ENVIRONMENTAL ASSESSMENT

for the Construction of a New Entrance Road to the Shady Lake Recreation Area

Ouachita National Forest

Howard County and Polk County, Arkansas

July 2011

U.S. Department of Transportation
Federal Highway Administration

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

U.S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division

In cooperation with
United States Forest Service

ENVIRONMENTAL ASSESSMENT
Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303
and DRAFT SECTION 4(f) EVALUATION
Pursuant to 23 C.F.R. 774

For
Shady Lake Entrance Road
Ouachita National Forest
Polk and Howard Counties

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Date

Abstract

The Eastern Federal Lands Highway Division of the Federal Highway Administration, in cooperation with the United States Forest Service, Ouachita National Forest, proposes to construct a new entrance road to the Shady Lake Recreation Area in Polk and Howard Counties, Arkansas. The existing entrance to the Shady Lake Recreation Area follows Forest Service Road 38 for three miles from Highway 246. Several private residences are located along this portion of Forest Service Road 38, which is a dirt/gravel road. The presence of residential homes, farms, and associated driveways create potential safety conflicts with vehicles accessing the Forest. Traffic volumes are higher during spring, summer and fall months, creating dust plumes from vehicles. The road is also confusing to recreational users of the Forest and the Shady Lake Recreation Area, as it appears primarily as access to the residential properties.

The purpose of the proposed project is to provide a safe, long-lasting driving surface for visitors and Forest Service staff accessing the Ouachita National Forest, particularly the Shady Lake Recreation Area. The new entrance road alignment has been modified to minimize impacts to the environment. This Environmental Assessment presents the proposed action, and the natural, cultural, and social environmental impacts.

The No Action Alternative would have no impact to: land use, environmental justice, vegetation, rare and protected species, floodplains, wetlands, geology and soils, historic structures, archeological resources, aesthetics, air, noise, or recreational use. The No Action Alternative would continue to impact wildlife and water quality. Sedimentation from the gravel/dirt roadway would continue to enter adjacent rivers, streams, and lakes. This sedimentation would impact aquatic species.

The Action Alternative would have a beneficial impact to recreational use and aesthetics. The adverse impacts to historic structures and archeological resources would be mitigated through data recovery and mitigation measures as specified in the Memorandum of Agreement. Environmental Justice, air quality, noise, and rare and protected species would experience no to negligible impacts. Clearing would have permanent adverse impacts to vegetation and wildlife. Excavation and fill associated with the Action Alternative would have permanent adverse impacts to geology and soils, wetlands, and floodplains. Water quality would have localized temporary adverse impacts as a result of ground disturbing activities associated with construction; however, best management practices would be implemented to minimize erosion from disturbed soil.

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CHAPTER 1: INTRODUCTION

This Environmental Assessment (EA) presents alternatives for the construction of a new entrance road to the Shady Lake Recreation Area in the Ouachita National Forest, Polk and Howard Counties, Arkansas. The EA discloses potential impacts of the implementation of those alternatives. Chapter 1 presents the purpose and need for the action, discusses the location and background of the project, identifies related plans, and provides information regarding the scoping completed as part of the project development process. Chapter 2 presents the alternatives proposed to meet the purpose and need of the action, and discusses alternatives that were dismissed from further consideration. Chapter 3 provides information regarding the resources present in the study area that would be impacted by the proposed action, and also discloses the impacts of each alternative to the resources. Chapter 4 presents the Section 4(f) evaluation. Chapter 5 documents the public involvement process throughout the project. Chapter 6 presents a list of references.

1.1 ABOUT THIS DOCUMENT

In 1969, the United States Congress passed the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) to establish a national policy,

> "…which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; …"

NEPA also established the Council on Environmental Quality (CEQ) as an agency of the Executive Office of the President. In enacting NEPA, Congress recognized that nearly all Federal activities affect the environment in some way. Section 102 of NEPA mandates that before Federal agencies make decisions, they must consider the effects of their actions on the quality of the human and natural environment. NEPA assigns CEQ the task of ensuring that federal agencies meet their obligations under the Act.

The CEQ regulations (40 CFR 1500-1508) describe the means for Federal agencies to develop the Environmental Impact Statements (EIS's) mandated by NEPA in Section 102. The CEQ regulations developed the Environmental Assessment (EA) to be used when there is not enough information to decide whether a proposed action may have significant impacts. If an EA concludes that a Federal action will result in significant impacts, the Agency is required to prepare an EIS or alter the action proposed. Otherwise, the Agency is directed to issue a Finding of No Significant Impact (FONSI).

Section 1508.09 of the CEQ regulations states that the purposes of an EA are to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a FONSI.
- Aid an Agency's compliance with the Act when no environmental impact statement is necessary.
- Facilitate preparation of a statement when one is necessary.

Preparation of an EA is also used to aid in an Agency's compliance with Section 102(2)E of NEPA, which requires an Agency to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

The Federal Highway Administration (FHWA)'s NEPA regulations are codified at 23 CFR Part 771. FHWA Tech Advisory T6640.8A was issued in 1987 to provide guidance on environmental documents.

1.2 PROJECT LOCATION

The Ouachita National Forest (Forest) covers 1.8 million acres in central Arkansas and southeastern Oklahoma. Headquartered in Hot Springs, Arkansas, the Forest is managed for multiple uses, including timber and wood production, watershed protection and improvement, habitat for wildlife and fish species (including threatened and endangered ones), wilderness area management, minerals leasing, and outdoor recreation. The Forest is the South's oldest national forest, created December 18, 1907 by President Theodore Roosevelt. Rich in history, the rugged Ouachita Mountains were first explored in 1541 by Hernando DeSoto's party of Spaniards. French explorers followed, flavoring the region with names like Fourche la Fave River. "Ouachita" is the French spelling of the Native American word "Washita" which means "good hunting grounds" (USDA Forest Service).

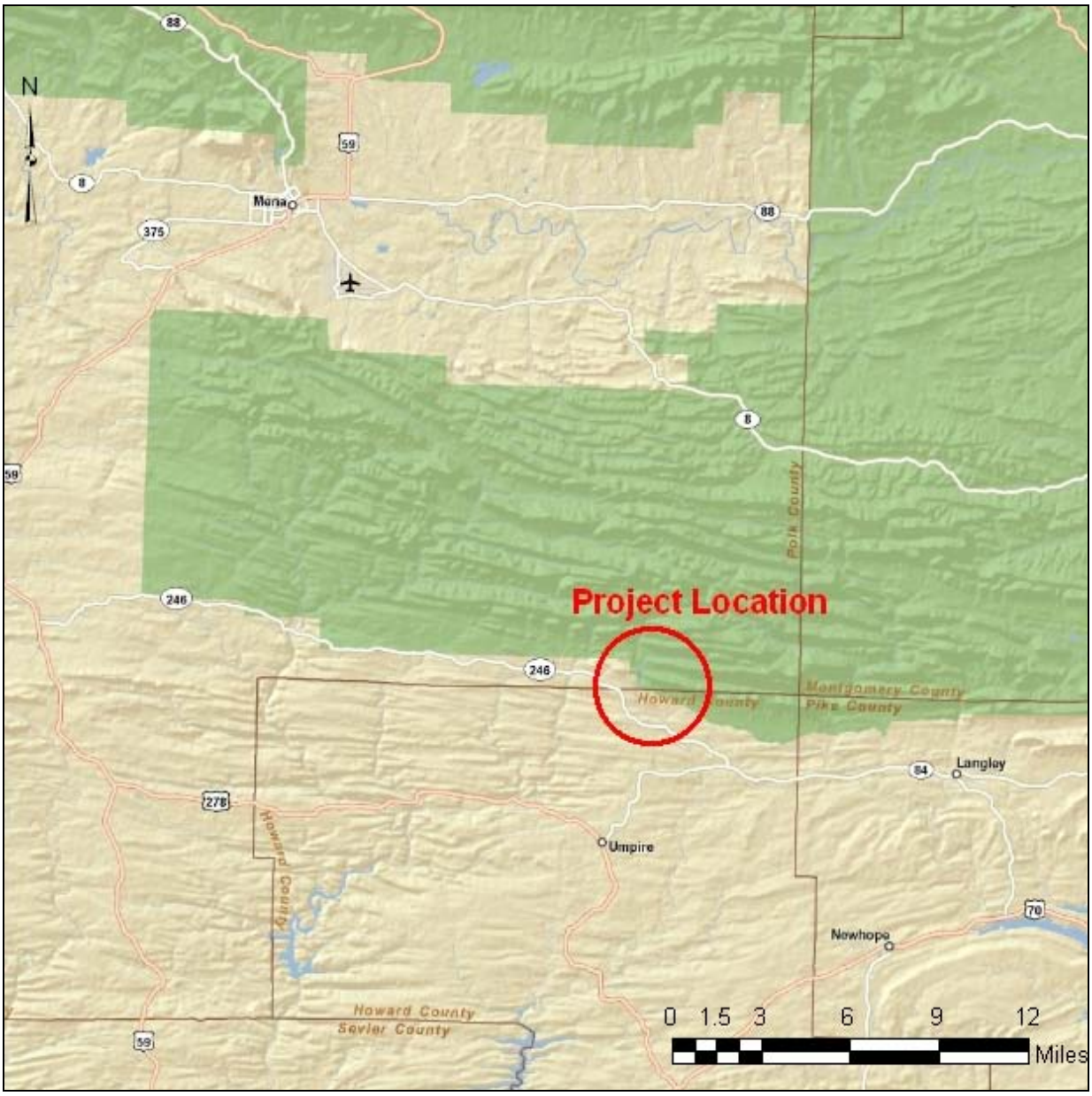

Figure 1. The project is located in western Arkansas.

Shady Lake (Figure 1) is a popular 25-acre recreational impoundment in the Forest served by an accompanying recreation area in western Arkansas. The lake's dam and some facilities within the Shady Lake Recreation Area (Recreation Area) were constructed by workers of the Civilian Conservation Corps between 1935 and 1940 by Company 742 for Camp F-4. The Recreation Area includes more than 90 campsites, a swimming beach, playground, hiking trails, picnic shelter, a grass boat ramp and other recreational facilities. To reach the Recreation Area, motorists follow Forest Service Road 38 (FS 38) north for three miles after turning from State Route 246. FS 38 continues north from the Recreation Area as a gravel road and provides access to scenic overlooks and trails (USDA Forest Service, 2005).

The project is located in southern Polk and northern Howard Counties, approximately 20 miles southeast of Mena, Arkansas (Latitude: 34.3628361, Longitude: -94.0277694) (USDA Forest Service).

1.3 NEED AND PURPOSE

Need

The existing Recreation Area entrance road, FS 38 (also known as Caddo Road, Shady Lake Road, or County Road 64), was constructed by the Civilian Conservation Corps in the 1930's. FS 38 is entered from State Route 246, and travels through several private properties before entering Forest Service land. Seasonal high use of the entrance road results in high traffic volume that causes conflicts with the private property owners. FS 38 is the most direct route of entrance to the Recreation Area.

FS 38 is a gravel road, and is approximately 18-feet in width with no shoulders. The proximity of private properties at the intersection of FS 38 and State Route 246 does not allow for the placement of adequate signing to guide visitors to the Forest (Figure 2). The presence of private properties and lack of signing creates confusion for visitors (Figures 3 and 4).

Figure 2. A view of the intersection of FS 38 and SR 246.

The Forest Service currently maintains FS 38; although FS 38 is also designated as a County Road.

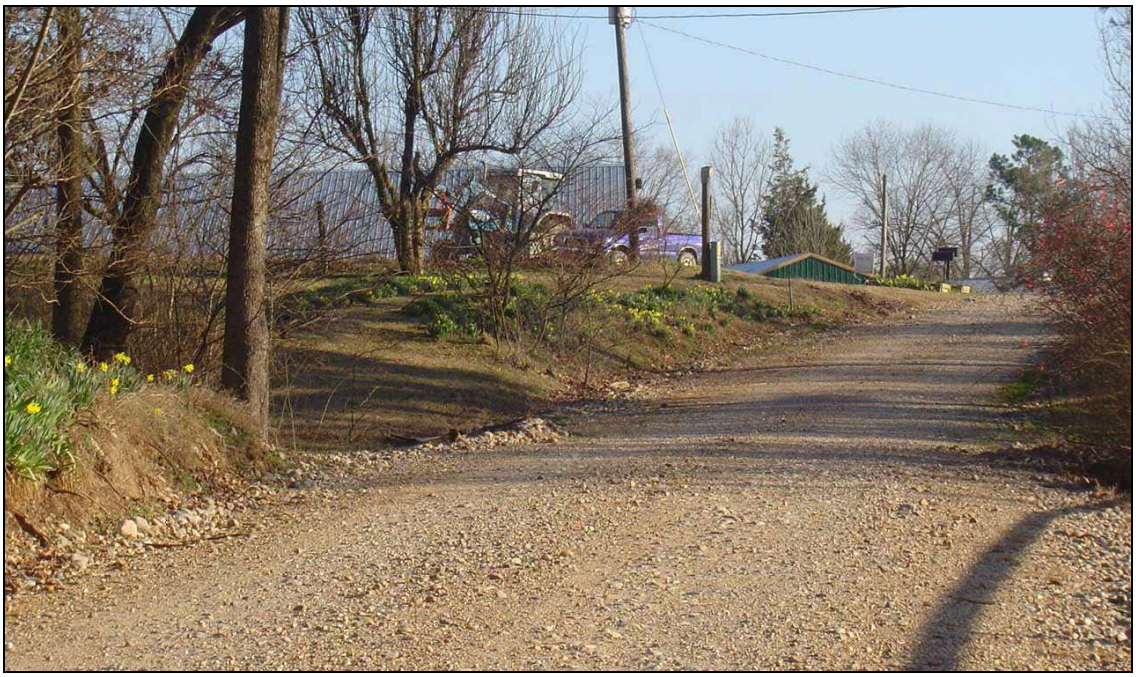

Figure 3. View of FS 38 looking south.

