



**DEPARTMENT OF THE ARMY**

VICKSBURG DISTRICT, CORPS OF ENGINEERS  
4155 CLAY STREET  
VICKSBURG, MISSISSIPPI 39183-3435

REPLY TO  
ATTENTION OF:

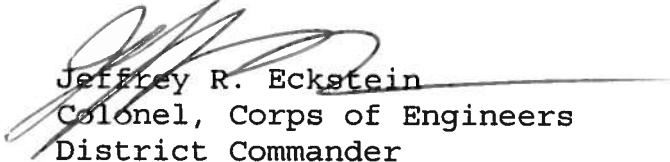
**OCT 14 2011**

Regional Planning and  
Environment Division South  
Quality controls  
and Administration

A draft Finding of No Significant Impact (FONSI), along with the Environmental Assessment (EA) for a proposed temporary change in the operation of the Felsenthal Lock and Dam, Ouachita-Black Rivers Navigation Project - Ashley, Bradley, and Union Counties, Arkansas, is enclosed for your review and comment. Please provide comments via e-mail by October 18, 2011, to Mr. Brian LaBarre of this office at [brian.e.labarre@usace.army.mil](mailto:brian.e.labarre@usace.army.mil).

If you have concerns prior to submitting comments regarding the FONSI or EA, please contact Mr. LaBarre (telephone (601) 631-5437).

Sincerely,

  
Jeffrey R. Eckstein  
Colonel, Corps of Engineers  
District Commander

Enclosure

DRAFT  
FINDING OF NO SIGNIFICANT IMPACT  
PROPOSED DEVIATION FROM THE APPROVED  
WATER CONTROL PLAN FOR THE FELSENTHAL POOL  
OUACHITA-BLACK RIVERS NAVIGATION PROJECT  
ASHLEY, BRADLEY, AND UNION COUNTIES, ARKANSAS

As required by the Procedures for Implementing the National Environmental Policy Act (33 CFR Part 230), the attached Environmental Assessment (EA) for the proposed deviation from the approved water control plan for the Felsenthal Pool within the boundaries of the Felsenthal National Wildlife Refuge (NWR) in Ashley, Bradley, and Union Counties, Arkansas. The proposed deviation will allow the pool to incrementally fluctuate between its operating level of 65 feet, NGVD, to 64 feet, NGVD. The proposed action will assist in maintaining and augmenting low flows in the Ouachita River to allow downstream communities and businesses some effluent discharges in accordance with the state water quality standards set through the respective states' Department of Environmental Quality (DEQ) permits. This EA has been completed by the U.S. Army Corps of Engineers, Regional Planning and Environment Division South, Vicksburg District. The EA addresses impacts associated with deviating from the water control plan. The magnitude and duration of adverse effects have been judged to be minimal. The proposed action will result in temporary economic benefits to downstream communities and businesses.

The proposed temporary increase in flow will assist downstream effluent dischargers to maintain state mandated water quality standards. It should also lower the water on adjacent bottom-land forest providing a benefit to the refuge forest by reducing stress on the trees. The pool drawdown may improve fish populations through the release of organically bound nutrients into the water and by corresponding concentration and competition of fish populations. Impacts to navigation, if any, will not be significant. Available habitat for waterfowl will fluctuate in the pool being dependent on the timing and quantity of inflows to the pool. The pool at 65 feet, NGVD, is approximately 10,000 acres and at 64 feet, NGVD, is 3,500 acres.

Based on the information provided in the EA, the proposed action will have no significant adverse effects on the environment. In addition, no historic properties listed in or determined eligible for inclusion in the National Register of Historic Places will be affected by the project. Therefore, an Environmental Impact Statement is not warranted, and a Finding of No Significant Impact is appropriate.

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(Date)

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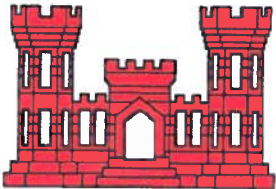
Jeffrey R. Eckstein  
Colonel, Corps of Engineers  
District Commander

*ercl*

**DRAFT  
ENVIRONMENTAL ASSESSMENT**

**PROPOSED DEVIATION FROM THE APPROVED  
WATER CONTROL PLAN FOR THE FELSENTHAL POOL  
OUACHITA-BLACK RIVERS NAVIGATION PROJECT  
ASHLEY, BRADLEY, AND UNION COUNTIES, ARKANSAS**

**OCTOBER 2011**



**U.S. Army Corps of Engineers  
Vicksburg District  
Regional Planning and Environment Division South**

*Attachment*

# ENVIRONMENTAL ASSESSMENT

## PROPOSED DEVIATION FROM THE APPROVED WATER CONTROL PLAN FOR THE FELSENTHAL POOL OUACHITA-BLACK RIVERS NAVIGATION PROJECT ASHLEY, BRADLEY, AND UNION COUNTIES, ARKANSAS

### Table of Contents

<u>Item</u>	<u>Title</u>	<u>Page</u>
SECTION 1 - INTRODUCTION.....		1
FEDERAL PROJECTS AND AUTHORITIES .....		3
OUACHITA AND BLACK RIVERS NAVIGATION PROJECT.....		3
FELSENTHAL NWR.....		4
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION .....		5
DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) .....		5
1995 EA .....		5
PURPOSE AND NEED FOR PROPOSED ACTION .....		6
SECTION 2 – ALTERNATIVES .....		7
ALTERNATIVE A: NO-ACTION ALTERNATIVE.....		7
ALTERNATIVE B: TEMPORARY 1-FOOT MAXIMUM DRAWDOWN TO 64 FEET, NGVD .....		8
ALTERNATIVE C: TEMPORARY 0.5-FOOT MAXIMUM DRAWDOWN TO 64.5 FEET, NGVD .....		9
SELECTED PLAN .....		11

Table of Contents (Cont)

<u>Item</u>	<u>Title</u>	<u>Page</u>
SECTION 3 - AFFECTED ENVIRONMENT.....		12
TERRESTRIAL RESOURCES .....		12
BOTTOM-LAND HARDWOOD FORESTS .....		12
WATERFOWL AND OTHER AVIAN RESOURCES.....		14
ENDANGERED SPECIES .....		16
AQUATIC RESOURCES .....		16
WATER QUALITY .....		18
FISHERY RESOURCES.....		21
WETLAND RESOURCES .....		23
RECREATION RESOURCES.....		24
SOCIOECONOMIC RESOURCES.....		25
COMMERCIAL NAVIGATION .....		25
PUBLIC USE (RECREATION).....		26
CULTURAL RESOURCES.....		26
ENVIRONMENTAL JUSTICE.....		26
SECTION 4 - ENVIRONMENTAL CONSEQUENCES.....		28
POOL DATA.....		28
BOTTOM-LAND HARDWOOD IMPACTS.....		29
WATERFOWL IMPACTS .....		29
ENDANGERED SPECIES IMPACTS.....		30

Table of Contents (Cont)

<u>Item</u>	<u>Title</u>	<u>Page</u>
	WATER QUALITY IMPACTS .....	31
	FISHERY IMPACTS .....	31
	WETLAND IMPACTS .....	32
	RECREATION IMPACTS.....	32
	COMMERCIAL NAVIGATION IMPACTS .....	33
	SOCIOECONOMIC IMPACTS.....	33
	ENVIRONMENTAL JUSTICE IMPACTS.....	34
	CULTURAL RESOURCES IMPACTS .....	34
	CUMULATIVE IMPACTS .....	36
	SECTION 5 - COORDINATION/PUBLIC INVOLVEMENT .....	37
	RELATIONSHIP TO ENVIRONMENTAL STATUTES.....	37
	SECTION 6 – CONCLUSIONS .....	40

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	AQUATIC PLANTS GROWING IN AND AROUND THE FELSENTHAL POOL ..	17
2	GENERAL WATER QUALITY DATA.....	19
3	FISH SPECIES RECORDED IN THE FELSENTHAL POOL.....	22
4	COORDINATION WITH FEDERAL AND STATE AGENCIES AND TRIBES .....	37
5	RELATIONSHIP OF THE PROPOSED ACTION TO ENVIRONMENTAL PROTECTION STATUTES AND REQUIREMENTS .....	38

