoe, 3 miles north of Brasfield, 7 miles southwest of Brinkley, 1 mile east of Dixie, and 4 miles southwest of McCrory, Arkansas.

**E. Species/habitat occurrence:**

Ivory-billed Woodpecker (IBWO) - The IBWO was once an inhabitant of forested habitats throughout the southeastern United States and Cuba. Although little specific population data are available, it is likely that European settlement and the clearing of the forest caused the species to decline in the latter half of the 19th century. By the mid-20th century the IBWO was reduced to a very small population. The most famous of these birds were those studied by Arthur Allen and James Tanner at the Tensas River in Louisiana in the late 1930s. The last widely accepted sightings were made in the Tensas area by Don Eckleberry in 1944. Since that time there have been numerous unconfirmed sightings throughout the historic range of the species. Many of these sightings seemed highly credible but lacked hard evidence.

In February of 2004, Cornell Laboratory of Ornithology biologists became aware of credible sight reports of the IBWO in a portion of Bayou DeView which is located on Cache River National Wildlife Refuge. Subsequently, Cornell biologists and their partners documented the presence of at least one IBWO (Fitzpatrick *et al.* 2005) in that area.

This stretch of the Bayou De View is currently providing some or all of the life cycle requirements for this species proliferation. The sixteen sightings of the IBWO were documented deep within the cypress-tupelo swamp of the Bayou De View (now part of the managed access area [MAA]). Searchers deployed recording units within this area to capture the double taps and kent calls by this species. These vocalizations are the communication tools that the IBWO uses throughout the day. Much of this information from the recording units is still being analyzed.

Interior Least Tern – Interior least terns have been observed foraging intermittently in shore bird areas on Bald Knob NWR and the Raft Creek Bottoms along the White River.

Pink Mucket – The pink mucket pearly mussel inhabits the White River and its major tributaries; one specimen was tentatively identified in the Cache River.

Fat Pocketbook – The fat pocketbook mussel inhabits the White River and has been found in other streams but has not been found in the Cache River on any recent surveys.

**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
Ivory-billed Woodpecker	Extent of occurrence on Cache River NWR is unknown. Proposed management activities such as reforestation, land acquisition, and hydrologic restoration will connect and create large forest blocks and improve the ecosystem. Improvements cuts to forest habitat will be short-term disturbances, but will improve forest structure, composition, productivity, and sustainability of habitat for the long-term. Public use, research, and other proposed activities are low volume and low impact.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Interior Least Tern	Limited occurrence on Cache River NWR. Proposed management activities will improve refuge habitat overall; foraging areas and potential nesting sites will not likely be impacted by the proposed actions.
Pink Mucket	Limited occurrence in White River and possibly in Cache River. Proposed management activities will improve water quality through sound forest management, reforestation, and hydrologic restoration; public use, research, and other proposed activities will likely have no impact to the aquatic habitat.
Fat Pocketbook	Limited occurrence in White River and not recently found in the Cache River. Proposed management activities will improve water quality through sound forest management, reforestation, and hydrologic restoration; public use, research, and other proposed activities will likely have no impact to the aquatic habitat.

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Ivory-billed Woodpecker	Surveys to determine potential use of an area by this species are conducted prior to any habitat manipulation. Close coordination with Ecological Services and the Regional Office continues to ensure protection and proper management for this species.
Interior Least Tern	Habitats potentially used by this species are not slated for active management. Ownership and law enforcement are key elements to protection of this species and its habitats.
Pink Mucket	State Best Management Practices will be followed for silvicultural operations. Refuge ownership and therefore management and law enforcement will ensure protection of this species and its habitats.
Fat Pocketbook	State Best Management Practices will be followed for silvicultural operations. Refuge ownership and therefore management and law enforcement will ensure protection of this species and its habitats.

**VIII. Effect Determination and Response Requested:**

SPECIES/ CRITICAL HABITAT	DETERMINATION <sup>1</sup>			RESPONSE <sup>1</sup> REQUESTED
	NE	NA	AA	
Ivory-billed Woodpecker		X		Concurrence
Interior Least Tern		X		Concurrence
Pink Mocket		X		Concurrence
Fat Pocketbook		X		Concurrence

**<sup>1</sup>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".

**Signed**  
 \_\_\_\_\_  
 signature (originating station)      12/11/08  
 date  
Project Leader  
 \_\_\_\_\_  
 title

**IX. Reviewing Ecological Services Office Evaluation:**

A. Concurrence X Nonconcurrence \_\_\_\_\_

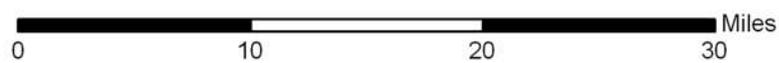
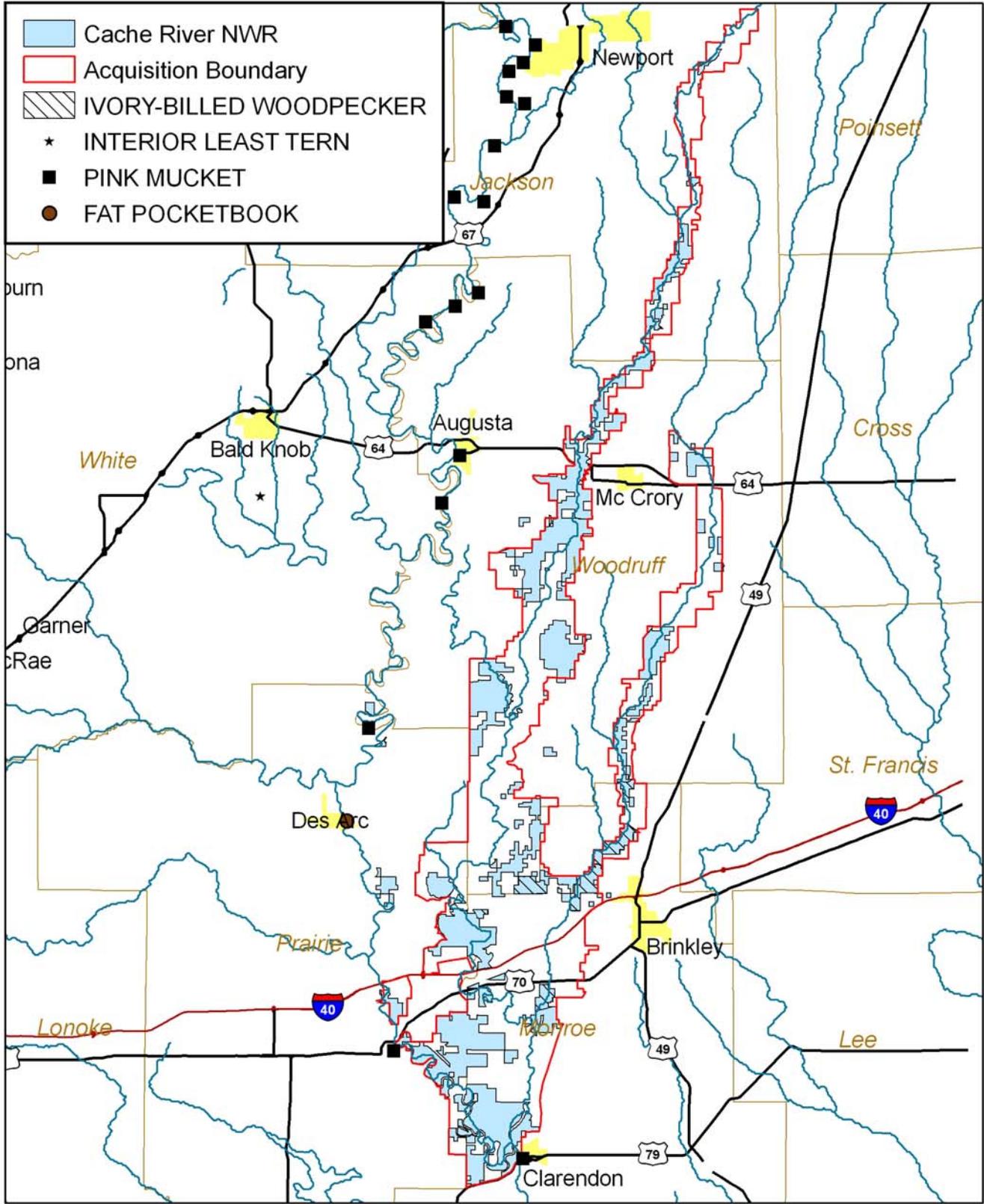
B. Formal consultation required \_\_\_\_\_

C. Conference required \_\_\_\_\_

D. Informal conference required \_\_\_\_\_

E. Remarks (attach additional pages as needed):

**Signed**  
 \_\_\_\_\_  
 signature      12/10/08  
 date  
Field Supervisor  
 \_\_\_\_\_  
 title      office



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**REGION 4**

**INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

[Note: This form provides the outline of information needed for intra-Service consultation. If additional space is needed, attach additional sheets, or set up this form to accommodate your responses.]

**Originating Person: Keith Weaver**  
**Telephone Number: 870-347-2074**  
**Date: 11/5/08**

**E-Mail: keith\_weaver@fws.gov**

**PROJECT NAME (Grant Title/Number):**

**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 subject action would result in the implementation of the Preferred Alternative developed for the Comprehensive Conservation Plan for the Central Arkansas National Wildlife Complex, which includes the 5,484-acre Wapanocca National Wildlife Refuge (Refuge) in Crittendon County, Arkansas. This action would result in enhanced management and administration of the Refuge in fulfillment of the establishing purpose for the Refuge, which 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).

Management of the Refuge would be guided by the Preferred Alternative over the next 15 years in the broad areas of Fish and Wildlife Population Management, Habitat Management, Resource Protection, Visitor Services, and Administration. Within these focal areas detailed goals, objectives, and strategies have been developed to fulfill Refuge purposes, comply with laws, regulations, and policies (including the protection of listed species), support regional and national plans and initiatives in conjunction with numerous partners such as Arkansas Game and Fish Commission, and consider public

needs and benefits. See attached Comprehensive Conservation Plan and Environmental Assessment for detailed description of the Preferred Alternative.

**V. Pertinent Species and Habitat:**

**A. Include species/habitat occurrence map:**

**B. Complete the following table:**

SPECIES/CRITICAL HABITAT	STATUS <sup>1</sup>
NONE	N/A

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

**VI. Location (map attached):**

**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 1,2,3,4,9,10,11,12, Township 8 North, Sections 28,33,34,35, Township 9 North, Range 8 East

**D. Distance (miles) and direction to nearest town:** Borders Turrell, Arkansas, North boundary.

**E. Species/habitat occurrence:** N/A

**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
NONE	N/A

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

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
NONE	N/A

**VIII. Effect Determination and Response Requested:**

SPECIES/ CRITICAL HABITAT	DETERMINATION <sup>1</sup>			RESPONSE <sup>1</sup> REQUESTED
	NE	NA	AA	
NONE	X			Concurrence

<sup>1</sup>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".

---

**Signed**

signature (originating station)

12/10/08  
date

Project Leader  
title

**IX. Reviewing Ecological Services Office Evaluation:**

A. Concurrence X Nonconcurrence \_\_\_\_\_

B. Formal consultation required \_\_\_\_\_

C. Conference required \_\_\_\_\_

D. Informal conference required \_\_\_\_\_

E. Remarks (attach additional pages as needed):

**Signed**

signature

Field Supervisor

title

12-10-08  
date

AR ESFO





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## Appendix G. Refuge Biota

### Species – Common Name

### Scientific Name

**BIRDS** – known to or likely to occur within Central Arkansas NWR Complex.

#### **Loons and Grebes**

Common Loon	<i>Gavia immer</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Horned Grebe	<i>Podiceps auritus</i>
Eared Grebe	<i>Podiceps nigricollis</i>

#### **Pelicans and Allies**

American White Pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Anhinga	<i>Anhinga anhinga</i>

#### **Hérons, Egrets, Ibises, Spoonbills and Storks**

American Bittern	<i>Botaurus lentiginosus</i>
Least Bittern	<i>Ixobrychus exilis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Casmerodius albus</i>
Snowy Egret	<i>Egretta thula</i>
Little Blue Heron	<i>Egretta caerulea</i>
Tricolored Heron	<i>Egretta tricolor</i>
Cattle Egret	<i>Bubulcus ibis</i>
Green Heron	<i>Butorides striatus</i>
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
Yellow-crowned Night-Heron	<i>Nycticorax violaceus</i>
White-faced Ibis	<i>Plegadis chihi</i>
Glossy Ibis	<i>Plegadis falcinellus</i>
Roseate Spoonbill	<i>Ajaia ajaja</i>
Wood Stork	<i>Mycteria Americana</i>

#### **New World Vultures**

Black Vulture	<i>Coragyps atratus</i>
Turkey Vulture	<i>Cathartes aura</i>

#### **Ducks, Geese and Swans**

Black-bellied Whistling Duck	<i>Dendrocygna autumnalis</i>
Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>
Greater White-fronted Goose	<i>Anser albifrons</i>
Snow Goose	<i>Chen caerulescens</i>
Ross' Goose	<i>Chen rossii</i>
Canada Goose	<i>Branta Canadensis</i>
Trumpeter Swan	<i>Cygnus buccinator</i>
Tundra Swan	<i>Cygnus columbianus</i>
Wood Duck	<i>Aix sponsa</i>
Gadwall	<i>Anas strepera</i>
American Wigeon	<i>Anas Americana</i>