Figure 4. View of FS 38 looking north.

Purpose

The purpose of the proposed action is to provide safe vehicular access to the Shady Lake Recreation Area, and minimize the potential for conflicts with residents living nearby.

In order for the project to be considered a success the following objectives must be met:

- Improvement of safe vehicular access to the Recreation Area
- Reduction of conflicts between the Forest visitors and residents outside of the Forest
- Minimization of impacts to natural, cultural, and scenic/aesthetic resources.

1.4 PROJECT BACKGROUND and RELATED PLANS

2005 Revised Landscape Resource Management Plan (Forest Plan): This plan establishes long-range strategies for resource management and visitor use; and it provides goals, objectives, and policies that support these strategies. The plan contains general guidelines for roadway maintenance and development but does not mention specific projects. The proposed project is consistent with the Ouachita National Forest's desired conditions for a "transportation system of roads and trails [that] is safe, affordable, and environmentally sound, responds to public needs, and is efficient to manage" and recreational facilities that are "high quality, well maintained, safe, accessible, and consistent with visitors' expectations" as stated in the plan. The new entrance road would meet the design criteria stated in the Revised Forest Plan.

The Forest Plan Program Priorities for the Transportation System in the Forest: This plan identifies the to develop and operate the minimum road system, including all bridges and culverts, maintained to the minimum standard needed to meet requirements of proposed actions; protect the environment; and provide for reasonable and safe access. The proposed project is consistent with this priority (USDA Forest Service, 2005).

1.5 SCOPING

Scoping is an early and open process to determine the extent of environmental issues and alternatives to be addressed. An internal scoping meeting was held in February 2008 and attended by the Forest Service and FHWA to discuss issues. Notices were placed in the Mena Star and the Arkansas Democrat Gazette. A flyer containing information regarding the proposed project was also distributed to the Ouachita National Forest mailing list. Comments were requested to be received by April 7, 2009. One comment via phone was received and stated that the proposed project was not a good expenditure of federal tax money. Flyers were also sent to Federal, State, and local agencies that may have an interest in the proposed new entrance road.

The FHWA initiated consultation with the U.S. Fish and Wildlife Service (FWS) in August 2008 by requesting a species list for the study area and any minimization measures that are recommended to reduce impacts to federally-listed species. In a letter dated October 1, 2008, the FWS provided a list of endangered or threatened species found within Polk and Howard Counties. The FWS also recommended that the relocated road follow the existing gravel road as much as possible and that best management practices to control sediment be implemented. The FWS also stated that if mature pines are scheduled for removal as part of this project, the

project area would need to be checked for the red-cockaded woodpecker and their nesting cavities prior to any land clearing.

CHAPTER 2: DESCRIPTION OF ALTERNATIVES

The FHWA and Forest Service considered a range of alternatives. The alternatives were analyzed to determine whether they met the project objectives. The No Action and Action Alternative are described in this chapter. Two alternatives did not meet the project objectives, and were therefore dismissed from further consideration. These alternatives are described in the Alternatives Considered But Dismissed section.

2.1 NO ACTION ALTERNATIVE

Access to the Recreation Area from the south (Howard County) would continue from State Route 246 along FS 38. The entrance road would continue as a gravel road passing through multiple private properties. Routine road maintenance operations would continue; however, no substantial improvements would be performed. Analysis of the No Action Alternative is required as part of the NEPA process in order to provide a basis for the comparison of other feasible alternatives.

2.2 ACTION ALTERNATIVE

A new entrance road would be constructed to provide safe access exclusively to the Recreation Area and the Forest. The new entrance road would follow the existing 12-foot wide Rocky Hunting Club pioneer road for approximately 0.83 miles (Figure 5). The entrance road would then follow a new alignment for approximately 0.49 miles (Figure 6). Approximately 0.73 miles of the existing entrance road would be upgraded, ending at the gated entrance north of the Recreation Area (Figure 7).

Figure 5. Existing pioneer road.

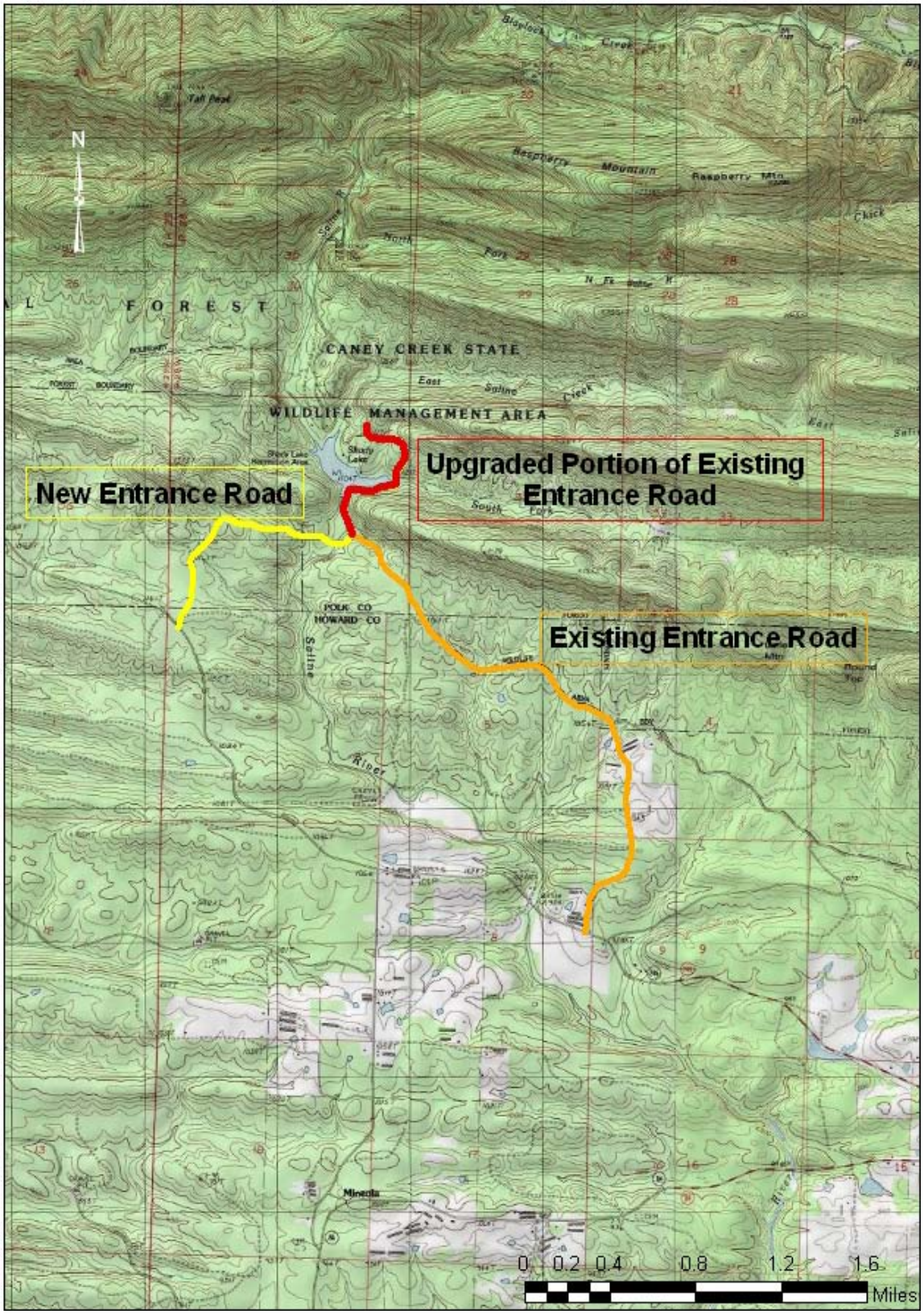

Figure 6. New entrance road alignment.

Figure 7. The entrance to the Shady Lake Recreation Area from the north.

The new entrance road would be designed to County road standards and would have two ten-foot lanes and two-foot shoulders, and would be an asphalt paved surface (Figure 8). A paved parking pull-off would be constructed approximately 0.6 miles south of the Recreation area near the existing dam site. The pull-off would accommodate two cars (Federal Highway Administration, 2008).

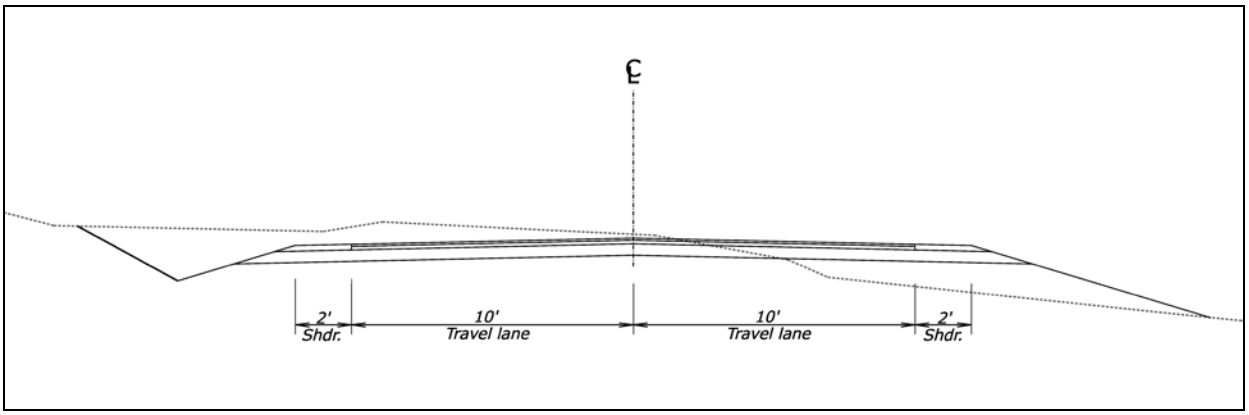

Figure 8. Typical cross-section of new entrance road.

The new entrance road would be designed to a 30 mph design speed. The maximum grade of the road would be 12 percent. Cut and fill would be necessary in order to construct the road due to the steep grade of the hillside. Approximately 30,000 cubic yards of excavation and approximately 25,000 cubic yards of fill would be required to construct the road. The excavation material would be stockpiled and used as the fill. Additional material would be disposed of off-site. The exposed ground would be revegetated with a grass seed mix. In order to upgrade the existing portion of the entrance road, the radii of curves in the road would be widened.

The damaged section of the stone CCC bridge would be repaired (Figure 9). Loose stones would be re-mortared into place, and missing stones would be replaced with stones of a similar size and color. Object markers would be placed on anchor posts at the ends of the bridge.

Figure 9. Damaged end section of Shady Lake CCC Bridge #1.

New culverts would be installed across tributaries and drainages to maintain hydrologic connectivity. A new crossing over the Saline River south of the Shady Lake Dam would be constructed. The bridge would be concrete with a steel superstructure. The bridge would be 26 feet wide (curb to curb) and 120 feet long. The bridge would span the River; therefore, no piers would be constructed. The bridge is graded, so any water that collects on the bridge would

drain to the western side. The bridge would be two feet higher on the west side, so runoff would drain on eastern approach. Riprap would be placed to protect both of the bridge abutments.

Figure 10. Proposed location of new bridge crossing the Saline River.

The new entrance road would most likely be constructed in three stages. In the first stage, grading, aggregate base, drainage work, and bridge construction would be completed from the southern portion of the study area from State Route 246 to the Saline River. In the second stage, grading, aggregate base, drainage work, and other miscellaneous work would be completed from the northern portion of the study area from the Saline River to the north entrance of the Recreation Area. In the third stage, the entire road length would be paved with asphalt.

No utilities would need to be relocated. Staging would take place in a previously disturbed area, most likely along the proposed road alignment as it is constructed. The new entrance road would not be opened to public traffic until the third stage of the project was completed. Should the Action Alternative be implemented construction could start as early as 2012. One phase of

construction would be completed each year. Construction would likely not be completed until 2016 if adequate funding is available.

A gate would be placed in the existing road to restrict through traffic. The gate would be placed of FS Road 38 south of the intersection with Weyco Road 53800.