DRAFT  
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OUACHITA-BLACK RIVERS NAVIGATION PROJECT  
ASHLEY, BRADLEY, AND UNION COUNTIES, ARKANSAS

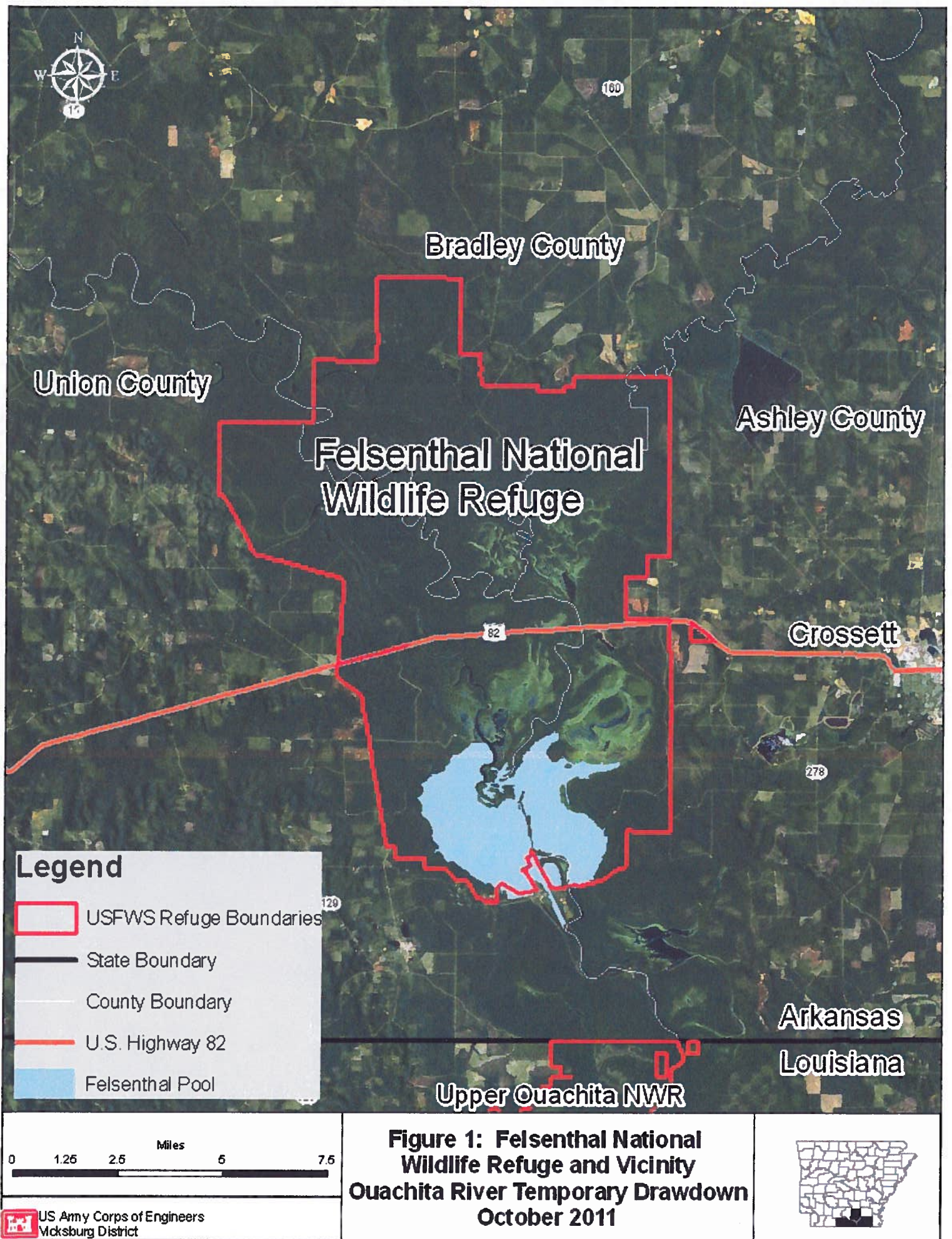
ENVIRONMENTAL ASSESSMENT

SECTION 1 - INTRODUCTION

1. This Environmental Assessment (EA) evaluates the potential beneficial and adverse impacts of a proposed temporary change in the operation of the Felsenthal Lock and Dam, Ouachita-Black Rivers Navigation Project – Ashley, Bradley, and Union Counties, Arkansas. The Felsenthal authorized navigation pool (65 feet, National Geodetic Vertical Datum (NGVD)) is within the boundaries of the Felsenthal National Wildlife Refuge (NWR), Arkansas (Figure 1). The Water Control Plan for the Felsenthal Lock and Dam describes that the primary purpose of the lock and dam is to maintain a minimum navigation pool at elevation 65 feet, NGVD, and secondarily to maintain the pool at elevations between 65 and 70 feet, NGVD, during certain times of the year for fish and wildlife purposes by increasing the pool surface area from 10,000 to 36,000 acres.

2. The Ouachita River Basin is currently experiencing drought conditions which have created lower than normal low-flow conditions in the Ouachita River. The proposed operational change in the Felsenthal Lock and Dam Water Control Plan is a maximum deviation from the authorized navigation pool of 65 feet, NGVD, down to 64 feet, NGVD. This deviation will allow the Corps temporary flexibility in the management of the navigation pool between 65 and 64 feet, NGVD, allowing increased downstream flows and, consequently, allowing municipal and industrial users





Bradley County

Union County

Ashley County

Felsenthal National Wildlife Refuge

Crossett

82

278

129

Arkansas

Louisiana

Upper Ouachita NWR

0 1.25 2.5 Miles 5 7.5





south of the Felsenthal Lock and Dam flexibility to manage wastewater effluent discharges in accordance with the state water quality standards set through the respective states' Department of Environmental Quality (DEQ) permits. This proposed deviation action will require approval by the U.S. Army Corps of Engineers, Mississippi Valley Division.

3. This section provides pertinent information concerning Federal authorizations, purpose and need for the action, a description of the proposed action, and Federal responsibilities and objectives. Alternatives that were considered are presented in Section 2. Section 3 addresses the existing conditions of the area's significant resources, and Section 4 discusses the related resource impacts, scientific uncertainties, and scientific study opportunities. The remaining sections of this EA discuss coordination/public involvement and conclusions reached.

## FEDERAL PROJECTS AND AUTHORITIES

### Ouachita and Black Rivers Navigation Project

4. General authority for enlargement and modernization of the original 6.5-foot navigation project on the Ouachita-Black Rivers to a minimum depth of 9 feet was provided by the River and Harbor Act of May 17, 1950 (Public Law 81-516 and Senate Document 117/81/1), as modified by the River and Harbor Act of July 14, 1960 (Public Law 86-645 and Senate Document 112/86/2), and under the discretionary authority of the Chief of Engineers, U.S. Army Corps of Engineers. Modification of the Felsenthal Lock and Dam structures and its operation to provide a 5-foot seasonal fish and wildlife pool (raise) from elevation 65 feet, NGVD, to elevation 70 feet, NGVD, was approved by the Chief of Engineers Headquarters (HQUSACE) in

December 1964 under the general authority of the Fish and Wildlife Coordination Act (Public Law 85-624). Authority to acquire, at Federal expense, the lands required for the establishment of the D'Arbonne and Felsenthal National Wildlife Refuges was provided by the River and Harbor Act of 1970 (Public Law 91-611). Water supply is not an authorized project purpose.

5. The authority for the development of recreation facilities on Federal water projects was provided by Section 4 of the Flood Control Act of 1944 (Public Law 78-534), as amended by Section 207 of the Flood Control Act of 1962 (Public Law 87-874), and as further amended by the Land and Water Conservation Fund Act of 1965 (Public Law 88-578), as amended, and by the Federal Water Project Recreation Act of 1965 (Public Law 89-72).