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American Black Duck  
Mallard  
Mottled Duck  
Blue-winged Teal  
Northern Shoveler  
Northern Pintail  
Green-winged Teal  
Canvasback  
Redhead  
Ring-necked Duck  
Greater Scaup  
Lesser Scaup  
Oldsquaw (or Long-tailed Duck)  
Bufflehead  
Common Goldeneye  
Hooded Merganser  
Common Merganser  
Red-breasted Merganser  
Rudy Duck

*Anas rubripes*  
*Anas platyrhynchos*  
*Anas fulvigula*  
*Anas discors*  
*Anas clypeata*  
*Anas acuta*  
*Anas crecca*  
*Aythya valisineria*  
*Aythya americana*  
*Aythya collaris*  
*Aythya marila*  
*Aythya affinis*  
*Clangula hyemalis*  
*Bucephala albeola*  
*Bucephala clangula*  
*Lophodytes cucullatus*  
*Mergus merganser*  
*Mergus serrator*  
*Oxyura jamaicensis*

#### **Hawks and Falcons**

Osprey  
Swallow-tailed Kite  
Mississippi Kite  
Bald Eagle  
Northern Harrier  
Sharp-shinned Hawk  
Cooper's Hawk  
Northern Goshawk  
Red-shouldered Hawk  
Broad-winged Hawk  
Swainson's Hawk  
Red-tailed Hawk  
Rough-legged Hawk  
Golden Eagle  
American Kestrel  
Merlin  
Peregrine Falcon

*Pandion haliaetus*  
*Elanoides forficatus*  
*Ictinia mississippiensis*  
*Haliaeetus leucocephalus*  
*Circus cyaneus*  
*Accipiter striatus*  
*Accipiter cooperii*  
*Accipiter gentilis*  
*Buteo lineatus*  
*Buteo platypterus*  
*Buteo swainsoni*  
*Buteo jamaicensis*  
*Buteo lagopus*  
*Aquila chrysaetos*  
*Falco sparverius*  
*Falco columbarius*  
*Falco peregrinus*

#### **Turkey and Quail**

Eastern Wild Turkey  
Northern Bobwhite Quail

*Meleagris gallopova*  
*Colinus virginianus*

#### **Rails, Gallinules and Cranes**

Yellow Rail  
Black Rail  
King Rail  
Virginia Rail  
Sora  
Purple Gallinule  
Common Moorhen

*Coturnicops noveboracensis*  
*Laterallus jamaicensis*  
*Rallus elegans*  
*Rallus limicola*  
*Porzana Carolina*  
*Porphyryula martinica*  
*Gallinula chloropus*

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American Coot  
Sandhill Crane

*Fulica Americana*  
*Grus Canadensis*

**Plovers, Sandpipers, Gulls, and Terns**

Black-bellied Plover  
American (or Lesser) Golden-Plover  
Semipalmated Plover  
Piping Plover  
Killdeer  
Black-necked Stilt  
American Avocet  
Greater Yellowlegs  
Lesser Yellowlegs  
Solitary Sandpiper  
Willet  
Spotted Sandpiper  
Upland Sandpiper  
Sanderling  
Semipalmated Sandpiper  
Western Sandpiper  
Least Sandpiper  
Pectoral Sandpiper  
White-rumped Sandpiper  
Baird's Sandpiper  
Dunlin  
Stilt Sandpiper  
Short-billed Dowitcher  
Long-billed Dowitcher  
Common Snipe  
American Woodcock  
Wilson's Phalarope  
Laughing Gull  
Franklin's Gull  
Bonaparte's Gull  
Ring-billed Gull  
Herring Gull  
Glaucous Gull  
Caspian Tern  
Common Tern  
Forster's Tern  
Least Tern  
Black Tern

*Pluvialis squatarola*  
*Pluvialis dominica*  
*Charadrius semipalmatus*  
*Charadrius melodus*  
*Charadrius vociferous*  
*Himantopus mexicanus*  
*Recurvirostra Americana*  
*Tringa melanoleuca*  
*Tringa flavipes*  
*Tringa solitaria*  
*Catoptrophorus semipalmatus*  
*Actitis macularia*  
*Bartramia longicauda*  
*Calidris alba*  
*Calidris pusilla*  
*Calidris mauri*  
*Calidris minutilla*  
*Calidris melanotos*  
*Calidris fuscicollis*  
*Calidris bairdii*  
*Calidris alpine*  
*Calidris himantopus*  
*Limnodromus griseus*  
*Limnodromus scolopaceus*  
*Gallinago gallinago*  
*Scolopax minor*  
*Phalaropus tricolor*  
*Larus atricilla*  
*Larus pipixcan*  
*Larus Philadelphia*  
*Larus delawarensis*  
*Larus argentatus*  
*Larus hyperboreus*  
*Sterna caspia*  
*Sterna hirundo*  
*Sterna forsteri*  
*Sterna antillarum*  
*Chlidonias niger*

**Doves**

Rock Pigeon  
Eurasian Collared-dove  
Morning Dove  
Common Ground-dove

*Columbia livia*  
*Streptopelia decaocto*  
*Zenaida macroura*  
*Columbina passerina*

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**Cuckoos and Roadrunners**

Black-billed Cuckoo  
Yellow-billed Cuckoo  
Greater Roadrunner

*Coccyzus erythrophthalmus*  
*Coccyzus americanus*  
*Geococcyx californianus*

**Owls**

Barn Owl  
Eastern Screech-Owl  
Great Horned Owl  
Barred Owl  
Long-eared Owl  
Short-eared Owl

*Tyto alba*  
*Otus asio*  
*Bubo virginianus*  
*Strix varia*  
*Asio otus*  
*Asio flammeus*

**Goatsuckers**

Common Nighthawk  
Chuck-will's-widow  
Whip-poor-will

*Chordeiles minor*  
*Caprimulgus carolinensis*  
*Caprimulgus vociferus*

**Swifts and Hummingbirds**

Chimney Swift  
Ruby-throated Hummingbird

*Chaetura pelagica*  
*Archilochus colubris*

**Kingfishers**

Belted Kingfisher

*Ceryle alcyon*

**Woodpeckers**

Red-headed Woodpecker  
Red-bellied Woodpecker  
Yellow-bellied Sapsucker  
Downy Woodpecker  
Hairy Woodpecker  
Northern Flicker  
Pileated Woodpecker  
Ivory-billed Woodpecker

*Melanerpes erythrocephalus*  
*Melanerpes carolinus*  
*Sphyrapicus varius*  
*Picoides pubescens*  
*Picoides villosus*  
*Colaptes auratus*  
*Dryocopus pileatus*  
*Campephilus principalis*

**Flycatchers**

Olive-sided Flycatcher  
Eastern Wood-Pewee  
Yellow-bellied Flycatcher  
Acadian Flycatcher  
Alder Flycatcher  
Willow Flycatcher  
Least Flycatcher  
Eastern Phoebe  
Great Crested Flycatcher  
Eastern Kingbird  
Scissor-tailed Flycatcher

*Contopus borealis*  
*Contopus virens*  
*Empidonax flaviventris*  
*Empidonax virescens*  
*Empidonax alnorum*  
*Empidonax traillii*  
*Empidonax minimus*  
*Sayornis phoebe*  
*Myiarchus crinitus*  
*Tyrannus tyrannus*  
*Tyrannus forficatus*

**Shrikes**

Loggerhead Shrike

*Lanius ludovicianus*

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**Vireos**

White-eyed Vireo

Bell's Vireo

Solitary (or Blue-headed) Vireo

Yellow-throated Vireo

Warbling Vireo

Philadelphia Vireo

Red-eyed Vireo

*Vireo griseus**Vireo bellii**Vireo solitarius**Vireo flavifrons**Vireo galvus**Vireo philadelphicus**Vireo olivaceus***Jays and Crows**

Blue Jay

American Crow

Fish Crow

*Cyanocitta cristata**Corvus brachyrhynchos**Corvus ossifragus***Larks**

Horned Lark

*Eremophila alpestris***Swallows**

Purple Martin

Tree Swallow

Northern Rough-winged Swallow

Bank Swallow

Cliff Swallow

Barn Swallow

*Progne subis**Tachycineta bicolor**Stelgidopteryx serripennis**Riparia riparia**Hirundo pyrrhonota**Hirundo rustica***Chickadees and Titmice**

Carolina Chickadee

Tufted Titmouse

*Parus carolinensis**Parus bicolor***Nuthatches**

Red-breasted Nuthatch

White-breasted Nuthatch

*Sitta Canadensis**Sitta carolinensis***Creepers**

Brown Creeper

*Certhia Americana***Wrens**

Carolina Wren

Bewick's Wren

House Wren

Winter Wren

Sedge Wren

Marsh Wren

*Thryothorus ludovicianus**Thryomanes bewickii**Troglodytes aedon**Troglodytes troglodytes**Cistothorus platensis**Cistothorus palustris***Kinglets**

Golden-crowned Kinglet

Ruby-crowned Kinglet

*Regulus satrapa**Regulus calendula***Gnatcatchers**

Blue-gray Gnatcatcher

*Polioptila caerulea*

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**Thrushes**

Eastern Bluebird  
Veery  
Gray-cheeked Thrush  
Swainson's Thrush  
Hermit Thrush  
Wood Thrush  
American Robin

*Sialia sialis*  
*Catharus fuscescens*  
*Catharus minimus*  
*Catharus ustulatus*  
*Catharus guttatus*  
*Hylocichla mustelina*  
*Turdus migratorius*

**Mockingbirds, Thrashers and Allies**

Gray Catbird  
Northern Mockingbird  
Brown Thrasher

*Dumetella carolinensis*  
*Mimus polyglottos*  
*Toxostoma rufum*

**Starlings**

European Starling

*Sturnus vulgaris*

**Pipits**

American (or Water) Pipit  
Sprague's Pipit

*Anthus spinoletta*  
*Anthus spragueii*

**Waxwing**

Cedar Waxwing

*Bombycilla cedrorum*

**Wood Warblers**

Blue-winged Warbler  
Golden-winged Warbler  
Tennessee Warbler  
Orange-crowned Warbler  
Nashville Warbler  
Northern Parula  
Yellow Warbler  
Chestnut-sided Warbler  
Magnolia Warbler  
Cape May Warbler  
Black-throated Blue Warbler  
Yellow-rumped Warbler  
Black-throated Green Warbler  
Blackburnian Warbler  
Yellow-throated Warbler  
Pine Warbler  
Prairie Warbler  
Palm Warbler  
Bay-breasted Warbler  
Blackpoll Warbler  
Cerulean Warbler  
Black-and-White Warbler  
American Redstart  
Prothonotary Warbler  
Worm-eating Warbler

*Vermivora pinus*  
*Vermivora chrysoptera*  
*Vermivora peregrina*  
*Vermivora celata*  
*Vermivora ruficapilla*  
*Parula americana*  
*Dendroica petechia*  
*Dendroica pensylvanica*  
*Dendroica magnolia*  
*Dendroica tigrina*  
*Dendroica caerulescens*  
*Dendroica coronata*  
*Dendroica virens*  
*Dendroica fusca*  
*Dendroica dominica*  
*Dendroica pinus*  
*Dendroica discolor*  
*Dendroica palmarum*  
*Dendroica castanea*  
*Dendroica striata*  
*Dendroica cerulean*  
*Mniotilta varia*  
*Setophaga ruticilla*  
*Protonotaria citrea*  
*Helminthos vermivorus*

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Swainson's Warbler  
Ovenbird  
Northern Waterthrush  
Louisiana Waterthrush  
Kentucky Warbler  
Connecticut Warbler  
Mourning Warbler  
Common Yellowthroat  
Hooded Warbler  
Wilson's Warbler  
Canada Warbler  
Yellow-breasted Chat

*Limnothlypis swainsonii*  
*Seiurus aurocapillus*  
*Seiurus noveboracensis*  
*Seiurus motacilla*  
*Oporornis formosus*  
*Oporornis agilis*  
*Oporornis Philadelphia*  
*Geothlypis trichas*  
*Wilsonia citrine*  
*Wilsonia pusilla*  
*Wilsonia Canadensis*  
*Icteria virens*

### **Tanagers**

Summer Tanager  
Scarlet Tanager

*Piranga rubra*  
*Piranga olivacea*

### **New World Sparrows**

Eastern (or Rufous-sided) Towhee  
American Tree Sparrow  
Chipping Sparrow  
Clay-colored Sparrow  
Field Sparrow  
Vesper Sparrow  
Lark Sparrow  
Savannah Sparrow  
Grasshopper Sparrow  
Henslow's Sparrow  
Le Conte's Sparrow  
Nelson's Sharp-tailed Sparrow  
Fox Sparrow  
Song Sparrow  
Lincoln's Sparrow  
Swamp Sparrow  
White-throated Sparrow  
White-crowned Sparrow  
Dark-eyed Junco  
Lapland Longspur  
Smith's Longspur