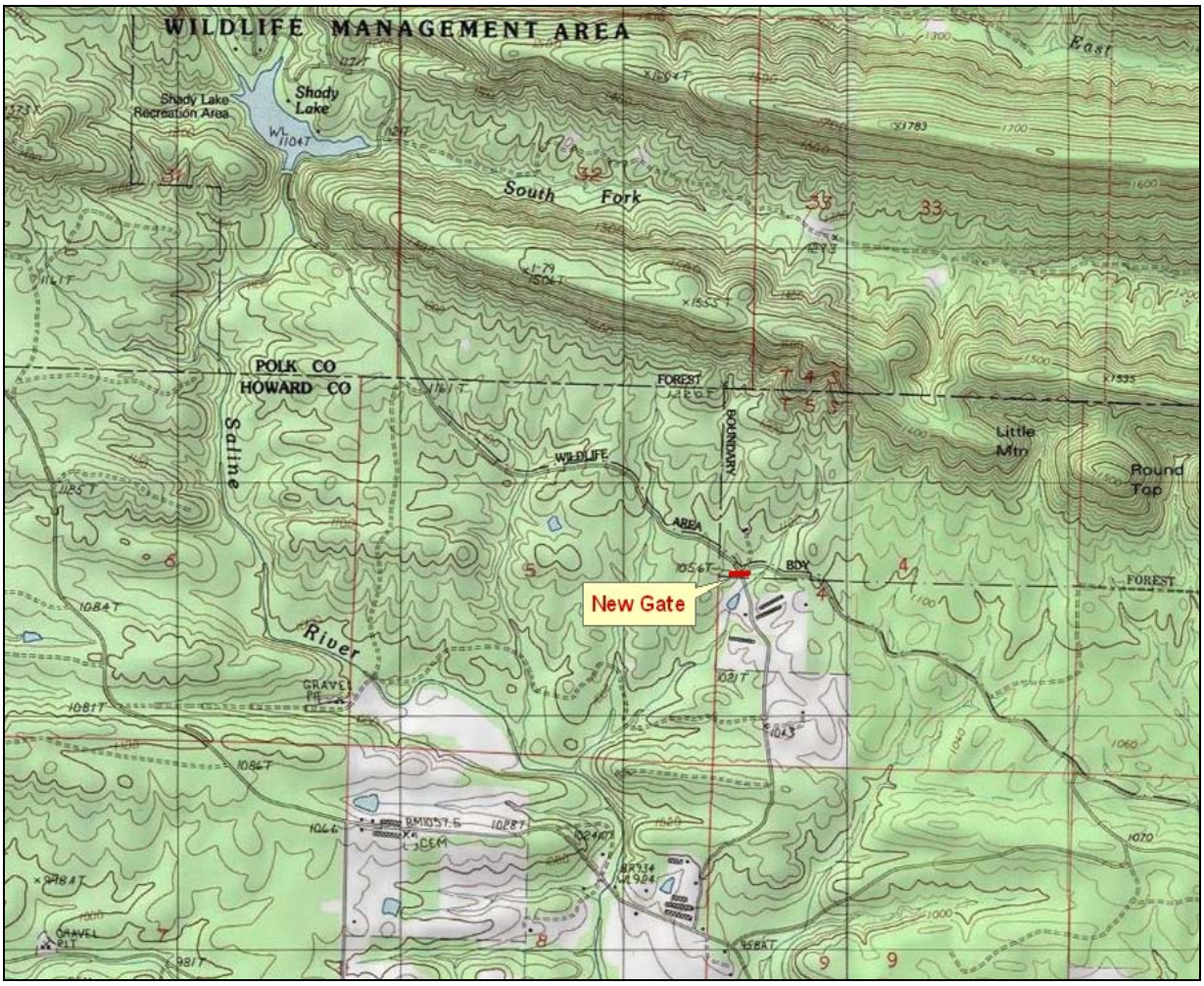

Figure 11. Proposed gate location.

Mitigation Measures

Avoidance, minimization, and mitigation measures and Best Management Practices (BMPs) would prevent or minimize potential adverse effects associated with the implementation of the Action Alternative. These measures and practices would be incorporated into the project design and construction plans.

- Temporary BMPs would be utilized to minimize erosion and sedimentation from ground disturbing activities that expose bare soil. These BMPs would be used only during

construction and would be removed once the disturbed area has been permanently stabilized. BMPs include instructing the construction contractor to:

- Install silt fence, sediment logs, and/or erosion matting as appropriate;
- Not drive construction equipment across flowing waterways;
- Not allow construction vehicles to track sediment outside the project limits;
- Not allow any construction equipment to operate or access the down-slope side of the perimeter control measures;
- Regularly inspect all mechanized equipment;
- Provide watering for dust control within the construction limits, on active haul roads, and in pits and staging areas;
- Collect and store all solid waste; and
- Develop a Spill Prevention Control and Countermeasures Plan.

- Should construction unearth previously undiscovered archeological resources, work would be stopped in the area of any discovery. The Forest Archeologist would be notified and the FHWA would consult with the State Historic Preservation Officer/Tribal Historic Preservation Officer and the Advisory Council on Historic Preservation (ACHP) as necessary according to 36 CFR Section 800.13, Post Review Discoveries. In the unlikely event that human remains are discovered during constructions, provisions outlined in the Memorandum of Agreement (MOA) would be followed as appropriate.

- Along the portion of the existing entrance road proposed for upgrading is a stone CCC bridge. The bridge requires special construction techniques in order to maintain its historic integrity. An MOA includes measures to minimize adverse effects to the structure. These measures include fixing loose stones, replacing missing stones with those of a similar appearance, and matching existing mortar appearance.

- Data recovery of the two impacted archeological sites would be completed to mitigate for the adverse impacts to the sites.

- Visual surveys for migratory birds protected under the Migratory Bird Treaty Act would be conducted prior to initiation of construction and special consideration given to times and dates of construction to avoid impacts to migratory bird species which typically nest in Arkansas from March to September.

- If mature pines (over 30 years old) are to be removed, the area would be checked for the red-cockaded woodpecker and their nesting cavities prior to any land clearing. If a red-cockaded woodpecker is located in the project area, the FWS Arkansas Field office will be contacted.

- In order to minimize the introduction of invasive and/or non-native species, all equipment would be cleaned of seeds, soil, vegetative matter, and other debris that could hold seeds prior to moving equipment onto National Forest Land.

2.4 ALTERNATIVES CONSIDERED BUT DISMISSED

New Alignment from State Route 246 to the Saline River

Another entrance road alignment was considered. This alignment would begin approximately 1.4 miles west of the Action Alternative on State Route 246, tying into Caddo Road at the same location as the first alignment south of the Shady Lake Dam. The road would also consist of two ten-foot lanes with two-foot shoulders on each side. This alignment would not follow any existing roads, and would require clearing of additional area. This would cause additional impacts to geology and soils, vegetation, wildlife, and water quality. Therefore, this alternative was considered but dismissed.

New Alignment Adjacent to the CCC Bridge

A new bridge and alignment avoiding the CCC bridge would minimize impacts to the historic structure, and would also allow for a standard width structure, accommodating two lanes of traffic to be constructed. This alignment would cause additional impacts to wetlands and waters of the U.S., water quality, wildlife and wildlife habitat, and vegetation. Therefore, this alternative was considered but dismissed.

2.5 PREFERRED ALTERNATIVE

The No Action Alternative and the Action Alternative were evaluated to determine whether they met the objectives as identified in Chapter 1, Purpose and Need. Table 1 describes the degree to which each alternative satisfies each objective.

Table 1. Alternatives Comparison

Objective	No Action Alternative	Action Alternative
Improvement of safe vehicular access to the Shady Lake Recreation Area	Fails to meet objective.	Meets objective.
Reduction of potential conflicts between Ouachita National Forest visitors and residents outside of the Forest	Fails to meet objective.	Meets objective.
Minimization of impacts to natural, cultural, and scenic and aesthetic resources	Meets objective.	Meets objective.

The Action Alternative would best meet all of the project objectives; therefore, the Action Alternative was identified as the Preferred Alternative.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing environmental conditions in and around the project area and the environmental consequences associated with the alternatives presented in Chapter 2, Alternatives. Chapter 3 is organized by environmental resource area. This chapter describes the existing environment in the study area and compares the anticipated impacts of the Alternatives. Mitigation measures to reduce the impact of the Alternatives are also described.

Methodology

This EA will analyze the impacts of the proposed alternatives to the natural, cultural, and social environment. The natural environment includes wetlands, wildlife, and water quality. The cultural environment includes historic structures and archeological sites. The social environment includes health and safety, operations, and air quality.

Through scoping, resource surveys, and coordination with Federal, State, and local agencies, the aspects of the environment where impact was anticipated was determined. The natural, cultural, and community resources that would have only a slight or no impact from the proposed alternatives are discussed briefly so that the focus of the EA is on those resources where an impact is anticipated.

The study area focuses on the new entrance road location and surrounding area because the existing entrance road would remain in place after the new entrance road is constructed. Public access would be terminated at the Forest Service Boundary using bollards or a gate; however, the remainder of the road would remain available for use by the Forest Service.

The impacts were determined by compiling available information. A wetland delineation, biological assessment, and archeological investigation were completed for the study area. Previous studies, including the Forest Plan, were also consulted. Predictions about short-term and long-term impacts to vegetation were based on previous experience with projects of similar scope and characteristics. Analyses of the potential intensity of impacts were derived from the available information on the Forest and the professional judgment of the resource specialists.

Cumulative Impacts

Cumulative impacts are considered for all alternatives, including the no-action alternative. They were determined by looking at each resource (impact topic), determining which past, present, and future actions would impact the resource for the determined spatial and temporal boundaries, and then combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions.

Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects in the study area and, if applicable, the surrounding region. The Ouachita National Forest Schedule of Proposed Actions (SOPA) was referenced for future projects in the study area. Information regarding upcoming prescribed burns and timber sales was obtained from the Forest Service. The Mena – Polk County Area Chamber of Commerce was contacted to determine if there are any present or future projects in the study area.

Present and Future Actions:

Shady Lake Recreation Area Maintenance and Improvements: Loop B bath house replacement. Conduct repair and maintenance activities for forest visitors. These activities include removal of old Loop B and D bath houses and refurbish campsites in Loop B. T 4S, R 28W, Section 31.

Big Valley Watershed: This is a proposed project as a result of the 10-year entry of the Upper Big Creek and Upper Ouachita Watersheds. This project identifies opportunities to begin transition to desired conditions described in the Revised Forest Plan for management areas.

Pencil Bluff Watershed: This is a proposed project as a result of the 10-year entry of the Pencil Bluff Watershed. This project identifies opportunities to begin transition to desired conditions described in the Revised Forest Plan for management areas.

Lower Cossatot Watershed Improvements: This is a proposed project as a result of the 10-year entry of the Lower Cossatot Watershed. The project identifies opportunities to begin transition to desired conditions described in the Revised Forest Plan for management areas.

Prescribed Burns: Approximately 127.6 acres of prescribed burns would be completed at the Shady Lake Campground. The first burn is scheduled for 2010, and the prescribed burns would recur on a two year basis if weather and conditions are appropriate.

3.1 LAND USE

Affected Environment

The study area is located in Polk and Howard Counties. The area adjacent to the new entrance road includes no residences and only one private landowner. The southern portion of the study area is located on property currently owned by Weyerhaeuser. Weyerhaeuser is one of the largest pulp and paper companies in the world. It is the second largest owner of United States timberland. One of the company's operations is timberlands, growing and harvesting trees in renewable cycles. In Arkansas, public access is available on Weyerhaeuser land included in state Wildlife Management Areas. Access to Weyerhaeuser land that is not in state Wildlife Management Areas is leased to private hunting clubs. These leases are long-term and tend to be awarded to local organizations (Weyerhaeuser). In the project area, the Weyerhaeuser property is leased to the Rock Creek Hunting Club of Howard County, Inc (Arkansas Secretary of State).

The northern portion of the study area is property managed by the Forest Service. The Forest is managed for multiple uses, including timber and wood production, watershed protection and improvement, habitat for wildlife and fish species (including threatened and endangered ones), wilderness area management, minerals leasing, and outdoor recreation.

Environmental Consequences

No Action Alternative
The No Action Alternative would not impact land use.

Action Alternative
The Action Alternative would convert privately-owned land currently used for timber growing and harvesting, and publicly owned land used currently used for timber production, habitat, and recreation to a transportation use. The total area of vegetated land that would be permanently converted to a road would be approximately 14.5 acres. No relocations would be necessary.

Cumulative Impacts

Ownership of the property has been established since 1907 for the Forest Service and since approximately the 1960s for Weyerhaeuser. Ownership of the property and use of the properties is not likely to change in the near future. The other present and future actions would have no cumulative impact to land use.

No Action Alternative
The No Action Alternative would have no cumulative impacts to land use because there are no direct impacts to land use.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have no cumulative impact to land use. Timber production would likely continue on the adjacent Weyerhaeuser property and the management of the Forest land would not change

3.2 ENVIRONMENTAL JUSTICE

Affected Environment and Environmental Consequences

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority and Low Income Populations forbids Federal agencies from disproportionately affecting minority and/or low-income communities. The U.S. Census Data for Howard County, Arkansas was used to determine whether a minority and/or low-income community existed in the study area because all of the residences are located within Howard County, and not Polk County. The study area is rural; therefore, a five mile radius of Shady Lake was used to encompass the entire study area.

Within a five mile radius of Shady Lake, 95.2% of the persons were white based on the data from the 2000 U.S. Census of Population and Housing, compared to 76.6% for Howard County in 2009, and 75.1% for Arkansas in 2009. Per EPA/CEQ Guidance (Final Guidance for Incorporating Environmental Justice Concerns in the EPA's NEPA Compliance Analysis and the CEQ's Environmental Justice: Guidance Under NEPA), a community minority population is greater than 50% or "meaningfully greater" than minority population percentage in the general population or other appropriate geographic area. The study area is therefore not a minority community. Within a five mile radius of Shady Lake, the persons below poverty level was 21.2% (U.S. Environmental Protection Agency). The persons below the 2008 poverty level in Howard County was 21.3% and in Arkansas was 17.3% (U.S. Census Bureau, 2010). Per EPA/CEQ Guidance, a low-income community has a greater percentage of persons below poverty level in the general population or other appropriate geographic area (U.S. Environmental Protection Agency). The study area is therefore not a low-income community. While there are residential properties located in the study area, the proposed project will not have any disproportionate or adverse impacts on minority or low-income populations (President of the United States).