#### Felsenthal NWR

6. As indicated, Section 118 of the River and Harbor Act of 1970 (Public Law 91-611) provided for the acquisition of lands for establishment of two NWRs, substantially in accordance with the report of the Chief of Engineers dated November 25, 1970. Pursuant to the authority, the Corps acquired fee simple title to approximately 65,000 acres for the establishment of the Felsenthal NWR. On November 18, 1985, subject lands were transferred to the Department of the Interior subject to "the right of the Corps to construct, modify, operate and maintain the Ouachita-Black Rivers Navigation Project, as presently authorized or as it may be subsequently modified; and further, to complete construction of approved recreational developments located within the Felsenthal NWR as specified in the approved Master Plan for the Project."

NATIONAL ENVIRONMENTAL  
POLICY ACT (NEPA) DOCUMENTATION

Draft Environmental Impact Statement (EIS)

7. A draft EIS that documented the impacts of the Proposed National Wildlife Refuge (Felsenthal) Ouachita and Black Rivers was filed with the Council on Environmental Quality (CEQ) on November 13, 1970. The final EIS, which included Louisiana comments and position concerning the acquisition of additional lands in Louisiana to form the Bayou D'Arbonne NWR as mitigation for increased water levels on lands along Bayou D'Arbonne, was filed on February 8, 1971.

8. The final EIS for the Ouachita and Black Rivers 9-Foot Navigation Project was filed with the CEQ on December 11, 1974. A draft Supplement No. 1 was filed with the Environmental Protection Agency (EPA) on April 27, 1984, which documented the proposed channel realignment feature changes and related impacts. A final Supplement No. 1 was never released because of rights-of-way issues and lack of consensus between the States of Arkansas and Louisiana concerning needs and level of development desired.

1995 EA

9. An EA was prepared in 1995 to determine the potential impacts associated with deviating from the approved Water Control Plan by implementing a 1-foot trial drawdown to 64 feet, NGVD, of the existing Felsenthal NWR in Ashley, Bradley, and Union Counties, Arkansas. The purpose of the drawdown was to improve waterfowl habitat. Based on the information provided in the 1995 EA, it was determined that the proposed trial drawdown would not adversely impact

any significant environmental resources, resulting in a Finding of No Significant Impact.

#### PURPOSE AND NEED FOR PROPOSED ACTION

10. The Ouachita River Basin in Arkansas and Louisiana is experiencing a severe drought. At the present, there is essentially no meaningful stream flow in the river. The immediate impact of the drought is that the cities and industries adjacent to the Ouachita River in both states have had to cease or curtail the discharge of effluent into the river. The drought is causing a health crisis for the cities which cannot discharge their wastes and an economic hardship for the industries that will have to cease operations because they cannot discharge their effluent. The respective governors of the States of Louisiana and Arkansas have formally requested emergency releases of water from reservoirs and locks and dams operated by the Corps of Engineers.

## SECTION 2 – ALTERNATIVES

### ALTERNATIVE A: NO-ACTION ALTERNATIVE

11. Under the no-action alternative, the Corps would continue to operate the Felsenthal Lock and Dam in accordance with the approved Felsenthal Water Control Plan. The Felsenthal pool is normally raised up to elevation 70 feet, NGVD, from November to January for wildlife purposes. However, this year the U.S. Fish and Wildlife Service (FWS) requested that the pool be maintained at 65 feet, NGVD, to reduce stress and improve the vigor of the terrestrial habitat within the pool (Attachment 1). Therefore, under this alternative, the navigation pool would be maintained at the authorized elevation of 65 feet, NGVD. The flow released from the lock and dam would be contingent upon the amount of flow that enters the pool upstream of the lock and dam. The amount of flow available to users downstream of the lock and dam would be dependent on flow entering the Ouachita River through rainfall or release from reservoirs upstream of the Felsenthal. The current flow passing through Felsenthal Lock and Dam is approximately 300 to 350 cubic feet per second (cfs). The pool at 65 feet, NVGD, is approximately 10,000 acres.

**ALTERNATIVE B: TEMPORARY 1-FOOT  
MAXIMUM DRAWDOWN TO 64 FEET, NGVD**

12. Alternative B would temporarily change the operation of the Felsenthal Lock and Dam to allow the Corps flexibility in the management of the navigation pool between 65 and 64 feet, NGVD, to augment the current low flows and consequently allow municipal and industrial users south of the Felsenthal Lock and Dam flexibility to manage effluent discharges in accordance with the state water quality standards set through the respective states' Department of Environmental Quality (DEQ) permits. The pool will be managed incrementally from the authorized 65 feet down to no less than 64 feet, NGVD. During this period, the pool level will fluctuate between 64 and 65 feet, NGVD, depending on the flows entering the Felsenthal pool.

13. Assuming no substantial increase in flows entering the pool, the pool will fluctuate between 65 and 64 feet, NGVD, to allow flexibility to downstream users in the management of their permitted discharges. For example, if the flows were increased from the current flow of approximately 300 cfs to approximately 500 cfs, it would increase flow from Felsenthal for approximately 18 days. Under this scenario, the pool would fluctuate between approximately 10,000 to 3,500 acres. The actual duration of increased releases and pool size will be dependent



upon the timing and quantity of inflows to the pool. It is anticipated that additional releases from Lakes Hamilton and Catherine of up to 3,500 cfs for approximately 7 days in early November will allow more flow to be passed through the Felsenthal Lock and Dam. The lock and dam would be operated to store these releases within the constraints of the current water control plan (up to 70 feet, NGVD). This storage would then be managed to augment current low flows in an attempt to meet the needs of the municipalities and other users downstream of Felsenthal lock and dam. The estimated additional duration for increased releases assuming that the 500-cfs flow is maintained is approximately 3 months; however, there will be a lag time of approximately 7 days between reaching 64 feet, NGVD, in the pool and when reservoir discharges begin to replenish the pool. Assuming no substantial additional inflows into the pool, this action combined with managing the pool between 65 and 64 feet, NGVD, would provide approximately 3.5 months of increased flow to users downstream. The pool would fluctuate from approximately 36,000 to 3,500 acres. The actual duration of increased releases and pool size will be dependent upon the timing and quantity of inflows to the pool.

14. Alternative B provides the maximum management flexibility and would provide for the greatest duration of increased flow for downstream users.

**ALTERNATIVE C: TEMPORARY 0.5-FOOT  
MAXIMUM DRAWDOWN TO 64.5 FEET, NGVD**

15. Alternative C would temporarily change the operation of the Felsenthal Lock and Dam to allow the Corps temporary flexibility in the management of the navigation pool between 65 and 64.5 feet, NGVD, and consequently allow municipal and industrial users south of the Felsenthal

Lock and Dam flexibility to manage effluent discharges in accordance with the state water quality standards set through the respective states' DEQ permits. The pool will be managed incrementally from the authorized 65 feet down to a maximum of 64.5 feet, NGVD. During this period, the pool level will fluctuate between 64.5 and 65 feet, NGVD, depending on the flows entering the Felsenthal pool.

16. Assuming no substantial increase in flows entering the pool, the pool would fluctuate between 65 and 64.5 feet, NGVD, to allow flexibility to downstream users in the management of their permitted discharges. For example, if the flows were increased from the current flow of approximately 300 cfs to approximately 500 cfs, it would increase flow from Felsenthal for approximately 9 days. Under this scenario, the pool would fluctuate between approximately 10,000 to 6,750 acres. The actual duration of increased releases and pool size will be dependent on the timing and quantity of inflows to the pool.