*Pipilo erythrophthalmus*  
*Spizella arborea*  
*Spizella passerine*  
*Spizella pallida*  
*Spizella pusilla*  
*Pooecetes gramineus*  
*Chondestes grammacus*  
*Passerculus sandwichensis*  
*Ammodramus savannarum*  
*Ammodramus henslowii*  
*Ammodramus leconteii*  
*Ammodramus caudacutus*  
*Passerella iliaca*  
*Melospiza melodia*  
*Melospiza lincolni*  
*Melospiza Georgiana*  
*Zonotrichia albicollis*  
*Zonotrichia leucophrys*  
*Junco hyemalis*  
*Calcarius lapponicus*  
*Calcarius pictus*

### **Cardinals, Grosbeaks and Allies**

Northern Cardinal  
Rose-breasted Grosbeak  
Blue Grosbeak  
Indigo Bunting  
Painted Bunting  
Dickcissel

*Cardinalis cardinalis*  
*Pheucticus ludovicianus*  
*Guiraca caerulea*  
*Passerina cyanea*  
*Passerina ciris*  
*Spiza americana*

### **Blackbirds and Allies**

Bobolink  
Red-winged Blackbird

*Dolichonyx oryzivorus*  
*Agelaius phoeniceus*

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Eastern Meadowlark  
Western Meadowlark  
Yellow-headed Blackbird  
Rusty Blackbird  
Brewer's Blackbird  
Common Grackle  
Brown-headed Cowbird  
Orchard Oriole  
Baltimore (or Northern) Oriole

*Sturnella magna*  
*Sturnella neglecta*  
*Xanthocephalus xanthocephalus*  
*Euphagus carolinus*  
*Euphagus cyanocephalus*  
*Quiscalus quiscula*  
*Molothrus ater*  
*Icterus spurius*  
*Icterus galbula*

**Finches**

Purple Finch  
House Finch  
Pine Siskin  
American Goldfinch  
Evening Grosbeak

*Carpodacus purpureus*  
*Carpodacus mexicanus*  
*Carduelis pinus*  
*Carduelis tristis*  
*Coccothraustes vespertinus*

**Old World Sparrows**

House Sparrow

*Passer domesticus*

**MAMMALS** – known to or likely to occur within Central Arkansas NWR Complex.

**Didelphidae**

Virginia opossum

*Didelphus virginiana*

**Soricidae**

Southeastern shrew  
Southern short-tailed shrew  
Least shrew

*Sorex longirostris*  
*Blarina carolinensis*  
*Cryptotis parva*

**Talpidae**

Eastern mole

*Scalopus aquaticus*

**Vespertilionidae**

Little brown bat  
Southeastern bat  
Gray bat  
Indiana bat  
Silver-haired bat  
Eastern pipistrelle  
Big brown bat  
Red bat  
Seminole bat  
Hoary bat  
Evening bat  
Rafinesque's big-eared bat

*Myotis lucifugus*  
*Myotis austroriparius*  
*Myotis grisescens*  
*Myotis sodalis*  
*Lasioncyteris noctivagans*  
*Pipistrellus subflavus*  
*Eptesicus fuscus*  
*Lasiurus borealis*  
*Lasiurus seminolus*  
*Lasiurus cinereus*  
*Nycticeius humeralis*  
*Plecotus rafinesquii*

**Dasypodidae**

Nine-banded armadillo

*Dasypus novemcinctus*

**Leporidae**

Eastern cottontail  
Swamp rabbit

*Sylvilagus floridanus*  
*Sylvilagus aquaticus*

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**Sciuridae**

Eastern chipmunk  
Woodchuck  
Gray squirrel  
Fox squirrel  
Southern flying squirrel

*Tamias striatus*  
*Marmota monax*  
*Sciurus carolinensis*  
*Sciurus niger*  
*Glaucomys volans*

**Geomyidae**

Baird's pocket gopher

*Geomys breviceps*

**Castoridae**

Beaver

*Castor canadensis*

**Muridae**

Marsh rice rat  
Eastern harvest mouse  
Fulvous harvest mouse  
Deer mouse  
White-footed mouse  
Cotton mouse  
Golden mouse  
Hispid cotton rat  
Eastern woodrat  
Prairie vole  
Woodland vole  
Muskrat  
Southern bog lemming  
Black rat  
House mouse  
Norway rat

*Oryzomys palustris*  
*Reithrodontomys humulis*  
*Reithrodontomys fulvescens*  
*Peromyscus maniculatus*  
*Peromyscus leucopus*  
*Peromyscus gossypinus*  
*Ochrotomys nuttalli*  
*Sigmodon hispidus*  
*Neotoma floridana*  
*Microtus ochrogaster*  
*Microtus pinetorum*  
*Ondatra zibethicus*  
*Synaptomys cooperi*  
*Rattus rattus*  
*Mus musculus*  
*Rattus norvegicus*

**Capromyidae**

Nutria

*Myocastor coypus*

**Canidae**

Coyote  
Red fox  
Gray fox

*Canis latrans*  
*Vulpes vulpes*  
*Urocyon cinereoargenteus*

**Ursidae**

Black bear

*Ursus americanus*

**Procyonidae**

Raccoon

*Procyon lotor*

**Mustelidae**

Long-tailed weasel  
Mink  
Eastern spotted skunk  
Striped skunk  
River otter

*Mustela frenata*  
*Mustela vison*  
*Spilogale putorius*  
*Mephitis mephitis*  
*Lutra canadensis*

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**Felidae**

Bobcat

*Felis rufus***Suidae**

Feral hog

*Sus scrofa***Cervidae**

White-tailed deer

*Odocoileus virginianus*

**AMPHIBIANS & REPTILES** – known to or likely to occur within Central Arkansas NWR Complex.

**AMPHIBIANS****Ambystomatidae**

Spotted salamander

*Ambystoma maculatum*

Marbled salamander

*Ambystoma opacum*

Mole salamander

*Ambystoma talpoideum*

Small-mouthed salamander

*Ambystoma texanum***Amphiumidae**

Three-toed amphiuma

*Amphiuma tridactylum***Plethodontidae**

Western slimy salamander

*Plethodon albagula*

Ozark zigzag salamander

*Plethodon angusticlavus***Proteidae**

Louisiana waterdog

*Necturus maculosus louisianensis*

Red River waterdog

*Necturus maculosus***Salamandridae**

Central newt

*Notophthalmus viridescens louisianensis***Sirenidae**

Western lesser siren

*Siren intermedia nettingi***Bufo**

Dwarf American toad

*Bufo americanus charlesmithi*

Fowler's toad

*Bufo fowleri***Hylidae**

Blanchard's cricket frog

*Acris crepitans blanchardi*

Northern cricket frog

*Acris crepitans crepitans*

Bird-voiced treefrog

*Hyla avivoca*

Gray treefrog

*Hyla chrysoscelis* or *Hyla versicolor*

Green treefrog

*Hyla cinerea*

Northern spring peeper

*Pseudacris crucifer crucifer*

Upland chorus frog

*Pseudacris triseriata feriarum*

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**Microhylidae**

Eastern narrow-mouthed toad

*Gastrophryne carolinensis***Pelobatidae**

Eastern spadefoot

*Scaphiopus holbrookii***Ranidae**

Northern crawfish frog

American bullfrog

Bronze frog

Pickerel frog

Southern leopard frog

Gopher frog

*Rana areolata circulosa**Rana catesbeiana**Rana clamitans clamitans**Rana palustris**Rana sphenocephala**Rana capito***REPTILES****Alligatoridae**

American alligator

*Alligator mississippiensis***Chelydridae**

Common snapping turtle

Alligator snapping turtle

*Chelydra serpentina serpentina**Macrochelys temmincki***Emydidae**

Southern painted turtle

Western chicken turtle

Common map turtle

Ouachita map turtle

Mississippi map turtle

Eastern river cooter

Three-toed box turtle

Ornate box turtle

Red-eared slider

*Chrysemys picta dorsalis**Deirochelys reticularia miaria**Graptemys geographica**Graptemys ouachitensis ouachitensis**Graptemys pseudogeographica kohnii**Pseudemys concinna**Terrapene carolina triunguis**Terrapene ornata ornata**Trachemys scripta elegans***Kinosternidae**

Mississippi mud turtle

Razor-backed musk turtle

Stinkpot

*Kinosternon subrubrum hippocrepis**Sternotherus carinatus**Sternotherus odoratus***Trionychidae**

Midland smooth softshell

Spiny softshell

*Apalone mutica mutica**Apalone spiniferus***Anguidae**

Western slender glass lizard

*Ophisaurus attenuatus attenuatus*

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**Phrynosomatidae**

Northern fence lizard

*Sceloporus undulates hyacinthinus***Polychrotidae**

Northern green anole

*Anolis carolinensis carolinensis***Scincidae**

Southern coal skink

*Eumeces anthracinus pluvialis*

Five-lined skink

*Eumeces fasciatus*

Broadhead skink

*Eumeces laticeps*

Ground skink

*Scincella lateralis***Teiidae**

Prairie racerunner

*Cnemidophorus sexlineatus viridis*

Six-lined racerunner

*Cnemidophorus sexlineatus sexlineatu***Colubridae**

Northern scarlet snake

*Cemophora coccinea copei*

Eastern racer

*Coluber constrictor*

Western rat snake

*Elaphe obsoleta*

Prairie kingsnake

*Lampropeltis calligaster calligaster*

Speckled kingsnake

*Lampropeltis getulus holbrooki*

Red milk snake

*Lampropeltis triangulum sypila*

Rough green snake

*Opheodrys aestivus*

Mississippi green water snake

*Nerodia cyclopion cyclopion*

Yellowbelly water snake

*Nerodia erythrogaster flavigaster*

Broad-banded water snake

*Nerodia fasciata confluens*

Diamondback water snake

*Nerodia rhombifer rhombifer*

Midland water snake

*Nerodia sipedon pleuralis*

Graham's crayfish snake

*Regina grahamii*

Midland brown snake

*Storeria dekayi wrightorum*

Northern redbelly snake

*Storeria occipitomaculata occipitomaclu*

Western ribbon snake

*Thamnophis proximus proximus*

Eastern garter snake

*Thamnophis sirtalis sirtalis*

Rough earth snake

*Virginia striatula*

Western smooth snake

*Virginia valeriae elegans*

Western worm snake

*Carphophis vermis*

Midwest worm snake

*Carphophis amoenus*

Mississippi ringneck snake

*Diadophis punctatus stictogenys*

Western mud snake

*Farancia abacura reinwardti*

Eastern hognose snake

*Heterodon platyrhinos*

Flathead snake

*Tantilla gracilis***Viperidae**

Southern copperhead

*Agkistrodon contortrix contortrix*

Western cottonmouth

*Agkistrodon piscivorus leucostoma*

Canebrake rattlesnake

*Crotalus horridus atricaudatus*

Western pygmy rattlesnake

*Sistrurus miliarius streckeri*

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**FISHES** – known to or likely to occur within Central Arkansas NWR Complex.

**Petromyzontidae**

Chestnut lamprey *Ichthyomyzon castaneus*  
American brook lamprey *Lampetra appendix*

**Acipenseridae**

Shovelnose sturgeon *Scaphirhynchus platyrhynchus*

**Polyodontidae**

Paddlefish *Polyodon spathula*

**Lepisosteidae**

Spotted gar *Lepisosteus oculatus*  
Longnose gar *Lepisosteus osseus*  
Shortnose gar *Lepisosteus platostomus*  
Alligator gar *Atractosteus spatula*

**Amiidae**

Bowfin *Amia calva*

**Anguillidae**

American eel *Anguilla rostrata*

**Clupeidae**

Skipjack herring *Alosa chrysochloris*  
Gizzard shad *Dorosoma cepedianum*  
Threadfin shad *Dorosoma petenense*

**Hiodontidae**

Goldeneye *Hiodon alosoides*  
Mooneye *Hiodon tergisus*

**Esocidae**

Grass pickerel *Esox americanus*  
Chain pickerel *Esox niger*

**Cyprinidae**

Common carp *Cyprinus carpio*  
Grass carp *Ctenopharyngodon idella*  
Silver carp *Hypophthalmichthys molitrix*  
Bighead carp *Hypophthalmichthys nobilis*  
Mississippi silvery minnow *Hybognathus nuchalis*  
Speckled chub *Macrhybopsis aestivalis*  
Silver chub *Macrhybopsis storeriana*  
Pallid shiner *Hybopsis amnis*  
Golden shiner *Notemigonus crysoleucas*  
Emerald shiner *Notropis atherinoides*  
Ghost shiner *Notropis buchanani*  
Taillight shiner *Notropis maculatus*  
Weed shiner *Notropis texanus*  
Ironcolor shiner *Notropis chalybaeus*

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Mimic shiner  
Sabine shiner  
Pugnose minnow  
Ribbon shiner  
Redfin shiner  
Blacktail shiner  
Bullhead minnow  
Bluntnose minnow

*Notropis volucellus*  
*Notropis sabiniae*  
*Opsopoeodus emiliae*  
*Lythrurus fumeus*  
*Lythrurus umbratilis*  
*Cyprinella venusta*  
*Pimephales vigilax*  
*Pimephales notatus*

