

Draft
**General Management Plan
Environmental Impact Statement**
Arkansas Post National Memorial

DRAFT
**GENERAL MANAGEMENT PLAN/
ENVIRONMENTAL IMPACT STATEMENT**

November 2002

ARKANSAS POST
NATIONAL MEMORIAL • ARKANSAS

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ENVIRONMENTAL IMPACT STATEMENT**
ARKANSAS POST NATIONAL MEMORIAL
Arkansas County, Arkansas
November 2002

Four alternatives for future management and use of Arkansas Post National Memorial are presented and analyzed in this document. **Alternative A** reflects the existing management direction and ongoing actions that would continue at the national memorial; this alternative thus serves as a basis for comparing the other alternatives. Staffing and funding levels would increase to accommodate the opening of the Osotouy Unit. Visitor services would remain at current levels, and current laws, policies, and guidelines would guide resource management actions. Under **alternative B**, the National Park Service's (NPS) preferred alternative, the management emphasis would be on interpreting the rich cultural heritage that flourished over the centuries in the area of Arkansas Post National Memorial. It would provide new and innovative ways to celebrate the area's cultural diversity while maintaining the park's natural and cultural resources. Under **alternative C** the management emphasis would be on the preservation of the cultural and natural resources of the park for future generations. This management philosophy would result in minimizing intrusive features on the park's landscape (modern structures and paved trails) and providing only minimal development necessary for visitor use and resource protection at the Osotouy Unit. **Alternative D** would emphasize education and interpretive goals of Arkansas Post National Memorial through an array of recreational activities while emphasizing interpretation of the park's historical significance.

The impacts of implementing each alternative are discussed in the "Environmental Consequences" section of this document. They include impacts on cultural resources, visitor use and recreational resources, the socioeconomic environment, natural resources, and transportation corridors, circulation, and links.

Comments or questions about this document should be sent to the superintendent, Arkansas Post National Memorial, 1741 Old Post Road, Gillett, AR 72055, (870) 548-2207. All comments must be received within 60 day of the date of the transmittal letter that accompanies this document. After a 60-day review period, comments will be analyzed and a final plan/environmental impact statement will be prepared. After a 30-day no-action period, a course of action will be approved through the issuance of a record of decision.

Due to public disclosure requirements the National Park Service, if requested, is required to make public the names and addresses of commentors. This typically occurs when there is considerable controversy regarding park plans. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. The National Park Service will then determine whether the information can be withheld under the Freedom of Information Act, and we will honor your request to the extent allowed by law. We will make all submissions from organizations or businesses and from individuals identifying themselves as representatives or officials of organizations or businesses available for public inspection in their entirety.

SUMMARY

The purpose of the general management plan is to help guide decisions during the next 10 to 15 years in managing Arkansas Post National Memorial resources, telling the history of the Arkansas Post area, conserving cultural resources and traditions, and developing public education programs about the area. This document presents four alternative approaches to managing the park. The process of developing these alternatives included research, public meetings with local communities, and internal NPS review. The alternatives are purposely general to allow for future flexibility. Implementation will take years, and resource conditions and opportunities may change over time.

ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

Alternative A reflects ongoing actions at the park and serves as a basis for comparing the other alternatives. At the Memorial Unit (main unit), programs and activities would continue under current funding levels and with current limitations. Staffing under this alternative would remain at about 10 permanent employees, with the possibility of adding about four permanent positions to administer the Osotouy Unit. Land at the Osotouy Unit would continue to be acquired from willing sellers. Current annual funding for the park is just over \$700,000. Requested increases in annual staffing costs would bring this to between \$900,000 and \$950,000. This increase of about \$200,000 to \$250,000 is primarily to hire staff to manage the Osotouy Unit. The existing funding level of the park would have a long-term, adverse, minor to moderate impact on the visitor experience. The existing trends at the park would result in a long-term, minor to moderate, adverse impact on the visitor experience because of the limited

opportunity to provide visitor understanding at the Memorial Unit and the complete lack of interpretation at the Osotouy Unit.

Under **alternative B**, the National Park Service's preferred alternative, management would emphasize interpreting the rich cultural heritage that flourished over the centuries in the area of Arkansas Post National Memorial. Management would provide for innovative ways to celebrate the area's cultural diversity while maintaining the natural and cultural resources. At the Memorial Unit, the visitor center would be rehabilitated and expanded to better highlight the park's cultural and natural resources. New programs such as music, performances, and food representative of a particular culture would become part of the yearly activities at the park. The picnic area and road and trail system at the Memorial Unit would be retained; an informal overflow parking area would be developed. Interpretation of the resources associated with the Civil War would be enhanced. A large portion of the Memorial Unit would be managed for the maximum protection of its natural and cultural resources. Some water-based recreation would be allowed.

A small visitor contact station, parking area, picnic area, research support facility, maintenance area, and park ranger housing would be constructed at the Osotouy Unit. An interpretive loop trail would also be developed that emphasized the American Indian culture, Euro-American arrival, and the interaction between the two cultures.

Implementing this alternative would cost about \$2.6 million in one-time construction expenses. It would also require an increase in staffing to about 12 full-time-equivalent (FTE) positions for a total of about 22 FTEs. Cost items would include expanding and

rehabilitating the visitor center at the Memorial Unit, constructing visitor and park facilities at the Osotouy Unit, and constructing a research support facility at the Osotouy Unit.

The alternative would have a long-term, major beneficial impact on the visitor experience because it would provide various levels and types of understanding of the national memorial at both the Memorial and Osotouy Units.

Alternative C would emphasize the preservation of the park's cultural and natural resources for future generations. Archeological resources would be interpreted through media with limited on-site interpretation. Intrusive features (modern structures and paved trails) would be minimized. Many of the trails and roads in the Memorial Unit would be removed and restored to natural contours and vegetation. The trails that remain would be concentrated in the area of the visitor center and Front Street. At the Memorial Unit the visitor center would be expanded and rehabilitated. The visitor center media would provide an in-depth understanding of the resources at both units. The picnic area would be retained with road access, but trails in the vicinity would be removed. Contemplation areas would be developed. If determined beneficial after further study, the National Park Service would reestablish park boundaries in the Memorial Unit that are more consistent with the original legislated boundaries.

A small visitor contact station, parking area, maintenance area, and park ranger housing would be constructed at the Osotouy Unit. An interpretive trail with media would be developed that emphasized the American Indian culture before the arrival of Euro-Americans.

Implementing this alternative would cost about \$2.6 million in one-time construction expenses. It would also require an increase in staffing to about 12 full-time equivalent (FTE) positions for a total of about 23 FTEs. Cost items would include expanding and rehabilitating the visitor center at the Memorial Unit, constructing visitor and park facilities at the Osotouy Unit, removing trails at the Memorial Unit, and constructing trails at the Osotouy Unit.

This alternative would have long-term, minor to moderate, positive impacts on soils and native plant species resulting from the restoration of vegetation. Also the increase of unbroken habitat areas would have a minor to moderate, beneficial, long-term impact on wildlife.

Alternative D would emphasize developing new ways for the visitor to understand and appreciate the park's cultural and natural resources. The visitor center at the Memorial Unit would be expanded and rehabilitated to better highlight the park's cultural, natural, and recreational resources. A new facility for researching the park's natural and cultural resources and for park administration would be constructed. The trail and road system would be retained. Some fishing areas at the park would be formalized, while areas to provide an opportunity for contemplating the park's significance and history would be provided.

A small visitor contact station, parking area, maintenance area, and park ranger housing would be constructed at the Osotouy Unit. An interpretive loop trail would be developed to emphasize the interaction between the American Indian and the Euro-American cultures at Osotouy. An area along Lake Dumond would be developed as a designated fishing area.

Implementing this alternative would cost about \$3.4 million in one-time construction

expenses. It would also require an increase in staffing to a total of about 13.3 full-time-equivalent (FTE) positions for a total of 24 FTEs. Cost items would include expanding and rehabilitating the visitor center at the Memorial Unit, constructing visitor and park facilities at the Osotouy Unit, and constructing a research and administrative facility at the Memorial Unit.

Greater access to the memorial and multiple options for visitor use would have a major, long-term, positive impact on the visitor experience.

COMMENTS ON THE DRAFT PLAN

The *Draft General Management Plan/Environmental Impact Statement* for Arkansas Post National Memorial is being sent out for public review and comments. Following the 60-day review period

comments will be analyzed. Various elements of the preferred alternative and other alternatives might be modified to address comments, a *Final General Management Plan / Environmental Impact Statement* will be published, and a record of decision identifying the selected alternative (the approved plan) will be issued after a minimum 30-day no-action period. The final environmental impact statement will include agency and organization letters and responses to all substantive comments.

Comments on this plan should be submitted to:

Superintendent
Arkansas Post National Memorial
1741 Old Post Road
Gillett, Arkansas 72055

Internet address:
arpo_superintendent@nps.gov

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INTRODUCTION

BACKGROUND

This *Draft General Management Plan/ Environmental Impact Statement* presents and analyzes four alternatives for the management and use of Arkansas Post National Memorial. One of the alternatives has been identified as the National Park Service's (NPS) preferred future direction. The potential consequences of implementing all the alternatives have been identified and assessed. General management plans, which provide guidance over a 10- to 15-year period, are intended to be conceptual documents that establish and articulate a management philosophy and framework for

decision making and problem solving in the parks.

Actions directed by general management plans or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future.

BRIEF DESCRIPTION OF THE AREA AND PARK

Arkansas Post National Memorial, a national historic landmark, is on Arkansas Highway 169, 7 miles south of Gillett via U.S. 165 and 20 miles northeast of Dumas via U.S. 165. This is in the southeast section of the state of Arkansas in Arkansas County. The site is at the northern edge of the Gulf coastal plain near the confluence of the Arkansas and Mississippi Rivers.

In 1686 Henri de Tonty established a trading post known as Poste de Arkansae at the Quapaw village of Osotouy. It was the first European settlement in the Lower Mississippi River Valley. The establishment of the post was the first step in a long struggle between France, Spain, and England over the interior of the North American continent. In 1783 the Colbert Incident, a Revolutionary War engagement that was one of only two such engagements west of the Mississippi, took place at Arkansas Post. By 1819 the post was a thriving river port, important enough to be selected the capital of the Arkansas Territory. In late 1862, in an effort to maintain Confederate control of the Lower Mississippi and Arkansas River Valleys, an elaborate fortification system was constructed at Arkansas Post to prevent the Union from advancing further into the heart of Arkansas. In January 1863 Union naval forces and infantry amassed a two-day bombardment of the Confederate defenses, consequently destroying the earthen fort and the Arkansas Post community. In 1960 Arkansas Post was established as a national memorial (see appendix A); it was also later designated as a national historic landmark. Today the park commemorates many centuries of human habitation in the Lower Mississippi River Valley.

The memorial consists of two separate units. The 389-acre Memorial Unit has a visitor center containing a bookstore, a museum, theater, and offices for the NPS park staff. Trails at the Memorial Unit go through natural areas and around cultural resources, including foundations, a well, cistern, and Confederate defensive earthworks. A 2.5-mile paved, self-guiding trail conveys visitors from the visitor center to the town site, waysides, and Arkansas River. An unpaved nature trail traverses the shoreline of Post (Moore's) Bayou.

The approximately 360-acre Osotouy Unit is about 5 miles from the Memorial Unit by air (30 miles by paved and unpaved roads). This unit includes the site of the Quapaw Indian village of Osotouy, which contains the Menard/Hodges archeological site, a national historic landmark, and possibly the site of the first Arkansas Post. Legislation added this unit to Arkansas Post National Memorial in 1997 (see appendix A). The site contains valuable features and artifacts relating to American Indian culture and is important in the prehistory of the region – it is the largest known civic-ceremonial center of the Mississippian culture along the lower Arkansas River. The unit also contains a 19th century French-vernacular house site and evidence of 17th and 18th century European occupation. The site has a long history of occupation due to its location along the southeastern edge of an elevated prairie, known as Little Prairie. This unit has not been developed for public use.

PURPOSE OF AND NEED FOR ACTION

PURPOSE OF THE PLAN

The purpose of the general management plan is to define a direction for resource preservation and visitor use at Arkansas Post National Memorial. Without a plan only the laws, policies, and guidelines that the National Park Service is required to follow would be used to guide park management.

NEED FOR THE PLAN

This new management plan for Arkansas Post National Memorial is needed because the last comprehensive plan was completed in 1975. A new plan is needed to reflect the addition of the new Osotouy Unit, to address changes in visitation and resource needs in the last 25 years, to comply with new policies for general management plans, and to provide updated guidance for management.

CONSTRAINTS, ISSUES, AND CONCERNS

A variety of issues that the National Park Service may face in the future were identified during the planning process. The general management plan will provide a framework or strategy for addressing these issues within the context of the park's purpose, significance, and mission. The issues were identified and refined through discussions with park staff, interested agencies and organizations, and the general public.

Cultural Setting

The park is part of, and depends on, a much larger cultural setting. To understand the park story the surrounding cultural setting is important. This setting is gradually being eroded by modern development. The plan

will explore ways to preserve the cultural setting beyond park boundaries.

Site Security

The park's resources, particularly at the Osotouy Unit, are in a relatively isolated rural setting. The Osotouy site has been substantially vandalized in the past and requires 24-hour protection. Because there are no nearby support services (police and fire protection), response time for local law enforcement authorities is long (generally exceeding an hour). The continued integrity of this national historic landmark depends on the availability of NPS personnel onsite. Such a presence is required to meet the NPS mission to preserve resources for future generations. Park resources are vulnerable to vandalism, theft, and fire. The plan will look at how to provide resource protection at the Osotouy Unit of Arkansas Post National Memorial.

Boundaries

Park boundaries may not encompass all significant resources associated with Arkansas Post. The current park boundary at the Osotouy Unit may not provide the optimal boundary configuration to protect cultural, natural, and scenic resources if the location of the first Arkansas Post is determined to be on the adjacent White River National Wildlife Refuge. This location is an outlying tract of the White River National Wildlife Refuge and would be difficult and costly for the refuge to protect and administer, and the historic nature of the site does not fit within the refuge's mission. The National Park Service is proposing to establish a permanent

presence nearby and could provide visitor access and protection in an efficient manner. The site does fit into the Arkansas Post National Memorial's mission. The plan will look at what boundaries are necessary to protect important park resources.

Interpretation

The park's mission is to commemorate and interpret the first European settlement in the Lower Mississippi Valley and the events associated with that milestone. The plan will develop the park's compelling stories and explain how these stories can be conveyed to visitors.

Orientation

Visitors to the park have difficulty in gaining a full understanding of the units and their historical context. Highways to the park are poorly marked. The plan will look at ways to provide for effective and efficient visitor orientation.

Development

Currently the visitor center/headquarters building, maintenance facilities, and park housing are inadequate because they do not meet the needs of a growing park staff and the public. No development has occurred in the recently authorized Osotouy Unit. The plan will describe what facilities are necessary for future visitor and resource protection needs.

Park Operations

Providing adequate services will be more difficult with the addition of the Osotouy Unit. The plan will provide what additional funding and staff are necessary to provide for increased visitation and added resource protection responsibilities.

Partnerships

Public involvement is required to maximize services and counteract the effect of over-extended funding and staff. The plan will explore strategies for encouraging state and regional agencies as well as public and private groups to assist in the park's mission.

GUIDANCE FOR THE PLANNING EFFORT

The purpose, significance, and mission of the park and the primary interpretive themes were used to develop all alternatives for this plan. The park's legislation, NPS policy, legal requirements, public comments, and resource values were analyzed in the development of the following critical elements.

PURPOSE STATEMENTS

The following statements describe the primary reasons for which the park was created. They influence management priorities and are central to decisions about how the park should be developed and managed.

- Provide for the benefit and enjoyment of the people of the United States and historical use of the park while preserving and protecting the cultural and natural resources in an unimpaired state.
- Preserve the evidence of early contact and continued interaction among the French, Spanish, and British and the American Indians and U.S. settlers in the Lower Mississippi River Valley for scientific study, public appreciation and benefit, and access by traditionally associated groups.
- Commemorate and interpret the peoples and cultures that inhabited the successive Arkansas Posts.
- Interpret and commemorate the American Indian communities and later European interaction with American Indians at Osotouy.

SIGNIFICANCE STATEMENTS

The following statements describe why the park resources are special and what sets the area apart from other areas. They create a tool that park managers can use in setting resource protection priorities and in identifying primary park interpretive themes and desirable visitor experiences. Arkansas Post National Memorial is significant because of the following:

- Geography and natural resources combine with the forces of global economy, politics, and society at Arkansas Post to create a rich heritage and lasting living legacy for the nation.
- Arkansas Post was the first permanent European settlement in the Lower Mississippi River Valley.
- Arkansas Post represents in a tangible way the struggle by European powers for dominance in the Lower Mississippi River Valley.
- Arkansas Post reflects where the United States gained control of the Arkansas River Basin by establishing Fort Madison.
- Arkansas Post served as a major temporary internment point along the water route of the Trail of Tears.
- The Civil War battle at Arkansas Post helped the United States to reestablish control of the Lower Arkansas and Mississippi River systems.

- The Osotouy site represents the spiritual center of the Quapaw tribal homeland and the culture of these American Indians as it existed in the late 17th century.
- The Osotouy site represents an archeological area consisting of Woodland, Mississippian, Quapaw, and European cultural resources that have retained a high degree of integrity over a long period of time. As the first high ground west of the Mississippi River and located between the White and the Arkansas Rivers, the location was particularly favored as a habitation site.

MISSION STATEMENT

The mission statement is based on the park's purpose and significance. It includes future conditions or visions, stated as outcomes, and articulates the ideals that the National Park Service is striving to obtain for Arkansas Post. It is qualitative in nature and expressed in terms of resource conditions and appropriate visitor experiences. The park's mission goals are consistent with the mission goals found in the NPS *Strategic Plan*. Thus, they support the overall mission of the agency.

The Arkansas Post National Memorial mission is to:

Commemorate human settlement near the confluence of the Arkansas and Mississippi Rivers and the events associated with the first European settlement in the Lower Mississippi River Valley by interpreting and fostering an appreciation of the interaction of the cultural groups, their histories, and their significance to the region; preserving the cultural and natural resources; and promoting resource stewardship through education.

PRIMARY INTERPRETIVE THEMES

The National Park Service defines interpretation as providing opportunities for visitors to find personal meaning and significance in the natural and cultural resources of a site. Interpretive themes are ideas, concepts, or stories that are central to a park's purpose, identity, and visitor experience. Primary themes provide the framework for interpretation and educational programs, influence the desired visitor experience, and provide direction for planners and designers who develop the park's exhibits, publications, and audiovisual programs. Following are the primary interpretive themes for the park.

Culture

The archeological resources in the Arkansas Post area provide a tangible link to wave after wave of cultures of past centuries.

European immigration into the homeland of the Quapaw Indians served as a catalyst for a blending of cultures.

For many different cultures, including American Indians, Europeans, and U.S. settlers, the Lower Mississippi River Valley represented an opportunity to start a new life.

Natural Resources

For centuries the abundance of natural resources at the confluence of the Mississippi, Arkansas, and White Rivers has attracted a variety of cultures.

Humans have influenced natural processes in the Arkansas Post region, resulting in drastic ecological changes, including alterations in species' characteristics and numbers. Different perspectives of the importance, purpose, and appropriate use of natural

resources reflects an inherent clash between economic, recreational, cultural, and spiritual values.

People and History

The interaction among the American Indians, French, Spanish, British, and Americans in the Lower Mississippi River Valley has left its mark in the present culture and economy of the Arkansas Post region.

Historical events at Arkansas Post National Memorial vividly illustrate the changing relationships among the Europeans, U. S. settlers, and American Indians from the Lower Mississippi River Valley.

The Civil War battle at Arkansas Post reflected the national government's determination to regain control of the Lower Mississippi Valley by using overwhelming force and the superior technology of its weapons.

The sequence of history at Arkansas Post represents, in a tangible way, the clash of European powers to dominate the Lower Mississippi River Valley. The intent of the U. S. to establish its authority over the Arkansas Territory is reflected in the designation of Arkansas Post as the first territorial capital.

The institution of slavery and the implementation of emancipation have left indelible imprints on all aspects of life in the Arkansas Post area.

At Osotouy, the Quapaw Tribe can seek and enhance their sense of identity as a people by making spiritual connections to a critical place in their tribal homeland.

SERVICEWIDE MANDATES AND POLICIES

This section identifies what must be done at Arkansas Post National Memorial to comply with federal laws and NPS policies. Many park management directives are specified in these mandates and are therefore not subject to alternative approaches. Key federal laws guiding this general management plan are summarized in appendix B.

American Indian Concerns

Scientific study, survey work to fulfill legislative and policy requirements, and development of the Osotouy Unit could result in the discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony. Park managers would continue contact with the Quapaw Tribe to develop strategies and procedures for the care, treatment, and reinterment of any of these items if they were unearthed and routinely consult with the tribe's designated representatives on matters of mutual concern. The National Park Service would honor the request of the Quapaw to establish an area for the reburial of repatriated human remains. This area would be away from visitor use areas.