3.3 VEGETATION

Affected Environment

Four natural habitat types outlined by the Arkansas Natural Heritage Commission are present in the study area. These habitat types include the Ozark-Ouachita Mesic Hardwood Forest, Ozark-Ouachita Shortleaf Pine-Oak Forest, Upland Headwater Stream-Ouachita Mountains, and Ouachita Mountain Forested Seep. In addition, the entire western portion of the study area located on private property is characterized primarily by industrial pine forest dominated by planted loblolly pine (*Pinus taeda*). The Ozark-Ouachita Mesic Hardwood Forest is the most prominent habitat type found west of the Saline River on Ouachita National Forest Property and east of the Saline River to just west and south of South Fork Saline River. Characteristic species in this habitat include white oak (*Quercus alba*), black oak (*Quercus velutina*), northern red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), American holly (*Ilex opaca*), southern sugar maple (*Acer barbatum*), mockernut hickory (*Carya tomentosa*), witch hazel (*Hamamelis virginiana*), and Christmas fern (*Polystichum acrostichoides*). The Ozark-Ouachita Shortleaf Pine-Oak Forest is the dominant habitat type from just south and west of South Fork northward to the existing Shady Lake Campground entrance. Common species include shortleaf pine (*Pinus echinata*), southern red oak (*Quercus falcata*), white oak, black oak, sweetgum (*Liquidambar styraciflua*), American holly, and eastern red cedar (*Juniperus virginiana*). Upland Headwater Stream habitats are located in the Saline River and South Fork Saline River riparian corridors. Common species in these habitats include American beech, white oak, red maple (*Acer rubrum*), sycamore (*Platanus occidentalis*), alder (*Alnus serrulata*), vernal witch hazel (*Hamamelis vernalis*), Eastern hop hornbeam (*Ostrya virginica*), American hornbeam (*Carpinus caroliniana*), American holly, northern red oak, and inland sea oats (*Chasmanthium latifolium*) (Hamrick & Keith, Biological Assessment, 2010).

One small forested seep, 0.012-acre in size was found in the study area on the north side of Caddo Road 64 along the lakeshore of Shady Lake between the Saline River and South Fork Saline River. Common species in this microhabitat include American holly, American beech, alder, Arkansas blueberry (*Vaccinium arkansanum*), lady fern (*Athyrium felix-femina*), cinnamon fern (*Osmunda cinnamomea*), and strawberry bush (*Euonymus americanus*) (Hamrick & Keith, 2010).

Figure 12. Typical vegetation along the Action Alternative alignment.

Prescribed fires are done to improve overall forest health, reduce fuel loads to limit catastrophic wildfire and improve wildlife habitat.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, the existing forested area would continue to be managed by the Forest Service according to their current management plans. This management would likely include timber harvesting and prescribed fires.

Action Alternative

Under the Action Alternative, construction of a new entrance road would require the clearing of approximately 14.5 acres of vegetation to construct the new entrance road. Approximately 8.0 acres of the disturbance would be located within the administrative boundary of the Forest. The Forest Service would be compensated for the saleable timber that is cleared from the project

area. The remaining 6.5 acres of disturbance would be located on property owned by Weyerhaeuser. The vegetation cleared would be primarily hardwood species, such as oak and pine, and groundcover species. Mature coniferous and broadleaf trees may also be adversely impacted as a result of root disturbance during construction.

Approximately 1.25 acres of the 14.5 acres of cleared land would be permanently converted to asphalt pavement for the construction of the section of the entrance road on a new alignment. The remaining area would be revegetated using a seed mix. The seed mix would include browntop millet (*Urochloa ramose*) and little bluestem (*Schizachyrium scoparium*) from March 1st through September 15th and annual ryegrass (*Lolium perenne L. ssp. multiflorum*) and elbon rye (*Secale cereal*) from September 16th through February 28th. The seed mix would also include wildflower species such as: purple coneflower (*Echinacea pupurea),* black-eye susan (*Rudbeckia hirta),* showy evening primrose (*Oenothera speciosa),* and lanceleaf coreopsis (*Coreopsis lanceolata).* The area would initially be reestablished by grasses and forbs; however, it is likely that over time, a secondary succession of woody vegetation would become established. These species are all native to the area. In order to minimize the introduction of invasive and/or non-native species, all equipment would be cleaned of seeds, soil, vegetative matter, and other debris that could hold seeds prior to moving equipment onto National Forest Land.

Cumulative Impacts

Over the last one hundred years, a decline in fire activity has caused the analysis area's understory to revegetate rapidly. In addition, most of the analysis area was entered for timber harvest which removed many of the larger, older trees. As a result, shortleaf pine forests no longer support open, grass and forb understories characteristic of these earlier times. Instead, much of the present-day understory and midstory vegetation consists of more tolerant, later successional tree species like blackgum, sweetgum and red maple. These existing forests are generally more closed and less biologically diverse than open-pine and oak woodlands of the past (USDA Forest Service, 2005). Prescribed fires would continue in the foreseeable future.

No Action Alternative

The No Action Alternative, when combined with the cumulative actions, would have a negligible cumulative impact to vegetation.

Action Alternative

The Action Alternative, when combined with the other present and future actions, would have a minor cumulative impact to vegetation. The Action Alternative would contribute a noticeable increment to the cumulative impacts to land use. Although the removal of approximately 13.8 acres of vegetation would be noticeable, an abundant amount of similar vegetation is available throughout the Forest and counties. Timber harvesting by Weyerhaeuser would also continue.

3.4 WILDLIFE

Affected Environment

Wildlife habitat in and adjacent to the study area is comprised of several types. In the southern portion of the study area, habitat is forested, with limited human presence. In the northern portion of the study area from the Saline River, roads, trails, and parking areas associated with the Shady Lake Recreation Area can be found. There is an increase in human presence, and the habitat surrounding the existing entrance road is marginal. Aquatic habitat is also located within the study area, at the Saline River, Shady Lake, and several tributaries to the Saline River. Wildlife species typically found in the Ouachita Mountains Ecoregion include birds such as sparrows, woodpeckers, and warblers. Mammals typically found include bats, skunks, weasels, deer, and rabbits. Reptiles include lizards, skinks, turtles, and snakes. Aquatic species include crayfish, fish, and mussels. Fish species present in Shady Lake include largemouth bass, sunfish, and catfish.

Environmental Consequences

No Action Alternative

There would be no impact to wildlife or wildlife habitat from the No Action Alternative. Wildlife and its habitat would continue to be managed according to existing plans.

Action Alternative

Under the Action Alternative, wildlife habitat would be impacted through the clearing of vegetation, and the construction of an asphalt roadway. The presence of humans and vehicles to an area where they were not formerly present would cause the relocation of interior forest species to other parts of the Forest. The noise from construction activities would disrupt wildlife; however, once construction is completed, most species would return. The impacts to wildlife from the construction of a new entrance road would be minor, because the study area is surrounded by similar habitat. Only low-mobile and non-mobile species would be impacted by the clearing and grubbing. Sedimentation from the existing gravel/dirt road currently enters nearby aquatic habitat. A portion of the existing gravel/dirt road would be paved, reducing the amount of sedimentation from the road. Also, bridges and culverts would be designed in such a way that maintains appropriate aquatic passage.

Cumulative Impacts

The Forest provides a protective ownership of the study area. The Forest is managed primarily for forest health, which provides abundant wildlife habitat. Prescribed burns and timber sales have periodically disrupted wildlife and would continue to impact wildlife in the vicinity of the Recreation Area. Future management of the forested area by the Forest and Weyerhaeuser

would have negligible impacts to wildlife because although there would be periodic disruptions, abundant habitat is available nearby.

No Action Alternative
The No Action Alternative would have no cumulative impact to wildlife because there is no direct impact.

Action Alternative
The Action Alternative, when combined with the cumulative actions, would have a minor adverse cumulative impact to wildlife. The Action Alternative would contribute a noticeable increment to the cumulative impacts to wildlife. The construction of a new entrance road would permanently remove available habitat; however, abundant similar habitat is available throughout the Forest and surrounding area even when taking into consideration prescribed burns and timber management.

3.5 RARE AND PROTECTED SPECIES

Affected Environment

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in the furtherance of the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the USFWS to ensure that any action authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat. A Biological Assessment was completed for the study area in January 2010. Within the study area, the presence of Federally-listed species was analyzed. The Biological Assessment analyzed four endangered (E) and two threatened (T) and one delisted/monitored species. These species were the Florida panther (*Felis concolor coryi*; E), harperella (*Ptillimnium nodosum;* E), scaleshell mussel (*Leptodea leptodon*; E), Red-cockaded Woodpecker (*Picoides borealis;* E), Arkansas fatmucket *(Lampsilis powelli*; T), leopard darter *(Percina pantherina*; T), and Bald Eagle (*Haliaeetus leucocephalus;* delisted).

The project area includes no designated critical habitat for any species according to the USFWS Critical Habitat Mapper. The likelihood of the proposed project impacting Federally-listed species, State-listed elements of special concern, and Ouachita Regional Forester Sensitive Species was also analyzed. Suitable habitat occurs in the study area for numerous vascular plant species listed on the Ouachita NF Sensitive Species list and the Arkansas Natural Heritage Commission (ANHC) Species list. Waterfall's sedge and Ouachita Mountain goldenrod were recorded (observed) within the study area during the field survey. Ouachita blazing star (*Liatris compacta*) was recorded and photographed approximately two miles north of the study area (Hamrick & Keith, Biological Assessment, 2010).

Environmental Consequences

No Action Alternative

Aquatic species would continue to be impacted by sedimentation from gravel and dirt roads under the No Action Alternative. Rare and protected species would continue to be managed according to existing plans.

Action Alternative

Potential impacts to rare and protected species include the loss of a small population of Waterfall's sedge located approximately 100 feet west of the Saline River. Potential impacts to rare and protected species may result from a possible increase in stream sediment load; however, Best Management Practices (BMPs) would be incorporated into the construction of the project to minimize erosion and sedimentation. BMPs would include the measures specified in Chapter 2, Section 2.2 Action Alternative, Mitigation Measures. There would be a temporary increase in noise disturbance and human presence during the construction period. There would also be a future increase in vehicular traffic along the new entrance road. The adverse impacts to rare and protected species from the increased noise, vehicular traffic, and human presence would be negligible because similar habitat is abundant within the surrounding area.

In a letter dated February 23, 2010, the USFWS concurred that the Action Alternative would have "no effect" on the Bald Eagle, Red-cockaded Woodpecker, or harperella. The FWS also concurred that the Action Alternative "may affect, but is not likely to adversely affect" the scaleshell mussel, Arkansas fatmucket, and leopard darter. The Florida panther is presumed extirpated.

The Action Alternative would have no effect on the bald eagle because there are no known breeding territories or elemental occurrences within Polk or Howard Counties. The nearest known breeding territory is more than 90 miles away, and no bald eagles or bald eagle nests were observed during the field survey. No suitable nest trees are anticipated to be removed.

The Action Alternative would have no effect on the red-cockaded woodpecker because the habitat within the project area is unsuitable. The project area has a high density of woody understory and mid-story, co-dominant hardwoods, and has a lack of herbaceous groundcover. The nearest known elemental occurrence is greater than five miles away. No red-cockaded woodpeckers or cavities were observed during the field survey. No mature pine timber is anticipated to be removed.

The Action Alternative would have no effect on the harperella because suitable habitat for the species is not present at the proposed bridge crossing, and no plants were observed.

The Action Alternative may affect, but is not likely to adversely affect the scaleshell mussel, Arkansas fatmucket, and leopard darter because BMPs would be incorporated into the construction of the project to minimize erosion and sedimentation.

Forty-two plant species and one amphibian species listed by the Forest and ANHC as sensitive species were analyzed (see Appendix A). The Action Alternative may impact individuals, but is not likely to cause a trend to federal listing or loss of viability. For all other species listed by the Forest and ANHC as sensitive species, the proposed action would have negligible impacts.

Numerous species of migratory birds protected under the Migratory Bird Treaty Act occur in the area and may be nesting on culverts or other structures to be upgraded or replaced. Visual surveys would be conducted prior to initiation of construction. Tree clearing would be prohibited from March to September to avoid impacts to these species which typically nest in Arkansas from March to September.

Cumulative Impacts

Prior development of the study area and its surrounding area limited potential habitat for rare and protected species. These actions include the construction of the Shady Lake Recreation Area, including the Shady Lake Dam, and road construction. Any future actions would also need to comply with Federal, State, and Forest Service regulations regarding impacts to rare and protected species. Although future projects such as prescribed burns, timber harvesting, and Recreation Area improvements are planned, mitigation measures would likely be implemented to mitigate for adverse impacts to rare and protected species.

No Action Alternative

The No Action Alternative, when combined with the other present and future actions, would have a negligible adverse cumulative impact to rare and protected species. The No Action Alternative would contribute an imperceptible increment to the cumulative impacts to rare and protected species. The ground-disturbing activities have the potential to increase sedimentation, which may impact rare and protected aquatic species.