17. It is anticipated that additional releases from Lakes Hamilton and Catherine up to 3,500 cfs for approximately 7 days in early November will allow more flow to be passed through the Felsenthal Lock and Dam. The lock and dam would be operated to store these releases within the constraints of the current water control plan (up to 70 feet, NGVD). This storage would then be managed to augment current low flows in an attempt to meet the needs of the municipalities and other users downstream of Felsenthal Lock and Dam. The estimated additional duration for increased releases, assuming that the 500-cfs flow is maintained, is approximately 3 months; however, there will be a substantially longer lag time than Alternative B. Assuming no substantial additional inflows into the pool, this action combined with managing the pool

between 65 and 64.5 feet, NGVD, would provide approximately 3 months and 9 days of increased flow to users downstream. The pool would fluctuate from approximately 36,000 to 6,750 acres. The actual duration of increased releases and pool size will be dependent upon the timing and quantity of inflows to the pool.

18. Alternative C minimizes the adverse impact to the pool size and consequently waterfowl habitat, but it would provide less management flexibility and would provide for a shorter duration of increased flows from Felsenthal.

#### SELECTED PLAN

19. Alternative B, the temporary 1-foot drawdown alternative, is the selected plan.

20. The proposed temporary increase in flow will assist downstream effluent dischargers to maintain Federally-mandated and state-enforced water quality standards. Impacts to navigation, if any, will not be significant. Available habitat for waterfowl will fluctuate in the pool being dependent upon the timing and quantity of inflows to the pool. The pool at 65 feet, NGVD, is approximately 10,000 acres and at 64 feet, NGVD, it is 3,500 acres.

## SECTION 3 - AFFECTED ENVIRONMENT

21. The Ouachita River, including the Felsenthal area, has been the focus of several Federal activities, including numerous studies concerning the physical characteristics and natural conditions within the Felsenthal Basin. The following information focuses on the significant environmental resources within the Felsenthal area that may be affected by the proposed action. An environmental resource is a natural or cultural form, attribute, process, system, or phenomenon. Significant means institutional, publicly and technically recognized, and having a material bearing in the decision-making process.

### TERRESTRIAL RESOURCES

22. The 65,000-acre Felsenthal NWR lies within the Felsenthal Basin which is the remnant of a huge lake that at one time extended from now south-central Arkansas to below the current location of Monroe, Louisiana. The basin is an extensive, natural depression that is dissected by an intricate system of rivers, sloughs, bayous, and lakes separated mostly by woodlands. The area normally floods each year from overflows of the Ouachita and Saline Rivers.

#### Bottom-land Hardwood Forests

23. The NWR encompasses approximately 65,000 acres consisting of approximately 10,000 acres of uplands, 40,000 acres of bottom-land hardwoods, and 15,000 acres of water areas.

24. Within the 26,000-acre green tree reservoir (GTR), between elevation 65 and 70 feet, NGVD, bottom-land timber types include baldcypress-water tupelo (*Taxodium distichum-Nyssa aquatica*), overcup oak-water hickory (*Quercus lyrata-Carya aquatica*), and sweetgum-Nuttall oak-willow oak (*Liquidambar styraciflua-Q.nuttallii-Q.phellos*). Cypress and tupelo areas comprise approximately 1,000 acres in sloughs and along the border of the permanent pool that have almost constantly saturated soils. The overcup oak and water hickory type occur within backwater basins and poorly drained flats and encompass approximately 16,000 acres. The sweetgum-Nuttall and willow oak forest generally occur on the better drained sites within the GTR and encompass approximately 10,000 acres. The FWS forest management objective within the GTR is to maintain and improve the proportion of Nuttall and willow oak. These two species produce mast that is more desirable to waterfowl than other mast-producing varieties.

25. The Felsenthal GTR differs in two key respects from many GTRs in that it is formed by natural ground surface contours and by damming a large river, rather than by diverting water into an area surrounded by low levees. This makes water level control more difficult in that during any year natural river conditions can override attempts to maintain or lower water levels at designated times. For the first 2 years of operation (1985-1986), FWS specified a gradual raising of the GTR pool from 65 feet, NGVD, on 1 November to 70 feet, NGVD, on or about January 1, where it was maintained and then gradually lowered to 65 feet, NGVD, on or about March 1. Since 1986, the GTR has been managed on a more variable schedule as directed by FWS.

## WATERFOWL AND OTHER AVIAN RESOURCES

26. Waterfowl resources have long been identified as nationally and internationally significant by the enactment of various laws, treaties, and agreements; i.e., the 1928 Migratory Bird Conservation Act and 1986 North American Waterfowl Agreement between the United States and Canada. The Felsenthal Basin, located on the Mississippi River Flyway with its combination of bottom-land hardwoods, wetlands, and open water areas, has attracted large numbers of migratory birds, including substantial numbers of wintering waterfowl. However, as a whole, continental waterfowl populations have experienced a long-term decline. Various reasons are attributed to the overall declines, including droughts in the prairie pothole nesting areas in Canada and the United States and degradation and loss of habitat (FWS and Canadian Wildlife Service, 1986). Consequently, habitat quality has become increasingly important.

27. Mallards (*Anas platyrhynchos*) and wood ducks (*Aix sponsa*) are the most abundant waterfowl species and primarily use forested areas. Gadwalls (*Anas strepera*), American wigeons (*A. americana*), green-winged teal (*A. crecca*), northern pintails (*A. acuta*), ring-necked ducks (*Aythya collaris*), and lesser scaup (*A. affinis*) use more open portions of the pool. Consultation with staff at Felsenthal National Wildlife Refuge indicated that approximately 45,000 to 75,000 waterfowl overwintered at the Refuge during the past three migration seasons (2008-2009, 2009-2010, and 2010-2011). Predictions indicate that the 2011-2012 migration season will provide waterfowl numbers on the higher end of this range.



28. Great blue heron (*Ardea herodias*) and several species of egrets and night herons are common on the NWR. Double-crested cormorants (*Phalacrocorax auritus*), which increased significantly in recent years, and anhingas (*Anhinga anhinga*) are present year-round. Wood stork (*Aycteria americana*), a declining and rare species throughout their range, are an observed summer resident. Killdeer (*Caradrius vociferus*) are permanent resident shorebirds, while American woodcock (*Scolopax minor*), common snipe (*Gallinago gallinago*), sandpipers, and yellowlegs (*Tringa spp.*) are seasonal visitors. Many raptors are present including barn owl (*Tyto alba*), barred owl (*Strix varia*), great-horned owl (*Bubo virginianus*), eastern screech owl (*Otus asio*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*B. jamaicensis*), northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), American kestrel (*Falco sparverius*), and osprey (*Pandion haliaetus*). Wild turkeys (*Meleagris gallopavo*) and northern bobwhite (*Colinus virginianus*) are common residents.

29. Bottom-land hardwoods within the refuge are also important breeding sites for many species of neotropical migratory song birds. Species warranting special conservation include prothonotary warbler (*Protonotaria citrea*), wood thrush (*Hylocichla mustelina*), yellow-throated vireo (*Vireo flavifrons*), and Kentucky warbler (*Oporornis formosus*). Like waterfowl, both neotropical and shorebird populations have also been declining both continentally and internationally. Available resting, feeding, and nesting habitats along the migration routes are of primary importance.

## ENDANGERED SPECIES

30. The FWS Ecological Services Branch maintains a comprehensive list of species by county for the State of Arkansas. Federal listed species for Ashley, Bradley, and Union Counties, Arkansas, are the endangered red-cockaded woodpecker (*Picoides borealis*) and the protected bald eagle (*Haliaeetus leucocephalis*). Red-cockaded woodpeckers are almost completely restricted to the pine forest in upland areas. Bald eagles winter around the navigation pool and open water areas, feeding on fish, carrion, and waterfowl.

## AQUATIC RESOURCES

31. The original lock and dam for the 6.5-foot navigation project (circa 1925) inundated nearly 5,000 acres within the current refuge boundaries. When the current Felsenthal Lock and Dam became operational (1985), it raised the permanent pool an additional 3.4 feet to elevation 65 feet, NGVD, permanently inundating another 5,000 acres of bottom land within the refuge boundaries. The 10,000-surface-acre permanent pool and peripheral wetland areas provide habitats for diverse fisheries and aquatic communities. These communities depend, to a large extent, on the annual cycle of spring flooding and drawdown.