Boundaries

As one of the provisions of Public Law 95-625, the National Parks and Recreation Act of 1978, Congress directed that the National Park Service consider, as part of a planning process, what modifications of external boundaries might be necessary to carry out park purposes. Subsequent to this act, Congress also passed Public Law 101-628, the Arizona Desert Wilderness Act. Section 1216 of this act directs the Secretary of the Interior to develop criteria to evaluate any proposed changes to the existing boundaries

INTRODUCTION

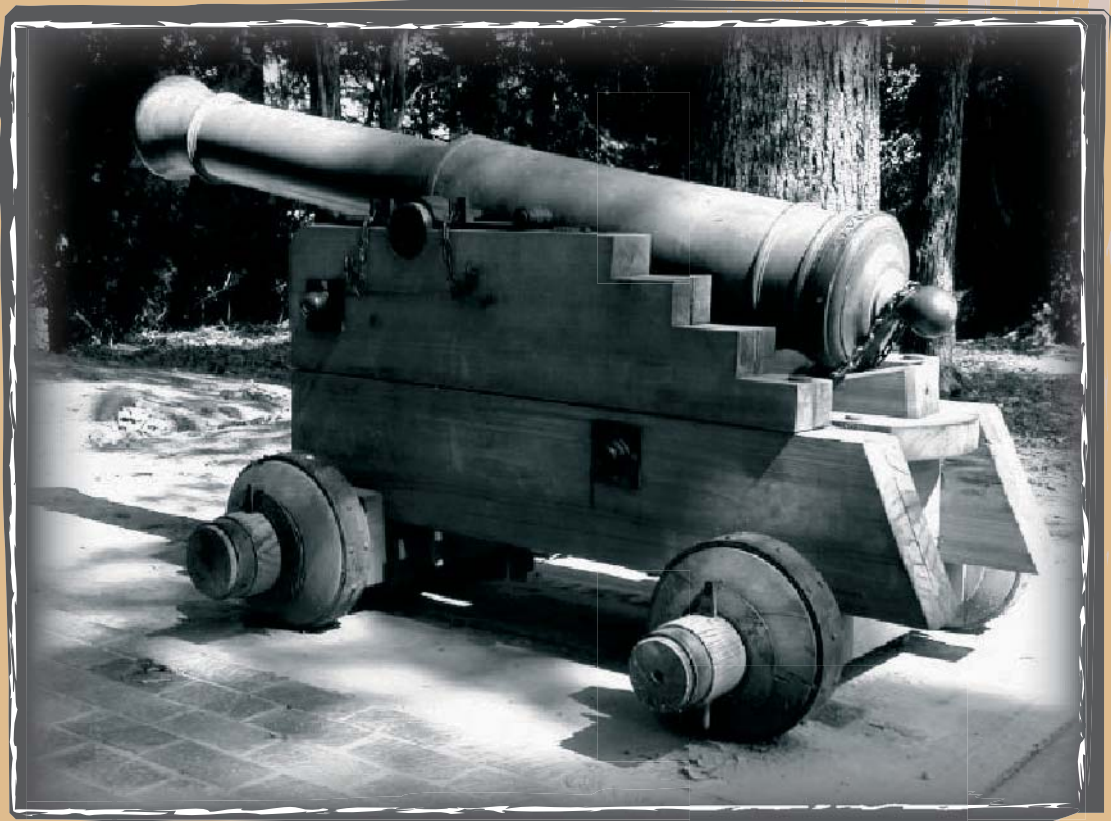
of individual park units. Section 1217 of the act calls for the National Park Service to consult with affected agencies and others regarding a proposed boundary change, and to provide a cost estimate of acquisition cost, if any, related to the boundary adjustment.

Table 1 summarizes some of the key mandates and policy topics that apply at Arkansas Post National Memorial and the conditions to be achieved in complying with these laws and policies.

TABLE 1: SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE NATIONAL MEMORIAL

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at the National Memorial
Relations between American Indian Tribes and Arkansas Post	<p>The National Park Service and the Quapaw Tribe maintain positive, productive, government-to-government relationships.</p> <p>Park managers and staff respect the viewpoints and needs of the tribe, continue to promptly address conflicts that occur, and consider American Indian values in site management and operation.</p>
Cultural Resources (General)	<p>The cultural resources are protected and the integrity of the site's cultural resources is preserved and unimpaired.</p> <p>Visitors and employees recognize and understand the value of the park's cultural resources.</p> <p>Arkansas Post is recognized and valued as an example of resource stewardship, conservation, education, and public use.</p>
Air Quality	The park's class II air quality is maintained or enhanced with no significant degradation.
Water Resources	Current water resource conditions are maintained or improved.
Natural Soundscape	Visitors have opportunities throughout most of the park to experience natural sounds in an unimpaired condition. The sounds of civilization are generally confined to developed areas.
Natural Resources (General)	<p>Arkansas Post retains its ecological integrity, including its natural resources and processes.</p> <p>The natural features of the park remain unimpaired.</p> <p>Visitors and staff recognize and understand the value of the natural resources.</p>
Fire Management	All wildfires are suppressed or controlled as soon as possible.
Night Sky	<p>Artificial light sources within the park do not impair night-sky viewing opportunities.</p> <p>If staff determines that light sources within the park affected views of the night sky, they will study alternatives to planned lighting sources, such as shielding lights, changing lamp types, or eliminating unnecessary sources.</p>
Archeological Resources	The Quapaw Tribe will be consulted when ethnographic or cultural properties of interest to them are involved.
Historic Properties	National register properties will have the highest priority for protection and receive preservation maintenance. Resources identified as a component of the larger cultural landscape will be managed in this broader context.
Collections	All museum objects, study collections, archeological materials, natural resource specimens, exhibits, and interpretive items are identified and inventoried, and their significance is determined and documented. Collections are protected in accordance with established standards.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at the National Memorial
Visitor Information, Orientation, Interpretation, and Education	<p>The National Park Service makes information available to assist visitors in planning a rewarding visit to the park.</p> <p>Staff uses a variety of media and outreach methods to increase awareness about the park and to assist visitors with preplanning. When visitors arrive at the park, they receive information to orient them to what to do (and what not to do), what to see, and how to enjoy the park in a safe, low-impact way. NPS staff would stay informed about the park's developing and changing visitor demographics to better tailor programs to visitor expectations and needs. Working with other agencies, partners, the Quapaw Tribe, and local communities, NPS staff would take steps to increase visitors awareness of the park and its resources and themes.</p> <p>Interpretive programs connect the visitor to the park's significance, build a local and national constituency, and gain public support for protecting the park's resources and interpreting its story. Interpretive programs are based on current and accurate research, provide multiple perspectives, and present the actions and events fairly.</p> <p>Interpretive programs and facilities would respond to the different ages, learning styles, and interest levels of visitors.</p> <p>Outreach programs through schools, organizations, and partnerships build emotional and intellectual ties with the park, its resources, and its themes.</p>
Sustainable Design/ Development	<p>Where possible, the park has state-of-the-art water systems for using water and energy conservation technologies and renewable energy sources.</p> <p>Biodegradable, nontoxic, and durable materials are used in the park whenever possible. Personnel promote the reduction, use, and recycling of materials and avoid as much as possible materials that are nondurable, environmentally detrimental, or that require transportation from great distances.</p> <p>NPS staff will work with experts within and outside the agency to make facilities and programs sustainable; the staff will also support and encourage the service of suppliers, contractors, and concessioners that follow sustainable practices.</p>



**ALTERNATIVES,
INCLUDING THE PREFERRED ALTERNATIVE**

INTRODUCTION

In this section four alternatives are described, including the no-action alternative, alternative A, which would follow the current management direction for Arkansas Post National Memorial. Alternative B is the draft preferred alternative.

Before the alternatives were developed, information on park resources was gathered and analyzed. Comments were also solicited about the issues and scope of the project from the public, agencies, and special interest groups through newsletters, meetings, and personal contacts. All the concepts are intended to support the park's mission, purpose, and significance; address issues; avoid impairment of resources; and respond to public desires and concerns. In addition, a present management direction alternative was developed as a concept against which the other three could be compared and evaluated. (See the "Consultation and Coordination" section for details on public involvement and scoping.)

Preliminary concepts were presented to the public for review in March and April 2000. Following the public review, an evaluation process called "Choosing by Advantages" was used to evaluate and compare the alternatives and develop the National Park Service's preferred alternative.

DECISION POINTS

Decision points identify the key choices that still remain to be made after all the mandates are taken into account and the park's purpose and significance are considered. As with any decision-making process, there are key choices that, once made, will dictate the direction of subsequent decisions. Based on public comments, the issues stated in the "Purpose and Need for Action" section, and agency concerns for this general manage-

ment plan, three "decisions points" were identified. This general management plan focuses on alternative ways of addressing these decision points.

Decision Point 1

What level of development can be allowed while still preserving the park's cultural and natural resources unimpaired for future generations?

Decision Point 2

What visitor use, including local recreational use, can be accommodated while preserving the integrity of the park's cultural and natural resources?

Decision Point 3

How does the park best memorialize the legislated historical period while preserving park resources?

MANAGEMENT PRESCRIPTIONS

The following section describes the use of management prescriptions and the general types of activities that can occur in identified areas of the park.

Management prescriptions (management zones) identify how different areas of the park could be managed to achieve resource protection goals and provide for a variety of visitor experience conditions and recreational needs. Each zone specifies a particular combination of resource, social, and management conditions. The National Park Service would take different actions in different zones with regard to the types and

levels of uses and facilities. Five zones were identified – visitor services, operations, recreation, interpretation, and conservation – that could be appropriate at Arkansas Post National Memorial.

Each alternative concept leads to a different application or configuration of these management prescriptions. In other words, the location of a visitor center or NPS housing might be different in one alternative than another, depending on the overall concept.

When drawing boundaries for management prescriptions in the alternatives, known resource conditions were considered. For example, attempts have been made to avoid directing new uses into areas that contain traditional cultural properties (properties that are important in the history of a cultural group and are a part of that group's traditional beliefs and practices) or areas with sensitive natural resources.

The following management prescriptions (zones) would apply to all the alternatives except no action (alternative A and table 2).

TABLE 2: MANAGEMENT PRESCRIPTIONS

MANAGEMENT PRESCRIPTION	VISITOR EXPERIENCE	RESOURCE CONDITIONS	FACILITIES AND ACTIVITIES
Visitor Services – Areas for Orientation, Information, and Visitor Facilities	The visitor experience in this area would be highly social and focused on orientation, interpretation, safety, and visitor convenience. This structured environment would be fully accessible, and contacts with park staff and other visitors would be common, although overcrowding would be avoided. Visitors would have an opportunity to get an overview of resources in a short time with minimal physical exertion, make a personal connection to the meaning and significance of the park, and purchase books and other materials related to the park. Visitors would not be at key park resources but would be able to see some park resources at a distance from these areas.	This zone would be assigned to areas where there were limited or no significant cultural or natural resources or in areas that were previously disturbed by development. The natural environment could be modified for operations, but it would still harmonize with the surrounding environment. The park's cultural resources would be avoided as much as possible. Cultural resources within this area would be intensively managed for their preservation and interpretation. Artifacts and collections would be displayed and interpreted, but this would be done in such a manner as to protect and preserve them.	To the greatest degree practical in this area, facilities would be models of best management practices and sustainable development. Common activities would include learning about the park through signs, exhibits, films, publications, and staff. Research activities and educational programs could take place. Major visitor facilities would include a visitor center, kiosk, outdoor orientation exhibits, an information desk, museum exhibits, a theater, classrooms, a research library, and a sales area. Support facilities could include restrooms, drinking fountains, a first-aid area, and hardened circulation areas and trails. Utilities would include water, electricity, telephones, and computer access.
Operations – Areas for NPS Operational Facilities	This area is not intended for visitors; however, limited, incidental visitor use would be permitted such as access roads to the park. The area is intended for staff and visitors on official business.	The area would be located where there were limited or no significant cultural or natural resources or in areas that were previously disturbed by development. The natural environment could be modified for operations, but development would still harmonize with the surrounding environment. Natural and cultural resources within this area would be managed to prevent their degradation. These areas would not be near sensitive natural or cultural resources.	To the greatest degree practical, facilities in this area would be models of best management practices and sustainable development. Some facilities may be showcased to highlight the NPS commitment to environmentally responsible operations. Facilities and operations in the area would be screened to diminish any visual and auditory disturbances. The area could include structures and grounds used for administration and operations, such as offices, maintenance shops, storage areas, warehouses, garages, housing, boat and equipment storage, vehicle maintenance, and outdoor storage. Facilities for utilities at the park and

MANAGEMENT PRESCRIPTION	VISITOR EXPERIENCE	RESOURCE CONDITIONS	FACILITIES AND ACTIVITIES
Recreation – Areas for a Variety of Visitor Experiences	Visitors would have the freedom to enjoy a high degree of appropriate recreational experiences. Social and group activities would result in a high degree of contact with other visitors. Visitors would have occasional contact with staff operating fee stations, conducting patrols, and doing other work assignments. Visitors would have safe, accessible, enjoyable, and physical experiences that have a very high probability of meeting their expectations. Visitors would have little opportunity to experience primitive or wild conditions. Water-based recreation would mainly depend upon the use of private watercraft.	Recreation would take place where there would be minimal impacts on natural and cultural resources. Resource manipulation would vary by the amount and intensity of physical development necessary for particular types of recreation. Natural and cultural resources within this area would be managed to prevent their degradation. Some recreation, e.g., fishing, would consume natural resources within the constraints of applicable laws, regulations, and policies.	<p>communication needs would be located in this area. Facilities would provide a safe, efficient, comfortable, and aesthetic work environment for staff at the park. Hardened circulation and parking areas would be appropriate in this area as well as National Park Service roads and boat launch areas for operations activities. Housing, with sufficient space for family activities, would also be placed in this zone.</p> <p>A wide variety of activities, including picnicking, watching wildlife, fishing, hiking, walking, jogging, bicycling, kayaking, canoeing, festivals, special events, and other group activities could be available. Facilities could include picnic tables and grills, accessible restrooms, paved roads and parking, drinking fountains, wildlife viewing blinds, hiking trails, jogging paths, sidewalks, and bicycling trails, and a fee collection station.</p> <p>Water-based facilities could include wildlife viewing platforms, buoys to mark channels and park boundaries, and signs with safety and regulation information. Park rangers on shore and on boat patrols could enforce regulations, promote safety, answer visitor questions, provide emergency services, collect fees, and inspect licenses. Special events could take place throughout the year, including fishing contests and bird counts.</p>

MANAGEMENT PRESCRIPTION	VISITOR EXPERIENCE	RESOURCE CONDITIONS	FACILITIES AND ACTIVITIES
Interpretation – Areas for Learning About the Park’s Resources and Themes	The primary experience would involve learning about the significant resources of the park. Opportunities would be provided to reflect on the history, significance, and spiritual values of Arkansas Post National Memorial in areas that could provide a limited degree of solitude at times. These experiences would be easily accessible and would be either self-guided or ranger-led. Personal experiences with resources would be offered where possible without unacceptable resource impacts. Structure and direction would be provided (i.e., trails, interpretive media, and signs). In general, there would be a high probability of encountering other visitors. Encounters with staff would be frequent.	Visitor sites and trails would be managed to ensure resource protection and public safety. Areas would be managed to provide the best and most appropriate interpretation of the resource. Areas could vary from a mowed lawn to a predominately natural setting. In some areas, vegetation would be managed to provide for seclusion, access, or better vistas. Resources could be modified for essential visitor services, but they would be changed in a way that harmonizes with the natural and cultural environment. Natural and cultural resources would be protected as much as possible.	Trails, roads, pullouts, overlooks, wayside exhibits, and other interpretive media would be appropriate. The canoeing/kayaking would be intended as an interpretive experience, e.g., the colonial/pre-colonial mode of transportation. Activities could include canoeing/kayaking, hiking, seeing the resources, self-guided interpretive media, and interpretive programs.
Conservation – Areas for Resource Preservation and Conservation	Visitors entering this area would have an independent discovery experience. Primitive trails, sensitively placed, would be allowed in this area to provide access and for the protection of natural and cultural resources. There would be a low probability of encounters with staff and other visitors on land except on ranger-guided tours, and a moderate probability of encounters with staff and other visitors on water.	These areas would be managed to provide the most natural-appearing environment of all areas while preventing natural processes from damaging or destroying cultural resources. Resource management techniques would promote natural systems. Cultural and natural resources would be preserved in as pristine and protected state as possible.	Other than primitive trails, no visitor facilities would occur within these areas. Scientific research and traditional American Indian ceremonies could take place where appropriate. Ranger-guided activities would be allowed.

TABLE 3: COMPARISON OF ACREAGE BY MANAGEMENT PRESCRIPTION

MANAGEMENT PRESCRIPTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
Visitor Services	37	30	30
Operations	108	88	89
Recreation	90	22	154
Interpretation	189	71	67
Conservation	325	538	409
TOTAL ACRES*	749	749	749

*Acreage figures include both park lands and waters. There are no designated zones in alternative A.

IMPLEMENTATION

All action alternatives would be implemented over the next 15 years. The various actions have been divided into levels of priorities for funding and to guide implementation. It is assumed that the park would continue to meet all applicable legal and policy requirements, proactively take actions to protect park resources, and do all necessary studies and mitigation prior to construction. The potential environmental impacts of implementing the alternatives (including the preferred alternative) are presented in the subsequent “Environmental Consequences” section.

IMPLEMENTATION COSTS

The general gross costs listed in each of the alternatives are rough estimates of the implementation costs. The costs are only for purposes of comparing the alternatives and cannot be used for budgetary purposes. In general, the costs were developed using conceptual estimates and are in year 2000 dollars. These costs include allowances for contingencies, design, and project supervision. After a final plan is selected, more detailed and accurate costs would need to be developed when the park is closer to implementing individual actions. All implementation costs have been rounded to the nearest thousand dollars.

CARRYING CAPACITY

The Memorial Unit was authorized by Congress in 1960; in 1997 legislation established the Osotouy Unit. Currently, the Osotouy Unit is not officially open to visitors, but this situation would change once the implementation of the approved *General Management Plan* has begun and any alternative except no action is selected. Once the Osotouy Unit is open to the public, there would be the increased potential for visitors to damage cultural and natural resources. Large numbers of visitors using the site at one time could also affect the visitor experience. It is therefore important to be proactive to prevent problems resulting from visitor use. Using the concept of carrying capacity in planning infrastructure and visitor management programs would result in effective and efficient management.

While carrying capacities are being determined during implementation, staff would monitor resources and visitor use, and judge whether or not these capacities (desired conditions) were being exceeded in any area. The expected level and types of visitor use and facility development would not likely result in unacceptable impacts on the desired visitor experience or on the park’s natural and cultural resources. However, if the carrying capacities were exceeded, the NPS staff would take actions to restore conditions to acceptable levels, such as restricting visitor use or modifying facilities. For the life of this plan, visitation would be controlled by the quantity and

quality of facilities and by management actions and cooperative local efforts and initiatives. The National Park Service's visitor experience and resource protection (VERP) process would provide guidance to planners and managers for addressing carrying capacity and assessing visitor use impacts on park resources and visitor experiences. This process would enable the park staff to avoid some of the problems that other areas have experienced when visitor use has not been managed to protect the quality of the visitor experience or the resources.

IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

Under NPS policies and the Council on Environmental Quality regulations, environmental impact statements must address a number of impact topics. Impact topics were selected for analysis by determining which resources or elements of the human environment would be affected by the alternative actions. Those resources and environmental concerns that would not be appreciably affected by alternative actions were eliminated from further consideration and comparative analysis. These topics are addressed below.

Natural Resource Topics

Regional Air Quality – Arkansas County is designated as a class II air quality area under the 1963 Clean Air Act, as amended (42 U.S.C. 7401 et seq.). Regional air quality and visibility would not be affected by activities proposed in any of the alternatives. Air pollution sources from outside the park would be addressed through the Clean Air Act and through cooperative efforts between the National Park Service and the state of Arkansas, Department of Environmental

Quality. Thus, local air quality impacts are not analyzed further.

Wetlands – Director's Order 77-1 requires the analysis of potential impacts on wetlands. Wetlands in the park are associated with the sloughs, bayou, and other riparian and floodplain areas. Only minor wetland habitats exist outside these areas and are associated with drainages or small seeps. There would not be any directly impacted wetlands from the activities or facilities development proposed under any of the alternatives. There may be some indirect impacts such as loss of vegetation from trampling resulting from visitor use (bank fishing, boat use) to a very small amount of wetlands in the park. These impacts would be monitored and mitigated to a negligible level by measures such as barriers, revegetation of disturbed areas, erosion control measures, and monitoring for evidence of disturbance. Therefore, the impact topic of wetlands was not analyzed further.

Floodplains – All current and proposed major development in the Memorial Unit would be outside the 100-year floodplain. However, some low-lying areas along the water are within the 100-year floodplain. Most of the Osotouy Unit is within the 100-year floodplain, but an area along the north-west side of the road is outside the floodplain (see the Memorial Unit Floodplain and Osotouy Unit Floodplain maps, which are based on the Federal Insurance Administration Flood Hazard Maps). Proposed development would be located within the portion of the unit that is outside the 100-year floodplain. During the design of any major development, floodplains will be reevaluated. There are existing and proposed roads, picnic facilities, and trails in the 100-year floodplain. The NPS floodplain guidelines do not apply to these park functions because they are exempted. The scale of any of the proposed development in relationship with

the entire Arkansas River floodplain in the area would result in negligible impacts to floodplain values. This impact topic is therefore dismissed from further analysis.