#### **Catostomidae**

Blue sucker  
River carpsucker  
Quillback  
Highfin carpsucker  
Smallmouth buffalo  
Black buffalo  
Bigmouth buffalo  
Spotted sucker  
Shorthead redhorse  
Golden redhorse  
Lake chubsucker

*Cycleptus elongatus*  
*Carpionodes carpio*  
*Carpionodes cyprinus*  
*Carpionodes velifer*  
*Ictiobus bubalus*  
*Ictiobus niger*  
*Ictiobus cyprinellus*  
*Minytrema melanops*  
*Moxostoma macrolepidotum*  
*Moxostoma erythrurum*  
*Erimyzon sucetta*

#### **Ictaluridae**

Blue catfish  
Channel catfish  
Black bullhead  
Yellow bullhead  
Tadpole madtom  
Freckled madtom  
Flathead catfish

*Ictalurus furcatus*  
*Ictalurus punctatus*  
*Ameiurus melas*  
*Ameiurus natalis*  
*Noturus gyrinus*  
*Noturus nocturnus*  
*Pylodictis olivaris*

#### **Aphredoderidae**

Pirate perch

*Aphredoderus sayanus*

#### **Fundulidae**

Golden topminnow  
Blackstripe topminnow  
Blackspotted topminnow  
Starhead topminnow

*Fundulus chrysotus*  
*Fundulus notatus*  
*Fundulus olivaceus*  
*Fundulus dispar*

#### **Poeciliidae**

Mosquitofish

*Gambusia affinis*

#### **Atherinidae**

Brook silverside  
Inland silverside

*Labidesthes sicculus*  
*Menidia beryllina*

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**Moronidae**

White bass  
Yellow bass  
Striped bass

*Morone chrysops*  
*Morone mississippiensis*  
*Morone saxatilis*

**Centrarchidae**

Flier  
Green sunfish  
Warmouth  
Orangespotted sunfish  
Bluegill  
Redear sunfish  
Longear sunfish  
Dollar sunfish  
Spotted sunfish  
Bantam sunfish  
Largemouth bass  
Spotted bass  
White crappie  
Black crappie

*Centrarchus macropterus*  
*Lepomis cyanellus*  
*Lepomis gulosus*  
*Lepomis humilis*  
*Lepomis macrochirus*  
*Lepomis microlophus*  
*Lepomis megalotis*  
*Lepomis marginatus*  
*Lepomis punctatus*  
*Lepomis symmetricus*  
*Micropterus salmoides*  
*Micropterus punctulatus*  
*Pomoxis annularis*  
*Pomoxis nigromaculatus*

**Elassomatidae**

Banded pygmy sunfish

*Elassoma zonatum*

**Percidae**

Crystal darter  
Scaly sand darter  
Western sand darter  
Mud darter  
Bluntnose darter  
Slough darter  
Cypress darter  
Swamp darter  
Harlequin darter  
Goldstripe darter  
Speckled darter  
Logperch  
Blackside darter  
Dusky darter  
River darter  
Stargazing darter  
Sauger  
Walleye

*Crystallaria asprella*  
*Ammocrypta vivax*  
*Ammocrypta clara*  
*Etheostoma asprigene*  
*Etheostoma chlorosomum*  
*Etheostoma gracile*  
*Etheostoma proeliare*  
*Etheostoma fusiforme*  
*Etheostoma histrio*  
*Etheostoma parvipinne*  
*Etheostoma stigmaeum*  
*Percina caprodes*  
*Percina maculate*  
*Percina sciera*  
*Percina shumardi*  
*Percina uranidea*  
*Sander canadense*  
*Sander vitreus*

**Sciaenidae**

Freshwater drum

*Aplodinotus grunniens*

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**MUSSEL SPECIES** – known to occur or likely to occur within Central Arkansas NWR

Complex

**Unionidae**

Bankclimber	<i>Plectomerus dombeyanus</i>
Fluted shell	<i>Lasmigona costata</i>
Mapleleaf	<i>Quadrula quadrula</i>
Monkeyface	<i>Quadrula metanevra</i>
Pimpleback	<i>Quadrula pustulosa</i>
Rabbitsfoot	<i>Quadrula cylindrica</i>
Southern mapleleaf	<i>Quadrula apiculata</i>
Wartyback	<i>Quadrula nodulata</i>
Pistolgrip	<i>Tritogonia verrucosa</i>
Purple wartyback	<i>Cyclonaias tuberculata</i>
Rock pocketbook	<i>Arcidens confragosus</i>
Threehorn wartyback	<i>Obliquaria reflexa</i>
Threeridge	<i>Amblema plicata</i>
Washboard	<i>Megalonaias nervosa</i>
Western fanshell	<i>Cyprogenia aberti</i>
Black sandshell	<i>Ligumia recta</i>
Scaleshell	<i>Leptodea leptodon</i>
Fragile papershell	<i>Leptodea fragilis</i>
Giant floater	<i>Pyganodon grandis</i>
Spike	<i>Elliptio dilatata</i>
Louisiana fatmucket	<i>Lampsilis hydiana</i>
Pink mucket	<i>Lampsilis abrupta</i>
Yellow sandshell	<i>Lampsilis teres</i>
Plain pocketbook	<i>Lampsilis cardium</i>
Butterfly	<i>Ellipsaria lineolata</i>
Deertoe	<i>Truncilla truncata</i>
Ebonysell	<i>Fusconaia ebena</i>
Wabash pigtoe	<i>Fusconaia flava</i>
Fawnsfoot	<i>Truncilla donaciformis</i>
Flat floater	<i>Anodonta suborbiculata</i>
Hickorynut	<i>Obovaria olivaria</i>
Mucket	<i>Actinonaias ligamentina</i>
Fat pocketbook	<i>Potamilus capax</i>
Pink papershell	<i>Potamilus ohioensis</i>
Bleufer	<i>Potamilus purpuratus</i>
Pyramid pigtoe	<i>Pleurobema rubrum</i>
White heelsplitter	<i>Lasmigona complanata</i>
Creeper	<i>Strophitus undulatus</i>
Paper pondshell	<i>Utterbackia imbecillis</i>
Pondhorn	<i>Uniomerus tetralasmus</i>
Tapered pondhorn	<i>Uniomerus declivis</i>
Lilliput	<i>Toxolasma parvus</i>
Little spectaclecase	<i>Villosa lienosa</i>
Round pigtoe	<i>Pleurobema sintoxia</i>
Texas lilliput	<i>Toxolasma texasensis</i>
Asian clam	<i>Corbicula fluminea</i>
Zebra mussel	<i>Dreissena polymorpha</i>

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**VEGETATIVE SPECIES** – known to or likely to occur within Central Arkansas NWR Complex; this is not a complete inventory.

**Trees**

Box Elder	<i>Acer negundo</i>
Red Maple	<i>Acer rubrum</i>
Silver Maple	<i>Acer saccharinum</i>
Mimosa	<i>Albizia julibrissin</i>
River Birch	<i>Betula nigra</i>
Bitter Pecan	<i>Carya aquatica</i>
Water Hickory	<i>Carya cordiformis</i>
Pignut Hickory	<i>Carya glabra</i>
Native Sweet Pecan	<i>Carya illinoensis</i>
Shellbark Hickory	<i>Carya laciniata</i>
Shagbark Hickory	<i>Carya ovata</i>
Mockernut Hickory	<i>Carya tomentosa</i>
Southern Catalpa	<i>Catalpa bignonioides</i>
Sugarberry	<i>Celtis laevigata</i>
Hackberry	<i>Celtis occidentalis</i>
Redbud	<i>Cercis canadensis</i>
Persimmon	<i>Diospyros virginiana</i>
White Ash	<i>Fraxinus americana</i>
Green Ash	<i>Fraxinus pennsylvanica</i>
Pumpkin Ash	<i>Fraxinus tomentosa</i>
Water Locust	<i>Gleditsia aquatica</i>
Honey Locust	<i>Gleditsia triacanthos</i>
Kentucky Coffeetree	<i>Gymnocladus dioica</i>
American Holly	<i>Ilex opaca</i>
Butternut	<i>Juglans cinerea</i>
Black Walnut	<i>Juglans nigra</i>
Eastern Redcedar	<i>Juniperus virginiana</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Osage Orange	<i>Maclura pomifera</i>
Chinaberry	<i>Melia azedarach</i>
White Mulberry	<i>Morus alba</i>
Red Mulberry	<i>Morus rubra</i>
Water Tupelo	<i>Nyssa aquatica</i>
Swamp Tupelo	<i>Nyssa biflora</i>
Black Gum	<i>Nyssa sylvatica</i>
Paulownia	<i>Paulownia tomentosa</i>
Loblolly Pine	<i>Pinus taeda</i>
Sycamore	<i>Platanus occidentalis</i>
White Poplar	<i>Populus alba</i>
Cottonwood	<i>Populus deltoides</i>
Swamp Cottonwood	<i>Populus heterophylla</i>
Black Cherry	<i>Prunus serotina</i>
Sawtooth Oak	<i>Quercus acutissima</i>
White Oak	<i>Quercus alba</i>
Southern Red Oak	<i>Quercus falcata</i>
Cherrybark Oak	<i>Quercus falcata pagodifolia</i>

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Overcup Oak	<i>Quercus lyrata</i>
Bur Oak	<i>Quercus macrocarpa</i>
Black Jack Oak	<i>Quercus marilandica</i>
Swamp Chestnut Oak	<i>Quercus michauxii</i>
Water Oak	<i>Quercus nigra</i>
Nuttall Oak	<i>Quercus nuttallii</i>
Diamond-leaf Oak	<i>Quercus obtusa</i>
Pin Oak	<i>Quercus palustris</i>
Willow Oak	<i>Quercus phellos</i>
Northern Red Oak	<i>Quercus rubra</i>
Shumard Oak	<i>Quercus shumardii</i>
Durand Oak	<i>Quercus sinuata</i>
Bottomland Post Oak	<i>Quercus stellata paludosa</i>
Upland Post Oak	<i>Quercus stellata stellata</i>
Black Oak	<i>Quercus velutina</i>
Black Locust	<i>Robinia pseudoacacia</i>
Black Willow	<i>Salix nigra</i>
Sassafras	<i>Sassafras albidum</i>
Baldcypress	<i>Taxodium distichum</i>
Winged Elm	<i>Ulmus alata</i>
American Elm	<i>Ulmus americana</i>
Cedar Elm	<i>Ulmus crassifolia</i>
Red Elm	<i>Ulmus rubra</i>

**Shrubs**

Red Buckeye	<i>Aesculus pavia</i>
Serviceberry	<i>Amelanchier arborea</i>
False Indigo	<i>Amorpha fruticosa</i>
Devil's Walking Stick	<i>Aralia spinosa</i>
Giant Cane or Switchcane	<i>Arundinaria gigantea</i>
Paw Paw	<i>Asimina triloba</i>
Baccharis or Groundsel-tree	<i>Baccharis halimifolia</i>
Paper Mulberry	<i>Broussonetia papyrifera</i>
Gum Bumelia	<i>Bumelia lanuginosa</i>
American Beauty Berry	<i>Callicarpa americana</i>
Blue Beech or American Hornbeam	<i>Carpinus caroliniana</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Rough-leaf Dogwood	<i>Cornus drummondii</i>
Flowering Dogwood	<i>Cornus florida</i>
Swamp Dogwood	<i>Cornus foemina</i>
Mayhaw	<i>Crataegus aestivalis</i>
Parsley Hawthorne	<i>Crataegus marshallii</i>
Dotted Hawthorne	<i>Crataegus punctata</i>
Green Hawthorne	<i>Crataegus viridis</i>
American Euonymus	<i>Euonymus americanus</i>
Swamp Privet	<i>Foresteria accumunata</i>
St. John's-wort	<i>Hypericum spp.</i>
Deciduous Holly or Possum Haw	<i>Ilex decidua</i>
Virginia Willow	<i>Itea virginica</i>
Florida Corkwood	<i>Leitneria floridana</i>
Lespedeza	<i>Lespedeza bicolor</i>

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Common Privet  
Spice Bush  
Pondberry  
Iron Wood or Eastern Hophornbeam  
Water Elm  
Plum  
Crab Apple  
Carolina Buckthorn  
Winged Sumac  
Smooth Sumac  
Multiflora Rose  
Swamp Rose  
Blackberry  
Dewberry  
Trailing Blackberry  
Common Elderberry  
Snow-bell  
Sparkleberry  
Rusty Blackhaw  
Arkansas Yucca

#### **Herbaceous Plants**

Yarrow  
Ragweed  
Green Dragon  
Aster  
Nettle  
Sunflower Family  
Horseweed  
Wild Carrot  
Fern  
Bedstraw  
Hibiscus  
Penny-wort  
Spider Lily  
Jewel Weed  
Duckweed  
Pepper Weed  
Creeping Lady's Sorrel  
Arrow Arum  
Pokeweed  
Smartweed  
May Apple  
Buttercup  
Curly Dock  
Swamp Dock  
Lizard Tail  
Horse Nettle  
Goldenrod  
Goat's Beard  
Venus' Looking Glass