32. The shallow water areas and margins of the pool are covered by a variety of aquatic plants (Table 1). In between the forest debris, along the deeper areas, buttonbush is predominant. In openings along the moist edge of the pool, smartweed, wild millet, and sedges are the dominant

vegetation, followed by arrowhead and water hyssop. Water primrose and frog's bit are found within the shallow areas. Coontail and American lotus are found in quantity in deeper pool areas.

TABLE 1  
AQUATIC PLANTS GROWING IN AND AROUND THE FELSENTHAL POOL

Common Name	Scientific Name
Common buttonbush	<i>Cephalanthus occidentalis</i>
Arrowhead	<i>Sagittaria spp.</i>
Waterhyssop	<i>Bacopa sp.</i>
Water-primrose	<i>Ludwigia sp.</i>
Frog's bit	<i>Limnobium spongia</i>
Coon-tail	<i>Ceratophyllum sp.</i>
American lotus	<i>Nelumbo lutea</i>
Pondweed	<i>Potamogeton spp.</i>
Bladderwort	<i>Utricularia sp.</i>
Spikerush	<i>Eleocharis spp.</i>
Naiad	<i>Najas sp.</i>
Smartweed	<i>Polygonum spp.</i>
Common Barnyardgrass	<i>Echinochloa crusgalli</i>
Spangletop	<i>Leptochloa sp.</i>
Beggarticks	<i>Bidens sp.</i>
Sedge	<i>Carex spp.</i>
Flatsedge	<i>Cyperus spp.</i>
Mudplantain	<i>Heteranthera sp.</i>
Watershield	<i>Basenia schreberi</i>
Fragrant Waterlily	<i>Nymphaea odorata</i>
Common Duckweed	<i>Lemna sp.</i>
Giant Duckweed	<i>Spirodela sp.</i>
Paspalum	<i>Paspalum spp.</i>
Mosquito Fern	<i>Azolla mexicana</i>
Panicum	<i>Panicum spp.</i>
Lovegrass	<i>Eragrostis sp.</i>

## Water Quality

33. The U.S. Geological Survey (USGS) and the Arkansas Department of Environmental Quality (ADEQ) have been monitoring water quality in the Ouachita River and the Felsenthal pool for many years. Both agencies operated stations at Felsenthal prior to construction of Felsenthal Lock and Dam. Both have also collected data at the Highway 82 Bridge near Crossett since 1981 in the Felsenthal pool. Data retrieved from the EPA storage and retrieval database (STORET) and the USGS National Water Information System (NWIS) database are summarized in Table 2. In general, water quality in this section of the Ouachita River is good. The Ouachita River is low in dissolved solids, nutrients, and turbidity with most samples meeting all state water quality criteria. The following discussion of individual parameters is based on the water quality data obtained at the ADEQ station at Felsenthal Lock and Dam (OUA0008B), which, with a period of record (POR) of 1993 to 2011, has the most comprehensive and up-to-date data available.

TABLE 2  
GENERAL WATER QUALITY DATA

Station ID Number Agency Years	Below Felsenthal USGS 1997- 2011	Felsenthal 07364080 USGS 1966-1981	Crossett OUA08A ADEQ 1981-1993	Felsenthal OUA0008B ADEQ 1993 - 2011	Water Quality Criteria
<b>GENERAL WATER QUALITY PARAMETERS</b>					
TEMPERATURE DEGREES C	46 19.2 2.2-30.6	100 21.8 2-35	97 21.5 5.0-34.0	173 20.5 1.0-33.0	32
DISSOLVED OXYGEN	44 6.3 1.0-10.2	95 7.5 1.2-12.7	78 7.3 3.6-11.9	169 7.9 4.7-12.1	5
PH	47 6.6 6.0-7.1	1047 6.8 3.6-8.5	87 6.89 6.14-7.78	173 7.0 6.2-8.1	6-9
CONDUCTIVITY	-	1077 810 33-4490	39 196 61-410	-	
TURBIDITY	-	10 22.3 2.5-50	85 18.2 4.4-65.0	174 17.0 0.9-63.6	
ALKALINITY	-	982 15.3 0-100	90 34.9 17-50	102 16.7 0.30-82.2	
TOTAL DISSOLVED SOLIDS	-	21 143.9 74-333	82 124.7 50-269	172 77.8 41.0-165	350
CHLORIDE	-	1065 22.7 2-1380	85 37.3 4-120	175 12.7 2.1-104	160
SULFATE SO4	-	1064 10 1-66	83 12.9 3-28	176 10.2 2.7-115	40
TOTAL PHOSPHORUS	-	35 0.065 0.02-0.150	79-81 0.068 0.030-0.180	7 0.36 0.026-0.050	
NITRATE-NITRITE NITROGEN	-	26 0.29 0.09-0.65	84 0.24 0.07-0.58	158 0.156 0.015-1.48	

TABLE 2 (Cont)

Station ID Number Agency Years	Below Felsenthal USGS 1997- 2011	Felsenthal 07364080 USGS 1966-1981	Crossett OUA08A ADEQ 1981-1993	Felsenthal OUA0008B ADEQ 1993 - 2011	Water Quality Criteria
GENERAL WATER QUALITY PARAMETERS					
TOTAL KJEDAHL NITROGEN	-	39 0.76 0.1-1.7	35-41 0.568 0.100-1.700	167 0.53 0.17-1.2	
TOTAL ORGANIC CARBON	24 6.0 3.1-9.6	1 5.0	48 5.7 3.5-9.9	169 7.48 3.07-17.1	

NOTE: Concentrations are for total number of observations, mean and minimum-maximum range, respectively.

34. In situ parameters of temperature, dissolved oxygen, conductivity, hydrogen ion concentration (pH), and turbidity are usually within acceptable ranges and indicate good water quality. Temperature varies seasonally with an observed range of 1.0 to 33.0 degrees C at Felsenthal with only 2 samples exceeding the state criterion of 32 degrees C. The dissolved oxygen (DO) concentrations ranged from 4.7 to 12.1 milligrams per liter (mg/l). Only one sample collected during the POR was less than the state minimum limit of 5.0 mg/l for fisheries. The USFWS reports that dissolved oxygen levels sometimes drop well below 5 mg/l in the Felsenthal Pool south of Highway 82 during the summer low flow months (June-September). The observed pH has a mean of 7.0 standard units (SU) and ranges from 6.2 to 8.1 SU, which is within the state range of 6.0 to 9.0 SU. Turbidity had a mean of 17 NTU, indicating low suspended solids concentrations.

35. Total dissolved solids (TDS) and major anions, chloride and sulfate, are also within acceptable ranges. Only one sample collected for sulfate exceeded the state criterion of 40 mg/l. None of the total dissolved solids of chloride samples exceeded their respective criteria.



36. Only 7 samples were analyzed for total phosphorus (TP). The mean TP was 0.036 mg/l. Total nitrate/nitrite nitrogen, and total Kjeldahl nitrogen (TKN) means were 0.156 and 0.530 mg/l, respectively.

37. The ADEQ also collected water samples for organics such as herbicides, organochlorine pesticides and PCBs at station OUA0008B at least once during the POR. None of these parameters were detected at concentrations greater than their method reporting limits. Samples collected by USGS and ADEQ prior to 1993 also indicate a lack of pesticide and PCB contamination.

#### Fishery Resources

38. The fishery resources of the Felsenthal pool are very valuable with high species diversity (Table 3). The Arkansas Game and Fish Commission has significant input in managing the refuge fisheries. Due to the complexity of the Felsenthal pool, management consists largely of fish stocking and monitoring populations through sampling. To increase fish spawning and young-of-the-year survival, the seasonal water level in the pool is typically held at 70 feet, NGVD, until March 1, annually. The level is then gradually lowered to 65 feet, NGVD, by 24 May. However, refuge staff has requested that the pool be maintained at 65 feet, NGVD, for the upcoming 2011-2012 season to improve forest health and the overall health of the GTR. Continued fishing success has contributed to increased annual refuge visitation by fishermen.