Action Alternative

The Action Alternative, when combined with the other present and future actions, would have a minor adverse cumulative impact to rare and protected species. The Action Alternative would contribute noticeable increment to the cumulative impacts to one rare and protected species due to the loss of a small population. The Action Alternative would contribute an imperceptible increment to the cumulative impacts to the remainder of the rare and protected species in the study area. A minimal area of potential habitat would be impacted and behavior of the species may change because of increased noise and human presence; however, these changes would not be noticeable.

3.6 FLOODPLAINS

Affected Environment

Development within floodplains and floodways is regulated by Federal and State laws to reduce the risk of property damage and loss of life due to flooding as well as to preserve the natural benefits floodplain areas have on the environment. Executive Order 11988 (Floodplain Management) requires all Federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. Floodplains are a vital part of our environment and their flooding is a natural occurrence. During high precipitation events flooding of the adjoining land (or floodplain) occurs. The floodplain then acts to convey and store this water. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps show that the study area includes areas shown as Zone A floodplains. Zone A includes areas with a 1% annual chance of flooding; however, detailed analyses have not been performed for these areas. No depths or base flood elevations are shown with these zones (FEMA). In the study area, floodplains are located surrounding Shady Lake, the Saline River, and its tributaries – East Saline Creek and South Fork.

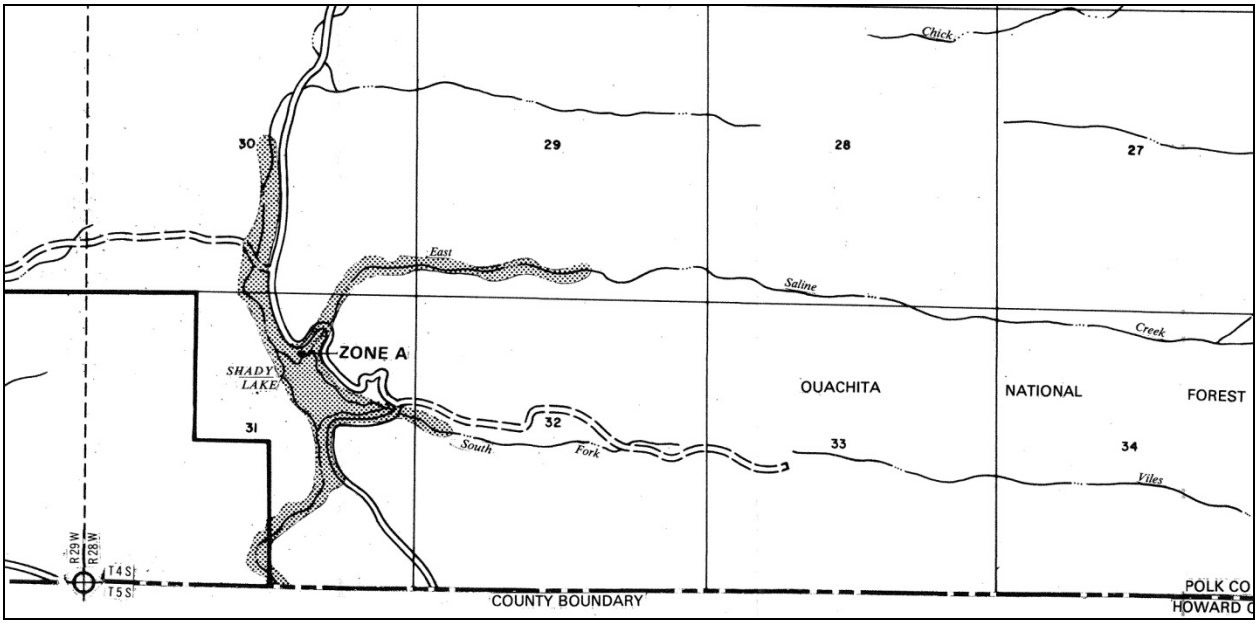

Figure 13. Floodplain map (FEMA Firmette).

Environmental Consequences

No Action Alternative

The No Action Alternative would have no impact to floodplains.

Action Alternative

When designing new bridge structures, one of the bridge design criteria is to provide two feet of freeboard for the 50-year event. Freeboard is the distance between the surface of the water and the bridge. This operational criterion is aimed at providing adequate waterway opening capacity at a certain level of risk for the public. The second design criterion is to limit the backwater to one foot for the 100-year event. Backwater is the rise in water surface elevation caused by an obstruction. This is an FHWA policy developed to consider flood risks to property owners and developmental impacts to natural and beneficial floodplain values.

Under the Action Alternative the proposed bridge would provide 5.77 feet of freeboard for the 50-year event, which meets the bridge design criteria. The maximum increase of backwater is 0.28 feet, which also meets the bridge design criteria. The bridge would not overtop unless the flow exceeded a 500-year event. The Action Alternative would have a permanent minor adverse impact to floodplains.

Cumulative Impacts

The creation of the Shady Lake Dam impacted floodplains in the study area; however, no private properties or residences were impacted by this change. The other present and future actions would have no impact to floodplains.

No Action Alternative
The No Action Alternative would have no cumulative impacts because there are no direct impacts to floodplains.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have a minor adverse cumulative impact to floodplains. The Action Alternative would contribute an imperceptible incremement to the cumulative impacts to floodplains. Changes to the floodplain as a result of the placement of fill material associated with the Action Alternative and/or the other present and future actions would not be noticeable.

3.7 WETLANDS AND WATERS

Affected Environment

Executive Order 11990 (Protection of Wetlands) requires federal agencies to minimize the loss, destruction, or degradation of wetlands and to enhance their natural and beneficial values. For regulatory purposes, wetlands are defined as: *"…areas that are inundated or saturated by surface or groundwater at a frequency and durations sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."* (CFR 328.3, CFR230.3). These wetlands detain floodwater, detain precipitation, cycle nutrients, export organic carbon, maintain plant communities and provide habitat for fish and wildlife. The

United States Army Corps of Engineers regulates impacts to wetlands and “waters of the United States,” under the Clean Water Act of 1972 and the Rivers & Harbors Act of 1899 (Brinson, 1993).

A wetland delineation was completed in January 2010. Waters in the study area include the Saline River, South Fork, East Saline Creek, an unnamed perennial stream near the Saline River, and several intermittent streams. Only one wetland was identified in the study area. This wetland was determined to be a seepage slope wetland. A mucky organic layer and reduced soil layer has developed in this seepage slope. Wetland species such as lady fern (*Athyrium felix-femina*) and cinnamon fern (*Osmunda cinnamomea*) were abundant in this small wetland area.

Wetlands in the study area perform biotic and hydrologic functions. The waters in the study area provide fish and wildlife habitat. Hydrologic functions performed by the wetland areas include flood attenuation and water purification.

The Saline River (North Fork, Alum Fork, Middle Fork, and South Fork) has been designated as an Extraordinary Resource Water by ADEQ. The Pollution Control and Ecology Commission designates the waters of the state for defined uses. Extraordinary Resource Waters are defined as, “This beneficial use is a combination of the chemical, physical and biological characteristics of a waterbody and its watershed which is characterized by scenic beauty, aesthetics, scientific values, broad scope recreation potential and intangible social values.” Different uses require different types and levels of water protection (Arkansas Department of Water Quality). Waterways in the ERW category are considered worthy of the highest level of protection by the State because of their beauty, value or beneficial use.

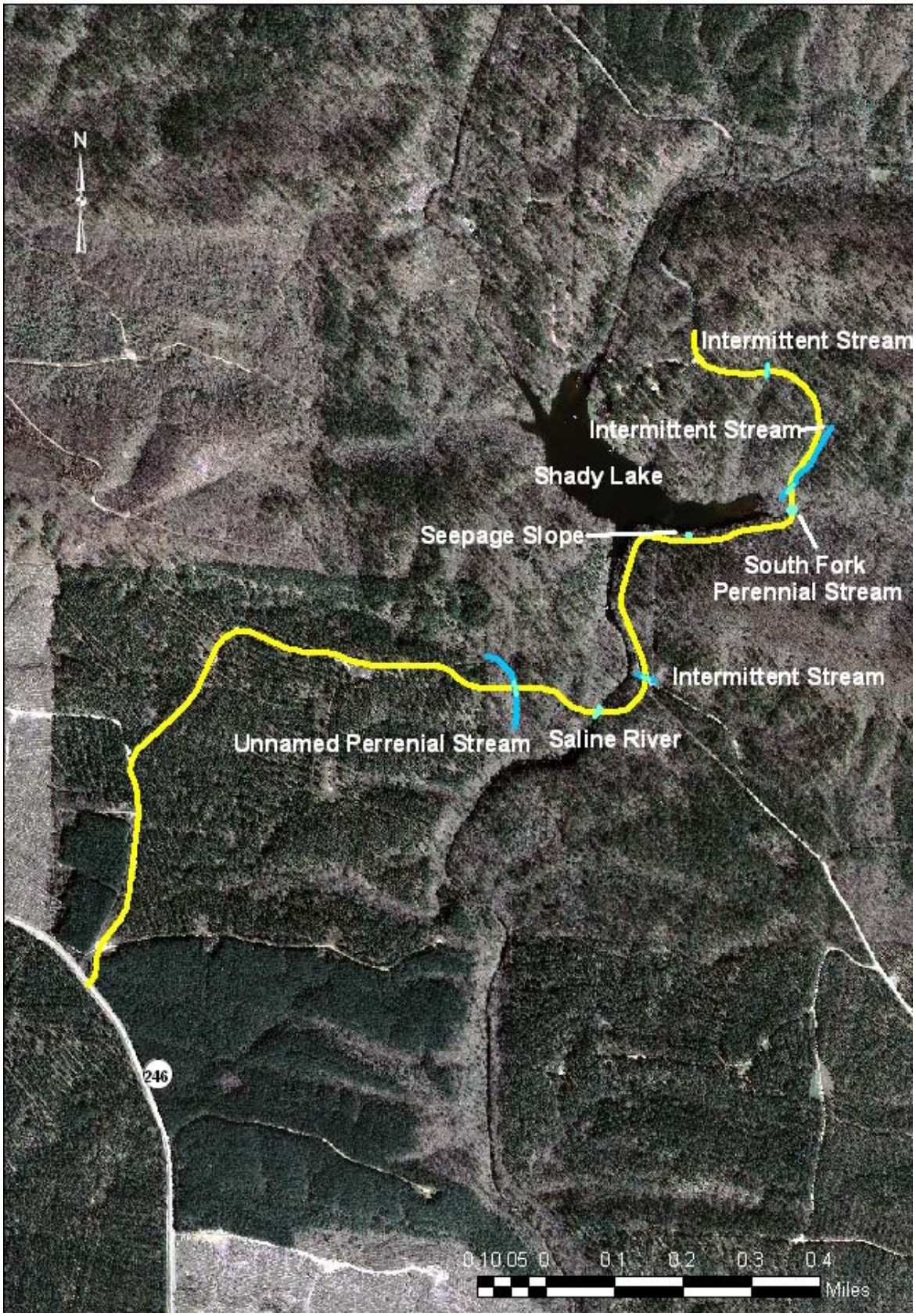

Figure 14. Wetlands and waters of the U.S.

Environmental Consequences

No Action Alternative
Under the No Action Alternative, sedimentation from the gravel/dirt entrance road would continue to impact waters in the study area. The impact to the function provided by the waters would be negligible.

Action Alternative
Under the Action Alternative, the seepage slope wetland would not be impacted. It is located on a very steep slope along the lakeshore of Shady Lake adjacent to the existing roadway. The waters identified in the study area would be impacted by the new proposed entrance road. Culverts would be installed to minimize impacts to the waters and surrounding hydrology. The bridge across the Saline River would span the river without the placement of any piers in the water. Riprap would be placed at the bridge abutments in order to protect them during major storm events; however, the riprap would be placed above the bank of the Saline River. Approximately 700 square feet of wetlands would be impacted by the placement of fill material. Approximately 5800 cubic feet of material would be placed into wetlands as fill material. Approximately 250 square feet of wetlands would be impacted by the excavation of material. In total, approximately 950 square feet (0.02 acres) of waters of the U.S. would be impacted. State and Federal permits would be required in order to impact wetlands and waters of the U.S. A description of these permits can be found in Chapter 5.

The wetland findings are pursuant to Executive Order 11990 and DOT Order 5660.1A on the Protection of Wetlands. There is no practicable alternative to construction in the streams and wetlands of the Action Alternative. All measures to minimize impacts to wetlands and streams shall be implemented during design, should the Action Alternative be implemented. Construction in the streams and wetlands is unavoidable. Impacts should be minimal and the functional integrity of the remaining wetlands would remain intact.

Cumulative Impacts

Construction of the Shady Lake Dam and Recreation Area, as well as the construction of a road network through the Forest impacted wetlands and waters of the U.S. The other present and future actions would have a minimal impact to wetlands because they are primarily land management projects.

No Action Alternative
The No Action Alternative, when combined with the other present and future actions, would have a negligible cumulative impact to wetlands and waters of the U.S. The No Action Alternative would contribute an imperceptible increment to the cumulative impacts to wetlands and waters of the U.S.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have a minor cumulative impact to wetlands and waters of the U.S. The Action Alternative would contribute an imperceptible increment to the cumulative impacts to wetlands and waters of the U.S. The other present and future actions would have minimal impact to wetlands or waters of the U.S. and the Action Alternative's impact would not be perceptible because of the small area impacted.