*Ligustrum volgare*  
*Lindera benzoin*  
*Lindera melissifolia*  
*Ostrya virginiana*  
*Planera aquatica*  
*Prunus* spp.  
*Pyrus calleryana*  
*Rhamnus caroliniana*  
*Rhus copallina*  
*Rhus glabra*  
*Rosa multiflora*  
*Rosa palustris*  
*Rubus* spp.  
*Rubus flagellaris*  
*Rubus trivialis*  
*Sambucus canadensis*  
*Styrax americana*  
*Vaccinium arboretum*  
*Viburnum rufidulum*  
*Yucca arkansana*

*Achillea millefolium*  
*Ambrosia* spp.  
*Arisaema dracontium*  
Asteraceae spp.  
*Boehmeria cylindrica*  
Compositae  
*Conyza* spp.  
*Daucus carota*  
Polypodiaceae  
*Galium* spp.  
*Hibiscus* spp.  
*Hydrocotyle umbellate*  
*Hymenocallis* spp.  
*Impatiens* spp.  
*Lemna* spp.  
*Lepidium* spp.  
*Oxalis corniculata*  
*Peltandra virginica*  
*Phytolacca americana*  
*Polygonum* spp.  
*Podophyllum peltatum*  
*Ranunculus* spp.  
*Rumex crispus*  
*Rumex verticillatus*  
*Saururus cernuus*  
*Solanum carolinense*  
*Solidago* spp.  
*Tragopogon dubius*  
*Triodanis perfoliata*

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Cattail	<i>Typha</i> spp.
Smooth Vetch	<i>Vicia dasycarpa</i>
Violet	<i>Viola</i> spp.
Common Vetch	<i>Vicia sativa</i>
Prickly Pear	<i>Opuntia</i> spp.
Grasses	Various spp.
Mosses	Various spp.
Rushes	Various spp.
Sedges	Various spp.
<b>Vines</b>	
Hog Peanut	<i>Amphicarpaea bracteata</i>
Peppervine	<i>Ampleopsis arborea</i>
Supple-jack	<i>Berchemia scandens</i>
Crossvine	<i>Bignonia capreolata</i>
Redvine	<i>Brunnichia cirrhosa</i>
Cupseed	<i>Calycocarpum lyonii</i>
Trumpet Creeper	<i>Campsis radicans</i>
Carolina Moonseed	<i>Cocculus caroliniana</i>
Morning Glory	Convolvulaceae
Japanese Honeysuckle	<i>Lonicera japonica</i>
Trumpet Honeysuckle	<i>Lonicera sempervirens</i>
Climbing Hempweed	<i>Mikania scandens</i>
Virginia Creeper	<i>Parthenocissus quinquefolia</i>
Passion Flower	<i>Passiflora incarnate</i>
Kudzu	<i>Pueraria lobata</i>
Greenbrier	<i>Smilax</i> spp.
Poison-ivy	<i>Toxicodendron radicans</i>
Climbing Dogbane	<i>Trachelospermum difforme</i>
Muscadine	<i>Vitis rotundifolia</i>
Grape	<i>Vitis</i> spp.
Wisteria	<i>Wisteria sinensis</i>

## Appendix H. Birds of Conservation Concern for BCR 26 Occurring on Central Arkansas NWR Complex.

<b>American Bittern (nb)</b>	BK	BL	CR	W
<b>Least Bittern</b>	BK	BL	CR*	W
<b>Swallow-tailed Kite</b>			CR*	W
<b>Bald Eagle (b)</b>	BK	BL	CR	W
<b>Peregrine Falcon (b)</b>	BK	BL	CR*	W
<b>Yellow Rail (nb)</b>	BK		CR*	
<b>Black Rail</b>			CR*	
<b>Solitary Sandpiper (nb)</b>	BK	BL	CR	W
<b>Hudsonian Godwit (nb)</b>	BK			
<b>Marbled Godwit (nb)</b>	BK			
<b>Buff-breasted Sandpiper (nb)</b>	BK			
<b>Short-billed Dowitcher (nb)</b>	BK		CR*	W
<b>Short-eared Owl (nb)</b>	BK		CR*	W
<b>Red-headed Woodpecker</b>	BK	BL	CR	W
<b>Sedge Wren (nb)</b>	BK		CR	W
<b>Wood Thrush</b>	BK	BL	CR	W
<b>Cerulean Warbler</b>	BK	BL	CR	W
<b>Prothonotary Warbler</b>	BK	BL	CR	W
<b>Swainson's Warbler</b>	BK	BL	CR	W
<b>Kentucky Warbler</b>	BK	BL	CR	W
<b>Henslow's Sparrow (nb)</b>	BK	BL		W
<b>LeConte's Sparrow (nb)</b>	BK	BL	CR	W
<b>Painted Bunting</b>	BK		CR*	W
<b>Dickcissel</b>	BK	BL	CR	W
<b>Rusty Blackbird (nb)</b>	BK	BL	CR	W
<b>Orchard Oriole</b>	BK		CR	W

NOTE: \* = Non-verified occurrences on Refuge, but has potential.

BK = Bald Knob NWR

BL = Big Lake NWR

CR = Cache River NWR

W = Wapanocca NWR



## Appendix I. Budget Requests

### REFUGE OPERATING NEEDS SYSTEM (RONS)

<b>FY08-3367</b>	Provide Biological Technician	\$ 77,321	Bald Knob
<b>FY08-3373</b>	Provide Laborer Position	\$ 56,610	Bald Knob
<b>FY08-3378</b>	Provide Equipment Operator Position	\$ 77,650	Bald Knob
<b>FY08-3385</b>	Provide Supervisory Wildlife Specialist	\$114,439	Bald Knob
	Provide Park Ranger (Visitor Services)	\$ 94,588	Bald Knob
<b>FY08-3156</b>	Provide Law Enforcement Officer	\$ 97,292	Big Lake
<b>FY08-3179</b>	Provide Biological Technician	\$ 77,321	Big Lake
<b>FY08-3197</b>	Provide Hydrologist	\$114,439	Big Lake
<b>FY08-3293</b>	Provide Laborer	\$ 55,800	Big Lake
<b>FY08-3316</b>	Restore Ecosystem Health & Natural Hydrology	\$240,000	Big Lake
<b>FY08-3329</b>	Improve Educational & Interpretative Material to Connect People to Nature	\$150,000	Big Lake
<b>FY08-3341</b>	Reduce Invading American Lotus to less than 30% of Open Water Areas	\$ 65,000	Big Lake
<b>FY08-3353</b>	Enhance Seasonal Water Level Management	\$250,000	Big Lake
<b>FY08-1938</b>	Provide Park Ranger (Visitor Services)	\$114,439	Cache River
<b>FY08-1963</b>	Provide Refuge Ecologist	\$114,439	Cache River
<b>FY08-2595</b>	Provide Biological Technician	\$ 77,321	Cache River
<b>FY08-3085</b>	Provide Forestry Technician	\$ 77,321	Cache River
<b>FY08-3089</b>	Provide Equipment Operator	\$ 77,650	Cache River
	Provide Laborer	\$ 55,800	Cache River
<b>FY08-3091</b>	Provide Assistant Forester	\$114,439	Cache River
<b>FY08-3101</b>	Provide Realty Specialist	\$137,165	Cache River
<b>FY08-3210</b>	Provide Facilities Operations Specialist	\$114,439	Cache River
<b>FY08-3238</b>	Provide Office Assistant	\$ 69,584	Cache River
<b>FY08-3395</b>	Provide Park Ranger (Law Enforcement)	\$ 97,292	Cache River
<b>FY08-3875</b>	Provide Supervisory Wildlife Specialist	\$114,439	Cache River
<b>FY08-4220</b>	Cache River NWR Stream Restoration	\$170,640	Cache River
<b>FY08-4234</b>	Howell Tract Impoundment Restoration	\$ 42,956	Cache River
<b>FY08-4241</b>	Plunkett Farm Waterfowl Sanctuary Enhancement	\$ 50,800	Cache River
<b>FY08-3117</b>	Provide Park Ranger (Visitor Services)	\$ 94,588	Wapanocca
<b>FY08-3140</b>	Provide Biological Technician	\$ 77,321	Wapanocca
<b>FY08-3167</b>	Provide Equipment Operator	\$ 77,650	Wapanocca
<b>FY08-3191</b>	Provide Laborer	\$ 56,610	Wapanocca
<b>FY08-4128</b>	Grassland Restoration	\$105,062	Wapanocca
<b>FY08-4421</b>	Bottomland Hardwood Forest Restoration	\$137,482	Wapanocca

**SERVICE ASSET MAINTENANCE MANAGEMENT SYSTEM (SAMMS)**

<b>WORK ORDER</b>	<b>ASSET NUMBER</b>	<b>DESCRIPTION</b>	<b>COST ESTIMATE</b>	<b>TYPE</b>	<b>STATION</b>
2007732649	10017508	Replace dilapidated 14' X 60' Office Trailer	\$ 350K	Deferred Maintenance	Bald Knob
2007732682	10040538	Rehabilitate damaged and leaking Granary East Canal.	\$ 85K	Deferred Maintenance	Bald Knob
2007716161	10041690	Repair overgrown Little Red River flood protection levee	\$ 320K	Deferred Maintenance	Bald Knob
04134134	10017546	Rehabilitate the 1.41 mile X 26 foot Bottom 300 Acre Field	\$ 100K	Deferred Maintenance	Bald Knob
2005218680	10017522	Rehabilitate Mingo Creek Access Road	\$ 200K	Deferred Maintenance	Bald Knob
2007716105	10040633	Replace failed 300 Acre Field culvert crossings	\$ 60K	Deferred Maintenance	Bald Knob
2007716141	10040783	Replace severely damaged main entrance gate	\$ 20K	Deferred Maintenance	Bald Knob
2007716106	10040744	Replace failed Middle 1,000 Acre Field Entrance crossings	\$ 45K	Deferred Maintenance	Bald Knob
2005204594	10040280	Rehabilitate Low Road	\$ 60K	Deferred Maintenance	Bald Knob
03124955	481749	Replace 1997 John Deere 690E Excavator	\$ 130K	Heavy Equipment	Bald Knob
00101762	481296	Replace 1968 Caterpillar D7 Dozer	\$ 190K	Heavy Equipment	Bald Knob
01113415	482386	Replace 1980 Terex Loader	\$ 90K	Heavy Equipment	Bald Knob
05137595	482238	Replace 1999 John Deere 410 Backhoe	\$ 80K	Heavy Equipment	Bald Knob
2008845829	654407	Replace 1960 Low Boy Equipment Trailer	\$ 50K	Small Equipment	Bald Knob
	485634	Replace 2005 Ford 4x4 Refuge Manager Truck	\$ 26K	Small Equipment	Bald Knob
	485949	Replace 2006 Ford 4x4 Equipment Operator Truck	\$ 26K	Small Equipment	Bald Knob
	486967	Replace 2008 Ford 4x4 LE Truck	\$ 26K	Small Equipment	Bald Knob
05137576	483680	Replace 2002 International Truck Tractor	\$95K	Small Equipment	Bald Knob
2007733603	10017469	Rehabilitate worn and damaged refuge office / visitor contact station.	\$ 350K	Deferred Maintenance	Big Lake
2007683065	10017469	Reroof HQ Building	\$ 35K	Deferred Maintenance	Big Lake

WORK ORDER	ASSET NUMBER	DESCRIPTION	COST ESTIMATE	TYPE	STATION
2007716164	10039656	Repair damaged retaining wall	\$ 100K	Deferred Maintenance	Big Lake
2007733607	10017491	Repair Ditch 28 Bridge	\$ 300K	Deferred Maintenance	Big Lake
2005207265	10017485	Rehabilitate Timm's Point public Parking Area	\$ 75K	Deferred Maintenance	Big Lake
2006531982	10017482	Repair FHWA Rte 904 - Big Lake Fishing Area	\$ 50K	Deferred Maintenance	Big Lake
2006557432	10017484	Repair Ditch 81 Levee Road Parking Area	\$ 15K	Deferred Maintenance	Big Lake
2007716115	10017493	Repair Bright's Landing fishing pier	\$ 20K	Deferred Maintenance	Big Lake
2005222810	10039661	Rehabilitate Wildlife Auto Drive	\$ 900K	Deferred Maintenance	Big Lake
2006531558	10017479	Repair FHWA Rte 903 – Bright's Landing Parking Area	\$ 75K	Deferred Maintenance	Big Lake
2006531978	10017481	Repair FHWA Rte 010 – HQ Visitors Parking Area	\$ 100K	Deferred Maintenance	Big Lake
2006531989	10039658	Repair FHWA Rte 901 – Oak Island Parking Area	\$ 25K	Deferred Maintenance	Big Lake
2006531992	10039659	Repair FHWA Rte 905 – Handicapped Parking Area	\$ 25K	Deferred Maintenance	Big Lake
2007716155	10017483	Repair overgrown Ditch 81 levee	\$ 200K	Deferred Maintenance	Big Lake
04134105	482385	Replace 1999 John Deere 6410 Tractor	\$ 90K	Heavy Equipment	Big Lake
04134102	480489	Replace 1995 John Deere 6400 Tractor	\$ 90K	Heavy Equipment	Big Lake
	484166	Replace 2008 Ford 4 x 4 Truck	\$ 26K	Small Equipment	Big Lake
	486968	Replace 2008 Ford 4 x 4 Truck	\$ 26K	Small Equipment	Big Lake
	482424	Replace 2000 Dodge Durango	\$ 26K	Small Equipment	Big Lake
	486121	Replace CX15 Mower	\$ 15K	Small Equipment	Big Lake
05138039	484654	Replace HX15 Mower	\$ 15K	Small Equipment	Big Lake
	10037753	Repair damaged Plunkett Farm unit water control structure.	\$ 25K	Deferred Maintenance	Cache River
	10017399	Renovate Cache River Headquarters interior.	\$ 80K	Deferred Maintenance	Cache River
03125419	10041694	Rehabilitate Gin Lane South Road.	\$ 160K	Deferred Maintenance	Cache River