TABLE 3  
FISH SPECIES RECORDED IN THE FELSENTHAL POOL

Common Name	Scientific Name
Paddlefish	<i>Polyodon spathula</i>
Bowfin	<i>Amia calva</i>
Spotted Gar	<i>Lepisosteus oculatus</i>
Shortnose Gar	<i>Lepisosteus platostomus</i>
Gizzard Shad	<i>Dorosoma cepedianum</i>
Threadfin Shad	<i>Dorosoma petenese</i>
Chain Pickerel	<i>Esox niger</i>
Carp	<i>Cyprinus carpio</i>
Golden Shiner	<i>Notemigonus crysoleucas</i>
Shiner	<i>Notropis spp.</i>
Bigmouth Buffalo	<i>Ictiobus cyprinellus</i>
Spotted Sucker	<i>Minytrema melanops</i>
American Eel	<i>Anguilla rostrata</i>
Blue Catfish	<i>Ictalurus furcatus</i>
Yellow Bullhead	<i>Ictalurus natalis</i>
Channel Catfish	<i>Ictalurus punctatus</i>
Flathead Catfish	<i>Pylodictis olivaris</i>
Topminnow	<i>Fundulus spp.</i>
Mosquitofish	<i>Gambusia affinis</i>
Pirate Perch	<i>Aphredoderus sayanus</i>
Brook Silverside	<i>Labidesthes sicculus</i>
Yellow Bass	<i>Morone mississippiensis</i>
Chestnut Lamprey	<i>Ichthyomyzon castaneus</i>
Alligator Gar	<i>Lepisosteus spatula</i>
Longnose Gar	<i>Lepisosteus osseus</i>
Skipjack Herring	<i>Alosa chrysochloris</i>
Striped Bass	<i>Morone saxatilis</i>
Flier	<i>Centrarchus macropterus</i>
Warmouth	<i>Lepomis gulosus</i>
Orangespotted Sunfish	<i>Lepomis humilis</i>
Bluegill	<i>Lepomis macrochirus</i>
Longear Sunfish	<i>Lepomis megalotis</i>
Redear Sunfish	<i>Lepomis microlophus</i>
Spotted Sunfish	<i>Lepomis punctatus</i>
Spotted Bass	<i>Micropterus punctulatus</i>
Largemouth Bass	<i>Micropterus salmoides</i>
White Crappie	<i>Pomoxis anularis</i>
Black Crappie	<i>Pomoxis nigromaculatus</i>
Darter	<i>Etheostoma spp.</i>
Logperch	<i>Percina caprodes</i>
Freshwater Drum	<i>Aplodinotus grunniens</i>
Striped Mullet	<i>Mugil cephalus</i>

## WETLAND RESOURCES

39. In addition to their high value for fish and wildlife, the bottom-land hardwood and emergent wetland ecosystem within the area have several other important functions. These functions include floodwater detention, sediment and contaminant retention, nutrient and dissolved substance removal, organic carbon export, water velocity reduction, and erosion control.

40. Floodwater detention is the ability of wetlands, in this case the bottom land and pool area, to store water during flood events. The naturally wide, low-lying Felsenthal basin has long served as a major natural floodwater sump storage area for the Ouachita River drainage basin. This capacity protects downstream areas from flooding by attenuating and delaying flood peaks. The amount of flood protection provided is a function of the amount of water that can be stored and the time that floodwaters stay in storage.

41. Wetlands, such as Felsenthal, serve as a natural sediment retention area. Since contaminants frequently adhere to suspended particles, they are also removed from the water in this process.

42. The natural assimilation process by the various plant associations serve in the removal, absorption, and transformation of various nutrient and dissolved substances (i.e., nitrogen transformation), whereas exported organic carbon (plant material) serves as the basis for the aquatic food webs.

## RECREATION RESOURCES

43. Ten recreation areas provide year-round boat access into the Felsenthal pool. Seven of the sites are within the refuge boundaries. Four of the facilities are owned by the Corps, three by FWS, and two are state owned. The town of Crossett owns the Crossett Harbor landing. The Corps facilities include Grand Marais, Upper and Lower Felsenthal, and H. K. Thatcher. Lower Felsenthal Landing, although technically not within the Felsenthal pool, is located on the downstream side of the Lock and Dam. H. K. Thatcher is located approximately 27 miles upstream of the refuge boundary. The Grand Marais site is leased to private interests and includes camping facilities. The three FWS-maintained sites are Pine Island, Highway 82 Campground, and Shallow Lake.

44. Each of the boat-launching facilities constructed by the Corps was designed for a 65-foot minimum pool elevation. At a 65-foot pool, measured depths at the ends of the ramps are 4 feet 10 inches at H. K. Thatcher, 5 feet 3 inches at Upper Felsenthal, 5 feet 2 inches at Lower Felsenthal, 4 feet 11 inches at Crossett Harbor, 2 feet 11 inches at Grand Marais, 4 feet 10 inches

at Shallow Lake, 5 feet at Pine Island, and 8 feet 4 inches at Highway 82. Three small boat access channels (Open Brake Cut, Wildcat Lake Cut, and Redeye Lake) developed by FWS provide access from the main river channel to backwater areas. The Redeye Lake channel is only accessible during high water periods normally in late winter and spring months.

## SOCIOECONOMIC RESOURCES

45. The Ouachita River Navigation Project was developed to provide socioeconomic benefits to commercial navigation interests and to the general public. As previously indicated, the project has multiple uses and users.

### Commercial Navigation

46. The Ouachita River system is used for commercial barge transportation accommodating a maximum of 9-foot draft tows. In 1994, maintenance dredging was completed on the system including the Felsenthal pool. The dredging was accomplished with the use of a hydraulic dredge, side-casting the dredged material outside of the channel within selective reaches. The maintenance dredging was required to reestablish the authorized project channel dimensions. Currently, Camden, Arkansas, is at the head of navigation; however, there are no tows scheduled to go north of Crossett.

### Public Use (Recreation)

47. Public use of the Felsenthal NWR and related facilities varies seasonally with a fishing upsurge in April that usually peaks in May and decreases rapidly through July and August. Waterfowl hunting season begins in September and continues through January. During these months, waterfowl hunters frequent the refuge.

### CULTURAL RESOURCES

48. The Ouachita and Saline Rivers bottom lands are rich in prehistoric and historic cultural remains. Within the Felsenthal NWR boundaries, there are over 200 known cultural resource sites with an estimated 30 sites eligible for listing in the National Register of Historic Places (NRHP). Many of the known sites are located along banks of streams and other water bodies within the NWR, some at or near the edge of the existing pool.

### ENVIRONMENTAL JUSTICE

49. The population in Ashley County was 24,209 in the 2000 census. The median household income in the county was \$31,758. The racial makeup in the county was 69.78 percent White, 27.10 percent African American, 0.21 percent Native American, 0.18 percent Asian, 0.05 percent Pacific Islander, and 3.21 percent was Hispanic or Latino.



50. The population in Bradley County was 18,873 in the 2000 census. The median household income in the county was \$38,936. The racial makeup in the county was 53.36 percent White, 39.63 percent African American, 0.24 percent Native American, 0.06 percent Asian, 0.01 percent Pacific Islander, and 4.25 percent was Hispanic or Latino.

51. The population in Union County was 45,629 at the 2000 census. The median household income in the county was \$29,809. The racial makeup in the county was 66.15 percent White, 39.97 percent African American, 0.24 percent Native American, 0.40 percent Asian, 0.01 percent Pacific Islander, and 1.14 percent was Hispanic or Latino.

## SECTION 4 - ENVIRONMENTAL CONSEQUENCES

52. This section describes the potential impacts, beneficial and adverse, that would occur as a result of Alternative B. The discussions of the impacts to the resources are presented generally in the same order as they were discussed in the Affected Environment Section.

### POOL DATA

53. At 64 feet, NGVD, the Felsenthal pool encompasses approximately 3,500 acres of surface water. At 65 feet, NGVD, the pool covers approximately 10,000 acres of surface water. At 70 feet, NGVD, the pool is expanded to approximately 36,000 acres of surface water.