Threatened and Endangered Species –

The endangered pink mucket pearly mussel (*Lampsilis abrupta*) and the threatened American bald eagle (*Haliaeetus leucocephalus*) are known to occur in Arkansas County (U.S. Fish and Wildlife correspondence 1999). There are no pink mucket pearly mussel beds known to occur in the waters immediately surrounding the park. An American bald eagle pair has been nesting in a snag in the river outside the boundary of the Memorial Unit for a few years. This pair has successfully nested even with current boating, hunting, and fishing in the immediate area of the nest. None of the actions proposed in the alternatives in this plan would increase disturbance to a level that would impact this pair more than currently. Potential increases in boating might occur in the adjacent bayous, but activity in the river is not anticipated to increase as a result of actions proposed in any alternative.

The threatened Louisiana black bear (*Ursus americanus luteolus*) may be in the area of the national memorial, however, this is a subspecies of the more common black bear. The presence of the threatened subspecies has never been confirmed by state or federal wildlife officials because this requires DNA testing. None of the actions in this plan are anticipated to adversely impact bears.

Other Topics

Prime and Unique Farmlands – There are no lands in the areas that would be affected by actions proposed in this plan that are considered prime and unique (Barry Cooper, Natural Resources Conservation Service, April 23, 2002).

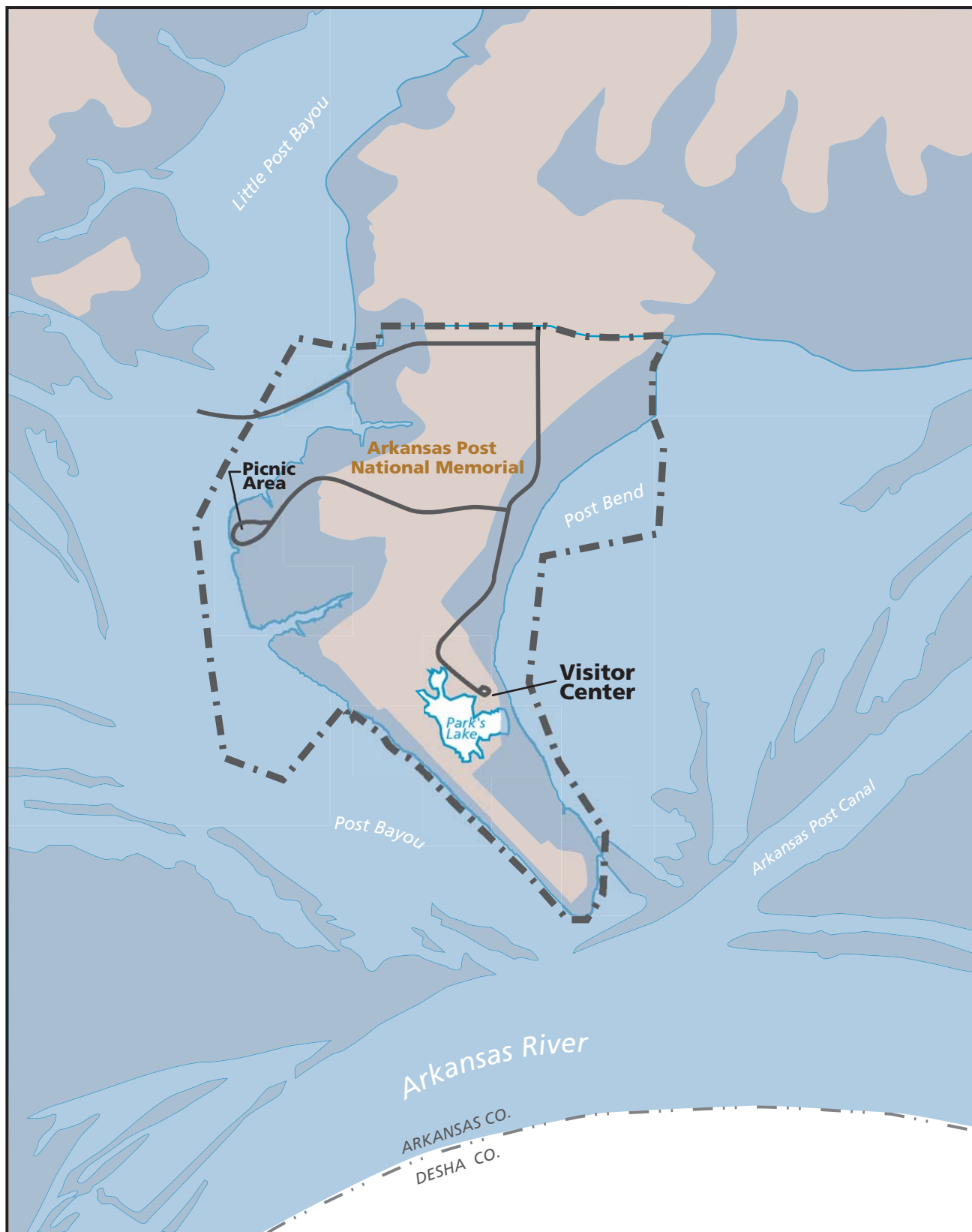
Hazardous Material – A hazardous material survey was completed for the Osotouy Unit prior to becoming a part of the Memorial Unit. During this survey no hazardous materials were found. Surveys at the park have found no hazardous materials.

Land Use – None of the alternatives presented in this plan would conflict with current land use of the area. There are no indications that land use adjacent to the park would change during the life of this plan. The proposed boundary adjustments would remove less than 200 acres of U.S. Fish and Wildlife Service and private lands from being available for hunting. However, the area affected is extremely small relative to adjacent areas available for hunting. Therefore, adverse impacts to land use from the boundary adjustments would be negligible.

Natural or Depletable Resource Requirements and Conservation Potential – None of the alternatives would result in the extraction of resources from the park. As noted in the “Guidance for the Planning Effort” section under all of the alternatives, park staff would apply ecological principles to ensure that the park’s natural resources were maintained.

Socioeconomic Topics

Environmental Justice – Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs/policies on minorities and low-income populations and communities.

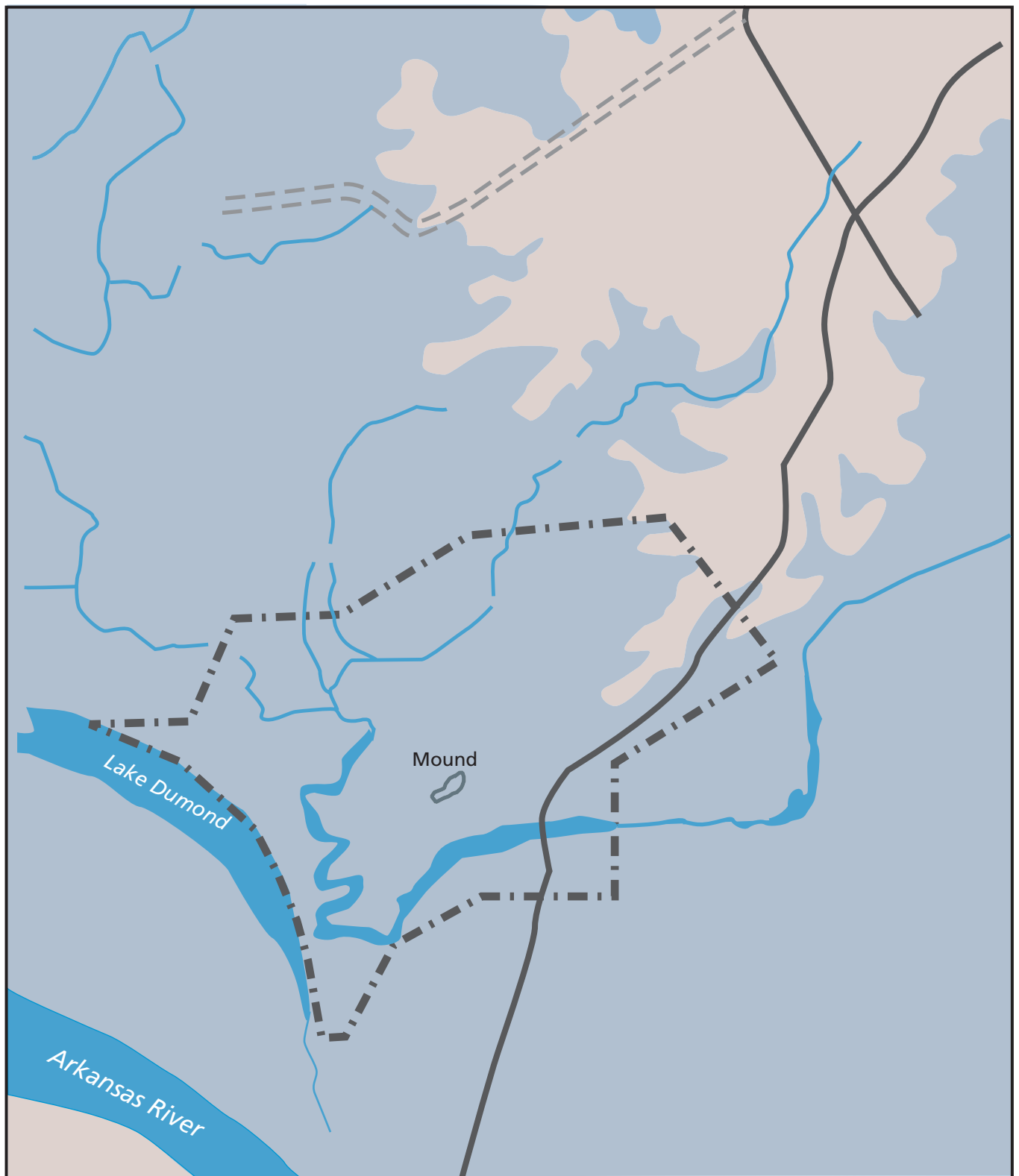


- UNIT BOUNDARY
- 100-YEAR FLOODPLAIN



Memorial Unit Floodplain

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- UNIT BOUNDARY
- 100-YEAR FLOODPLAIN

Osotouy Unit Floodplain

Arkansas Post National Memorial

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For the purpose of fulfilling Executive Order 12898, in the context of the National Environmental Policy Act, the planning team assessed the alternatives presented in this plan during the planning process. The team determined that none of these alternatives would result in significant direct or indirect, negative or adverse effects on any minority or low-income population or community. The following information contributed to this conclusion:

The developments and actions of the alternatives would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect, negative or adverse health effects on any minority or low-income population or community.

- The impacts on the natural and physical environment that occur due to any of the alternatives would not adversely affect any minority or low-income population or community.
- The alternatives would not result in any identified effects that would be specific

to any minority or low-income community.

- The planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Staff members have consulted and worked with the Quapaw Tribe and would continue to do so in cooperative efforts to improve communications and resolve any problems that occur.

Impacts on the socioeconomic environment would be minor and positive and occur mostly within Arkansas and Desha Counties. These impacts would not occur at one time but would be spread over a number of years, thus reducing their effects. Also, the planning team does not expect impacts on the socioeconomic environment to appreciably alter the physical and social structure of the nearby communities.

ELEMENTS COMMON TO ALL ACTION ALTERNATIVES

A number of actions supporting the park's purpose and significance are proposed in all action alternatives. These common actions are described below and apply to all the alternatives except alternative A (no action).

AMERICAN INDIAN CONCERNS

Scientific study, survey work to fulfill legislative and policy requirements, and development of the Osotouy Unit could result in the discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony. The National Park Service would honor the request of the Quapaw to establish an area for the reburial of repatriated human remains in the Osotouy Unit. If other tribes are identified through future studies as having a cultural affiliation with the park, an area would be provided in the Memorial Unit for reburial of repatriated human remains. These areas would be away from visitor use areas.

VISITOR USE

The park acknowledges that many local residents visit the park to participate in recreational use. Such visitors would continue to have opportunities for picnicking, fishing, boating, wildlife observation, and walking. The GMP alternatives would vary in the number, variety, intensity, and accessibility of such recreational opportunities.

Interpretation would strive to provide a variety of interpretive opportunities for visitors to consider the intangible meanings and universal concepts inherent within the Arkansas Post story. Whenever possible, interpretation would include multiple points of view to provide an inclusive experience for visitors.

Interpretation would connect personalities and events at Arkansas Post with their impact on political, economic, and social trends in the Lower Mississippi River Valley. Within the confines of resource protection and preservation concerns, visitors would have opportunities to pursue their individual interests and desired activities.

BOUNDARIES

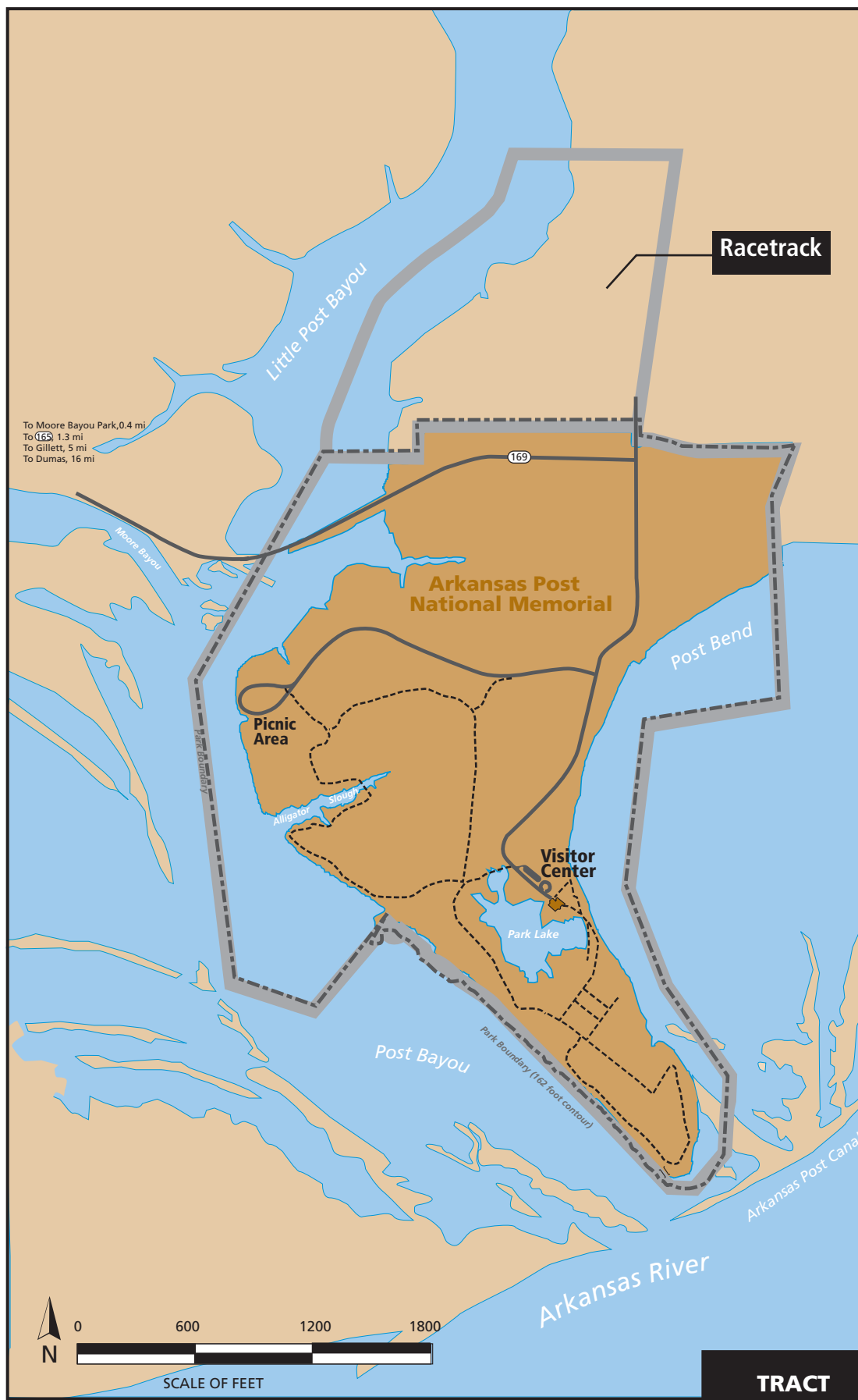
The legislative provisions related to boundary changes are implemented through NPS *Management Policies*, which state that the National Park Service will conduct studies of potential boundary adjustments and may make boundary revisions:

- To include significant resources or opportunities for public enjoyment related to the purpose of the park
- To address operational and management issues
- To protect park resources critical to fulfilling park purposes

NPS policies instruct that any recommendation to expand park boundaries be preceded by determinations that the added lands would be feasible to administer considering size, configuration, ownership, cost, and other factors, and that other alternatives for management and resource protection have been considered and are not adequate.

The Land and Water Conservation Fund Act of 1965, as amended, provides an additional, but limited authority to adjust boundaries.

As part of the planning process, the National Park Service must identify and evaluate boundary adjustments that may be necessary or desirable in order to carry out the

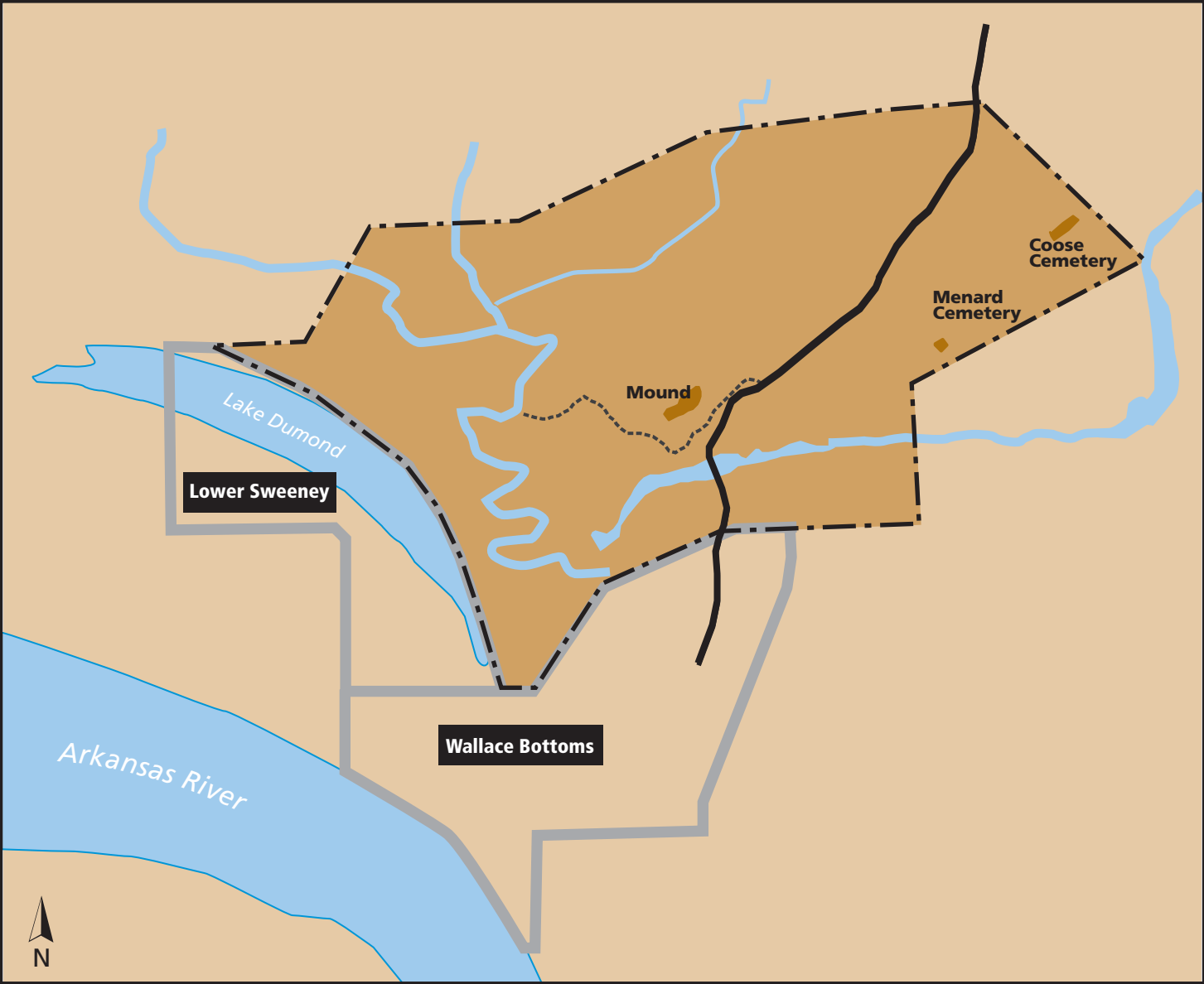




Potential Boundary Changes - Memorial Unit

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TRACT	ACREAGE
Memorial Unit	389.18
Racetrack	115.33



-  PARK BOUNDARY
-  TRAIL

TRACT	ACREAGE
Wallace Bottoms	118.99
Lower Sweeney	80.15

Potential Boundary Changes - Osotouy Unit

Arkansas Post National Memorial
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purposes of the park unit. As found in NPS *Management Policies* (2001), section 3.5, boundary adjustments may be recommended to

- *protect significant resources and values or to enhance opportunities for public enjoyment related to park purposes*
- *address operational and management issues, such as the need for access or the need for boundaries to correspond to logical boundary delineation such as topographic or other natural features or roads, or*
- *otherwise protect park resources that are critical to fulfilling park purposes*

Additional criteria must be met if the acquisition would be made using appropriated funds, and not merely a technical boundary revision; the criteria set forth by Congress at 16 USC 4601-9(c) (2) must be met. NPS *Management Policies* (2001), section 3.5 further defines the criteria as follows:

- *The added lands will be feasible to administer, considering their size, configuration, and ownership, and hazardous substances, costs, the views of and impacts of local communities and surrounding jurisdictions, and other factors such as the presence of exotic species.*
- *Other alternatives for management and resource protection are not adequate.*

During the course of the planning process, three land parcels have been identified as potential additions to Arkansas Post National Memorial. These additions are Wallace Bottoms, the Lower Sweeney property, and the racetrack. The following is a review of the criteria for boundary adjustment as applied to these properties.