WORK ORDER	ASSET NUMBER	DESCRIPTION	COST ESTIMATE	TYPE	STATION
	10042100	Replace worn refuge boundary signs	\$ 25K	Deferred Maintenance	Cache River
	10017399	Replace roof and exterior siding on Cache River HQ Building	\$ 105K	Deferred Maintenance	Cache River
2005253254	10017454	Rehabilitate Cache Bayou Road.	\$ 180K	Deferred Maintenance	Cache River
	10017411	Rehabilitate Dixie Unit South Road water control structures	\$ 27K	Deferred Maintenance	Cache River
	10017425	Rehabilitate Dixie Unit North Road water control structures	\$ 40K	Deferred Maintenance	Cache River
2005204642	10017440	Rehabilitate Horseshoe Lake Road	\$ 120K	Deferred Maintenance	Cache River
2005202117	10045116	Rehabilitate Robinson Tract East Road.	\$ 50K	Deferred Maintenance	Cache River
2005202761	10051113	Rehabilitate Robinson Tract West Road.	\$ 50K	Deferred Maintenance	Cache River
01113994	473434	Replace 1992 John Deere 410 Backhoe	\$ 80K	Heavy Equipment	Cache River
01113463	473513	Replace 1991 John Deere 4555 Tractor	\$ 95K	Heavy Equipment	Cache River
05137578	481950	Replace 1998 John Deere 6400 Tractor	\$ 70K	Heavy Equipment	Cache River
03124938	481951	Replace 1998 John Deere 6400 Tractor	\$ 70K	Heavy Equipment	Cache River
05137634	482179	Replace 1999 Ford 6640 Tractor	\$ 30K	Heavy Equipment	Cache River
2008883006	485698	Replace 2005 Caterpillar 320 Excavator	\$ 130K	Heavy Equipment	Cache River
	10105926	Replace 1018 Mowers (2)	\$ 20K	Small Equipment	Cache River
		Replace 1999 1754 War Eagle Boat	\$ 8K	Small Equipment	Cache River
	481612	Replace 1995 Ford Ranger 4x4 Intern Truck	\$25K	Small Equipment	Cache River
03124943	482200	Replace 1999 Sterling Truck Tractor	\$ 95K	Small Equipment	Cache River
	485174	Replace 2004 Ford 4x4 Biologist Truck	\$ 26K	Small Equipment	Cache River
	485581	Replace 2005 Ford 4x4 Forester Truck	\$ 26K	Small Equipment	Cache River
	483994	Replace 2002 Ford 4x4 Service Truck	\$ 29K	Small Equipment	Cache River
05138041	484647	Replace 2003 Ford 4x4 SCEP Truck	\$25K	Small Equipment	Cache River

WORK ORDER	ASSET NUMBER	DESCRIPTION	COST ESTIMATE	TYPE	STATION
	485691	Replace 2006 Ford 4x4 LE Truck	\$ 27K	Small Equipment	Cache River
	485733	Replace 2005 Dodge Caravan Van	\$ 26K	Small Equipment	Cache River
	486173	Replace 2007 Ford 4x4 Equipment Operator Truck	\$ 26K	Small Equipment	Cache River
	486778	Replace 2007 Ford 4x4 Deputy Project Leader Truck	\$ 26K	Small Equipment	Cache River
	486866	Replace 2007 Ford 4x4 Project Leader Truck	\$ 26K	Small Equipment	Cache River
	486917	Replace 2008 Ford 4x4 Equipment Operator Truck	\$ 26K	Small Equipment	Cache River
97110055	10017399	Plan design and construct a Refuge Administrative Headquarters and Environmental Education Center	\$ 6M	Construction	Cache River
		Construct cross levees and enhance water management operations on the Plunkett Farm waterfowl sanctuary	\$ 65 K	Construction	Cache River
01123192		Construct a wildlife observation tower, entrance road and interpretive trail at the Howell Tract unit.	\$ 150K	Construction	Cache River
		Construct irrigation system for 700 acre Howell Tract moist-soil unit	\$ 150K	Construction	Cache River
		Construct an interpretive wildlife trail at the George Tract unit.	\$ 50K	Construction	Cache River
		Construct a bunkhouse at the Refuge Headquarters	\$ 432K	Construction	Cache River
00110763		Construct a wildlife observation tower and interpretive trail at the Plunkett Farm waterfowl sanctuary.	\$ 90K	Construction	Cache River
		Construct a wildlife observation tower on the Dixie Farm waterfowl sanctuary.	\$ 90K	Construction	Cache River
2006558819	10019349	Dredge Ditch 8	\$ 875K	Deferred Maintenance	Wapanocca
2006557060	10041766	Clean out and remove trees from Ditch 2	\$ 300K	Deferred Maintenance	Wapanocca
2007716250	10040585	Repair overgrown Levee 5 water control structures	\$ 125K	Deferred Maintenance	Wapanocca
2007741429	10019312	Replace aged shingled roof on Wapanocca NWR HQ/VC	\$ 100K	Deferred Maintenance	Wapanocca
2007741447	10019313	Rehabilitate maintenance shop building	\$ 75K	Deferred Maintenance	Wapanocca

WORK ORDER	ASSET NUMBER	DESCRIPTION	COST ESTIMATE	TYPE	STATION
2007701839	10019335	Repair worn FHWA Route 011 - Nature Drive Road.	\$ 60K	Deferred Maintenance	Wapanocca
2007733000	10019289	Replace worn and inadequate Big Creek bridge.	\$ 200K	Deferred Maintenance	Wapanocca
2007733003	10019304	Replace worn and unsafe Driver's bridge	\$ 200K	Deferred Maintenance	Wapanocca
2005219850	10036754	Rehabilitate public use parking lots	\$ 30K	Deferred Maintenance	Wapanocca
2007733009	10019324	Rehabilitate overgrown public use boat launch and boardwalk.	\$ 125K	Deferred Maintenance	Wapanocca
2007733030	10041456	Rehabilitate silted County Ditch 4 drainage ditch.	\$ 150K	Deferred Maintenance	Wapanocca
2007733004	10019313	Repair worn vehicle storage building.	\$ 50K	Deferred Maintenance	Wapanocca
01111796	481850	Replace 1996 John Deere 6400 Tractor	\$ 90K	Heavy Equipment	Wapanocca
		Replace 1962 Field Disk	\$ 25K	Heavy Equipment	Wapanocca
98102485	451836	Replace 1980 Caterpillar 120G Grader	\$ 120K	Heavy Equipment	Wapanocca
04133882	483959	Replace 2002 Ford Ranger 4x4 Pickup	\$ 25K	Small Equipment	Wapanocca
2007702424	482403	Replace 2002 Chevy 3/4 ton 4x4 Pickup	\$ 25K	Small Equipment	Wapanocca

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## *Appendix J. Wilderness Review*

Refuge planning policy requires a wilderness review as part of the comprehensive conservation planning process. The results of the wilderness review are:

The Wilderness Act of 1964 defines a wilderness area as an area of federal land that retains its primeval character and influence, without permanent improvements or human inhabitation, and is managed so as to preserve its natural conditions and which:

1. generally appears to have been influenced primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;
2. has outstanding opportunities for solitude or primitive and unconfined types of recreation;
3. has at least 5,000 contiguous roadless acres or is of sufficient size to make practicable its preservation and use in an unimpeded condition; or is a roadless island, regardless of size;
4. does not substantially exhibit the effects of logging, farming, grazing, or other extensive development or alteration of the landscape, or its wilderness character could be restored through appropriate management at the time of review; and
5. may contain ecological, geological, or other features of scientific, educational, scenic, or historic value.

The lands within Bald Knob, Big Lake, Cache River, and Wapanocca NWRs were reviewed for their suitability in meeting the criteria for wilderness, as defined by the Wilderness Act of 1964. No lands in the Complex were found to meet these criteria. Therefore, the suitability of refuge lands for wilderness designation is not further analyzed in this CCP.

NOTE: Big Lake NWR contains 2,144 acres designated as a unit of the National Wilderness Preservation System in 1976.



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## *Appendix K. 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 Comprehensive Conservation Plan and Environmental Assessment (Draft CCP/EA), and the Service responses to the public comments.

### **SUMMARY OF PUBLIC SCOPING IN THE PLANNING PROCESS**

#### **Preplanning**

Before the Service began planning, it conducted biological and public use reviews of the refuge's management programs and conducted public scoping meetings to solicit public opinion of the issues the plan should address. The biological review teams were composed of biologists from federal and state agencies and non-governmental organizations that have an interest in the refuge. The public use review teams consisted of visitor services managers from selected refuges in the southeast. These diverse teams presented the Service with refuge management recommendations regarding habitat, wildlife, natural resources (e.g., water, timber, oil and gas), cultural resources, administration, and visitor services.

#### **Public Scoping**

A notice of intent to prepare a Comprehensive Conservation Plan (CCP) for the Central Arkansas National Wildlife Refuge Complex was published in the *Federal Register* on January 3, 2007. The refuge staff held five public scoping meetings to solicit input and to identify concerns or issues for the forthcoming CCP. Big Lake and Wapanocca National Wildlife Refuges (NWRs) held public scoping meetings on February 26, 2007, with 10 people attending, and on February 27, 2007, with two attendees, respectively. Three public scoping meetings for Bald Knob and Cache River NWRs were held on September 24, 25, and 26, 2007. Five, ten, and seven people attended each meeting, respectively. The Service received a number of comments concerning issues such as water quality, water flow, bank stabilization, land acquisition, habitat management, hunting, camping, assess, wildlife observation and photography, special programs for youth and the elderly, staffing, communication with the public, law enforcement, facilities, and water management. These comments are included in Chapter III.

#### **Plan Preparation**

A planning team comprised of Service personnel, state agency representatives, non-governmental organizations, and others developed the Environmental Assessment to formulate and analyze a range of alternatives for refuge management that the Service would reasonably undertake to achieve the goals and fulfill the purposes of the refuges. Three possible alternatives (Alternatives A, B, and C) emerged for evaluation and were incorporated into the Draft CCP/EA.

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## Public Review of Draft CCP/EA

A notice of availability for the Draft CCP/EA with a request for public comments was published in the *Federal Register* on August 27, 2009. Comments were accepted for a 30-day period. Additionally, public notices and press releases were published in multiple area-wide newspapers to announce five “open house” public meetings to provide additional information and opportunities for public comments on the Draft CCP/EA. The five meetings occurred from 5:00 to 8:00 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 Weatherby Drive, Brinkley, Arkansas; September 21, 2009 at the Manila Community Center, 855 Airport Road, Manila, Arkansas; September 22, 2009 at the Wapanocca NWR 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 public meetings where two oral and two written comments were received. Six additional comments were received by mail and four by e-mail. Substantive comments, with accompanying Service responses, are included in the “SUMMARY OF DRAFT CCP/EA PUBLIC COMMENTS AND SERVICE RESPONSES” section below.

## Affiliations of Respondents

The table below identifies the names and affiliations of respondents who commented on the Draft CCP/EA, either in writing (comment forms or letters), by e-mail correspondence, or orally at the five public meetings.

Name of Respondent	Affiliation
Blair Arnold	Public Citizen
Timothy L. Davis	USACOE
Mike Dawson	USFWS - Contract Planner
Robert W. Driver	Public Citizen
Bobby and Silvia Franke	Public Citizens
David Goad	AGFC
Aaron Gwin	Public Citizen
Robert Henderson	Public Citizen
Judy McClendon	USFWS - Contract Planner
Blake Sasse	The Wildlife Society
Stephanie Spivey	AGFC
Larry Towell	Public Citizen
Anonymous (JeanPublic.com)	Public Citizen
Tracy L. Copeland	Arkansas State Clearinghouse

The number of affiliations represented in the above table can be summarized as follows: federal agencies, 3; state agencies, 3; non-governmental organizations, 1; and public citizens (general public), 7.

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## Comment Media

The types of media used to deliver the comments received by the refuge and planning staffs are categorized as follows: oral (given at the five public meetings), 2; written (comment form or letter), 8; and e-mail, 4.