Alternative A would retain the pool at approximately 10,000 acres of surface water.

Alternative B would fluctuate pool levels between 3,500 and 36,000 acres, depending on upstream inflows and outgoing releases. Alternative C would allow fluctuation of pool levels between approximately 6,750 and 36,000 acres, depending on upstream inflows and outgoing releases.

## BOTTOM-LAND HARDWOOD IMPACTS

54. Inundation during the fall and winter dormant season has relatively little effect on the physiology and survival of bottom-land species. However, the effects of inundation are most critical to the health and diversity of bottom-land species during the growing season, particularly after leafout (foliation) in March. Therefore, from the perspective of overall improvements for bottom-land hardwoods, the optimum timing for a drawdown would be during April and May as river stages normally fall. Alternative B would occur during the months of October and November, thus there would be minimal impacts to bottom-land hardwood species in the project area and even less associated with Alternative C.

## WATERFOWL IMPACTS

55. Alternative B would expose a maximum of 6,500 acres of pool bottom. It is assumed the drawdown zone would not support moist soil plant establishment due to the timing of the drawdown. Due to the reduction in the surface area of the navigational pool, foraging habitat for migratory waterfowl will be reduced by the proposed action. Up to 6,500 acres of foraging habitat will be temporarily unavailable by conducting the proposed drawdown during the migrating season. This estimate is anticipated to be the “worst-case scenario,” and it is much more likely that less acreage will be temporarily impacted due to water levels fluctuating between 64 and 65 feet, NGVD.

56. Felsenthal NWR staff previously requested that the pool not be raised to 70 feet, NGVD, during the 2011-2012 season. This would reduce available waterfowl foraging habitat by approximately 26,000 acres from typical conditions. Alternative B would further reduce foraging habitat by a maximum of 6,500 acres. Alternative C would reduce foraging habitat by a maximum of 3,250 acres.

#### ENDANGERED SPECIES IMPACTS

57. Vicksburg District, biologists have determined that none of the proposed alternatives would impact any threatened or endangered species. On October 11, 2011, Vicksburg District biologists communicated verbally with both Arkansas and Louisiana Fish and Wildlife Services, and both agencies indicated that the proposed action would not likely impact any threatened or endangered species. All interested stakeholders will be provided a draft copy of the EA to review and comment on the proposed undertaking.

### Water Quality Impacts

58. No significant impacts to water quality due to pool drawdown are anticipated. Slight decreases in dissolved oxygen may occur due to the transport of organic material during pool drawdown. These are anticipated to be minimal. The oxidation of the exposed sediments by air and sunlight during the drawdown may decrease the amount of organic material and reduce loadings to the water column. The reduction in the available organic substrate may reduce the potential for methyl-mercury formation when the pool is again raised. Overall, the impacts to water quality associated from pool lowering are anticipated to be minimal.

### Fishery Impacts

59. Current data suggests approximately 40 industries in Arkansas release effluents into the Ouachita River downstream of Felsenthal Lock and Dam. Alternative B will likely have a positive effect on the fishery resources. The surface area of the pool will be decreased from 10,000 acres to approximately 3,500 acres. Fish will be concentrated, which will increase competition and make smaller fish more susceptible to predation. When the pool is raised, competition will be decreased and the fewer, but larger, fish will grow faster, creating both a healthy spawning population and more catchable fish. The drawdown will also expose organic material on the bottom, which will increase the rate of decomposition thereby increasing nutrient

levels and primary productivity in the pool. It is anticipated that the proposed action will aid in the control of undesirable aquatic vegetation in portions of the pool bottom that are exposed by the temporary drawdown. These combined effects will enhance the fishery. This benefit would be lessened if Alternative C were implemented.

## WETLAND IMPACTS

60. The proposed action would occur after the normal high water periods and at such a rate that the increase in downstream flow would not induce any flood damage. Neither alternative would significantly change the sediment retention capacity of Felsenthal pool. Some of the area that would be exposed by the drawdown is unvegetated and has a relatively low capacity for nutrient and dissolved substance removal. Exposure of approximately 6,500 acres of existing pool bottom would accelerate the release of organic carbon by aerobic decomposition. The released organic carbon will increase primary productivity.

## RECREATION IMPACTS

61. Alternative B would impact most boat landings within the Felsenthal pool. At some of these sites, boaters could experience increased difficulty in launching boats as well as accessing the river through various access channels. The Grand Marais boat launch facility would effectively be rendered unusable because there would be less than 2 feet of water depth at the

end the ramp. All of the other sites would remain usable at reduced efficiency. This impact would be slightly lessened if Alternative C were implemented.

## COMMERCIAL NAVIGATION IMPACTS

62. As previously noted, the 1-foot drawdown should not significantly impact commercial navigation. The minimum level of the drawdown will be 64 feet, NGVD, 1 foot lower than the authorized pool. However, navigation will not be impacted because vessels travelling upstream of Felsenthal Lock and Dam only travel as far as Crossett Harbor. Survey crews have determined that a 9-foot navigation channel would still be available to Crossett Harbor when the pool is at 64 feet, NGVD.

## SOCIOECONOMIC IMPACTS

63. Implementation of Alternative B would provide flexibility to augment current low flows in an attempt to meet the needs of the municipalities and other users downstream of Felsenthal Lock and Dam. Current data suggests approximately 40 industries in Arkansas release effluents into the Ouachita River downstream of Felsenthal Lock and Dam. It is currently unknown how many industries in Louisiana dispose of their effluents in the Ouachita River downstream of Felsenthal Lock and Dam. Failure to implement the proposed action would result in continuing economic hardships experienced by industries and municipalities downstream. Implementation of Alternative C would provide temporary economic benefits, however, not to the same magnitude of Alternative B.

64. As discussed previously, boaters forced to travel to alternative landings, other than the Upper Felsenthal, Lower Felsenthal, Shallow Lake, Pine Island, and Highway 82 Campground Landings, would incur additional travel cost to return to the vicinity of the Grand Marais Landing. A decline in the numbers of fishermen and hunters in the Felsenthal NWR might be expected due to lower lake levels; however, these impacts should be minimal and temporary.

#### ENVIRONMENTAL JUSTICE IMPACTS

65. Because the proposed project is located in a rural area and the benefits of the temporary increased flow will occur to municipalities, it has been determined that the implementation of Alternative B will not exert “disproportionately” high indirect, adverse human, health, or environmental impacts on minority and/or low-income residents or communities.

#### CULTURAL RESOURCES IMPACTS

66. A 1995 archeological assessment of impacts of the 1-foot drawdown resulted in a finding of “no adverse effect” under Section 106 of the National Historic Preservation Act. The results of that 1995 archeological assessment are discussed briefly below.

67. Within the Felsenthal boundaries, there are over 200 known cultural resources sites with an estimated 30 sites eligible for listing in the NRHP. In 1995, the Vicksburg District consulted with the Arkansas State Historic Preservation Officer (SHPO) and several Federally recognized



Native American tribes regarding the potential effects of the proposed trial, one-time, 1-foot pool drawdown program. Based upon information gathered during archeological studies conducted during the last 15 years, the Corps and consulting parties concurred that two sites (3AS316 (Hawthorn 1) and 3UN180 (Fishtrap Lake 2)) were located within the area of potential effect (APE) of the proposed drawdown. Based upon data obtained by site revisits on August 29 and 30, 1995, Corps archeologists recommended that both sites no longer be considered eligible for inclusion in the NRHP.

68. After these revisits, Site 3AS316 was deemed ineligible due to its total lack of artifacts and cultural features, as well as Site 3UN180, due to the amount of destruction caused by cyclical flooding since it was originally tested in the early 1980s. It was concluded that neither of the two sites had potential for containing intact features or information. Based on existing data, the Corps concluded that the potential effects of the currently proposed drawdown are identical to the 1995 drawdown and recommend a finding of “no adverse effect” for the proposed action.