Wallace Bottoms

This property is on the southern boundary of the Osotouy Unit and could contain the original and subsequent sites of Arkansas Post. The area contains approximately 105 acres.

Policy: Protect significant resources and values or enhance opportunities for public enjoyment related to park purposes.

The understanding and appreciation of early sites of Arkansas Post are essential to conveying the historical significance of the communities that followed. Because the park was established to memorialize the first European encounters in the Lower Mississippi River Valley, this site could greatly enhance this goal if the location of the first posts were made accessible for visitation and interpretation. This site is an extremely rich archeological area including artifacts identified from the early 1700s and thus possesses exceptional value for illustrating the French Colonial experience in the Lower Mississippi Valley. The original post has not been identified in the cursory archeological investigations of the site, but documentary research predicts the location in this area.

Aside from the potential to encompass the archeological site of the first post, Wallace Bottoms has a high degree of integrity, has yielded numerous French Colonial artifacts, and is one of a very few sites that hold the potential to better document the early French trading posts in Arkansas. The site further illustrates the interaction of the Europeans and the native Quapaw and its proximity to the mound group make it a strong candidate for meeting the location identified in historical accounts of de Tonty's *Poste de Arkanssea*. This site offers a superlative opportunity for scientific study of the French Colonial period. The site's setting is evocative of the environment that existed at the time of French settlement in the area and has a high degree of integrity. The site itself

has not been substantially altered and is likely to provide important information regarding the interaction between the French and Quapaws.

The first Arkansas Post was part of the French plan to establish a series of trading posts from the Great Lakes along the Mississippi to the Gulf of Mexico to claim and dominate the interior lands of North America. This post was established with the intent of turning it into a permanent French settlement. The original post site would be a tangible remnant to provide a sense of place for visitor understanding of the evolving relationship between Euro-Americans and American Indians in Arkansas.

Policy: The added lands will be feasible to administer, considering their size, configuration, and ownership, and hazardous substances, costs, the views of and impacts of local communities and surrounding jurisdictions, and other factors such as the presence of exotic species.

The current park boundary at the Osotouy Unit may not provide the optimal boundary configuration to protect cultural, natural, and scenic resources if the location of the first Arkansas Post is determined to be on the adjacent White River National Wildlife Refuge. This area is an outlying tract of the White River National Wildlife Refuge and would be difficult and costly for the refuge to protect and administer as an archeological or historic site. The historic character of the site does not fit within the refuge's mission. The National Park Service would be establishing an adjacent permanent presence and could provide efficient visitor access and protection to the site. The site does fit within the mission of Arkansas Post National Memorial.

The enabling legislation calls for the protection of resources associated with Arkansas Post. The acquisition of the early

Arkansas Post sites would meet this requirement. In addition, this would result in obtaining a resource that is essential in telling a more complete story of Arkansas Post. No private lands would be affected because a transfer of administration between the two federal agencies could accomplish this boundary change. There would be no negative impacts to the respective missions of either agency and since the property is already on the federal rolls, there would be no impact to the local tax structure. There are no known hazardous materials in this area, but a survey to determine if the area contains any hazardous materials would be conducted.

The National Park Service would have adequate access and staff to provide for the interpretation and protection of the sites if one of the action alternatives is approved for this plan. The site could be administered efficiently as part of the Osotouy Unit.

Policy: Other alternatives considered and rejected for management and resource protection are not adequate.

An alternative to the proposed boundary adjustment would allow the site to continue to be administered by the U.S. Fish and Wildlife Service. However, the site fits more directly into the mission of Arkansas Post National Memorial. Once the National Park Service opens the Osotouy Unit, NPS personnel would be closer to the site than USFWS personnel and could more directly and efficiently manage the site for the protection and preservation of resources. When the precise boundaries and significance of this archeological site are determined, the National Park Service would work to bring the site into its boundaries. However, if it is determined that the area within White River National Wildlife Refuge contains none of the early post sites (1686-1753), then it would remain under USFWS management. Because the site is likely to

contain colonial artifacts, the National Park Service would work with the U.S. Fish and Wildlife Service to preserve and protect these artifacts.

Lower Sweeney Property

This tract is south and west of Lake Dumond and is the remainder of Tract 02-101 that is within the current Osotouy boundaries. A boundary adjustment to include these approximately 88 acres within the park is necessary for park operations and an enhanced interpretive experience for park visitors.

Policy: Address operational and management issues, such as the need for access or the need for boundaries to correspond to logical boundary delineation such as topographic or other natural features or roads.

Policy: Otherwise protect park resources that are critical to fulfilling park purposes.

The tract is immediately adjacent to the Wallace Bottoms tract and covers the southern and western shores of Lake Dumond. The area has been cleared of trees and much of the area was intended for agricultural use. It is currently not used for agricultural purposes, but no attempt has been made to reestablish the forest. If restored to the natural forest ecosystem, it would provide a more accurate representation of the historic scene for the colonial remnants situated along the eastern boundary line (in Wallace Bottoms). A forested shore of Lake Dumond (an oxbow lake of the Arkansas River) more accurately depicts the historic riverbank and river course of the early 1700s and would conform to the desired cultural landscape for the Osotouy Unit.

Because most of the colonial remnants and the archeological resources of the Wallace Bottoms tract are within 25 feet of the land boundary between the Wallace Bottoms and the Lower Sweeney tracts, the sites cannot be adequately protected or interpreted without control of the access to and preservation (reestablishment) of the historic landscape to the west. The Lower Sweeney tract also provides the park the important ability to interpret the colonial and pre-colonial periods from “across the river” (now Lake Dumond) with interpretive trails and wayside exhibits. The tract includes remnants of both earlier and later river courses important to the understanding and interpretation of the pre-colonial period (Quapaw village of Osotouy and the Menard Mounds [cir. 1300-1500 A.D.]).

Operationally, the inclusion of this tract would protect the more critical archeological sites by removing road access to these sensitive areas from the west. Adding this tract would also relieve the government of the responsibility to allow private-vehicle access across parklands to reach these land-locked tracts. Because hunting would not be permitted within park boundaries, visitor safety would increase along park trails and at interpretive sites.

Policy: The added lands will be feasible to administer, considering their size, configuration, and ownership, and hazardous substances, costs, the views of and impacts of local communities and surrounding jurisdictions, and other factors such as the presence of exotic species.

The added lands would be administered as part of the Osotouy Unit and managed along with the other parklands. Because the area would be contiguous with other parkland, there would be no significant additional cost to manage this tract. The removal of road traces and vehicle access through these lands would require an initial investment of time

and equipment, but once removed, these scars would become overgrown and not require maintenance. No hazardous substances are known to exist in this area, but it would be surveyed prior to acquisition.

Impacts to the local tax rolls would be minimal since the lands are currently undeveloped, but the conversion from private to federal land would remove the amount currently paid in county taxes. This loss of county revenue could be partially offset by payment in lieu of taxes by the National Park Service. The greatest impact to be expected from the inclusion of this area in the park is the removal of hunting. Although little hunting is currently conducted on this land, local hunters may object to removal of a potential hunting area. From the NPS perspective, the removal of hunting from this area would enhance visitor safety in the Osotouy Unit by increasing the distance between the main interpretive area and the hunters.

Exotic species have not been identified in this property.

Policy: Other alternatives for management and resource protection are not adequate.

The alternative to federal acquisition (either fee simple or easements) is the continuation of private ownership. To enhance the desired characteristics (safety and interpretive values) the park could investigate cooperative agreements to meet the park goals. However, incentives would have to be developed to make such arrangements attractive to the owners. These enhancements might easily approach the total cost of acquisition and could have time limits that would require renegotiation. Because the park does not have congressional authorization to enter into such agreements at this time, a boundary change initially would be more cost effective.

Racetrack

This property is adjacent to the Memorial Unit on the north side of the park. It contains significant resources associated with Arkansas Post and the Civil War battle fought there in 1863. The site is about 83 acres and is privately owned.

Policy: Protect significant resources and values or enhance opportunities for public enjoyment related to park purposes.

The area known as the racetrack is significant to the physical and social history of the Arkansas Post. As was common for 19th century communities, racetracks were the site of social interaction and recreational opportunities. Quite often such amusement sites served as *the* focal center for community-based events other than horse racing. However, the racetrack's relevance is based upon social-recreation, rural settlement/agriculture (it is outside of the village boundaries of Arkansas Post, Rome, and the town of Arkansas, respectively), and its direct use as a field of combat for the 1863 Civil War Battle of Arkansas Post.

In the latter half of 1862, Confederate forces, in an attempt of fortifying the lower Arkansas River from Union invasion, constructed a large, full bastion, earthen fort on a strategic bend of the river, atop what decades before had been the plotted suburb of Arkansas Post – “Arkansas.” To provide housing for the more than 5,000 rebel troops, several hundred primitive cabins were constructed north of the primary line of fortification. Most of these structures were in and immediately west of “Hackney Field;” the former site of the Post of Arkansas racetrack. In essence, Hackney Field provided a location for the residences for most of the residing army.

During the January 10-11 battle of the following year, Union forces under the command of General John McClelland made their way up the Arkansas River from nearby “Notrebe Bend.” Marching through dismal swamp, it was relatively impossible for the Northern forces to form any line of combat before reaching Hackney Field. It was in this vicinity, once away from the encroaching backwaters of the river, that the Union positioned itself by corps in line of battle.

With support from naval forces, it was this field and adjacent woods area that the mile-long line of blue-clad troops advanced into battle under enemy fire. Civil War bullets, shells, and military and camp accoutrements have been found in and around Hackney Field. Slight depressions in areas that have not been significantly disturbed by agriculture are apparent and, although archeology must be implemented for verification, most likely indicate some of the remnants of the several hundred cabins razed during/after the Union attack. There were no earthworks erected on this tract.

An in-depth archeological investigation is needed to confirm the integrity of the site. The racetrack may be one of the few remaining sites related to recreational use during the 1840s to 1850s. Investigation into the suspected use of the racetrack area by the Confederate forces just before the Battle of Arkansas Post could provide significant information about the individuals and logistical elements of the engagement from the Southern perspective. The racetrack is being evaluated in an NPS Vicksburg campaign study. Additional information and recommendations developed from this archeological investigation and the campaign study will guide management decisions in the future.

Policy: The added lands will be feasible to administer, considering their size,

configuration, and ownership, and hazardous substances, costs, the views of and impacts of local communities and surrounding jurisdictions, and other factors such as the presence of exotic species.

Adding the racetrack area would not cause a substantial increase in the cost of park operations. It would require additional funding for its purchase, and there would be some impact on the local tax rolls by converting private agricultural lands to federal property. This loss of county revenue would be partially offset by federal payment in lieu of taxes. Eliminating metal detector use in the area would greatly reduce the loss of significant artifacts, but it may be controversial with local collectors. Removing hunting from this area may also cause local hunters to protest.

Hazardous materials are not anticipated on this site. Agricultural use may have resulted in caching of pesticides or fertilizers on the land, but no investigation has been made. Exotic species can be expected in the conversion from agricultural use to park use primarily from invader species that move in when crops are removed.

Policy: Other alternatives for management and resource protection are not adequate.

The only likely alternative to federal acquisition and inclusion within the park boundary is the status quo. The area is being cultivated and that use is not destructive to resources beneath the area being cultivated. The National Park Service could enter into some type of agreement whereby the landowner would no longer allow collectors to collect in the area, but some form of incentive may be necessary. Additional archeological work could be done by the National Park Service with the owner's permission, and the artifacts could be removed for investigation.

ALTERNATIVE A – NO-ACTION (EXISTING MANAGEMENT DIRECTION) ALTERNATIVE

CONCEPT

This alternative reflects those actions that are ongoing at the park and would continue into the near future; as such, it serves as a baseline against which the other alternatives will be evaluated. No implementation phasing is discussed here because this alternative reflects only ongoing activities. No management prescriptions (zones) are identified here. The units would continue to be managed to preserve the park's natural and cultural resources. All ongoing actions to conduct research and preserve structures or features would comply with current laws, policies, and guidelines. The current management reflects the direction set by such documents as the old "Master Plan" and the "Statement for Management." Ongoing interpretive programs are based on available research and documentation and are developed within the guidance provided by the park's enabling legislation and earlier planning documents.

The Memorial Unit has been open for visitors as a National Park Service unit since 1964; the Osotouy Unit is not open for visitation. The opening of the Osotouy Unit is expected to change the park's visitor use patterns. After the visitor use patterns are established, a carrying capacity analysis would be done.

MEMORIAL UNIT

Most visitor access would continue to be via a paved road that leads to a parking lot by the park's lake and visitor center. Buses, recreational vehicles, and park employees would continue to be accommodated in this area.

Administrative offices, with the exception of maintenance and resource protection, would continue to be at the visitor center, without

separation from the public spaces. Staff meetings and workshops would continue to be held in areas with public access, which creates obstacles for efficient park administration and high-quality visitor experiences.

Visitors coming into the visitor center would continue to look at exhibits, shop for gifts, watch the film presentation, and receive orientation to the grounds. The outdated exhibits do not adequately develop the park's interpretive themes.

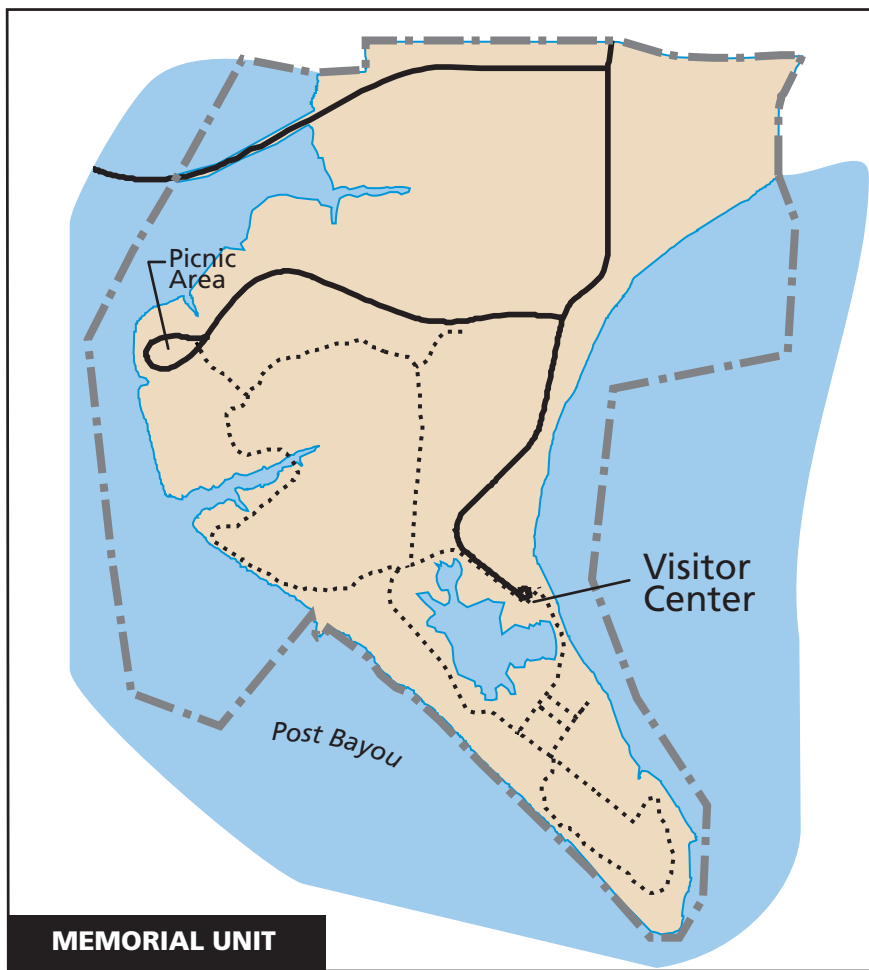
Outside, visitors could continue to walk though the town site, via a number of trails, and learn from wayside exhibits. (Although the visitor center is slightly removed from the resources that the visitors want to see, it is still the best location for visitors to gain an understanding and overview of the park before touring the area.) The onsite picnic area and informal fishing areas around the park would continue to be available. Many local people would continue to use the park as a place to walk and fish. Wheelchair access, via the paved trails and walkways and into various buildings, would remain.

Housing and maintenance facilities and several auxiliary structures would remain in place. Park programs would continue to be based on current direction.

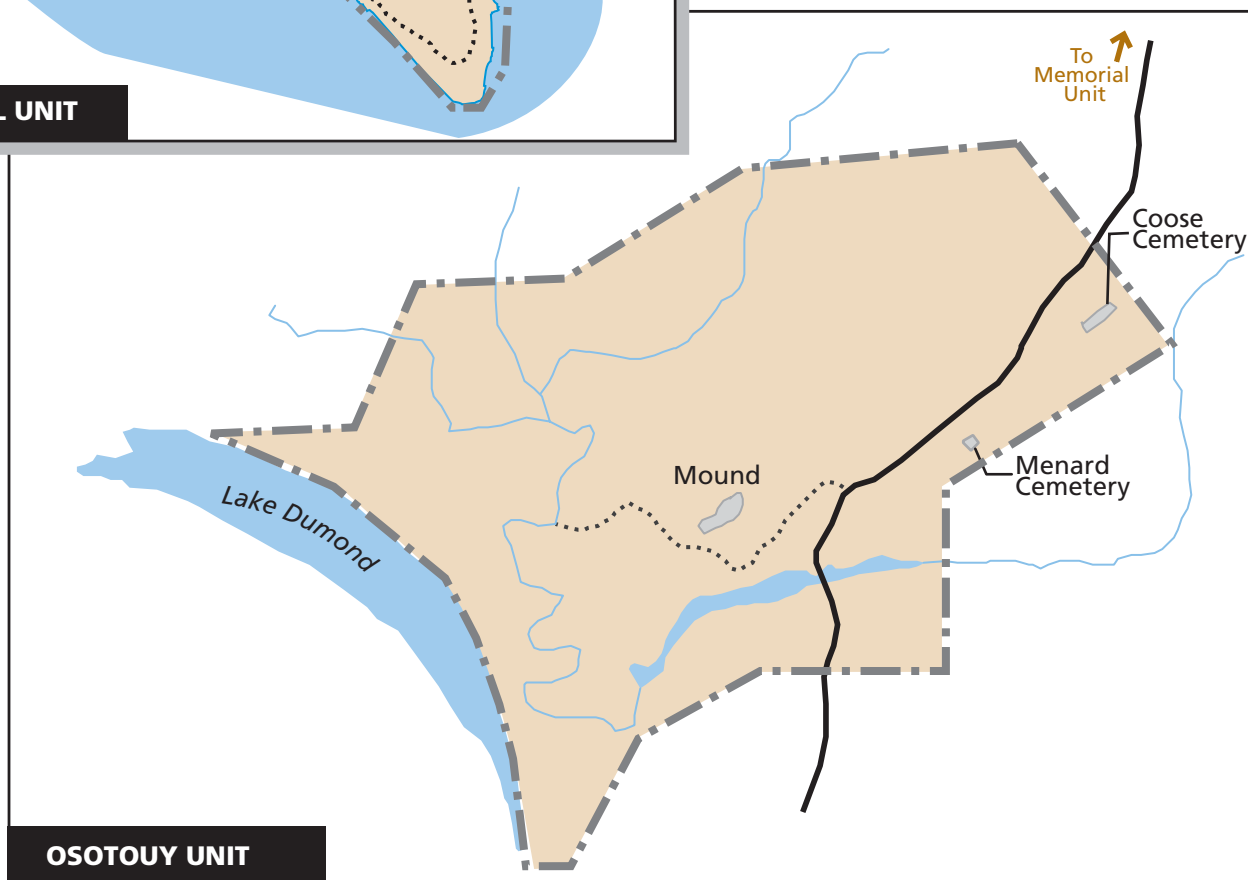
To ensure the long-term protection of cultural and natural resources, the National Park Service would follow all appropriate policies and legal requirements in its ongoing resource management program.