## SUMMARY OF DRAFT CCP/EA PUBLIC COMMENTS AND SERVICE RESPONSES

The public comments received for the Draft CCP/EA address the following concerns. The Fish and Wildlife Service's responses to each concern are also summarized.

### *PUBLIC USE*

**Comment:** Eliminate hunting on all refuges.

**Service Response:** Hunting is one of the six priority public uses specified in the National Wildlife Refuge System Improvement Act of 1997. The Service allows hunting as long as it is compatible with the missions of the Service and the National Wildlife Refuge System and the purposes of the refuges. Hunting has been determined to be a compatible use on all refuges in the Complex.

**Comment:** Allow primitive, recreational camping (all refuges).

**Service Response:** Camping will remain prohibited on all refuges in the Complex due to concerns about its appropriateness and suitability with refuge goals and objectives, and the National Wildlife Refuge System's mission. Camping on refuge lands is not necessary to enable public use programs.

**Comment:** Allow trapping/nuisance animal control (all refuges).

**Service Response:** Trapping of furbearers by special use permit is proposed for Cache River NWR December 1 – January 31, according to state regulations. Badgers, beaver, bobcat, coyote, gray fox, red fox, mink, muskrat, nutria, opossum, raccoon, river otter, spotted skunk, striped skunk, and weasel are regulated by AGFC as furbearers. Furbearer trapping is proposed to aid in control of nuisance furbearers (e.g., beaver, nutria, muskrat) that degrade refuge habitats and infrastructure, those that pose risk of disease transmission (e.g., raccoon, skunk, fox), and species that prey upon the nests and young of migratory birds (e.g., raccoon, skunk, opossum, coyote). This activity will not result in long-term adverse impacts to the species at the population level, but will result in benefits for trust species and their habitats. The refuge will manage this use to ensure compatibility.

**Comment:** Improve recreational fishing at Wapanocca Lake.

**Service Response:** Historically, rainfall that fell within the Wapanocca Bayou watershed traveled through natural streams into Wapanocca Lake. Similarly, periodic flood waters from the Mississippi River would also recharge the lake system. Subsequent conversion of the area surrounding the lake to farmland and the construction of levees drainage ditches removed most of the natural flow of water into this system and eliminated the natural flood regimes. Currently, there is only limited flow of water into Wapanocca Lake through the east portion of Ditch 8. Under Alternative C of the CCP, a wetland restoration project is planned that will improve drainage and historical hydrology to Wapanocca Lake. The project will include dredging and tree removal from ditches, reconnecting waterways, and installation of water control structures within the refuge. These improvements will not only restore water quantity but will also restore water quality to the lake system and enhance fish habitat.

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**Comment:** Implement a youth permitted turkey hunt (Big Lake NWR).

**Service Response:** As a result of a joint project between AGFC and the Service at the Big Lake WMA and Big Lake NWR, the turkey population has increased to the point where limited hunting is offered on Big Lake WMA. Turkey numbers and habitat use on the refuge should be monitored, and

if it appears feasible and desirable, and compatibility can be ensured, the refuge should coordinate with AGFC to plan and implement limited youth turkey hunting on the refuge.

**Comment:** Provide youth and handicap hunting opportunities and hunter education classes (Wapanocca NWR).

**Service Response:** The current hunting plan for Wapanocca NWR is scheduled for revision/update following implementation of the CCP. The current hunt plan addresses provisions for hunters with disabilities as will the revised plan. AGFC provides hunter education classes and refuge staff will continue to coordinate with AGFC and other organizations about enhancing youth and handicap hunting opportunities on all refuges in the Complex.

**Comment:** Provide a boat ramp off Highway 64 at Patterson, AR (Cache River NWR).

**Service Response:** The Service provides three boat ramps in the vicinity of this suggested location. Two ramps are located north of Highway 64 (approximately 3 miles and 6 miles, respectively) and one ramp is located south on Highway 260 (approximately 4 miles). Opportunities for improved public access will continue to be evaluated and implemented as feasible and desirable on all refuges in the Complex.

**Comment:** Establish birding trails, through a variety of habitats and include nesting boxes for Eastern Blue Birds (Wapanocca NWR).

**Service Response:** The Service will consider establishing birding and other trails as feasible, that may include nesting boxes for cavity nesting birds (e.g., Eastern Blue Birds), through a variety of habitats to enhance wildlife observation, photography, and interpretive opportunities on all refuges in the Complex.

#### *HABITAT MANAGEMENT*

**Comment:** Do not reduce cooperative farming acreage by converting current cooperative farming land to grassland habitat (Wapanocca NWR).

**Service Response:** Based on waterfowl survey trends, adjustments to the cooperative farming program will convert underutilized cropland to grassland habitat for the benefit of high-priority grassland bird species and allow the expansion of moist-soil management for the benefit of waterfowl, shorebirds, and other waterbirds. The refuge will continue to monitor bird use of croplands and other managed habitats and will implement adaptive management to best fulfill the refuge purpose and achieve goals for providing migratory bird habitat. The extensive and continued decline in historic use of refuge forage areas by geese has provided this adaptive management opportunity to reprioritize and implement habitat management to fulfill other refuge goals for providing migratory bird habitat.

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**Comment:** Active timber/forest management and implementation of the referenced LMVJV Forest Resource Conservation Working Group's desired forest conditions as outlined in *Forest Restoration, Management, and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat* is recommended.

**Service Response:** As indicated in the Management Direction section of the CCP, the Service plans to enhance the hardwood forestland complex to attain the desired forest conditions as described in the report *Forest Restoration, Management, and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat* (2007), as appropriate to fulfill refuge purposes.

**Comments:** Watershed management should be addressed on a region-wide scale and should involve all affected parties (Big Lake NWR).

**Service Response:** Collaborative watershed restoration is planned that will address associated issues on a regional scale. As indicated in the Management Direction section of the CCP (see Big Lake NWR Objective 3-1: Water Management and Sedimentation), the Service will continue to cooperate with the COE to manage water flows and siltation loads into the watershed. Similarly, the Service will continue coordination with AGFC regarding collaborative management of Big Lake NWR and Big Lake WMA. Additionally, the Service plans to improve water management efforts in the watershed on a basin-wide approach through cooperative outreach and partnering programs with other federal (e.g., NRCS) and state (e.g., Arkansas and Missouri) agencies.

**Comment:** Bush hogging and brush control should be avoided annually and rotated as appropriate to control invasive woody plants and enhance beneficial food and cover for winter birds (Wapanocca NWR).

**Service Response:** The Service will consider rotational and reduced bush hogging/brush control where appropriate to enhance beneficial food and cover for winter birds.

**Comment:** Provide shorebird habitat at Wapanocca NWR.

**Service Response:** As addressed in the Management Direction section of the CCP (see Wapanocca NWR Objective 1-3: Shorebirds and Other Wetland Bird Species), the refuge will implement management of water levels, moist-soil impoundments, and lake drawdowns to provide shorebird and marshbird habitats.

**Comment:** Tree planting should include Mulberry trees to replace those dying and the few remaining (Wapanocca NWR).

**Service Response:** The Service plans to enhance the hardwood forestland complex to attain the desired forest conditions as described in the report *Forest Restoration, Management, and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat* (2007), including planting of native species, as necessary to fulfill refuge purposes.

**Comment:** Modify un-harvested grain practices and/or hunting prohibition in sanctuary areas.

**Service Response:** Providing sanctuary and supplemental forage are key management components for supporting waterfowl populations during critical periods of energetic stress and fulfilling refuge purposes. These key elements will continue to be provided on all refuges in the Complex unless monitoring results indicate that associated adaptive management changes are needed.

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**Comment:** Eliminate management practices, such as prescribed fire, crop production, and beaver dam removal and trapping on refuges (all refuges).

**Service Response:** Management practices are essential to provide critical habitats and forage requirements for trust species and attain refuge purposes. Refuge management practices are conducted to enhance, maintain, and/or restore appropriate habitats for trust species. With adaptive management, optimal habitat conditions are promoted to provide maximum benefits for trust species.

#### *LAND ACQUISITION*

**Comment:** Acquire additional lands outside refuge boundary (Big Lake NWR).

**Service Response:** As stated in the CCP, the Service plans to continue land acquisition from willing sellers to better fulfill refuge purposes and the Refuge System mission, including pursuing boundary expansions at all refuges in the Complex.

#### *FACILITIES AND INFRASTRUCTURE DEVELOPMENT OR MAINTENANCE*

**Comment:** Maintenance projects should include removal of the levee and derelict house structure at King Lake; removal of the drainage pipe and trailer at Pumpkin Bend; removal of highline/utility poles at Howell Tract; and installation of a “Closed Area” sign at Miller Pond (Cache River NWR).

**Service Response:** The Service will consider and incorporate the suggested projects, as appropriate, within ongoing refuge maintenance.

**Comment:** Projects that entail the deposition of dredged or fill material, such as water control structures, and development of greentree reservoirs will require USACOE permits (all refuges).

**Service Response:** The Service acknowledges USACOE permit requirements and will coordinate accordingly to comply.

#### *PARTNERSHIPS*

**Comment:** Information distribution programs, such as kiosks, should include State collaborations and partnerships, particularly for adjacent WMA locations (Bald Knob, Big Lake, and Cache River NWRs).

**Service Response:** The Service welcomes AGFC collaboration and partnership and associated opportunities to share and distribute information at visitor contact points on all refuges in the Complex.

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## *Appendix L. List of Preparers*

### **PLANNING TEAM**

**Judy McClendon**, Natural Resource Planner (Retired), U.S. Fish and Wildlife Service, Augusta, Arkansas – Planning Team Leader, Co-writer and Editor, assisted with overall CCP process and plan development, coordinated biological and visitor services reviews, and public meetings.

**William Smith**, Assistant Natural Resource Planner, U.S. Fish and Wildlife Service, Central Arkansas National Wildlife Refuge Complex, Augusta, Arkansas – Editor, provided biota lists and assisted with preparation of various plan sections, and Appropriateness and Compatibility Determinations.

**Leon Kolankiewicz**, Environmental Consultant, Mangi Environmental Group, McLean, Virginia – Assisted with overall development of CCP and preparation of EA.

**Keith Weaver**, Project Leader, U.S. Fish and Wildlife Service, Central Arkansas National Wildlife Refuge Complex, Augusta, Arkansas – Co-writer and Editor, provided overall guidance and oversight for CCP process and plan development.

**Jonathan Windley**, Deputy Project Leader, U.S. Fish and Wildlife Service, Central Arkansas National Wildlife Refuge Complex, Augusta, Arkansas – Assisted with overall development, guidance, and oversight.

**Robert Alexander**, Refuge Manager, U.S. Fish and Wildlife Service, Bald Knob National Wildlife Refuge, Bald Knob, Arkansas – Assisted with development, guidance, and oversight for Bald Knob NWR.

**Jeremy Bennett**, Refuge Manager, U.S. Fish and Wildlife Service, Big Lake National Wildlife Refuge, Manila, Arkansas – Assisted with development, guidance, and oversight for Big Lake NWR.

**Jason Wilson**, Refuge Manager, U.S. Fish and Wildlife Service, Wapanocca National Wildlife Refuge, Turrell, Arkansas – Assisted with development, guidance, and oversight for Wapanocca NWR.

**Eric Johnson**, Forester, U.S. Fish and Wildlife Service, Augusta, Arkansas – Provided input, review, and oversight on biological sections; assisted with mapping.

**Richard Crossett**, Wildlife Biologist, U.S. Fish and Wildlife Service, Augusta, Arkansas – Provided input, review, and oversight on biological sections; assisted with mapping.

**Karen Graves**, Office Assistant, U.S. Fish and Wildlife Service, Central Arkansas National Wildlife Refuge Complex, Augusta, Arkansas – Coordinated editing, typing, proofreading, and plan revisions; maintained databases; provided RONS and SAMMS sections; participated in Visitor Services reviews and public meetings.

**Richard Kanaski**, Regional Archaeologist, U.S. Fish and Wildlife Service, Savannah, Georgia – Provided writing and guidance on cultural resources sections.