3.8 WATER QUALITY

Affected Environment

The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, establishes a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters; to enhance the quality of water resources; and to prevent, control and abate water pollution. Runoff from roads includes pollutants such as cadmium, chromium, copper, zinc, lead, oil, and grease. Heavy metals attach to the sediment and transport them through waterways. Heavy metals, oil, and grease have a toxic effect on aquatic plants and animals. Construction activities to construct the new entrance road would disturb vegetated areas and expose bare soil. These areas are vulnerable to erosion from wind and water. The eroded soils in water become suspended solids within the water course, and eventually settle to the bottom of the water course as sediment. Suspended solids and excessive sedimentation can have adverse impacts to water quality if not controlled.

The study area is located in the Headwaters Saline River watershed (HUC code 111401090701). The total area of the watershed is 31.96 square miles (20691.79 acres). The population of the watershed in 2000 was 387 persons. In 2006, 76.57% of the land cover was forest, and 15.41% of the land cover was pasture. Only 2.37% of the watershed is classified as urban. Within the watershed, roughly half of the roads are gravel county roads (57.09%). The remainder of the roads are comprised of graded county roads (20.5%), state highways (10.22%), and paved county roads (5.17%) (Arkansas Watershed Information System).

Environmental Consequences

No Action Alternative
Under the No Action Alternative, sedimentation from the gravel/dirt road would continue. Pollutants from vehicles traveling along the existing entrance road would continue to enter Shady Lake and the Saline River.

Action Alternative
Under the Action Alternative approximately 0.73 miles of the existing gravel/dirt entrance road would be converted to an asphalt pavement surface. The asphalt pavement surface would

reduce sedimentation of the nearby waters, but the amount of roadway pollutants generated would not change. The improved access to the Shady Lake Recreation Area may increase the number of vehicles traveling along the entrance road. The increase in pollutants generated from the additional vehicles would be negligible.

Additional sediments contributed during construction could result in localized, short-term adverse water quality impacts. Temporary exceedances of state water quality standards for turbidity may occur. Other potential sources of water quality impacts include petroleum products from construction equipment, highway pollutants from the operations of the facility, and toxic and hazardous material spills.

Per correspondence with the USFWS, if the road surface is to remain as gravel for a significant amount of time, BMPs such as well placed cross drains, turnouts, or broad based dips would be installed to ensure that sediment is directed into proper vegetated buffers rather than into streams.

Cumulative Impacts

The creation of gravel and dirt roads and parking areas created disturbed areas that have the potential to increase sedimentation of adjacent waterbodies. The other present and future actions would include ground disturbing activities that may increase sedimentation if proper BMPs are not implemented.

No Action Alternative

The No Action Alternative, when combined with the other present and future actions, would have a negligible adverse cumulative impact to water quality. The No Action Alternative would contribute an imperceptible increment to the cumulative impacts to water quality. Sedimentation from ground disturbing activities would continue; however, BMPs would minimize the overall impact to water quality.

Action Alternative

The Action Alternative, when combined with the other present and future actions, would have a negligible adverse cumulative impact to water quality. The Action Alternative would contribute an imperceptible increment to the cumulative impacts to water quality. Sedimentation from ground disturbing activities would continue; however, BMPs would minimize the overall impact to water quality.

3.9 GEOLOGY and SOILS

Affected Environment

The study area is situated in the lower foothills of the Ouachita Mountain, Central Mountain

Ranges ecosystem or Ouachita Province and is primarily composed of moderate to steep slopes with rocky substrates. Numerous watersheds varying from the lower, perennial Saline River to intermittent streams are transected by the study area. The Ouachita Province is a mountainous, geologically-complex area located between the Gulf Coastal Plain to the south and the Arkansas Valley to the north. Elevations range from the 300 feet along the Fourche-LeFave River to 2,681 feet at Rich Mountain near the Oklahoma border (USDA 2009b). The Ouachita Mountains, including this study area, consist primarily of Paleozoic sandstones, shales, novaculites and cherts that have been intensely folded and deformed during the late Paleozoic age mountain building process into anticlinal and synclinal forms. The study area is underlain by the Stanley Shale Geologic Formation which was formed in ancient seas 320-360 million years ago. The Stanley Shale is composed of dark-gray shale interbedded with fine-grained sandstone including Hot Springs Sandstone, which is found near the base of the sequence. Silty sandstones outside the Hot Springs Sandstone Member are normally found in thin to massive beds separated by thick intervals of shale. The tuffs (Hatton Tuff Lentil and others) seem to be restricted to the lower part of the Stanley Shale. Cherts are sometimes present in the middle and upper parts of the formation. Both plant and invertebrate fossils occur in the Stanley Shale, but the preservation is usually poor. The total thickness of the Stanley Formation varies from 3,500 feet to over 10,000 feet (Arkansas Geological Survey).

Soil types within the project area include the partially-hydric Kenn-Ceda complex (0 to 3 percent slopes, frequently flooded), which is associated with the Saline River and the South Fork. All other soils are non-hydric and include: Sherless-Littlefir complex, 8 to 15 percent slopes; Sherless-Nashoba-Bismarck complex, 15 to 35 percent slopes, extremely stony; Nashoba-Bismarck complex, 15 to 35 percent slopes, rubbly; Yanush-Bigfork complex, 35 to 60 percent slopes, rubbly.

Environmental Consequences

No Action Alternative

The No Action Alternative would have no impact on geology and soils.

Action Alternative

Under the Action Alternative approximately 30,000 cubic yards of soil would be excavated from the project area. Approximately 25,000 cubic yards of soil will be needed for fill material. The excavated material would likely be used as fill material, and any extra excavated material would likely be disposed of off-site legally by the construction contractor. Road construction materials, such as aggregate base and asphalt pavement, would be brought into the study area.

Cumulative Impacts

Soils were impacted by excavation associated with road construction, the construction of homesteads and the Manganese Mill, as well as the construction of the recreation area. The other present and future actions would have a negligible impact.

No Action Alternative

The No Action Alternative would have no cumulative impacts because there are no direct impacts.

Action Alternative

The Action Alternative, when combined with the other present and future actions, would have a minor adverse cumulative impact to soils and geology. The Action Alternative would contribute a noticeable increment to the cumulative impact to soils and geology. The other present and future actions are primarily changes to land management and do not require major earth disturbance. The Action Alternative would require excavation and the placement of fill material.

3.10 HISTORIC STRUCTURES

Affected Environment

The Recreation Area was built between 1935 and 1940 by the CCC enrollees of Company 742 stationed at Camp F-4 in the community of Shady. The historic buildings and structures within the Recreation Area are on the National Register of Historic Places (NRHP). The NRHP is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources (National Park Service). These include the dam, picnic shelter, bathhouse, caretaker's house, and stone bridges.

One of the stone bridges, a single arch stone bridge, crosses the South Fork of the Saline River (Arkansas Historic Preservation Program). This structure, Shady Lake CCC Bridge #1 (PL0284), was listed on the National Register in 2010 (Figure 14). The bridge was built by the CCC in 1936 during construction of the Recreation Area, is in excellent condition, and remains in use today (Albertson & Buchner, 2009).

Figure 15. Shady Lake CCC Bridge #1 over South Fork of the Saline River.

Figure 16. View of Shady Lake CCC Bridge #1 from existing entrance road.

Environmental Consequences

No Action Alternative
The No Action Alternative would have no impact to historic structures.

Action Alternative
The Action Alternative would have adverse impacts to historic structures. The stone bridge would be repaired by resetting loose stones, and replacing missing stones. These repairs would alter the original structure; however, repairs would be completed in a manner that would not adversely impact the historic integrity of the structure. Loose stones would be removed and replaced in the same location. Missing stones would be replaced with stones of a similar size and color. The existing mortar will be analyzed to ensure the new mortar matches the existing mortar. The mortar used to cement the stones in place will match the appearance of the existing mortar in color and consistency. The mortar would also be repointed in the same style. An MOA, fully executed November 19, 2010, was developed to record the agreed upon minimization and mitigation measures, and was signed by the Forest Service – Ouachita National Forest, the Federal Highway Administration – Eastern Federal Lands Highway Division, the Arkansas State Historic Preservation Office, the Caddo Nation, and the Osage Nation.

Cumulative Impacts

Multiple uses of the study area over time have contributed historic structures that are worthy of preservation. The other present and future actions, such as the Recreation Area improvements, may impact historic structures or contributing elements. Those adverse impacts would be mitigated as appropriate.

No Action Alternative
The No Action Alternative would have no cumulative impact to historic structures because there is no direct impact.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have a minor adverse cumulative impact to historic structures. The Action Alternative would contribute a noticeable increment to the cumulative impacts to historic structures. Changes to the historic structures causing adverse impacts would be mitigated.

3.11 ARCHEOLOGICAL RESOURCES

Affected Environment

Paleoindian occupations (10,000-8500 B.C.) represent the earliest occurrence of humans in the Ouachita Mountains. Previously recorded archeological sites in the surrounding area date from the Middle Archaic Period (5500-3500 B.C) to the 1940's. The Shady Lake Recreation Area

was built by the Civilian Conservation Corps. The Shady Lake Recreation Area facilities were built over several years (1935-1941), with the last stage of the dam being poured during July 1936.

An archeological investigation was completed to identify any additional archeological sites that may by impacted by the proposed action. The archeological investigation was completed for the area potentially affected by the Action Alternative. Six previously recorded archeological sites are located within or near the study area. An archeological investigation of the study area revisited three previously recorded sites. Four new archeological sites were identified during the study. These sites were found to be eligible or potentially eligible for the NRHP.

Sites potentially impacted by the proposed action include Site 3PL342 (Manganese Mill Site), Site 3PL355 (Moore Homestead), and Site 3PL576. The Forest Service originally recorded the Manganese Mill Site (3PL342) in October 1992. This site was located as a lode-mining claim for manganese in 1942. A manganese mill was constructed in 1943, and it was operated for less than a year as a concentrate mill. The mill was dismantled in 1945 (Nichols 1993/Albertson 2009).

The Moore Homestead (Site 3PL355) was initially recorded by the Forest Service in 1992. The Moore Homestead was patented in 1899 by David Moore and occupied until 1915.

Site 3PL576 was recorded by the Forest Service archaeologists in August of 1993. The site is described as an extensive lithic scatter measuring 60 meters by 120 meters. It was identified along a long, narrow terrace above and west of the Saline River floodplain. The boundaries of the site largely correlated with the local topography. Artifacts were recovered at Site 3PL576 from both surface and subsurface contexts. A total of 24 shovel tests were excavated at the site during its original recordation, of which 19 produced cultural materials. The recovered lithic assemblage was primarily manufactured from white or black novaculite. Recovered diagnostics included two arrow points, suggesting a Caddoan occupation at the site. An earlier Archaic occupation was also noted at the site, although no diagnostics dating to this time period were recovered.

Environmental Consequences

No Action Alternative

The No Action Alternative would have no impact to archeological resources.

Action Alternative

An archeological investigation was completed to identify any additional archeological sites that may by impacted by the Action Alternative. The road alignment of the Action Alternative would originally have adversely impact three archeological sites. The road alignment was shifted to avoid one of the sites; however two sites could not be avoided. An MOA was developed to document mitigation for the adverse effects to the two archeological sites. The Caddo Nation of Oklahoma, Chickasaw Nation of Oklahoma, Choctaw Nation of Oklahoma, Quapaw Tribe, and

Osage Nation were consulted to provide information regarding the proposed project, and to determine interest in the proposed project. An MOA was developed, and the Caddo Nation of Oklahoma and the Osage Nation were signatories of the MOA. The Forest Service – Ouachita National Forest, the Federal Highway Administration – Eastern Federal Lands Highway Division, and the Arkansas State Historic Preservation Officer were also signatories of the MOA.

Mitigation was completed in the form of data recovery, because the sites could not be avoided. Data recovery studies the archeological sites to determine information regarding the site, and preserves any artifacts recovered from the site. A Data Recovery Plan is an attachment to the MOA, and was reviewed by all of the MOA signatories.

A qualified archeologist would monitor all ground disturbing activity related to the construction of the new entrance road. The archeological monitor would help identify any site components that may not have been uncovered previously. A representative of the Caddo Nation would also monitor all ground disturbing activity.

Cumulative Impacts

Multiple uses of the study area over time have created archeological resources worthy of protection. The other present and future actions would likely have no impact to archeological resources.

No Action Alternative

The No Action Alternative would have no cumulative impact to archeological resources because there is no direct impact to archeological resources.

Action Alternative

The Action Alternative, when combined with the other present and future actions, would have a negligible adverse cumulative impact. The Action Alternative would contribute a noticeable increment to the cumulative impacts to archeological resources. The other present and future actions are primarily changes to land management and would not require major ground disturbance. The Action Alternative impacts two archeological sites and requires mitigation of the adverse effect through data recovery.

3.12 AESTHETICS AND VIEWSHEDS

Affected Environment

Drivers traveling along FS 38 currently view private houses and agricultural structures when traveling from State Route 246 until they reach the Forest. While traveling through the Forest, visitors see forested land, and eventually have views of the Shady Lake Dam, Shady Lake, and the Recreation Area.

Environmental Consequences

No Action Alternative
The No Action Alternative would have no impact to aesthetics and viewsheds.

Action Alternative
Under the Action Alternative, visitors would view more forested area and vegetation while traveling. The viewshed from the convergence point would have negligible changes because some vegetation may need to be cleared. Visitors to the Forest and the Recreation Area are likely to appreciate the views of the forested area while driving along the new entrance road.

Cumulative Impacts

Development of the area over time cleared vegetation, and changed the viewsheds of the area. However, the creation of roads through the Forest provided a means for visitors to the area to view the surrounding landscape. The other present and future actions, such as prescribed burns and timber harvesting, may change the appearance of the vegetation in the surrounding area.