Resource management efforts would continue to focus on

- completing site research on archeological sites, cultural landscapes, and ethnographic resources



- UNIT BOUNDARY
- ROAD
- TRAIL
- LAND
- WATER



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SCALE OF FEET

Alternative A

Existing Management Direction

Arkansas Post National Memorial
United States Department of the Interior • National Park Service
DSC / OCT 01 / 411 / 20,017

- stabilizing and preserving structures
- stabilizing and preserving archeological resources
- managing the grounds to reduce immediate or potential threats to human safety and archeological resources, while documenting and preserving cultural landscape features as much as feasible
- collecting baseline data

The following actions are being planned by the park staff to help manage natural resources in both units:

- develop a species list
- conduct biological surveys
- determine species distribution
- develop a vegetation map
- develop a soils map
- conduct a water resources inventory
- collect water quality data
- collect air quality data

OSOTOUY UNIT

An unpaved pulloff from a gravel county road and a field access road can be found onsite. There are no trails or other visitor or administrative facilities. A portion of the site under private ownership is being acquired from willing sellers by the National Park Service. This site is not officially open to visitors; however NPS goals are to open the unit to the public. The site is administered from the Memorial Unit. Some basic interpretive media and site orientation information is being developed for when the site is open. Temporary structures for security might be placed on the site when acquisition is completed. To improve resource protection, 24-hour security for the site would be provided. Until security measures are in place, security would be provided by staff at the Memorial Unit.

To ensure the long-term protection of cultural and natural resources, the National

Park Service would follow all appropriate policies and legal requirements in its ongoing resource management program.

Resource management efforts would focus on

- completing site research to identify and protect archeological resources, cultural landscapes, and ethnographic resources
- stabilizing and preserving archeological resources
- managing the grounds to reduce immediate or potential threats to human safety and archeological resources, while documenting and preserving cultural landscape features as is feasible

The staff would work cooperatively with landowners and others to protect the historic character and traditional land use of adjacent properties.

OFFSITE ACTIONS

The road from the Arkansas Post Canal Bridge to the Osotouy Unit would remain unpaved, however the National Park Service would work with others to improve the road.

The park staff would continue to conduct various programs in local schools as part of its educational outreach program.

PARTNERSHIPS

Over the years, park superintendents have developed a series of partnership agreements with other federal and local agencies as well as with nongovernmental organizations to further the purposes of the park. Generally, these agreements cover resource protection, interpretation, and education goals. These agreements would continue.

STAFFING AND COSTS

All staffing costs use year 2000 dollars. The current base staff is 10.6 full-time equivalent (FTE) positions. Existing staffing and

operations costs are about \$710,000 annually. The park has requested four new FTEs to open the Osotouy Unit. These positions would increase total park annual costs to about \$900,000 to \$950,000.

ALTERNATIVE B – MAXIMIZE UNDERSTANDING OF CULTURAL DIVERSITY AND INTERACTION WHILE ENSURING HISTORIC INTEGRITY, PROTECTION OF RESOURCES, RECREATIONAL OPPORTUNITIES, AND VISITOR ENJOYMENT (PREFERRED ALTERNATIVE)

CONCEPT

This alternative would emphasize interpreting the rich cultural heritage that flourished over the centuries in the area of Arkansas Post National Memorial. The park's role in interpreting the area's more than 300 years of cultural cooperation, conflict, synthesis, and diversity would be greatly expanded. This would be accomplished through an expanded programmatic approach that would develop new and innovative ways to celebrate the area's cultural diversity by the National Park Service and its partners. The National Park Service would strike a balance between new programs and the mandate to manage the park's natural and nationally significant cultural resources. Under this alternative a series of boundary changes would result in the park being better able to accomplish its mission and purpose.

MEMORIAL UNIT

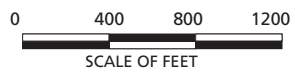
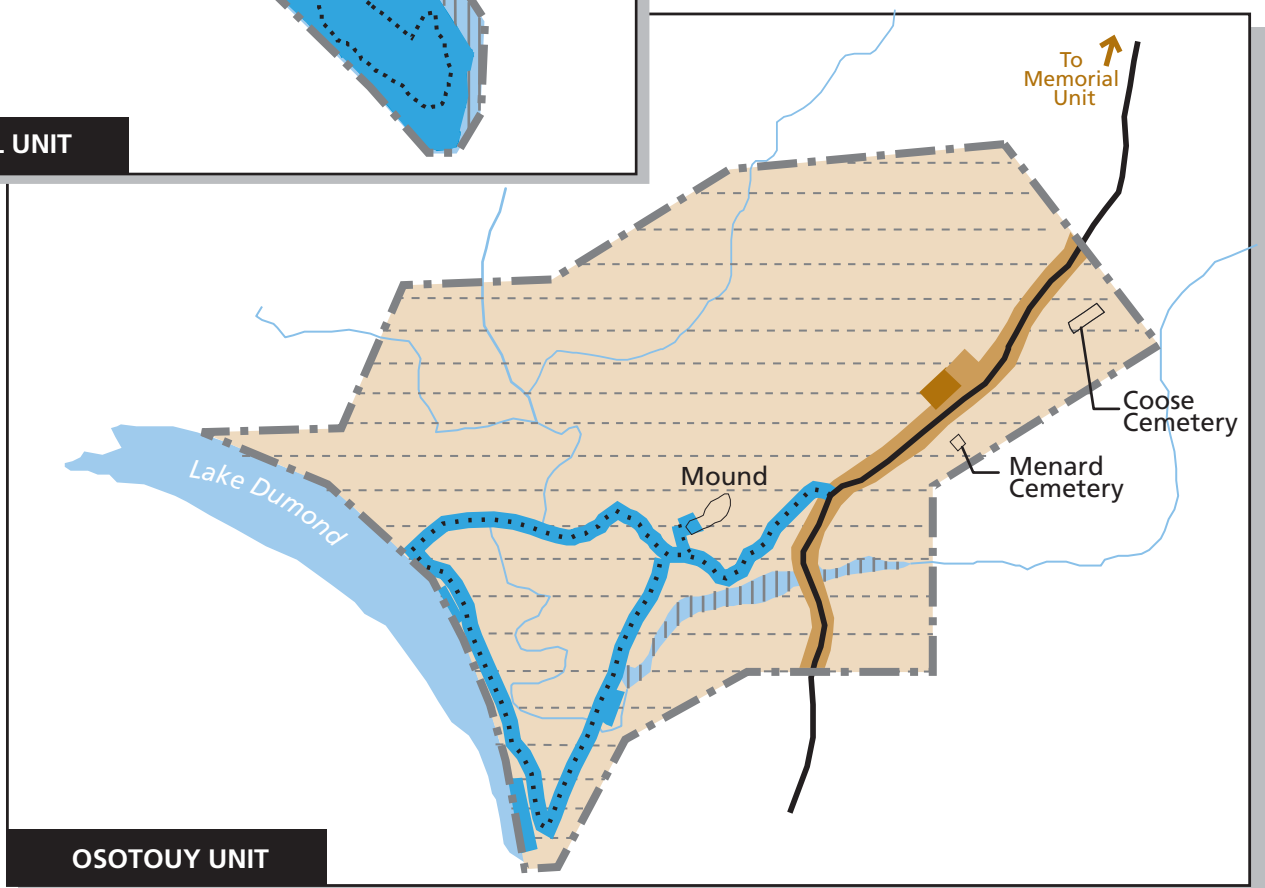
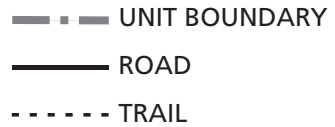
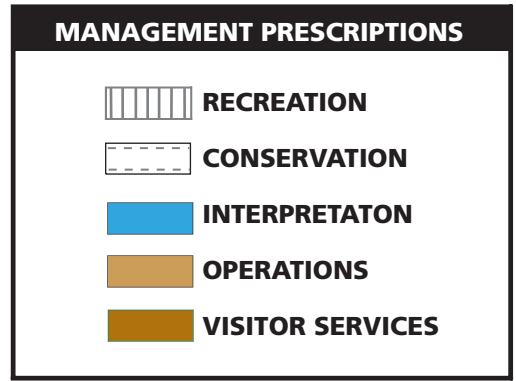
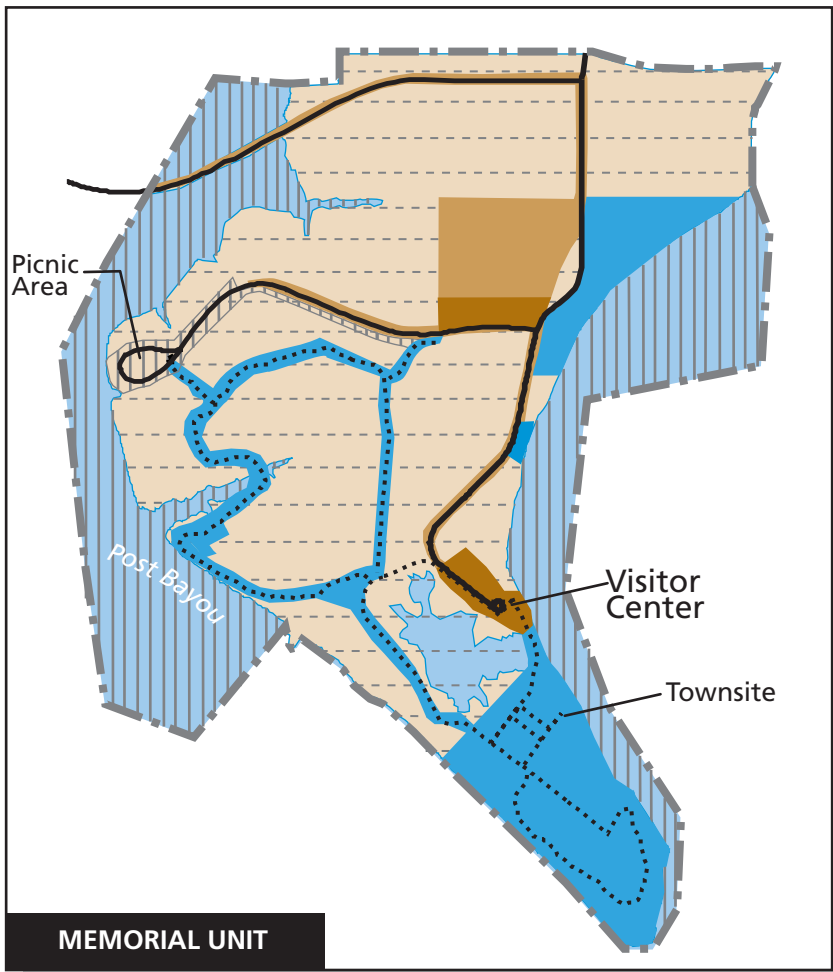
The visitor center would be rehabilitated and expanded to better highlight the park's cultural and natural resources. Rehabilitation would provide additional space for staff but would contain less space for exhibits. The primary thrust of interpretation would be accomplished onsite through various media (waysides, brochures, etc.). The visitor center and the area around it would fall into the visitor services zone prescription.

The park staff would develop activities such as festivals and programs that focus on the cultures that are associated with Arkansas Post. These yearly activities/programs,

which would take place in areas prescribed for interpretation, could include music, performances, and ethnic foods. The construction of any new structures would not be required for these activities/ programs; however, a portable stage, sound system, and covering to protect the performers would be needed. The picnic area would be retained, and an informal overflow parking area would be developed to accommodate these special events. The picnic and overflow parking areas would be managed under the recreation prescription.

The unit's trail and road system would be retained. Interpretation of the resources associated with the Civil War battle would be enhanced to provide for greater visitor appreciation and understanding. Areas designed for contemplation – perhaps about the park's significance and history – would be on the south side of the visitor center, near the Arkansas River overlook, on the north side of the lake, and in an area along Post Bayou. The trails and contemplative areas would be managed under the interpretation prescription. The National Park Service would manage a significant portion of the Memorial Unit using the conservation prescription to provide maximum protection of natural and cultural resources.

The waters around the memorial Unit would be zoned as recreational. This would allow for water-based recreation including the use of private watercraft. Fishing would be permitted within the constraints of applicable laws, regulations, and policies.



Alternative B

Maximize Understanding of Cultural Diversity and Interaction While Ensuing Historic Integrity, Protection of Resources, Recreational Opportunities, and Visitor Enjoyment (Preferred Alternative)

Arkansas Post National Memorial
United States Department of the Interior • National Park Service
DSC / JAN 02 / 411 / 20,016

OSOTOUY UNIT

An access road and a small visitor contact station and parking area would be developed in an area that is now an agricultural field. This area would be managed under the visitor services prescription. The area would include a staging area for group tours that would provide protection from the elements and a one- to two-table picnic area. Housing for a park ranger and an adjacent small maintenance area would be developed nearby under the operations prescription. The park ranger would provide for site security, interpretation, and preservation work. A small research support facility would also be constructed onsite to provide space for temporary storage and curatorial activities. This facility would provide the necessary support for scientific study at Osotouy. None of the facilities would be built in the floodplain or areas of sensitive archeological resources.

An interpretive loop trail focusing on American Indian culture, Euro-American arrival, and the interaction between the two cultures at Osotouy would be developed from the visitor contact station to the mounds, with a portion along Lake Dumond. The trail would be constructed to have minimal impact on any resources. Areas for contemplation would be developed near the main mounds at Lake Dumond and along the trail to the lake.

PARK BOUNDARY

A full discussion of potential new additions to the park and the significance of these areas can be found in the “Elements Common to All Action Alternatives” section. All three parcels would be added to the park. Wallace Bottoms (adjacent to the Osotouy Unit) and the racetrack (adjacent to the Memorial Unit) would be zoned and managed following the conservation prescription. Various aspects of the park’s

interpretive themes in the topic areas of culture, people, and history would be emphasized in these areas, which would broaden and add depth to visitors’ understanding of the park. The Lower Sweeney property would be managed following the conservation prescription to allow for more efficient management at the Osotouy Unit.

OFFSITE ACTIONS

The park would develop a partnership under the Federal Lands Highway Program with the state and county highway departments to improve (possibly pave) the road from the Arkansas Post Canal Bridge to the Osotouy Unit to provide all-weather access to this site.

Also, the park’s educational outreach program would be enhanced.

PARTNERSHIPS

Partnerships would be pursued in this alternative to provide for protecting resources and interpreting the area’s rich heritage. Park staff would seek partnerships with federal, state, and local agencies, nonprofit organizations, the private sector, and foreign governments (i.e., Spain, France and Great Britain). Park staff would also make a concerted effort to identify partners in the region that interpret similar or complementary pre-history and historic themes and work closely with these sites. An active outreach program would be established to interpret the area’s different cultures and history.

IMPLEMENTATION

The alternative would be implemented over the next 10 to 15 years. The actions have been divided into the following priorities for funding and to guide implementation. Park staff would meet all legal and policy

requirements, take actions to protect park resources, and do necessary studies and mitigation prior to construction.

The highest priorities are as follows. The Osotouy Unit would be developed with trails, visitor contact and research support facilities, and associated infrastructure. Additionally, the Memorial Unit would be rehabilitated in a manner to accommodate special events and festivals on a regular basis. This might include the addition of overflow parking facilities and a suitable space for large (150-200) gatherings. The highest priority implementation items would be to address visitor experience goals and remedy serious infrastructure concerns.

Second-tier priority actions would include rehabilitating and expanding the Memorial Unit visitor center and updating and/or developing interpretive media that support the park's interpretive themes.

STAFFING AND COSTS

All staffing costs use year 2000 dollars. All alternatives retain the current base staff of 10.6 FTEs and show what additional FTEs or modifications to existing positions would be required to implement this alternative. The additional positions would include interpreters, resources specialists, maintenance workers, and administrative support staff. A total of 11.3 additional FTEs at a cost of about \$600,000 per year would eventually be required to implement this alternative.

DEVELOPMENT COSTS

The development for alternative B is estimated to be about \$2.6 million. The estimate is general and should be used only for comparing the alternatives. Table 4 contains representative facility costs used in deriving the estimate.

TABLE 4: REPRESENTATIVE DEVELOPMENT COSTS FOR ALTERNATIVE B

Hardening picnic area parking at the Memorial Unit	\$ 23,000
Construct visitor contact station and parking at Osotouy Unit, including site preparation and utilities	\$712,000
Construct access road and parking at Osotouy Unit	\$92,000
Construct interpretive loop trail at Osotouy Unit	\$85,000
Develop research support facility at Osotouy Unit, including site preparation and utilities	\$85,000
Build maintenance area and housing at Osotouy Unit	\$667,000
Rehabilitate and expand visitor center at Memorial Unit	\$983,000

ALTERNATIVE C – MAXIMIZE THE PROTECTION OF CULTURAL AND NATURAL RESOURCES WHILE PROVIDING FOR VISITOR ACCESS AND UNDERSTANDING OF THEIR SIGNIFICANCE

CONCEPT

This alternative would emphasize the preservation of the cultural and natural resources of the park for future generations. Archeological resources would be interpreted through media, with limited onsite interpretation. Natural processes such as erosion, flooding, and vegetative succession would be allowed to occur as long as these processes were not detrimental to the park's cultural or natural resources. This philosophy would result in minimizing intrusive features (modern structures and paved trails).

MEMORIAL UNIT

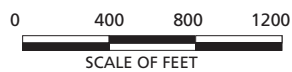
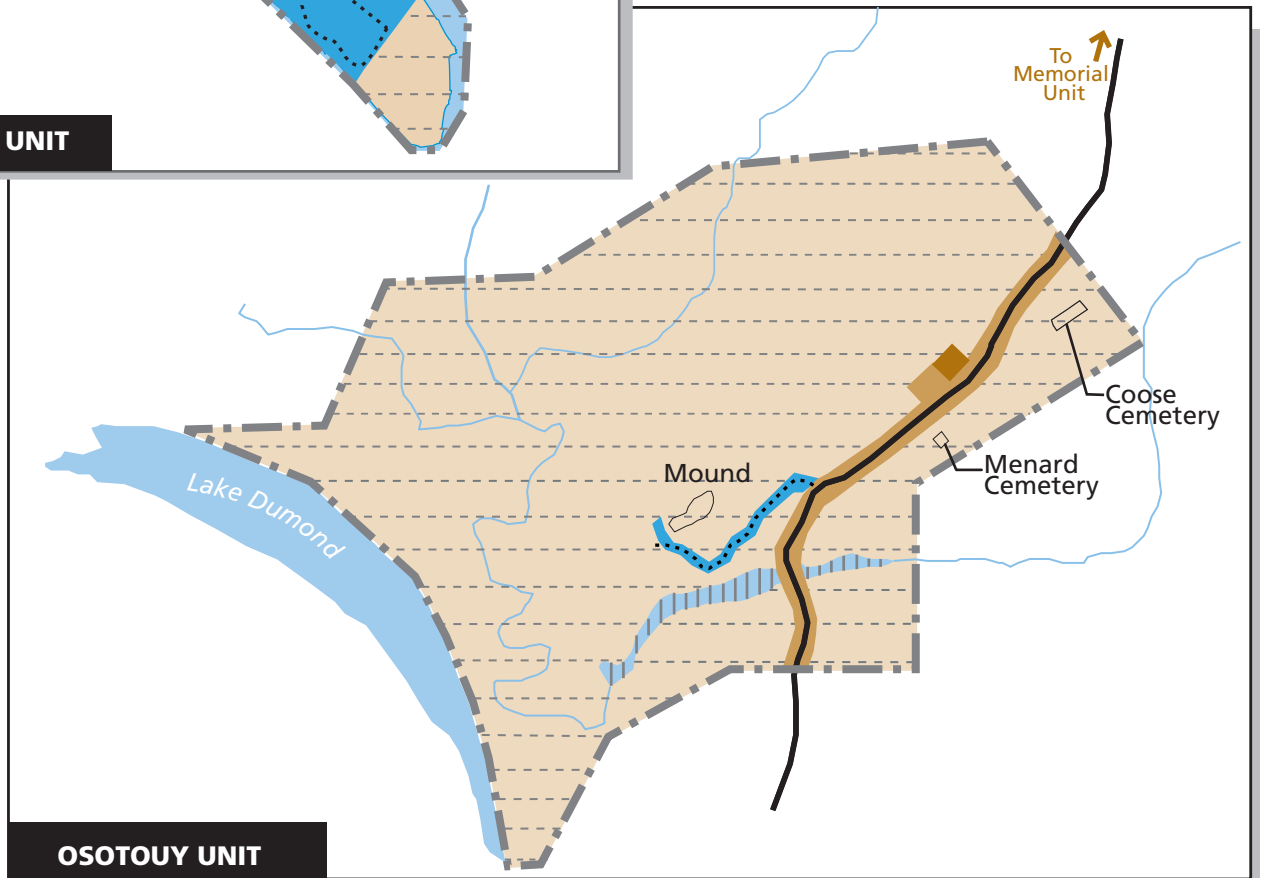
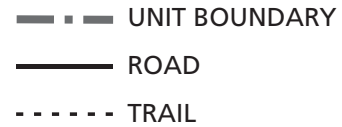
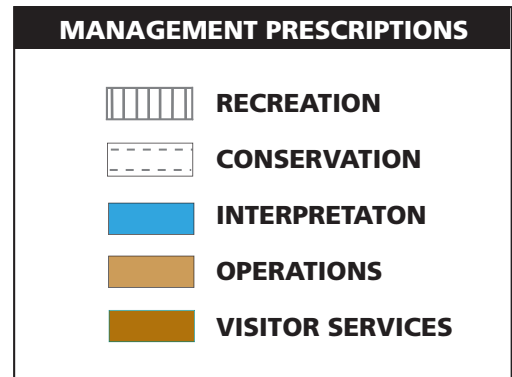
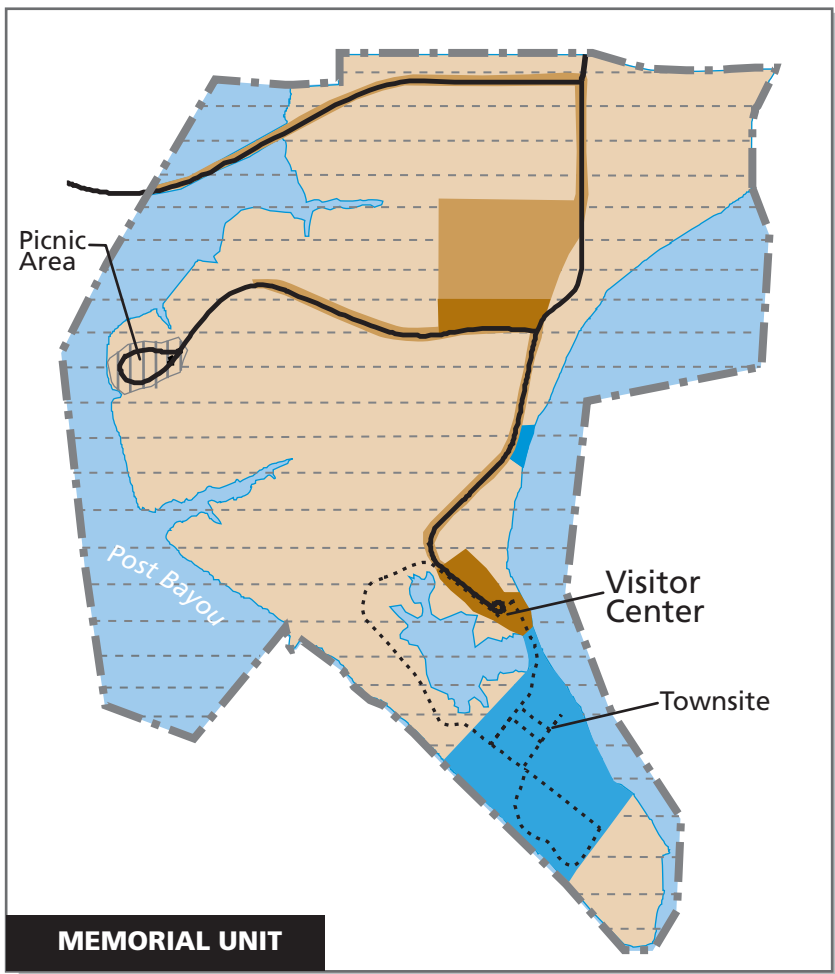
The visitor center would be expanded and rehabilitated to provide more interpretation of the park's natural and cultural resources. More media and exhibits would be developed for the visitor center. Because this alternative takes a minimal approach to interpretation outside the visitor center, the media at the visitor center would provide an in-depth understanding of resources at both the Memorial and Osotouy Units. The area would be zoned and managed following the visitor services prescription.