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## CONTRIBUTORS

Pre-planning for this CCP began in 2006 and 2007, when Biological and Public Use Reviews of refuges in the Central Arkansas NWR Complex were held. Experts and specialists listed below and on the previous page submitted recommendations for future management. These recommendations were used extensively during the development of this plan. Contributors included:

**Frank Bowers**, Chief (Retired), Office of Migratory Birds, U.S. Fish and Wildlife Service, Atlanta, GA

**Brad Carner**, Assistant Chief, Arkansas Game and Fish Commission, Little Rock, Arkansas

**Matt Conner**, Visitor Services Specialist, U.S. Fish and Wildlife Service, White River National Wildlife Refuge, St. Charles, Arkansas

**Jeff Denman**, Forester, U.S. Fish and Wildlife Service, White River National Wildlife Refuge, St. Charles, Arkansas

**Tom Edwards**, Regional Biologist, U.S. Fish and Wildlife Service, Tensas River National Wildlife Refuge, Tallulah, Louisiana

**Janet Ertel**, Biologist, U.S. Fish and Wildlife Service, White River National Wildlife Refuge, St. Charles, Arkansas

**David Fowlkes**, Conservation Agronomist, USDA, Natural Resource Conservation Service, Jonesboro, Arkansas

**Robert Ford**, Biologist, U.S. Fish and Wildlife Service, Memphis, Tennessee

**Kevin Godsea**, Visitor Services Specialist, U.S. Fish and Wildlife Service, J.N. "Ding" Darling National Wildlife Refuge

**Mickey Heitmeyer**, Wetland Expert, University of Missouri, Gaylord Memorial Lab, Puxico, MO

**Chuck Hunter**, Chief, Biology and Planning, U.S. Fish and Wildlife Service, Atlanta, Georgia

**Deborah Jerome**, Visitor Services and Outreach, U.S. Fish and Wildlife Service, Atlanta, Georgia

**Rich Johnson**, Arkansas Game and Fish Commission, Little Rock, Arkansas

**Patricia Jones**, Wetlands Scientist, U.S. Army Corps of Engineers, Memphis, Tennessee

**Joe Krystofik**, Biologist, U.S. Fish and Wildlife Service, Augusta, Arkansas

**Glen Miller**, Former Refuge Manager (Retired), U.S. Fish and Wildlife Service, Turrell, Arkansas

**Luke Naylor**, Arkansas Game and Fish Commission, Little Rock, Arkansas

**Don Orr**, Biologist (Retired), U.S. Fish and Wildlife Service

**Steve Reagan**, Refuge Manager, White River National Wildlife Refuge, St. Charles, Arkansas

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**Ken Reinecke**, U.S. Geological Survey

**Catherine Rideout**, Arkansas Game and Fish Commission, Little Rock, Arkansas

**Garry Tucker**, Chief, Visitor Services, U.S. Fish and Wildlife Service, Atlanta, GA

**Kathy Whaley**, Assistant Refuge Manager, U.S. Fish and Wildlife Service, Merritt Island  
National Wildlife Refuge

**Dennis Widner**, Former Project Leader (Retired), U.S. Fish and Wildlife Service, Augusta, Arkansas

**Dorn Whitmore**, U.S. Fish and Wildlife Service, Merritt Island/St. Johns NWRs



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## *Appendix M. Finding of No Significant Impact*

### **INTRODUCTION**

The U.S. Fish and Wildlife Service (Service) proposes to protect and manage certain fish and wildlife resources in eastern and central Arkansas, through 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 Comprehensive Conservation Plan for the Complex. 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 Draft Comprehensive Conservation Plan.

### **ALTERNATIVES**

In developing the CCP for the Central Arkansas NWR Complex, the Service evaluated three alternatives: Alternatives A, B, and C.

The Service adopted Alternative C as the “Preferred Alternative,” to guide management of the four refuges within the Complex 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 – MAINTAIN CURRENT MANAGEMENT (NO ACTION ALTERNATIVE)*

Under Alternative A, the “No Action” Alternative, management would not change, but would continue the current actions and direction on the Central Arkansas NWR Complex. The Complex would continue to restore, protect, and manage bottomland hardwood forests, wetlands, cropland units, moist-soil units, open water areas, grassland/scrub-shrub areas, and the Big Lake Wilderness. Management activities would continue to focus on afforestation and reforestation, restoration of wetlands, invasive plant and nuisance animal management, cooperative farming, inventorying and monitoring, and priority public uses. The refuges would continue to acquire land from willing sellers and expand but only within the approved acquisition boundaries.

#### *ALTERNATIVE B – MINIMAL MANAGEMENT ALTERNATIVE*

Under Alternative B, the “Minimal Management” Alternative, the Complex would undertake minimal wildlife, habitat, and infrastructure management. In this “let nature take its course” alternative, there would be no more active reforestation efforts, no moist-soil impoundments and croplands, and no more road, beaver dam, or invasive species management and maintenance programs. Natural succession would be allowed to proceed unchecked, providing for development of early stage or successional forest habitat on abandoned lands, and no silvicultural treatments in existing forest stands would be conducted. All refuges would implement a custodial or passive stewardship approach to management and would monitor natural succession and wildlife populations over time. Quality and quantity of habitats for wildlife would be expected to decline along with wildlife use of

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these habitats. There would likely be reduced associated public use because roadways and facilities would not be maintained and the quality of visitor services would diminish. There would be no change in the acreage or amount of waterfowl sanctuaries. The refuges would acquire land from willing sellers, but only within the approved acquisition boundaries.

*ALTERNATIVE C – ENHANCED HABITAT MANAGEMENT AND PUBLIC USE PROGRAMS  
(PREFERRED ALTERNATIVE)*

By implementing Alternative C, the “Preferred” Alternative, the Complex would actively expand and improve habitat management and public use programs. The refuges would intensify and enhance forest, moist-soil, scrub-shrub, grassland, and aquatic management programs in order to increase benefits for waterfowl, shorebirds, water birds, other migratory birds, and other species of native wildlife. Hydrologic, wetland, and forest restoration projects would also be expanded. Invasive plant and animal control projects would be increased. A full range of inventorying, monitoring, and research programs would be developed and implemented to enable adaptive management. Habitat conservation and restoration would continue and expand through land acquisition projects from willing sellers, but boundary expansions would also be pursued. Environmental education and interpretive programs would be improved as part of a comprehensive visitor services’ program. Opportunities for hunting, fishing, and wildlife observation would be expanded, and law enforcement coverage would be increased for more effective protection of resources and visitors. Additional staff would be recruited, additional equipment would be acquired, and improved facilities would be installed to enable implementation of these projects and programs.

**SELECTION RATIONALE**

Alternative C is selected for implementation because it directs the development of programs to best achieve the vision of the Complex and each refuge’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 the Complex will be protected, maintained, and enhanced to best achieve national, ecosystem, 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, population management, land conservation, and visitor services’ 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:

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1. Increased and intensified habitat management efforts and the implementation of adaptive management practices will improve habitats for priority refuge wildlife populations. With additional enhanced inventorying and monitoring programs, habitat management changes will be undertaken in response to population fluctuations and trends.
  2. Migratory waterfowl as well as neotropical migratory bird and forest breeding bird populations 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. In contrast, some populations, such as small game mammals, amphibians, and reptiles, are not expected to change overall but should maintain diverse assemblages.
  3. Habitat management efforts will enhance the quality and quantity 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. Development and implementation of a database will help the Complex to systematically track occurrences and treatments of encroaching species of exotic, invasive, or nuisance plants and animals.
  5. Threatened, endangered, and candidate species will be protected and enhanced through research projects, surveys, recovery programs, and habitat conservation efforts.
  6. Land acquisition from willing sellers within or adjacent to the refuges will protect additional important habitat for many species.
  7. Habitat restoration and management, along with a focus on accessibility and facility developments, will result in improved wildlife-dependent recreational opportunities. Public use may result in some minimal, short-term adverse effects on wildlife, and user conflicts may occur at certain times of the year, but these effects are minimized by site and trail design, time zoning, and the enforcement of refuge regulations.
  8. The capacity and capability of the Complex to effectively administer and provide comprehensive public use programs and visitor services will be increased and improved.

## **POTENTIAL ADVERSE EFFECTS AND MITIGATION MEASURES**

### *WILDLIFE DISTURBANCE*

Disturbance to wildlife is an unavoidable consequence of management and public use programs. Disturbance as a result of management activities are typically temporary, short-term, and non-significant. Habitat manipulations directed toward enhancing conditions for priority species and their habitats may have unavoidable negative consequences for certain non-target wildlife, but these impacts are minimized to the extent possible and generally are confined to impacts at the individual scale, not the population level. While some public use activities, such as wildlife observation, may be less disturbing than others, all of the public use activities proposed under the preferred alternative will be planned to avoid unacceptable levels of impact.

The known and anticipated levels of disturbance from the preferred alternative are not considered to be significant. Nevertheless, the refuges will manage public use activities to reduce impacts. Providing access for hunting and fishing opportunities and managing these uses with stipulations to ensure

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compatibility allow the consumptive use of renewable natural resources without adversely impacting other resources. Wildlife observation and photography may result in minimal disturbance to wildlife. If the refuges determine that impacts from an expanded visitor services program and the expected additional visitor uses are above acceptable levels beyond which compatibility cannot be ensured, those uses will be discontinued, restricted, or otherwise modified to other less sensitive areas.

### *VEGETATION DISTURBANCE*

Management of moist-soil units and activities associated with forest management result in disturbance to vegetation, but it is offset by creating long-term impacts that are beneficial to habitats used by wildlife. Negative impacts could also result from the creation, extension, and maintenance of trails that require the clearing of non-sensitive vegetation along their length. This is expected to be a minor short-term impact. Habitat and vegetation disturbance would be minimized with replacement of office buildings at Bald Knob, Big Lake, and Wapanocca NWRs; the replacement of the maintenance shop and equipment storage shed at Big Lake NWR; and the expansion of the maintenance shop and equipment storage shed at Bald Knob NWR by constructing the new facilities in the same locations or close proximity to existing locations and within existing disturbed zones and therefore not requiring destruction of additional wildlife habitat.

Increased visitor use may increase the potential for the introduction of new exotic species into areas when visitors do not comply with boating regulations at the boat ramps and other access points, or with requests to stay on trails. The refuges will minimize this impact by enforcing the regulations for access to the refuges' water bodies, and by installing informational signs that request users to stay on the trails.

### *USER GROUP CONFLICTS*

As public use increases, unanticipated conflicts between different user groups could occur. If this should happen, the refuges will adjust their programs, as needed, to eliminate or minimize any public use issues. The refuges will use methods that have proven to be effective in reducing or eliminating public use conflicts. These methods include establishing separate use areas, different use periods, and limits on the numbers of users in order to provide safe, compatible, and quality wildlife-dependent recreational opportunities.

### *EFFECTS ON ADJACENT LANDOWNERS*

Implementation of the preferred alternative is not expected to negatively affect the owners of private lands adjacent to the refuges. Positive impacts that would be expected include higher property values, less intrusion of invasive exotic plants, and increased opportunities for viewing more diverse wildlife.

However, some negative impacts that may occur include a higher frequency of trespass onto adjacent private lands, and noise associated with increased traffic. To minimize these potential impacts, the refuges will clearly mark refuge boundaries, maintain the refuges' existing parking facilities, use law enforcement, and provide increased educational efforts at headquarters, visitor contact stations, visitor center, and kiosks.

### **LAND OWNERSHIP AND SITE DEVELOPMENT**

Land acquisition efforts by the Service could lead to changes in land use and recreational use patterns. However, most of the non-Service-owned lands within the refuges' approved acquisition boundaries are currently undeveloped. If these lands are acquired as additions to the refuges, they

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would be maintained in an undeveloped state, managed for native wildlife populations, and opened to compatible wildlife-dependent public uses, where feasible.

Potential development of the refuges' buildings, trails, and other improvements could lead to minor short-term negative impacts on plants, soils, and some wildlife species. When building the observation decks, towers, or boardwalks, efforts would be made to use recycled products and environmentally sensitive, treated lumber. Any headquarters and visitor center will be constructed to be aesthetically pleasing to the community and to avoid any additional impacts to native plant communities. All construction activities would comply with the requirements of Section 404 of the Clean Water Act; Section 106 of the National Historic Preservation Act; Executive Order 11988, Floodplain Management; Americans with Disabilities Act; and other applicable regulatory requirements. Construction of new headquarters/visitor contact stations at Bald Knob, Big Lake, and Wapanocca NWRs; construction of new maintenance shop/equipment storage shed at Big Lake NWR; and expansion of the maintenance shop/equipment storage shed at Bald Knob NWR would occur in the same locations (i.e., existing office/shop complexes) so that additional wildlife habitat would not be destroyed. Energy and water-conserving features, and alternative energy sources (where feasible) would be incorporated into the design of these buildings to lessen environmental impacts.

As indicated earlier, one of the direct effects of site development is increased public use; this increased use may lead to littering, noise, and vehicle traffic. While funding and personnel resources will be allocated to minimize these effects, such allocations make these resources unavailable for other programs.

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:

- All affected landowners
- Congressional representatives
- Governor of Arkansas
- Arkansas Game and Fish Commission
- Arkansas State Historic Preservation Officer
- Arkansas State Clearinghouse
- Local community officials
- Interested citizens
- Conservation organizations

## **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:

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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).
  2. The actions will not have a significant effect on public health and safety. (Environmental Assessment, pages 281, 283, 307, and 316).
  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).
  4. The effects on the quality of the human environment are not likely to be highly controversial. (Environmental Assessment, pages 281-317).
  5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment. (Environmental Assessment, pages 281-317).
  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).
  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).
  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).
  9. The actions are not likely to adversely affect threatened or endangered species, or their habitats. (Environmental Assessment, pages 288 and 314).
  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).

## **SUPPORTING REFERENCES**

Fish and Wildlife Service. 2009. 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.

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**DOCUMENT AVAILABILITY**

The Environmental Assessment was Section B of the Draft Comprehensive Conservation Plan and Environmental Assessment and was made available in August 2009. Additional copies are available by writing: Central Arkansas National Wildlife Refuge Complex, 26320 Highway 33 South, Augusta, Arkansas 72006.

*Signed*

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Cynthia Dohner  
Regional Director

12/25/09

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Date