No Action Alternative
The No Action Alternative would have no cumulative impact to aesthetics or viewsheds because there is no direct impact to aesthetics or viewsheds.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have a moderate adverse impact to aesthetics and viewsheds. The Action Alternative would contribute a noticeable increment to the cumulative impacts because it would change the location from which individuals view their surroundings. The other present and future actions, such as prescribed burns and timber harvesting would change the view, and would likely make the view less enjoyable.

3.13 AIR QUALITY

Affected Environmental and Environmental Consequences

The 1963 Clean Air Act, as amended, requires Federal land managers to protect Forest air quality. The act also assigns the Federal land manager an affirmative responsibility to protect the Forest's air quality related values – including visibility, plants, animals, soils, water quality, cultural and historic resources and objects, and visitors – from adverse air pollution impacts. Section 118 of the 1963 Clean Air Act requires the Forest Service to meet all Federal, State, and local air pollution standards. The study area is not located within any non-attainment areas for any pollutants per National Ambient Air Quality Standards. Arkansas typically ranks in the top 1/3 of the states for air quality. The best regional air quality in Arkansas was measured in

the Ozark and Ouachita regions, especially from Ashley to Pike Counties (University of Arkansas). The existing entrance road is a gravel/dirt road, and traveling along this road creates dust, which eventually settles out of the air. The proposed action would convert a portion of the existing entrance road to an asphalt surface, and the new alignment portion would be surfaced with asphalt. There would be less dust generated by vehicular traffic; however, this difference would not change the air quality designation.

3.14 NOISE

Affected Environmental and Environmental Consequences

Traffic noise impacts take place when the predicted traffic noise levels approach or exceed the noise abatement standard, or when the predicted traffic noise levels exceed the existing noise level by ten dBA (decibels on the A-scale). The noise abatement standard of 67 dBA is used for sensitive noise receptors such as residences, schools, churches, and parks. In order for there to be noise, receptors, in the form of residences, need to be present. Several residences are present along the existing entrance road. The new entrance road would have no receptors. The residences along the existing entrance road would experience less noise, because the vehicles accessing the Forest would be relocated to a new entrance road. Noise impacts to wildlife are discussed under section 3.4 Wildlife.

3.15 RECREATIONAL USE

Affected Environment

The Forest provides a multitude of recreation activities. More than 750 miles of trails for hiking, biking, all-terrain vehicles (ATVs), and horseback riding are available. Camping and picnicking grounds (33) are available during the late spring, summer, and early fall. Some areas are open year-round. Fishing is also available, and the fish available include largemouth, smallmouth, and spotted bass, green sunfish, longear sunfish, catfish, bluegill, and crappie. Hunting is permitted anywhere on the Forest except for within developed recreation areas or otherwise posted sites. State and Federal game and fish laws are applicable to National Forest Lands. Forest Service law enforcement officers enforce these laws (Arkansas Game & Fish Commission).

The Recreation Area includes a swim area, campgrounds, picnic areas, and several trails. There are fees associated with the swim area, campground, and group picnic shelter use. The swim area is usually open from mid-May through October, and the campgrounds are open March through November. The hiking trails are open year-round. Shady Lake has 69 campsites and 18 hookups. Also available are a group picnic shelter, amphitheater, and playground.

Fishing is available all year though the recreation area is closed part of the year. Boat access at the lake is available via a grassed ramp. Boats are restricted to use of electric motors only. A shoreline trail circles the lake. A developed campground and day use area with swimming beach is on the lake. This 25 acre recreation lake offers good warmwater fishing opportunities however the lake has only been stocked since 1998 following dam repair. Special fishing regulations are in effect at this lake. Rod and reel or pole fishing only are permitted; a catfish daily limit of 5, and a bass minimum length of 15 inches or longer (USDA Forest Service).

The Recreation Area can only be accessed via FS 38. This gravel road runs north-south from County Road 375/County Road 64 in Mena, Arkansas to State Route 246. The south entrance enters through privately owned property, therefore there is limited signage posted, which can be confusing for visitors who are unfamiliar with the area.

Weyerhaeuser Company leases hunting rights to its land to the Rock Creek Hunting Club.

Environmental Consequences

No Action Alternative
The No Action Alternative would have no impact to recreational use.

Action Alternative
The Action Alternative would have a permanent beneficial impact to recreational use. Access to the Forest and the Recreation Area would improve. This would make it easier for visitors to access the area, and may increase visitation. Drivers would appreciate the smooth, dustless driving surface which would provide a more enjoyable ride.

Cumulative Impacts

Development of the area, in particular the establishment of the Forest and the construction of the Recreation Area by the CCCs, created access and activities for visitors to the area. The other present and future actions, such as the improvements to the Recreation Area, would have a beneficial impact to recreational use.

No Action Alternative
The No Action Alternative would have no cumulative impact to recreational use because there is no direct impact.

Action Alternative
The Action Alternative, when combined with the other present and future actions, would have a moderate beneficial impact to recreational use. The Action Alternative would contribute a noticeable increment to the cumulative impacts. The proposed projects would improve the Recreation Area and the ability for visitors to access the Recreation Area.

3.16 CONCLUSIONS

The No Action Alternative would have no impacts to: land use, environmental justice, vegetation, rare and protected species, floodplains, wetlands, geology and soils, historic structures, archeological resources, aesthetics, air, noise, or recreational use. The No Action Alternative would continue to impact wildlife and water quality. Sedimentation from the gravel/dirt roadway would continue to enter adjacent rivers, streams, and lakes. This sedimentation would impact aquatic species.

The Action Alternative would have a permanent beneficial impact to recreational use and aesthetics. The adverse impacts to historic structures and archeological resources would be mitigated through data recovery and mitigation measures as specified in the MOA. Environmental Justice, air quality, noise, and rare and protected species would experience no to negligible impacts. Clearing would have permanent adverse impacts to vegetation and wildlife. Excavation and fill associated with the Action Alternative would have permanent adverse impacts to geology and soils, wetlands, and floodplains. Water quality would have localized temporary adverse impacts as a result of ground disturbing activities associated with construction; however, best management practices would be implemented to minimize erosion from disturbed soil.

CHAPTER 4: DRAFT SECTION 4(f) EVALUATION

4.1 INTRODUCTION

In accordance with Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303) and 23 CFR 774, FHWA "may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that: (i) there is no feasible and prudent alternative to the use of land from the property; and (ii) the action includes all possible planning to minimize harm to the property resulting from such use." The proposed Action Alternative would use land from a significant historic site; therefore, Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966, as amended, applies to the proposed project. This Section 4(f) evaluation includes documentation of the Section 4(f) resources, studies of alternative alignments, and consultations with appropriate agencies. In addition, this evaluation ensures that the proposed action includes all possible planning measures to minimize harm to the affected property.

Description of Section 4(f)

Section 4(f) legislation protects three basic types of resources: publicly owned park and recreation facilities, publicly owned wildlife and waterfowl refuges, and historic sites. Section 4(f) is codified into federal law under 49 USC Section 303 and 23 USC Section 138, and is implemented through the Code of Federal Regulations (CFR) 23 CFR 774.

Section 4(f) requires that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the US Department of the Interior and other Federal Agencies and appropriate State and/or local agencies that use or have jurisdiction over the lands protected by Section 4(f).

In determining that there is no prudent or feasible alternative, the Agency must find that supporting information demonstrates that there are unique problems or unusual

factors involved in the use of alternatives that would avoid these properties; such as a finding that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes.

Use of a 4(f) Resource

Use of a Section 4(f) resource occurs in the following circumstances:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purpose; or
- When there is a constructive use of land, which occurs when the transportation project does not incorporate land, but its proximity impacts substantially impair the activities, features, or attributes that qualify a resource for protection under Section 4(f).

This Section 4(f) evaluation has been prepared because a Section 4(f) resource would be permanently incorporated into a transportation facility.

Evaluation of Avoidance Alternatives

Per 23 CFR 774.17, a feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

An alternative is not feasible if it cannot be built as a matter of sound engineering judgment. An alternative is not prudent if:

- It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- It results in unacceptable safety or operational problems;
- After reasonable mitigation, it still causes
    - Severe social, economic, or environmental impacts;
    - Severe disruption to established communities;
    - Severe impacts to environmental resources protected under other Federal statutes;
    - It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
    - It causes other unique problems or unusual factors; or
    - It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Measures to Minimize Impacts

If no feasible and prudent avoidance alternative is identified, all possible planning is applied to identify measures to minimize harm or to mitigate for adverse impacts to the Section 4(f) property. With regard to public parks and recreation areas, measures may include but are not limited to design modifications or design goals; replacement of land or facilities of comparable value and function; or monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

4.2 PROJECT DESCRIPTION

This section summarizes the Purpose and Need and the Proposed Road Alignment, both of which are described in more detail in the environmental assessment.

Purpose and Need

The purpose of the proposed action is to provide safe vehicular access to the Shady Lake Recreation Area, and minimize the potential for conflicts with residents living nearby. Seasonal high use of the entrance road results in high traffic volume that causes conflicts with the private property owners.

Proposed Action

A new entrance road would be constructed to provide safe access exclusively to the Recreation Area and the Forest. The new entrance road would follow the existing 12-foot wide Rocky Hunting Club gravel service road for approximately 0.83 miles. The entrance road would then follow a new alignment for approximately 0.49 miles. Approximately 0.73 miles of the existing entrance road would be upgraded, ending at the gated entrance north of the Recreation Area.

The new entrance road would have two ten-foot lanes and two-foot shoulders, and would be an asphalt paved surface. A paved parking pull-off would be constructed approximately 0.6 miles south of the Recreation area near the existing dam site. The pull-off would accommodate two cars.

The new entrance road would be designed to a 30 mph design speed. The maximum grade of the road would be 12 percent. Cut and fill would be necessary in order to construct the road due to the steep grade of the hillside. Approximately 30,000 cubic yards of excavation and approximately 25,000 cubic yards of fill would be required to construct the road. The excavation material would be stockpiled and used as the fill. Additional material would be disposed of off-site. In order to upgrade the existing portion of the entrance road, the radii of curves in the road would be widened.

The damaged section of the stone CCC bridge would be repaired (Figure 8). Loose stones would be re-mortared into place, and missing stones would be replaced with stones of a similar size and color. New culverts would be installed across tributaries and drainages to maintain hydrologic connectivity. A new crossing over the Saline River south of the Shady Lake Dam would be constructed. The bridge would be concrete with a steel superstructure. The bridge would be 26 feet wide (curb to curb) and 120 feet long. The bridge would span the River; therefore, no piers would be constructed. The bridge would be two feet higher on the west side, so runoff would drain on eastern approach. Riprap would be placed to protect both of the bridge abutments.

The project would most likely be constructed in three stages. In the first stage, grading, aggregate base, drainage work, and bridge construction would be completed from the southern portion of the study area from State Route 246 to the Saline River. In the second stage, grading, aggregate base, drainage work, and other miscellaneous work would be completed from the northern portion of the study area from the Saline River to the north entrance of the Recreation Area. In the third stage, the entire road length would be paved with asphalt.

4.3 SECTION 4(f) PROPERTIES

Properties Listed on or Eligible for Inclusion in the NRHP

Historic Sites

Site 3PL576: An archeological investigation of the study area revisited Site 3PL576. (Nichols 1993/Albertson 2009). Site 3PL576 was recorded by the Forest Service archaeologists in August of 1993. The site is described as an extensive lithic scatter measuring 60 meter by 120 meter. It was identified along a long, narrow terrace above and west of the Saline River floodplain. The boundaries of the site largely correlated with the local topography. The original recorder noted the southwestern boundary of the site was adjacent to the Manganese Mill Site (3PL342). Based on shovel testing, the southwest boundary of Site 3PL576 corresponded to a barbed wire fence line crossing the terrace at this location (AAS-Site Survey Form). Artifacts were recovered at Site 3PL576 from both surface and subsurface contexts. The recovered lithic assemblage was primarily manufactured from white or black novaculite. Recovered diagnostics included two arrow points, suggesting a Caddoan occupation at the site. An earlier Archaic occupation was also noted at the site, although no diagnostics dating to this time period were recovered (AAS-Site Survey Form).

Site 3PL355 – Moore Homestead: An archeological investigation of the study area revisited Site 3PL355 (Moore Homestead). The Moore Homestead (Site 3PL355) was initially recorded by the Forest Service in 1992. The Moore Homestead was patented in 1899 by David Moore and occupied until 1915. The site was intensively surveyed and tested in 1992-1993.

*Site 3PL1325 – Shady Lake CCC Bridge #1***:** Site 3PL1325 consists of a stone bridge over a tributary of the lake along the Shady Lake Recreation Area entrance road. The bridge was built

by the CCC during construction of the Recreation Area, is in excellent condition, and remains in use today. It was apparently missed during the AHPP recordation of the other CCC structures at Shady Lake. It is almost certainly eligible for listing in the NRHP along with the other Shady Lake structures.

Recreational Properties

Ouachita National Forest: The proposed project is an improvement that is located entirely within the administrative boundary of the Ouachita National Forest. The Ouachita National Forest is a mixed resource used for logging as well as recreation.