Many of the trails and roads in the park would be removed and the landscape restored to natural contours and vegetation to provide for larger areas of unbroken habitat for wildlife. These areas would be managed following the conservation prescription. The cultural and natural resources in these areas would be protected and conserved for future scientific study. Visitors would be permitted in these areas where they could have an independent discovery experience. The

probability of encountering other visitors or park staff would be low.

The remaining trails would be more concentrated in the area between the visitor center and historic Front Street, with management following the interpretation prescription. Interpretation in this area would focus on the park's history. More interpretation would occur in the area of the town site. Trails south of the town would be removed. Between the visitor center and the town site, an area would be developed for contemplation – perhaps of the historical significance of Arkansas Post. A contemplative area would also be developed near the Fort Hindman wayside exhibit. The current picnic area and access road would be retained but all trails in the area would be removed. The picnic area would be managed under the recreation prescription. For more efficient operations, a boat dock could be developed for use in monitoring natural resources in the waters around the park.

The original 1960 park boundary included more lands in the Moores/Post Bayou area and some waters and islands in Post Bend for a total of about 700 acres. When the U.S. Army Corps of Engineers completed Dam #2 in June 1967, the river level in the basin increased and inundated many adjacent areas. Historic resources in the areas inundated in the park boundaries at that time, included some remnants of Ft. San Carlos III, the 1783 battle site, the 1863 Fort Hindman site, and traces of the Arkansas Post river port. Because many of these areas were now either submerged or isolated from the memorial, management of them was transferred to the U.S. Army Corps of Engineers and the adjusted boundaries



Alternative C

**Maximize the Protection of Cultural and Natural Resources
While Providing for Visitor Access and Understanding of Their Significance**

Arkansas Post National Memorial

United States Department of the Interior • National Park Service
DSC / OCT 01 / 411 / 20,018

resulted in about 389 acres remaining within the park. The U.S. Army Corps of Engineers uses this area for flood control and has encouraged recreational use by the public. This area includes the location of significant events that affected this history of Arkansas Post. Research would determine if any resources, such as those relating to the Civil War, remained and if they have integrity. If resources with integrity remained, then park staff would work with the U.S. Army Corps of Engineers to reestablish park boundaries.

OSOTOUY UNIT

An access road and a small visitor contact station and parking area would be developed at Osotouy following the visitor services prescription in an area that is currently an agricultural field. No designated picnic area would be developed. A small maintenance area, with housing for a park ranger, would be developed in the same area. The park ranger would provide site security and interpretation and do some preservation work. An interpretive trail with media focusing on American Indian culture before the arrival of Euro-Americans would be developed from the visitor contact station to the mounds. The trail would have limited impact on the resources and would be managed under the interpretation prescription. Most of the unit would be managed under the conservation prescription for future scientific study and to preserve the natural and cultural resources.

PARK BOUNDARY

A full discussion of potential new additions to the park and the significance of these areas can be found in the “Elements Common to All Action Alternatives” section. All three parcels would be added to the park. Wallace Bottoms (adjacent to the Osotouy Unit) and the racetrack (adjacent to the Memorial Unit) would be zoned and

managed following the interpretation prescription. Various aspects of the park’s interpretive themes in the topic areas of culture, people, and history would be emphasized in these areas, which would broaden and add depth to visitors’ understanding of the park. The Lower Sweeney property would be managed following the conservation prescription to allow for more efficient management at the Osotouy Unit.

OFFSITE ACTIONS

The park would develop a partnership under the Federal Lands Highway Program with the state and county highway departments to improve the unpaved road from the Arkansas Post Canal Bridge to the Osotouy Unit to provide all-weather access to this site.

Also, the park’s educational outreach program would be enhanced.

PARTNERSHIPS

Park staff would seek partners to protect resources associated with Arkansas Post National Memorial outside park boundaries, such as earlier locations of the Arkansas Post. Partnerships in this alternative would provide resource protection and only minimal interpretation.

IMPLEMENTATION

This alternative would be implemented during the next 10 to 15 years. The various actions have been divided into priorities for funding and to guide implementation. The park would continue to meet all applicable legal and policy requirements, proactively take actions to protect park resources, and do all necessary studies and mitigation prior to construction.

Implementation priorities under alternative C would be to develop the Osotouy Unit, including trails, visitor contact facility, and associated infrastructure. The highest priority implementation items would be to address visitor experience goals and remedy serious infrastructure concerns.

The next priority actions would include rehabilitating and expanding the Memorial Unit visitor center for more efficient visitor services and park administration, updating and/or developing interpretive media that support park interpretive themes, and removing trails at the Memorial Unit.

STAFFING AND COSTS

All staffing costs are in year 2000 dollars.
All alternatives retain the current base staff

of 10.6 FTEs and show what additional FTEs or modifications to existing positions would be required to implement the alternative. The additional positions would include interpreters, resources specialists, maintenance workers, and administrative support staff. A total of 12.3 additional FTEs at a cost of \$650,000 per year would eventually be required to implement this alternative.

DEVELOPMENT COSTS

The development costs for alternative C are estimated to be about \$2.6 million. The estimate is general and should be used only for comparing the alternatives. Table 5 contains representative facility costs used in deriving this estimate. Development costs are in year 2000 dollars.

TABLE 5: REPRESENTATIVE DEVELOPMENT COSTS FOR ALTERNATIVE C

Design and construct visitor contact station and parking at Osotouy Unit, including utilities	\$712,000
Develop and construct access road and parking at Osotouy Unit	\$92,000
Develop and construct trails at Osotouy Unit	\$14,000
Design and build maintenance area and housing at Osotouy Unit	\$667,000
Remove and revegetate trails at Memorial Unit	\$70,000
Rehabilitate and expand visitor center at Memorial Unit	\$983,000

ALTERNATIVE D – EXPAND RECREATIONAL OPPORTUNITIES WHILE ENSURING PROTECTION, PERPETUATION, AND UNDERSTANDING OF THE PARK'S RESOURCES

CONCEPT

This alternative would seek to develop new ways for the public to gain an appreciation and understanding of the park's natural and cultural resources. NPS staff would emphasize educational and interpretive goals through an array of recreational activities. At the same time, visitor interpretation would emphasize the park's historical significance.

MEMORIAL UNIT

The visitor center would be expanded and rehabilitated to better highlight the park's cultural, natural, and recreational resources. The visitor center and area immediately surrounding it would be managed as a visitor services area. A new facility for researching the park's natural and cultural resources and for park administration would be constructed in the maintenance area. Services for boating would be water-based only; no land-based services would be added. Some fishing areas would be formalized, and areas for contemplation would also be provided.

The park's trail and road system would be retained. The roads would be managed under the operations prescription, and the trails would be managed under the interpretation prescription. The picnic area would be retained and slightly expanded to provide more parking; it would be managed under the recreation prescription.

OSOTOUY UNIT

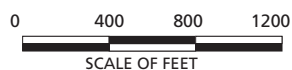
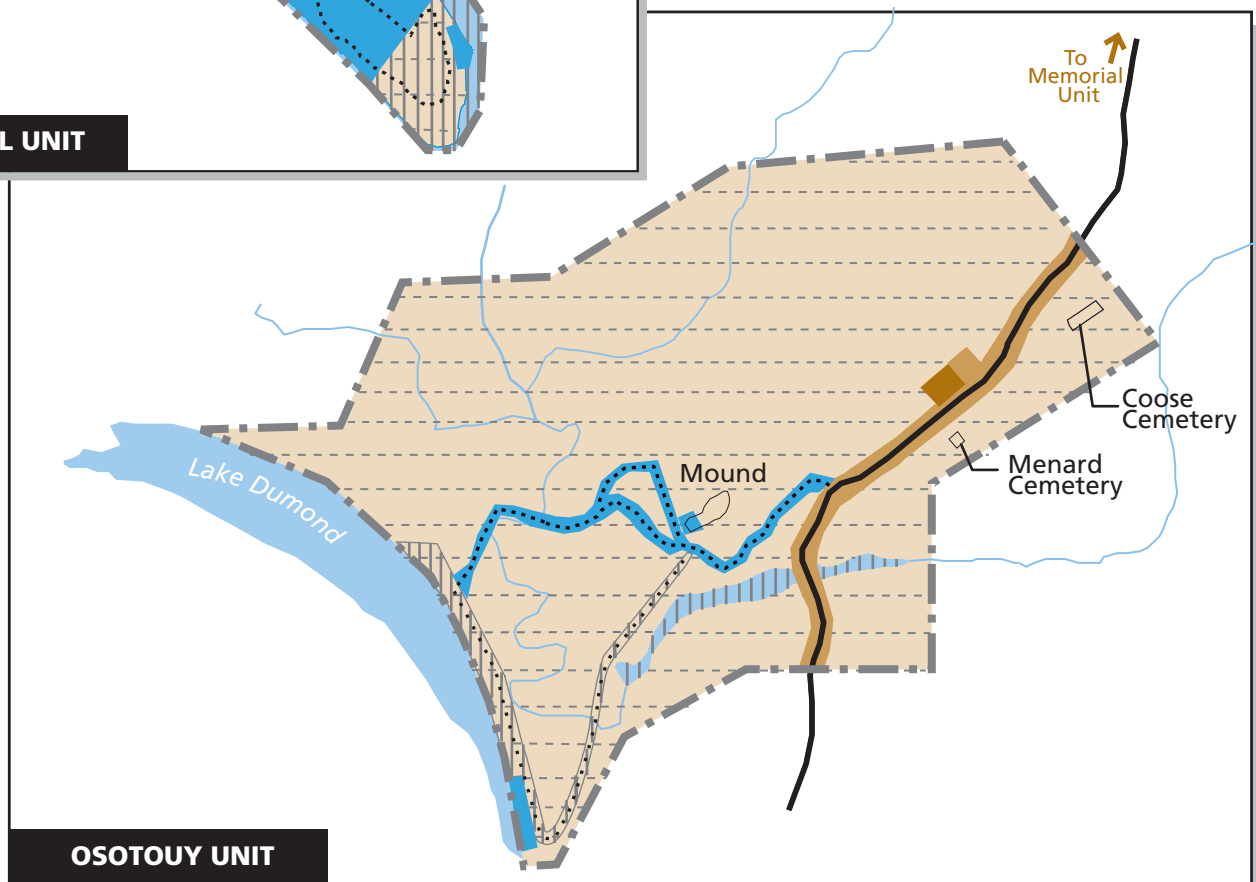
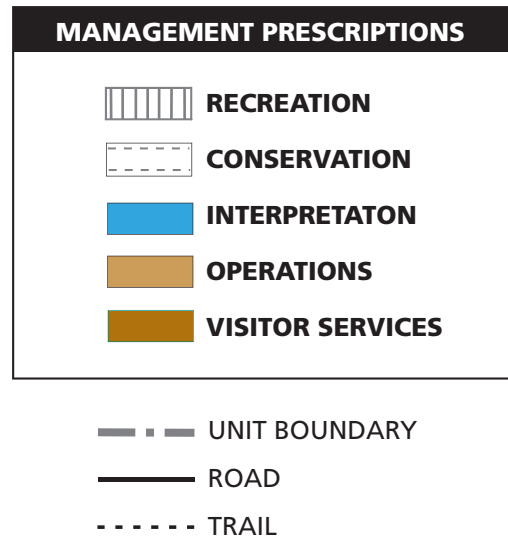
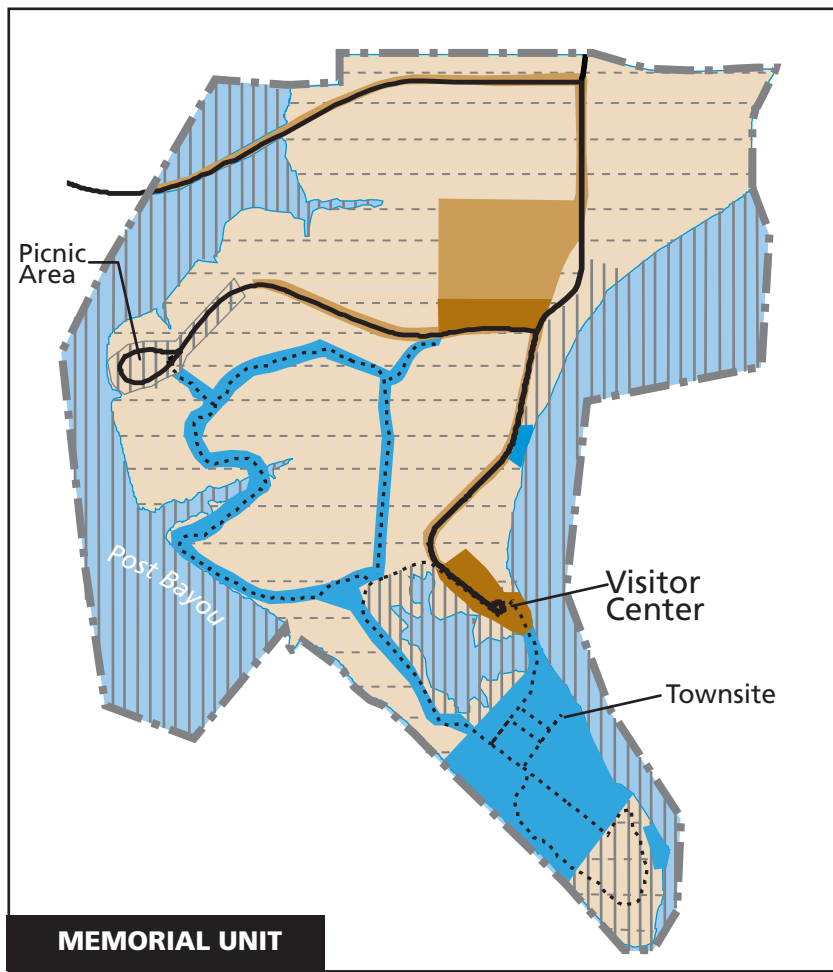
In the Osotouy Unit, an access road and a small visitor contact station and parking area would be developed in an area that is

currently an agricultural field. A small maintenance area, with housing for a park ranger, would be developed in the same area. The park ranger would provide site security and interpretation and do some preservation work.

A loop trail for interpretive and recreational purposes would be developed from the visitor contact station to the mounds and continuing to Lake Dumond. The trail, managed under the interpretation prescription, would interpret the interaction of American Indian and Euro-American cultures at Osotouy and would have limited impact on the resources. An area along Lake Dumond would be developed as a designated fishing area and managed following the recreation prescription. Most of the unit would be left undeveloped and managed under the conservation prescription to preserve the natural and cultural resources.

PARK BOUNDARY

A full discussion of potential new additions to the park and the significance of these areas can be found in the "Elements Common to All Action Alternatives" section. All three parcels would be added to the park. Wallace Bottoms (adjacent to the Osotouy Unit) and the racetrack (adjacent to the Memorial Unit) would be zoned and managed following the interpretation prescription. Various aspects of the park's interpretive themes in the topic areas of culture, people, and history would be emphasized in these areas, which would broaden and add depth to visitors' understanding of the park. The Lower Sweeney property would be managed following the



Alternative D

Expand Recreational Opportunities While Ensuring Protection, Perpetuation, and Understanding of the Park's Resources

Arkansas Post National Memorial
United States Department of the Interior • National Park Service
DSC / APR 02 / 411 / 20,019A

conservation prescription to allow for more efficient management at the Osotouy Unit.

OFFSITE ACTIONS

The park would develop a partnership under the Federal Lands Highway Program with the state and county highway departments to pave the road from the Arkansas Post Canal Bridge to the Osotouy Unit to provide all-weather access to this site.

Also, the park's educational outreach program would be enhanced.

PARTNERSHIPS

Park staff would seek partners to provide recreational amenities that are not available within the park boundaries. For example, the park would work with the U.S. Army Corps of Engineers to reopen Moore's Bayou for camping.

IMPLEMENTATION

This alternative would be implemented during the next one to 15 years. The actions have been divided into the following priorities for funding and to guide implementation. Park staff would meet all legal and policy requirements, take actions to protect park resources, and do necessary studies and mitigation prior to construction.

The highest priorities would be developing the Osotouy Unit, including; trails, visitor

contact facility, and associated infrastructure. Visitor experience goals would be addressed, and serious infrastructure concerns would be remedied.

Second-tier priority actions would include rehabilitating the Memorial Unit visitor center for more efficient visitor services, updating and/or developing interpretive media that support park interpretive themes, and constructing a new administrative and research facility at the Memorial Unit.

STAFFING AND COSTS

All staffing costs are in year 2000 dollars. All alternatives retain the current base staff of 10.6 FTEs and show what additional FTEs or modifications to existing positions would be required to implement the alternative. The additional positions would include interpreters, resources specialists, maintenance workers, and administrative support staff. A total of 13.3 additional FTEs at a cost of about \$700,000 per year would be required to implement this alternative.

DEVELOPMENT COSTS

The development costs for alternative D are estimated to be about \$3.4 million. The estimate is general and should be used only for comparing the alternatives. Table 6 contains representative facility costs used in deriving this estimate. Development costs are in year 2000 dollars.

TABLE 6: REPRESENTATIVE DEVELOPMENT COSTS FOR ALTERNATIVE D

Construct visitor contact station and parking at Osotouy Unit including utilities	\$712,000
Construct access road and parking at Osotouy Unit	\$92,000
Construct trails at Osotouy Unit	\$14,000
Build maintenance area and housing at Osotouy Unit	\$667,000
Remove and revegetate trails at Memorial Unit	\$70,000
Rehabilitate and expand the visitor center at Memorial Unit	\$983,000
Build administrative and research center at Memorial Unit	\$819,000

MITIGATION MEASURES

The following mitigation measures would be applied to avoid or minimize potential impacts on natural and cultural resources from construction activities, visitor use, and operations. These measures would apply to all alternatives.