69. Coordination dated October 12, 2011, was sent to the SHPO and the Osage, Quapaw, and Caddo Native American tribes asking for comments. Consultation is ongoing. The Vicksburg District is committed to monitor and respond, as needed, regarding the possibility of an inadvertent discovery of any yet-identified cultural resources throughout the APE. If such inadvertent discovery is made during the course of the project, the Corps will conduct additional consultation and the resource will be evaluated, assessed for effects, and mitigated in accordance with Federal statutes and regulations (36 CFR Part 800.11 (b)(2) and 35 CFR Part 800.61).

## CUMULATIVE IMPACTS

70. The CEQ regulations (40CFR §1500-1508) implementing the procedural provisions of NEPA of 1969, as amended (42 U.S.C. 4321 et seq.), define cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR §1508.7).” Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

71. Implementation of Alternative B will reduce available waterfowl habitat on Felsenthal NWR. Under existing pool conditions, there are 10,000 acres of available habitat. Implementation of Alternative B will fluctuate the available habitat between 10,000 and 3,500 acres. These impacts will not be permanent. Although there will be temporary impacts to waterfowl habitat, the Felsenthal NWR is one of many available regional waterfowl habitats that can support overwintering waterfowl populations.

## SECTION 5 - COORDINATION/PUBLIC INVOLVEMENT

72. Copies of this environmental assessment were sent to various Federal and state agencies for an abbreviated review period (Table 4). Coordination via telephone and e-mail was conducted during the planning process to provide interested stakeholders as much information as possible regarding the proposed action.

TABLE 4  
COORDINATION WITH FEDERAL AND STATE AGENCIES AND TRIBES

Agency Coordination
Environmental Protection Agency Region VI
Arkansas Department of Environmental Quality
Louisiana Department of Environmental Quality
Arkansas Game and Fish Commission
Louisiana Department of Wildlife and Fisheries
Arkansas U.S. Fish and Wildlife Service Ecological Services Field Office
Louisiana U.S Fish and Wildlife Service Ecological Services Field Office
Arkansas State Historic Preservation Office
Louisiana State Historic Preservation Office
Osage, Quapaw, and Caddo Tribes

### RELATIONSHIP TO ENVIRONMENTAL STATUTES

73. During the assessment of the proposed action as presented, environmental requirements such as laws, executive orders, and other related statutes were considered. Table 5 presents the relationship of the proposed action to the various environmental mandates.

TABLE 5  
RELATIONSHIP OF THE PROPOSED ACTION TO  
ENVIRONMENTAL PROTECTION STATUTES AND REQUIREMENTS

Item	Compliance
<u>Federal Statutes</u>	
Archeological and Historic Preservation Act, as amended, 16 U.S.C. 469, <u>et seq.</u>	Partial Compliance
Clean Air Act, as amended, 42 U.S.C. 7401, <u>et seq.</u>	Full Compliance
Clean Water Act, as amended (Federal Water Pollution Control Act), 33 U.S.C. 1251, <u>et seq.</u>	Full Compliance
Coastal Zone Management Act, as amended, 16 U.S.C. 1451, <u>et seq.</u>	Not Applicable
Endangered Species Act, as amended, 16 U.S.C. 1531, <u>et seq.</u>	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, <u>et seq.</u>	Not Applicable
Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1(2), <u>et seq.</u>	Full Compliance
Fish and Wildlife Coordination Act, as amended, U.S.C. 661, <u>et seq.</u>	Full Compliance
Land and Water Conservation Act, as amended, 16 U.S.C. 4601, <u>et seq.</u>	Not Applicable
Marine Protection, Research and Sanctuaries Act, 22 U.S.C. 1401, <u>et seq.</u>	Not Applicable
National Historic Preservation Act, as amended, 16 U.S.C. 470a, <u>et seq.</u>	Partial Compliance
National Environmental Policy Act, as amended, 42 U.S.C. 4321, <u>et seq.</u>	Partial Compliance
Rivers and Harbors Act, 33 U.S.C. 401, <u>et seq.</u>	Not Applicable
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, <u>et seq.</u>	Full Compliance
Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271, <u>et seq.</u>	Not Applicable
Farmland Protection Policy Act	Not Applicable
<u>Executive Orders, Memorandums, etc.</u>	
Flood Plain Management (Executive Order 11988)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Environmental Effects Abroad of Major Federal Actions (Executive Order 12114)	Not Applicable
Analysis of Impacts of Prime and Unique Farmlands (CEQ Memorandum, 30 August 1976)	Not Applicable
<u>State and Local Policies</u>	
Louisiana and Arkansas Water Quality Standards	Full Compliance

TABLE 5 (Cont)

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NOTES: The compliance categories used in this table were assigned based on the following definitions:

- a. Full Compliance. All requirements of the statute, executive order, or other policy and related regulations have been met for this stage of planning.
- b. Partial Compliance. Some requirements of the statute, executive order, or other policy and related regulations remain to be met for this stage of planning.
- c. Noncompliance. None of the requirements have been met for this stage of planning.
- c. Not Applicable. Statute, executive order, or other policy not applicable.

## SECTION 6 – CONCLUSIONS

74. Alternative B is the recommended plan. In summary, adverse impacts resulting from Alternative B will be minor and temporary in nature. Primarily, these impacts will consist of reduced foraging and resting habitat for migratory waterfowl for the duration of the drawdown period. A reduction in waterfowl habitat provided by the refuge will likely result in lower waterfowl densities and decreased recreational opportunities. Temporary impacts will also be experienced by the recreational boating and hunting public from reduced boat-launching site capabilities and limited access to backwater areas. However, the Felsenthal pool is not the only available regional resource for waterfowl habitat, recreational boating, or hunting.

75. Implementation of Alternative B will provide the Corps the most flexibility in the management of the navigation pool between 65 and 64 feet, NGVD, allowing increased downstream flows, and consequently allowing municipal and industrial users south of the Felsenthal Lock and Dam flexibility to manage effluent discharges in accordance with the state water quality standards set through the respective states' Department of Environmental Quality (DEQ) permits. Alternative B would have beneficial consequences on water quality and aquatic resources both within and downstream of Felsenthal NWR.

Table of Contents (Cont)

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	FELSENTHAL NATIONAL WILDLIFE REFUGE AND VICINITY OUACHITA RIVER TEMPORARY DRAWDOWN, OCTOBER 2011 .....	2

LIST OF ATTACHMENTS

<u>No.</u>	<u>Title</u>
1	LETTER, September 26, 2011, FWS



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Arkansas National Wildlife Refuge Complex  
5531 Highway 82 West  
P.O. Box 1157  
Crossett, Arkansas 71635  
870-364-3167

September 26, 2011

Chief Robert Simrall  
U.S. Army Corp of Engineers  
4155 Clay Street  
Vicksburg, MS 39183-3435

Chief Simrall,

I wanted to touch base with you regarding the water level manipulation for the Felsenthal National Wildlife Refuge for this fall/winter, 2011-2012. We have not made any changes to what we had requested at our last meeting during the summer of 2010.

For the fall/winter of 2011-2012 the U.S. Fish and Wildlife Service is requesting to maintain the normal pool level of 65 feet mean sea level. In our ongoing effort to improve forest health and the overall health of the GTR we believe that holding the pool at normal levels will improve both tree vigor and begin to assist in the regeneration that is needed.

You may recall that we had planned to maintain normal pool levels last year but the extended flooding made this impossible. The Refuge held several public meetings explaining our stance on water levels and the need to not artificially flood the pool for a two year period, this will be the second year. During those meetings a majority those in attendance were in agreement that this was a sound course of action. It was explained that if conditions were such that we could not keep the water levels down for the 2009-2010 season we would attempt to do so for the following two years.

We appreciate your cooperation in the maintenance of water levels to improve the GTR and the benefits it offers to wildlife here on the Felsenthal National Wildlife Refuge. Should you have any questions regarding this request please call me at the number listed above.

Sincerely,

Bernard J. Petersen  
Project Leader



Attachment  
to  
Attachment