Shady Lake Recreation Area: Shady Lake is a popular 25-acre recreational impoundment in the Ouachita National Forest served by an accompanying recreation area. The lake's dam and some facilities within the recreation area were constructed by workers of the Civilian Conservation Corps in 1938. The recreation area includes more than 60 campsites, a swimming beach, playground, hiking trails, picnic shelter, a grass boat ramp and other recreational facilities. Although multiple individual structures within the Recreation Area are listed on the NRHP (Shady Lake Picnic Pavilion, Shady Lake Caretakers House, Shady Lake Bathhouse, Shady Lake Dam), the roadway improvements would not impact any of these listed structures.

Construction of the Action Alternative Would Result in the Use of the Following Resources:

Historic Sites

Site 3PL576: A portion of the site would be permanently incorporated into the new road. Mitigation through data recovery would be completed. A maximum of 20% of the site impacted by the construction of the new entrance road would be sampled during the data recovery survey. While the site is bound to the south by the Saline River, the northern boundary of the site has not been adequately defined. The data recovery survey would define this boundary; however, the northern portions of the site will lie outside of the Area of Potential Effects, and would not be impacted by the construction of the new entrance road.

Site 3PL355: Most, if not all of the site will be impacted by the proposed construction of the new entrance road. Mitigation through data recovery would be completed. A maximum of 20% of the site impacted by the construction of the new entrance road would be sampled during the data recovery survey.

Site 3PL1325: The Shady Lake CCC Bridge #1 would continue to be used as part of the new entrance road. Repairs would be made to the bridge to reset loose stones and replace missing stones. Measures to minimize the adverse effect to the bridge are outlined in a Memorandum of Agreement. These measures include matching the new stone type, size and color to the existing stones, and also matching mortar color.

Recreational Properties

Ouachita National Forest: The only area of the Ouachita National Forest used for recreation that would be impacted by the proposed project is located within the Shady Lake Recreation Area.

Shady Lake Recreation Area: The road may be widened through curves and to maintain lane width; however, the footprint of the road would not significantly change. Land would be used, but recreational use of the area would not be changed.

4.4 AVOIDANCE ALTERNATIVES

No Action Alternative: The No Action Alternative would not impact any Section 4(f) resources. However, under the No Action Alternative, no improvements would be made to access to the Shady Lake Recreation Area. Access would continue from State Route 246 along FS 38. The No Action Alternative is not prudent because it compromises the project to a degree that is unreasonable to proceed with the project in light of its state purpose and need. The No Action Alternative also results in unacceptable safety and operational problems, as stated in Chapter 1, Section 1.3, Need.

Partial Avoidance – New Alignment Alternative (Figure 17 - A): Any upgrade to the existing entrance road would impact the Shady Lake Recreation Area, because the northern portion of the existing entrance road is surrounded by the Recreation Area. In order to avoid impacting site 3PL1325, the stone CCC bridge, a crossing could be constructed to the east. The road could also be realigned to cross the Saline River further south to avoid known archeological sites, Site 3PL355 and Site 3PL576; however there is a high likelihood that additional archeological sites would be discovered. This alternative would be approximately 0.20 miles longer. This longer portion of road constructed on a new alignment would require more cut/fill, which would disturb more of the natural environment. This alternative would also require a bridge adjacent to the stone CCC bridge and a longer bridge to cross the Saline River. This would cause additional impacts to wetlands and/or waters of the United States. The longer road length, longer bridge, and additional water crossing structure would increase the cost of the proposed project.

Partial Avoidance – New Alignment Adjacent to the CCC Bridge (Figure 17 – B): Under this Alternative, a new bridge and alignment avoiding the stone CCC bridge, Site 3PL1325 would be built. This alternative would adversely impact wetlands, waters of the U.S., water quality, wildlife and wildlife habitat, and vegetation. Under the Preferred Alternative, the stone CCC bridge would be repaired and retained as part of the entrance road. This Alternative is not prudent because after reasonable mitigation, it still causes severe impacts to environmental resources protected under other Federal statutes.

<u>Alternative Alignment from State Rouge 246 to the Saline River (Figure 17 – C):</u> This Alternative is not an Avoidance Alternative because it would also impact the Shady Lake Recreation Area, Site 3PL1325, Site 3PL355, and Site 3PL576.

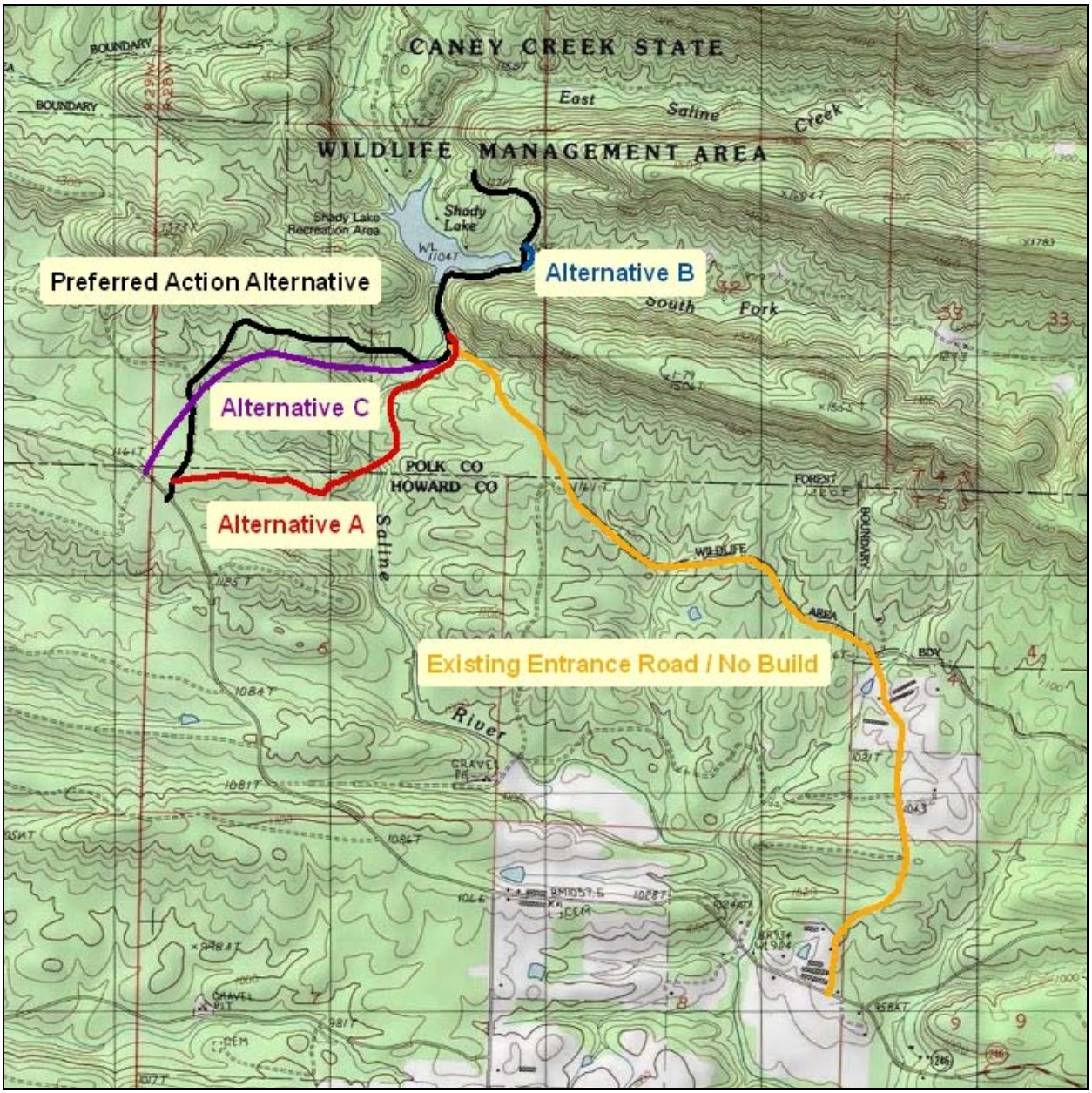

Figure 17. Section 4(f) Partial Avoidance Alternatives

Conclusion

There is no avoidance alternative that would avoid all of the Section 4(f) Resources.

Measures to Minimize Harm

The design of the new entrance road was minimized in order minimize impacts to the natural environment, minimize harm of Section 4(f) resources, and lower the cost of construction. These measures to minimize harm include shifting the roadway alignment to avoid one of the historic sites and minimizing design elements.

Elements of the design were minimized in order to reduce the impacts of the project. The alignment was shifted to avoid Site 3PL342. The travel lanes are 10 feet wide, with minimal shoulders. The speed limit was set a 30 mph in order to allow the new entrance road to follow ground contours to the extent possible. The new entrance road also ties back into the existing road to the Shady Lake Recreation Area south of the Shady Lake Dam. The existing road is upgraded; however, it closely follows the existing alignment.

4.5 SUMMARY

Modifying the route to avoid all Section 4(f) resources altogether would not be feasible and/or prudent because the existing road accessing the Shady Lake Recreation Area is within the Recreation Area. Modifying the route to avoid the historic sites would not be feasible and/or prudent for the following reasons:

- The project objectives would not be met.
- There would be major adverse impacts to the natural environment from an avoidance alternative.
- The monetary costs associated with avoidance would be high.

Based upon the analysis presented in this report, the Action Alternative would cause the least harm to the Section 4(f) resources. This alignment includes all possible planning to minimize harm to the Section 4(f) resources resulting from such use, and would:

1. Have the lowest level of effects to the natural environment;
2. Provide safer access to Shady Lake Recreation Area; and
3. Minimize conflicts between private landowners and visitors to the Recreation Area.

The recreational facilities and opportunities would be more accessible as a result of the construction of the connector road.

Coordination

Agencies with jurisdiction over Section 4(f) resources were contacted to identify resources and areas of concern. Agencies contacted include the Forest Service, Arkansas Historic Preservation Office, Quapaw Tribe, Choctaw Nation of Oklahoma, Chickasaw Nation of Oklahoma, Caddo Nation of Oklahoma, and Osage Nation. The EA and Draft Section 4(f) Evaluation will be sent to the Department of Interior, Arkansas Historic Preservation Office, Caddo Nation of Oklahoma, Chickasaw Nation of Oklahoma, Choctaw Nation of Oklahoma, Quapaw Tribe, and Osage Nation for review and comment concurrently with the release of the EA to the public for a minimum of 45 days in accordance with 23 CFR 774.5.

Conclusion

Based upon the above considerations, there is no feasible and prudent alternative to the use of the Shady Lake Recreation Area, Site 3PL1325, Site 3PL355, and Site 3PL576. However, the new entrance road includes all possible planning to minimize harm to the Recreation Area and historic sites resulting from such use.

CHAPTER 5: PUBLIC INVOLVEMENT AND COORDINATION

Comments from the public are solicited at two stages in the project planning process: public scoping and the public comment period. Information about the proposed project was made available to the public on the FHWA, Eastern Federal Lands Highway Division's website at http://efl.fhwa.dot.gov/planning/nepa.htm. Notices were placed in the Mena Star and the Arkansas Democrat Gazette. Comments were requested to be received by April 7, 2009. A flyer containing information regarding the proposed project was also distributed to the Ouachita National Forest mailing list. One comment via phone was received questioning the need for this project. Flyers were also sent to Federal, State, and local agencies that may have an interest in the proposed new entrance road. No agency comments were received.

This EA will be available for public review from July 1, 2011 through August 15, 2011. During this 45-day period, hardcopies of the EA will be available for review at the Mena-Oden Ranger District 1603 Highway 71 North, Mena, Arkansas 71953, and the Polk County Library at 410 Eighth Street, Mena, Arkansas 71953. An electronic version of this document can be found on the FHWA, Eastern Federal Lands Highway Division's website at http://efl.fhwa.dot.gov/projects/environment.aspx.

5.1 AGENCY COORDINATION AND PERMITS

Agency Coordination

Other Federal, State, and local governments were contacted during the planning process. Appendix B contains copies of written correspondence with those agencies.

Permits

If the action alternatives were implemented, several environmental permits would be required in order to construct the project. These permits include:

Section 404 Permit
Impacts to "waters of the United States" come under the jurisdiction of the USACE. Permits are required for road encroachment into jurisdictional wetlands, streams, and ponds. The Nationwide Permit (NWP) 14 (Linear Transportation Projects) would likely cover the impacts to the jurisdictional wetland and streams within the study area.

Short Term Activity Authorization (STAA)
Activity conducted in any water which might cause a violation of the Arkansas Water Quality Standards must be authorized by the ADEQ Director. These activities include debris removal or movement of machinery into the water or bridge construction that disturbs water. Short term

activity authorizations are required, along with individual water quality certifications, for any stream activity in Extraordinary Resource Waters (ERW), Ecologically Sensitive Waters (ESW), or Natural and Scenic Waters (N&SW). The Saline River has been designated as an ERW.

NPDES Permit

The Clean Water Act prohibits anybody from discharging "pollutants" through a "point source" into a "water of the United States" unless they have a National Pollutant Discharge Elimination System (NPDES) permit. Wastewater, construction permit, stormwater, and pretreatment are managed through ADEQ's NPDES permitting program. The Construction General Permit authorizes stormwater discharges from large and small construction activities that result in a total land disturbance equal to or greater than one acre (Arkansas Department of Environmental Quality).

Section 401 Water Quality Certification

A Section 401 Water Quality Certification is required for any activity that may result in a discharge into "Waters of the United States" or for which an issuance of a federal permit is required. The state of Arkansas has certified the USACE's Nationwide Permit program.

5.2 LIST OF PREPARERS AND REVIEWERS

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