CULTURAL RESOURCES

- The park staff would continue to develop inventories for and oversee research about archeological, historical, and ethnographic resources to better understand and manage the resources. The National Park Service would continue to manage cultural resources and collections following federal regulations and NPS guidelines. The park's collection would be inventoried and kept in a manner that would meet NPS curatorial standards.
- No inventory of ethnographic resources has been developed for the park to date. As ethnographic resources are identified, the park would work to protect these resources in cooperation with the Quapaw Tribe and consistent with any legal and policy requirements.
- Adverse impacts on National Register of Historic Places properties would be avoided if possible. If adverse impacts could not be avoided, these impacts would be mitigated through a consultation process with all interested parties.
- Mitigation measures would be undertaken in consultation with the Arkansas State Historic Preservation Office, the Advisory Council on Historic Preservation, and/or the Quapaw Tribe on all projects that involve ground disturbance and/or impact ethnographic resources or cultural landscapes.
- All unsurveyed areas within the park would be inventoried for archeological, historical, and ethnographic resources as well as cultural and ethnographic landscapes. Archeological surveys would be conducted in unsurveyed areas where development would occur to determine the extent and significance of archeological resources in the areas.
- Cultural and ethnographic landscapes in the park would be documented and treatments identified to ensure their preservation.
- Wherever possible, projects and facilities would be located in previously disturbed or existing developed areas. Facilities would be designed to avoid known or suspected archeological resources.
- Whenever possible, project design features would be modified to avoid effects to cultural resources. New developments would be relatively limited, located on sites that blend with cultural landscapes, and would not be adjacent to ethnographic resources. If necessary, vegetative screening would be used as appropriate to minimize impacts on cultural landscapes and ethnographic resources.
- Archeologists would monitor ground-disturbing construction in areas where subsurface remains might be present.
- If archeological resources were found during construction work, the work would be stopped and a professional archeologist would make an evaluation following a consultation process with the park, region, the Arkansas State Historic Preservation Office, and the Arkansas Archeological Survey. If the artifacts

were identified as being associated with the Quapaw, consultation would be undertaken with that tribe. If the artifacts are identified as being associated with another tribe, then consultation would be undertaken with that tribe.

- Opportunities would be provided for American Indian tribes and nations to participate in cultural resource identification and protection activities in order to prevent impacts on archeological and ethnographic resources.
- Natural and cultural resource management activities would be integrated to avoid potential impacts from natural processes, construction, and operations.
- Erosion controls and other mitigating measures would be implemented to ameliorate negative impacts of natural processes.
- Visitors would be encouraged through the park's interpretive programs to respect, and leave undisturbed, tribal offerings and archeological resources.
- Park staff would strictly adhere to NPS standards and guidelines on the display and care of artifacts. This would include artifacts used in exhibits in the visitor center. Irreplaceable items would be kept above the 500-year floodplain. This means that no irreplaceable items would be displayed at the Memorial Unit.
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NATURAL RESOURCES

- New facilities would be built on soils suitable for development. Soil erosion would be minimized by limiting the time that soil was left exposed and by applying other erosion control measures, such as erosion matting or silt fencing. Once work was completed, construction areas would be revegetated with native plants in a timely period.
- To prevent water pollution during construction, erosion control measures would be used and construction equipment would be regularly inspected for leaking of petroleum and other chemicals.
- A runoff filtration system would be built to minimize water pollution from larger parking areas.
- Areas used by visitors (e.g., trails) would be monitored for signs of native vegetation disturbance. Public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers would be used to control potential impacts on plants from trail erosion or social trailing.
- River access/crossing points would be designated, and barriers and closures would be used to prevent trampling and loss of riparian vegetation.
- Techniques would be employed to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and park ranger patrols.

FUTURE PLANS AND STUDIES NEEDED

Developing an approved general management plan is the first step in planning for Arkansas Post National Memorial; it sets the overall vision and direction for the park and identifies future planning needs. The following studies are mandated by the National Park Service and will be needed to implement the approved management plan. They are not listed in priority order.

Comprehensive Interpretation Plan – This plan would provide the next level of detailed planning for interpretation at the park. It would employ the broader direction of the general management plan to develop a cohesive program of media and personal services. This plan could include a wayside plan.

Cultural or Ethnographic Landscape Report – A cultural landscape report is being completed for the Memorial Unit. One is needed for the Osotouy Unit. This would consist of two parts: first, a cultural landscape inventory, and, second, recommendations for treatment of the landscape. The work could be combined with an ethnographic landscape report as there would appear to be few physical features from a historic period.

Ethnographic Overview and Assessment – This document would review and analyze accessible archival and documentary data on the park's ethnographic resources and the groups who traditionally define the cultural and natural features as significant to their ethnic heritage and cultural viability. Limited interviews and discussions would occur with traditionally associated people to supplement and assess the documentary evidence and identify gaps in the available data.

Exhibit Plan and Design – An exhibit plan and design would be completed to guide the development of exhibits that support the interpretive themes of the park. The final production-ready exhibit design would identify museum objects and graphics to be exhibited. This plan would follow the comprehensive interpretation plan.

Carrying Capacity Analysis – When the Osotouy Unit opens and visitor use patterns become more established, a visitor experience and resource protection plan would be developed.

Cultural Affiliation and Lineal Descent Study – This study would be adapted to study the park's relationship to those people that lived on the park units. As part of this study general genealogies would be prepared of those people that lived in the units. The study could also examine the migration of people from the park area. The study could include Native American groups, African American groups, and those of European heritage.

Ethnographic Landscape Study and Ethnographic Resource Inventory – This would be a field study to identify and describe the names, locations, distributions, and meaning of ethnographic landscape features.

Archeological Study – This would pinpoint the location of features at the Osotouy Unit. A comparative analysis of artifacts relating to the American Indian and the Colonial period at the two park units should also be undertaken.

Special Resource Study – A comprehensive annotated bibliography of documents, books, films, and oral histories related to the park

would be prepared to provide the park with a list and understanding of materials available.

Special Resource Study (role of slavery) –

This study would focus on enslaved and free African-Americans at Arkansas Post and look at the role of slavery and freed African-Americans under the French, Spanish, and American governments at Arkansas Post. This study focus on slavery would not preclude other topics related to the 300 years of human history at the memorial.

Archeological and Ethnographic Surveys

— During implementation of the general management plan, archeological and ethnographic surveys might be required. This will be determined on a case-by-case basis when preliminary design for construction is done.

A number of studies are underway or have been completed by the National Park Service

to better understand and manage resources. These studies include archeological surveys, the cultural landscape inventory for the Memorial Unit, museum object inventories, and historic structure evaluations. Also the Arkansas Archeological Survey is a repository of information about the park's resources.

A monitoring plan would be implemented for current shoreline areas to identify the presence of previously unknown cultural resources uncovered by erosion or animal activities.

The park's housing management plan has not been updated since the Osotouy Unit was authorized and acquisition began. An update of the housing management plan, including the Osotouy Unit, would include an assessment of housing needed to meet the park's mission.

PLANNING CONCEPTS CONSIDERED BUT DISMISSED

During the planning process for Arkansas Post, alternatives were analyzed that would have substantially enlarged the park facilities beyond what is described in the present range of alternatives, such as a greatly expanded visitor center at the Memorial Unit and developing a much larger visitor center at the Osotouy Unit. This scale of development was not analyzed in any alternative for several reasons, including:

- The limited land area in either park unit that does not contain park resources or where development would not impinge on park resources.
- The limitation on any greatly expanded development due to the proximity of the 100-year and 500-year floodplains, which requires the park to follow federal regulations and NPS policies that provide guidance for any development in these areas.
-

- Enhanced interpretation could be accomplished through the use of media and would not require a substantial increase in space requirements.
- The costs of these larger facilities were not analyzed in depth, but it was determined that they would cost substantially more and have impacts on the park resources.

The planning process also considered alternatives that would have called for the construction of a new administrative facility at the Memorial Unit. This development was not analyzed because it was determined that all actions considered could be accomplished in the footprint of the current visitor center with only rehabilitation and/or expansion of that facility. Also, any development in other areas of the Memorial Unit would cost substantially more and have impacts on resources.

FUTURE POTENTIAL ACTIONS

Two actions described below could be used in conjunction with any of the action alternatives; however, these actions are not cost-effective now or in the near future. Once the Osotouy Unit is officially opened to visitors, these actions could become feasible as visitation to the park increased. Impacts of these potential actions are not evaluated in this document due to their uncertainty of the actions. These actions would be evaluated through a public input process when the full impact of opening the Osotouy Unit can be determined.

SHUTTLE SYSTEM

A shuttle system could be developed that would link the Memorial and Osotouy Units. This would require an additional parking and staging area at the Memorial Unit and a shuttle pulloff and staging area at the Osotouy Unit. Expanded interpretation of the park could be done during the shuttle trip between units. Osotouy would receive additional resource protection in that the shuttle service would result in more visitors going to that unit in a park ranger-guided tour. At a minimum the shuttle service would require two additional maintenance staff at the park and could require more intensive commitment of resources based on whether the shuttle would be a government or concession operation. A study would be conducted to determine the economic feasibility/suitability of any shuttle system.

OFFSITE INTERPRETIVE FACILITIES

Both the Memorial and the Osotouy Units have serious limitations that prevent development of a greatly expanded visitor/interpretive center at either site. These include the potential impacts on natural and cultural resources, floodplain constraints, and costs. However, if needed because of increased visitation, such a center might prove feasible if a location was found offsite that would not be subject to these limitations, and if a suitable partner(s) could be identified to help defray costs. The facility would need to provide educational opportunities, curatorial services, and storage of objects and archival documents that are not on exhibit in the park or elsewhere. Even with this offsite facility, park staff would continue to have onsite museum management responsibilities. When the National Park Service evaluates property for acquisition or leasing offsite park activities (outside the boundary authorized by Congress), a variety of concerns and criteria must be considered before the National Park Service could take possession. Some of the more critical considerations include: (1) safe and legal access to the site, (2) adequate size to accommodate site activities, (3) absence of hazardous materials, (4) location outside the 100-year floodplain, (5) minimal potential impact on sensitive natural and cultural resources, and (6) cost-effective development and occupation conditions. If an existing structure was being considered, factors would include the condition of the structure, utility costs, and construction limitations such as soil and drainage concerns.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's sections 101 and 102(1). This usually means the alternative that would cause the least damage to the biological and physical environment and would best protect, preserve, and enhance the historic, cultural, and natural resources ("Forty Most Asked Questions concerning Council on Environmental Quality's (CEQ) National Environmental Policy Act Regulations" 1081).

For Arkansas Post National Monument, table 7 shows how each alternative would or would not achieve the requirements of sections 101 and 102(1) of the National Environmental Policy Act and the requirements of other environmental laws and policies. Although all the alternatives in this plan rated well (which is not surprising because elements that were not environmentally sound were eliminated from consideration), alternative B, the preferred alternative, best meets the criteria of section 101(b). It was found that alternative B would cause the least damage to the biological and physical environment and would best protect, preserve, and enhance historic, cultural, and natural resources. It would also "create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other

requirements of present and future generations of Americans" (from Section 101).

Alternative B, which has been selected as the preferred alternative, is also the environmentally preferable alternative. The first four of the six NEPA criteria listed in table 7 are particularly relevant.

Alternative B rated high in all categories except two (achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources). Alternative C scored better than alternative B for those criteria, but scored lower on three other criteria (fulfilling the responsibilities of each generation as trustee of the environment; attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices"). Alternative A, the no-action alternative, scored lower than the other three alternatives. Therefore the preferred alternative was also chosen as the environmentally preferred alternative.

TABLE 7: ENVIRONMENTALLY PREFERRED ALTERNATIVE ANALYSIS

CRITERIA	ALTERNATIVES			
	A	B, Preferred	C	D
Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.	1	2	1	1
Ensure safe, healthful, productive, and esthetically and culturally pleasing surroundings for all Americans.	1	2	2	2
Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.	1	2	1	2
Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.	2	2	1	2
Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.	2	1	2	1
Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.	1	1	2	1
Total Points (assuming 2 points for a H ^a [high], 1 point for M ^b [moderate] and 0 points for an L ^c [low])	8	10	9	9

- a. This is given to the alternative(s) that fully meets the criteria.
b. This is given to the alternative(s) that somewhat meets the criteria.
c. This is given to the alternative(s) that does not meets criteria.

TABLE 8: SUMMARY OF ALTERNATIVES

Topic	Alternative A – Existing Management Conditions	Alternative B – Preferred Alternative	Alternative C	Alternative D
Concept	<ul style="list-style-type: none"> • Reflect ongoing management direction. • Continue to base park programs on available research and guidance. 	<ul style="list-style-type: none"> • Maintain natural and nationally significant cultural resources. • Emphasize interpretation of area's rich cultural heritage. • Expand park's role in interpreting area's history. • Develop new ways to celebrate area's cultural diversity balanced with maintaining natural and cultural resources. 	<ul style="list-style-type: none"> • Emphasize the preservation of cultural and natural resources for future generations. • Minimize intrusive features and development. • Interpret archeological resources through media, with limited on-site interpretation. 	<ul style="list-style-type: none"> • Develop new ways for public to gain an appreciation and understanding of park's resources. • Emphasize education and interpretive goals through an array of recreational activities while emphasizing interpretation of the park's historical significance.
Memorial Unit	<ul style="list-style-type: none"> • Maintain existing visitor center. • Keep park administrative offices in visitor center. • Base park programs on current direction. 	<ul style="list-style-type: none"> • Rehabilitate and expand visitor center. • Develop new yearly programs and activities reflecting area's diverse cultures. • Retain picnic area and expand parking to accommodate these special events. • Retain trail and road system. • Enhance Civil War interpretive programs. • Develop areas for contemplation. • Allow water-based recreation. 	<ul style="list-style-type: none"> • Expand and rehabilitate visitor center. • Develop more media and exhibits for center to provide in-depth understanding of resources at both units. • Remove many trails and restore natural contours and vegetation; concentrate remaining trails between visitor center and historic Front Street. • Possibly develop NPS boat dock for monitoring natural resources. • Develop areas for contemplation. • If deemed beneficial after further study, reestablish park boundaries that are more consistent with the original legislation. 	<ul style="list-style-type: none"> • Expand and rehabilitate visitor center. • Construct new facility for research and administration. • Formalize fishing areas and provide areas for contemplation. • Retain trails and road system and slightly expand picnic area and parking.

Topic	Alternative A – Existing Management Conditions	Alternative B – Preferred Alternative	Alternative C	Alternative D
Osootouy Unit	<ul style="list-style-type: none"> Open site to visitors after acquisition of private property onsite (from willing sellers) is completed. Build no permanent facilities for visitors. 	<ul style="list-style-type: none"> Construct access road, small visitor contact station, parking, picnic area, staging area for tours, maintenance area with park ranger housing, and research support facility. Develop loop trail that emphasizes American Indian culture, Euro-American arrival, and interaction between the two cultures. Develop areas for contemplation. 	<ul style="list-style-type: none"> Construct access road, small visitor contact station, parking, maintenance area with park ranger housing. Develop trail with media emphasizing American Indian culture prior to European contact. 	<ul style="list-style-type: none"> Construct access road, small visitor contact station, parking, and maintenance area with park ranger housing. Develop loop trail to interpret interaction of American Indian and Euro-American cultures at the Osootouy Unit. Develop area along Lake Dumond as designated fishing area.
Park Boundary	<ul style="list-style-type: none"> No change in park boundary. 	<ul style="list-style-type: none"> Add Wallace Bottoms, the racetrack, and Lower Sweeney tracts to park. 	<ul style="list-style-type: none"> Same as alternative B. 	<ul style="list-style-type: none"> Same as alternative B.
Offsite Actions	<ul style="list-style-type: none"> Work in partnership to improve unpaved road to Osootouy Unit. Continue interpretive programs on various subjects offsite. 	<ul style="list-style-type: none"> Work in partnership to improve (possibly pave) road to Osootouy Unit. Enhance park's educational outreach program. 	<ul style="list-style-type: none"> Work in partnership to provide all-weather access for road to Osootouy Unit. Enhance park's educational outreach program. 	<ul style="list-style-type: none"> Work in partnership to improve (possibly pave) road to Osootouy Unit. Enhance park's educational outreach program.
Partnerships	<p>Maintain existing partnerships that further the park's goals in regard to resource protection, interpretation, and education.</p>	<ul style="list-style-type: none"> Develop new partnerships for interpreting area's rich history and protecting resources. Establish active outreach program to interpret the area's cultures and history. 	<ul style="list-style-type: none"> Develop new partnerships for protection of associated resources outside park's boundaries. Provide protection but only minimal interpretation of these resources. 	<ul style="list-style-type: none"> Seek new partnerships for providing recreational amenities that are not available within the park's boundaries.
Staffing	<p>Current – 10.6 FTEs Requested – 4.0 FTEs Total 14.6 FTEs</p>	<p>Current – 10.6 FTEs New positions – 11.3 FTEs Total 21.9 FTEs Approx. \$2.6 Million</p>	<p>Current – 10.6 FTEs New positions – 12.3 FTEs Total 22.9 FTEs Approx. \$2.6 Million</p>	<p>Current – 10.6 FTEs New positions – 13.3 FTEs Total 23.9 FTEs Approx. \$3.4 Million</p>
Development Costs				

TABLE 9: SUMMARY OF IMPORTANT IMPACTS COMMON TO ALL ACTION ALTERNATIVES

IMPACT TOPIC	
Cultural Resources	<p>NPS staff would continue to develop inventories for and oversee research about archeological, historic, and ethnographic resources. The resources and collections would continue to be managed in accord with NPS guidelines and federal regulations. Appropriate procedures would be followed for any ground-disturbing activities. Ongoing and future studies would be completed. Ethnographic resources, once identified, would be protected.</p> <p>Any development at the Osotouy Unit could result in some loss of archeological resources. This would be significantly outweighed, however, by the long-term protection of the area for future generations. Under all alternatives, actions to protect and conserve cultural resources would be enhanced as the result of application of federal regulations and NPS guideline and standards for the preservation of cultural resources. Further inventory and research would provide more information by which to better understand and manage park resources. All of these actions would have a major, long-term, beneficial impact on cultural resources.</p> <p>New development in the Memorial and Osotouy Units would be minor in scale and impact. Impacts on archeological resources, cultural landscapes, and ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources, augmented with other measures such as vegetative screening.</p>
Visitor Use and Recreational Resources	<p>Interpretive programs and facilities would enhance opportunities for visitors to find personal meaning and significance at the park. All visitors would feel welcome and encouraged to explore their particular point of view and to pursue their personal interests and desired activities.</p>
Natural Resources	<p>Natural resource inventories and park-related research would continue.</p> <p>NPS guidelines and federal regulations would be used to manage natural resources.</p>

TABLE 10: SUMMARY OF IMPORTANT IMPACTS FOR EACH ALTERNATIVE

Impact Topic		Alternative A	Alternative B – Preferred	Alternative C	Alternative D
Cultural Resources	Archeological Resources	Ongoing efforts to complete site research to identify and protect archeological resources would continue to have a long-term, minor, beneficial impact on protecting these resources. Research and resource documentation would continue to improve the park staff's ability to make informed management decisions. Site security would provide better resource protection.	The park's archeological resources would more likely remain intact with onsite security. The management prescription zones would result in moderate ground disturbance in the park and so would have moderate potential for damaging archeological resources. Interpretive programs and emphasis on partnerships with the local communities would potentially have a long-term, negligible to minor, beneficial impact on helping to preserve regional archeological resources.	The onsite security presence would result in enhanced protection of the park's archeological resources. The management prescription zones would result in the least ground disturbance in the park and so would have the least potential for damaging archeological resources. Interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, minor, beneficial impacts on preserving and conserving archeological resources.	Onsite security would result in enhanced protection of the park's archeological resources. The management prescription zones that would allow for greater potential ground disturbance in the park have a greater potential for damaging as yet unknown archeological resources. Overall there would be a long-term negligible to minor beneficial effect on archeological resources.
	Cultural Landscapes	Actions such as new development undertaken in this alternative would have short-term, minor, adverse impacts on cultural landscapes.	The application of the management prescription zones in this alternative would provide for a better understanding and appreciation of the park's cultural landscapes. There would be long-term, minor to moderate, beneficial impacts on cultural landscapes.	The application of the management prescription zones in this alternative would allow limited new development and would help in preserving most of the park's cultural landscapes. All the actions taken in the park would result in long-term, minor, beneficial impacts on cultural landscapes. Interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, minor to moderate, beneficial impacts on preserving and conserving the area's cultural landscapes. This effort would be limited by the availability of partners and funds.	The application of the management prescription zones in this alternative would include more "recreation" areas that would potentially impact the park's cultural landscapes. The park's interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, negligible, beneficial impacts on cultural landscapes.

Impact Topic	Alternative A	Alternative B – Preferred	Alternative C	Alternative D
Ethnographic Resources	The long-term, minor, beneficial impact of developing inventories for ethnographic resources would be partially offset by the lack of in-depth programs and would result in an overall long-term, negligible, beneficial impact on ethnographic resources.	The park's outreach program could have a long-term, moderate, beneficial impact on ethnographic resources.	Interpretive programs and emphasis on preservation partnerships with the local communities would potentially have a long-term, minor to moderate, beneficial impact on helping preserve and conserve ethnographic resources.	The management prescriptions in this alternative would allow for more development in the park that could impact ethnographic resources. These actions could have long-term, minor, adverse cumulative impacts on ethnographic resources. Interpretive programs and preservation partnerships would potentially have a long-term, minor, beneficial impact on ethnographic resources.
Collections	This alternative would have neither a positive nor negative impact on collections as the new technology to better protect and preserve the park's collections would be offset by the limited ability of the park to display and access its collections.	This alternative would result in long-term, minor, beneficial impacts on the care and protection of the park's collections.	This alternative would provide a long-term, minor, beneficial impact on the park's collection.	This alternative would provide increased protection and preservation of the park's collection, thus resulting in a long-term, minor, beneficial impact.

Impact Topic	Alternative A	Alternative B – Preferred	Alternative C	Alternative D
Visitor Use and Recreational Resources	<p>The outdated exhibits, absence of multiple points of view, and lack of variety in the park's interpretive programs would result in visitors not having the opportunity to fully understand and appreciate the diverse cultural heritage of the region and in many visitors feeling unwelcome or unappreciated by the park. Conflicts between staff and public spaces in the visitor center would continue to affect the visitor experience and the efficiency of park operations and administration. Local residents would continue to view the park primarily as a location for recreation. The limited potential for new recreational facilities in both units would limit expansion of recreational activities on land to respond to increased use in the future. Water recreation growth would not be limited. All these actions would result in long-term, minor to moderate adverse impacts on visitor experience.</p>	<p>Proposed actions under alternative B would have long-term, major, beneficial impacts on visitor experiences by providing multiple opportunities for visitors to make intellectual and emotional connections to the park. Access to resources at both units would enable visitors to link the tangible resources with the intangible meanings and significance of the park. The research center would have a long-term, minor to moderate, beneficial impact on local residents by serving their interests and by encouraging them to participate in the programs and facilities of the park. The limited potential for future land use recreational facilities in both units would limit opportunities to respond to increased use in the future. Because expansion of water-related recreation would not be limited, there would be long-term, positive effects on visitors seeking this type of recreation.</p>	<p>Actions under alternative C at the Memorial Unit would have long-term, negligible, beneficial impacts on visitor experiences by providing additional exhibits and programs related to resources. Overall, however, many visitors would have an unsatisfactory experience because the experience might not meet their expectations. Proposed actions at the Osotouy Unit would have long-term, moderate, adverse impacts on visitor experiences due to the limited lack of interpretive facilities, trails, and programs. Visitors would not have an opportunity to understand and appreciate the site's significance and meaning.</p> <p>Limitations on access to resources at both units would thwart the opportunity for visitors to link the park's tangible resources with the intangible meanings and significance. Limitations on recreational opportunities caused by an emphasis on resource preservation and protection would disappoint and frustrate visitors seeking recreational experiences at either unit. Increased recreational opportunities would not be an option in the future.</p>	<p>Actions in alternative D would have long-term, major, beneficial impacts on visitor experiences by providing opportunities for visitors to make intellectual and emotional connections to the park. Access to resources at both units would enable visitors to link the tangible resources with the intangible meanings and significance of the site. The developed recreational areas at both units would provide convenient access to land-based recreation for local residents. Lack of similarly developed facilities for water-based recreation might cause some inconvenience and disappointment for certain visitors. Overall, recreational facilities would attract additional local interest and use. The research center would have long-term, minor, beneficial impacts on the visitor experience for local residents by serving as a repository for local history. The center would attract additional local interest and use of the park.</p>

Impact Topic	Alternative B – Preferred			Alternative D
	Alternative A	Alternative C	Alternative D	
Socioeconomic Environment	Long-term, negligible beneficial impact on area's socioeconomic environment	Under this alternative there would be short- and long-term, minor to moderate, beneficial socioeconomic impacts.	Under this alternative there would be short- and long-term, minor to moderate, beneficial impacts on the socioeconomic environment.	Under this alternative there would be short- and long-term, minor to moderate, beneficial impacts on the socioeconomic environment.
Natural Resources	Long-term, minor, adverse impacts on soils from trail use would continue.	Long-term, minor to moderate, adverse impacts on soil resource from facility and trail construction	Long-term, minor to moderate, beneficial impacts on soils.	Long-term, minor to moderate, adverse impacts on soils from facility and trail construction.
	Long-term, negligible to minor, adverse impacts on water quality would result.	Short and long-term, minor, adverse impacts on water quality.	Short-and long-term, minor, adverse impacts on water quality.	Short- and long-term, minor, adverse impacts on water quality.
	Long-term, minor, adverse impacts on native vegetation would continue.	Long-term, minor, adverse impacts on vegetation and small increase in amount of continual active restoration required to maintain native plant communities. Overall long-term, moderate, beneficial impacts on plant communities from active plant restoration.	The highest level of native plant protection would occur under this alternative, resulting in a long-term, moderate, beneficial impact.	Long-term, minor, adverse impacts on vegetation and would increase the amount of continual active restoration required to maintain native plant communities by a small amount. There would be an overall long-term, moderate, beneficial impact on plant communities from active plant restoration.
	Long-term, negligible to minor, adverse impacts on wildlife resources from visitor and maintenance activities would continue.	Short- and long-term, moderate, adverse impacts on wildlife species that live on or travel near the park. Impacts would be most severe during peak visitation periods and/or during sensitive breeding seasons for wildlife. Long-term, moderate, beneficial impacts as a result of vegetation restoration at the Osotouy Unit.	Short and long-term, minor, beneficial impacts on wildlife species.	Short-and long-term, moderate, adverse impacts on wildlife species. Impacts would be most severe during peak visitation periods and/or during sensitive breeding seasons. Long-term, moderate beneficial impacts from vegetation restoration at the Osotouy Unit.
Transportation Corridors, Circulation, and Links	Could be long-term, negligible, adverse impacts on traffic in the region.	Long-term, minor, adverse impacts on traffic in the region.	Could be long-term, negligible, adverse impacts on traffic in the region.	Could be long-term, minor, adverse impacts on road congestion and increased vehicular traffic volume.



AFFECTED ENVIRONMENT

CULTURAL RESOURCES

INTRODUCTION

The Memorial and Osotouy Units are national historic landmarks. These two units represent remnants of American Indian civilization and European and American exploration and settlement that contributed greatly to the social, economic, and cultural development of the Lower Mississippi Valley. Despite their relatively small size, both of these units retain numerous, significant, and complex layers of cultural resources. The following section provides a summary of recent research, a historical overview for the region and the park, description of the sites' resources, and inventories of the specific extant resources.

OVERVIEW

Arkansas Post National Memorial commemorates the first European settlement in the Lower Mississippi River Valley. The French trading post that Henri de Tonty established at the Quapaw village of Osotouy in 1686, now known as the Menard-Hodges Mound site, began a history of periodic occupation. The establishment of Arkansas Post was the initial move in a long struggle between France, Spain, and England for control of the Mississippi River and the North American interior. At stake was control of the fur trade and access to the interior via the rivers. Arkansas Post, a national historic landmark, became a strategic military and commercial center near the confluence of the Arkansas and Mississippi Rivers.

Human occupation at the Osotouy Unit began around 1300. This site became one of the largest known civic-ceremonial centers of the Mississippian period along the Arkansas River. The exact sequence of

human occupation is unknown. In 1541 the Spanish expedition of Hernando de Soto may have visited the site and referred to it as Quiguat. However, in the late 1600s – early 1700s, the Quapaw were in the area if not occupying the site.

Trading stations such as Arkansas Post served as the earliest centers of contact between Europeans and American Indians. Native peoples became embroiled in European rivalries, forming alliances with European monarchs an ocean away and fighting their enemies for control of the Mississippi Valley. The French forged a lasting alliance with the Quapaw, who lived along the western shore of the Mississippi River and lower Arkansas River.

In 1783 British partisans unsuccessfully attacked Arkansas Post in one of only two Revolutionary War engagements west of the Mississippi. The Louisiana Purchase in 1803 brought the frontier French-Spanish-Quapaw community of Arkansas Post under American control. The post continued as a thriving river port and trading center that later became the first territorial capital of Arkansas. The *Arkansas Gazette*, the longest-running newspaper west of the Mississippi, was first published at Arkansas Post in 1819. Like many remote communities, the post suffered cycles of boom and bust for the next 40 years. During the Civil War, the Confederate army built an earthen fortification, Fort Hindman, at Arkansas Post. In 1863 Union forces seized the post capturing more than 5,000 Confederate soldiers. The battle destroyed much of the declining community, known as the birthplace of Arkansas.

Arkansas Post has a complex history compounded by geography. The ever-changing course of the Arkansas River

forced the post to relocate often. The present lands of the Memorial Unit include the third, fifth, sixth, and seventh locations of Arkansas Post (1749-1756, 1779-to present). The Menard-Hodges site or nearby Lake Du-mond site is believed to contain the first and second locations of Arkansas Post (1686-1699, 1721-1749). The principal mound and village site, approximately 5 air-miles or 30 road-miles from the park, has been recently acquired by the National Park Service.

Five national flags have flown over Arkansas Post during the last 300 years bearing witness to a clash for empires, a thriving fur trade, European-Indian contact, the western expansion of a new United States, and the conflict of the Civil War. The park displays the flags of Bourbon France, Spain, Republican France, the United States, and the Southern Confederacy to celebrate Arkansas Post's place in our nation's history.

In 1929 the Arkansas Post State Park was established and was managed by the Arkansas Department of Parks and Tourism. The area remained a state park until Congress authorized Arkansas Post National Memorial on July 6, 1960. Today this area is known as the Memorial Unit and consists of 389 acres. Arkansas Post National Memorial expanded to 779 acres with the addition of the Osotouy Unit in November of 1998.

ARCHEOLOGICAL AND HISTORICAL RESOURCES

Arkansas Post's cultural resources are very significant in the history of the Lower Mississippi Valley. Archeological research activities have recovered more than 90,000 objects. The only historic structures that remain from the settlement period are wells and cisterns. Historic road traces, Civil War rifle pits, and earthen mounds associated with encampment areas are extant. During the late 19th century, the Arkansas River

caused considerable erosion to the remains of Fort Hindman. The U.S. Army Corps of Engineers flooded the old riverbed when it raised the level of the Arkansas River during construction of the McClellan-Kerr navigation system in the 1960s.

The Arkansas Archeological Survey considers all cultural resources within the Memorial Unit as a single archeological site. In 1960 Arkansas Post was designated a national historical landmark. In 1998 a national historic landmark revised nomination was completed for Arkansas Post National Memorial. This 389-acre unit contains a vast number of archeological remains that span the time from 1749-on, but the exact number and location of specific resources within the Memorial Unit are unknown.

Various archeologists performed excavations in the 1950s, 1960s, and 1970s at the park. Preston Holder, under contract with the National Park Service in 1956-57, concentrated in an area just south of what was then Arkansas Post State Park. Holder suggests he found the remains of the 18th-century French and Spanish forts at the park, specifically the De La Houssaye fort of 1752 and the Spanish Fort Carlos III, built in 1781. Rex L. Wilson of the National Park Service directed the next round of archeological research in 1966. Wilson located four structures, three of them identified as Frederic Notrebe's cotton gin, warehouse, and residence and store combination. A brick building was located and identified as the Arkansas Post branch, Bank of the State of Arkansas. In 1968 NPS archeologist John Walker, expanded upon Wilson's excavation of the Bank site. In 1971 excavations conducted under contract with the National Park Service by the University of Arkansas Field School and Arkansas Archeological Survey directed by Patrick E. Martin were completed. Martin was searching for the remains of a

commercial house for the Indian trade conducted by Jacob Bright during 1804-1807 and for evidence of a tavern operated there by William Montgomery in 1819-1821.

Other areas within the historic town site have not been excavated. Archeologists have not established the location of individual town homes, the Arkansas Gazette cabin, the brick factory, and period roadways or streets. Archeologists have not confirmed the location of farmhouse sites, stores and cemeteries in the outlying sections of the park. Historic maps indicate the general location of Fort Hindman and Confederate earthworks. The Arkansas River has consumed most of these resources.

Currently, park management strives to reduce threats to the sites. For example, shoreline stabilization has reduced the erosion, reducing the loss of archeological information. Also, Nutria have burrowed into a historic cemetery on the banks of the river.

The Osotouy Unit includes the Menard-Hodges archeological site and some additional acreage. The Menard-Hodges site is a national historical landmark that contains a series of archeological deposits and features from both prehistoric and historic periods. Both the aboriginal cultural history of the region and the period of Euro-American exploration and initial settlement of the mid-continental United States are contained in the unit. Resources include a major mound group of the Mississippian period with a large conical mound as the most prominent feature. On the basis of these features, the site must have been an important regional center in the late prehistoric period. It is significant to note that the site has escaped much of the destruction common to a major portion of the other settlements of these periods in the Mississippi alluvial valley. Also, the unit is associated with both the Quapaw Indians and

the earliest Spanish and French occupations of the Mississippi Valley.

The List of Classified Structures for the park includes the six historic structures known in the Memorial Unit. A survey of the Osotouy Unit has not been completed. A well and cistern (ca. 1820) are within the historic town site. An additional cistern (early 19th century) is in the northern portion of the unit. Civil War earthworks (1863) from the Confederate defense line remain as remnants of a historic road (ca. 1800s). Except for the road and the early 19th century cistern, these structures are used extensively in interpretive programs and are an integral part of the self-guiding tour system. Thus far, the main impact on structures has been the weather.

CULTURAL LANDSCAPES

Arkansas Post is an enormous archeological site with vestiges of landscapes from several periods. Very little documentation exists concerning the landscape at the time of European arrival in the late 1600s. It is known that Arkansas Post was at the southern edge of the Grand Prairie, an extensive grassland. Several areas of the present-day park were in cultivation as recently as the late 1950s. As a result, these areas are in various stages of succession.

To provide for a basic understanding of the park's cultural landscapes, the NPS Midwest Regional Office contracted for a cultural landscape report (CLR) in 1997. The research and documentation of the evolution of the landscape at the Memorial Unit is underway. Phase II of the CLR would map the park's vegetation from aerial photographs, field verify species composition, and analyze the current status of exotic plant populations. The CLR would include an analysis of the historical integrity and significance of landscape features. It would also provide a conceptual treatment plan,

specific treatment and implementation recommendations, and preliminary costs. The draft CLR has preliminarily concluded that the park is most appropriately evaluated as a layered landscape archeological site that retains features from several historic periods. There is no intact cultural landscape that would meet the criteria for separately listing on the National Register of Historic Places. The expected completion date is May 2002 . No equivalent work has been done for the Osotouy Unit.

ETHNOGRAPHIC RESOURCES

Jacques Marquette and Louis Jolliet first encountered the Quapaw in 1674 at the village of Kappa. The villages of Kappa and Tongigua were on the Mississippi River north of the Arkansas River mouth. Tourima and Osotouy were further inland on the banks of the Arkansas River. In 1682, Robert Cavalier Sieur de LaSalle and Henri de Tonty contacted the Quapaw at Kappa, Tongigua, and Tourima villages. In 1686 Coutoure Charpenter and a group of five voyageurs under the jurisdiction of Henri de Tonty established the original Arkansas Post adjacent to the Quapaw village of Osotouy.

An ethnographic study has been initiated to document the dynamic relationship between the Quapaw and Arkansas Post including land use patterns, family organization, demography, ceremonial life, associations with neighboring tribes (Chickasaw, Osage, Caddo, and Natchez). This information, when completed, would be correlated with historic economic, social, and political changes at Arkansas Post and cultural

specific contemporary uses of park resources.

COLLECTIONS

Arkansas Post's museum collection is dispersed among several locations. These include the Memorial Unit; Arkansas Archeological Survey at the University of Arkansas in Fayetteville; University of Arkansas at Monticello; Arkansas State University at Jonesboro; Southern Methodist University at Dallas, Texas; and at the Midwest Archeological Center at Lincoln, Nebraska.

There are approximately 115,000 archeological artifacts and archival and manuscript collections from Arkansas Post. The Arkansas Archeological Survey at the University of Arkansas in Fayetteville houses most of the collection. Arkansas Post National Memorial houses 10% onsite. The Midwest Archeological Center have some archives relevant to the park.

The National Park Service has contracted with the Arkansas Archeological Survey to complete backlog cataloging. Artifact conservation is also underway.

Arkansas Post's archival and manuscript collections (from the pre-park establishment period, ca. 1800 to the present) includes original manuscripts, personal papers, maps, newspaper clippings, microfilm, photographic media, archeological records, and administrative records. These also have been taken to the Arkansas Archeological Survey for conservation, evaluation, and cataloging.

VISITOR USE AND RECREATIONAL RESOURCES

VISITOR USE FACILITIES

Memorial Unit

Visitor Center – The Arkansas Post visitor center, slightly removed from the resources, is in the best location for visitors to gain an understanding and overview of the park before touring the resources. The center contains a 50-seat theater with permanent seating, four exhibit areas (the River Road, the Fur Trade, Arkansas Post today, and lobby exhibits), a sales area operated by the Eastern National Parks Association, an information desk, water fountains, restrooms, and a parking lot. A 14-minute film, “Arkansas Post Revisited” is shown in the theater. This film has become outdated. A new film is being made.

With a few exceptions, the exhibits date back to 1986. They are outdated and do not adequately develop the park’s interpretive themes. The River Road exhibit interprets water transportation and Civil War operations on the Arkansas River. The Fur Trade exhibit includes trapping, preparing, and trading furs, including a display of trade goods. The Arkansas Post Today exhibit interprets the natural resources in the region along with local farming practices. The lobby exhibits include silk-screened images of 10 people at Arkansas Post, three artifact cases, a montage mounted on a wall with an overview of the history of Arkansas Post, and three small exhibit cases. Exhibits focus on an European/American view of Arkansas Post history. The sales area includes books on Arkansas history, archeology in the state, the Civil War, local American Indian tribes, and natural history.

The visitor center also includes staff offices and a library. The offices are not separated from the spaces that are accessible to the

public. The park has no place to hold staff meetings and workshops other than in these spaces, which affects efficient park operations as well as the quality of visitor experiences.

Scenic Drive – A paved 2-mile scenic drive connects the picnic area, wayside exhibit pullouts, and the visitor center.

Self-guided Trails – The 1-mile paved accessible Village Tour Trail begins and ends at the visitor center. There are 22 wayside exhibits interpreting natural and cultural resources. Three audio stations interpret the Great Cross, the Arkansas River, and Fort Carlos III.

The 1-mile paved accessible Civil War Rifle Pits trail also begins and ends at the visitor center, or this can be shortened to only 250 yards beginning and ending at the rifle pits parking lot. A wayside exhibit and a replica of a Civil War cannon stand near a remnant of the rifle pits.

A 0.25-mile paved accessible spur trail (paved/accessible) around the far side of the park’s lake connects the Village Tour Trail and the Civil War Rifle Pits trail. Eight signs interpret periods of Arkansas Post history.

The 0.75-mile unpaved Post Bayou Nature Trail begins at the intersection of the Village Tour Trail and spur trail, loops over to Alligator Slough, and ends at the Civil War rifle pits.

Civil War Overlook – Two outdoor exhibits interpret Fort Hindman and the Battle of Arkansas Post.

Picnic Area – The accessible picnic area features tables and grills, drinking water,

restrooms, a parking lot, and a scenic view of Post Bayou.

Osotouy Unit

The unit is currently in the process of NPS acquisition, but is not officially open. Humans have occupied the site for many centuries. In the vicinity of Osotouy, Henri de Tonty in 1686 established a small trading post, the first move in a long struggle among Spain, Great Britain, and France for control of the Mississippi River. The Osotouy Unit also includes the remains of a 19th century French vernacular home.

VISITOR SERVICES AND INTERPRETATION PROGRAMS

The most significant visitor service is at the visitor center with staff always available at the information desk to greet visitors and orient them to park facilities.

The size of the park staff limits the array of personal service interpretive programs. Activities include orientation presentations in the visitor center or patio area; guided walks discussing the resources of a particular trail; interpretive talks at locations illustrating significant cultural or natural resources; and recreational skills demonstrations.

Children ages 7–12 can participate in a Junior Ranger program.

Organized groups and school groups receive an interpretive talk in the visitor center and/or a guided walk to the village site.

Park staff present offsite programs to any school, service group, patriotic groups, historical society, or state park within a reasonable distance of the park.

Special events include March for Parks (April), Eagle Watch (May), a Fishing Derby (June), Ghosts of the Past (October), and various living history and other special talks throughout the year.

Visitor Use Data

After a significant increase in visitation in 1996, visitation at Arkansas Post has reached a plateau.

1996	47,919
1997	50,422
1998	51,858
1999	49,087
2000	43,903
2001	43,502

Visitation remains rather consistent throughout the year with greatest visitation in spring. Oppressive heat and humidity, as well as torrential storms, discourage summer visitation.

TABLE 11: 2001 VISITATION BY MONTH AND SEASON

Visitation by Month (2001)		Visitation by Season (2001)	
January	2,414	Winter	7,711 (17.7%)
February	1,964	Spring	14,003 (32.2%)
March	3,333	Summer	10,358 (23.8%)
April	4,018	Fall	11,430 (26.3%)
May	4,757		
June	5,228		
July	4,305		
August	3,768		
September	2,285		
October	2,962		
November	5,801		
December	2,667		

Visitation Trends

The information found here and in the recreational use section came from a 1991 annual “Statement for Interpretation” prepared for park staff. No current

information of this type is available. In the several years that have passed, these items may have changed to a greater or lesser degree, so this information should be read with an understanding that it only reflects very general trends. It is expected that once the Osotouy Unit is opened to the public that this would change visitor trends and use of the park.

Winter

- visitors from local area with many repeat visitors
- peak visitation on weekends
- fishing declines in winter
- visitors drive through park for wildlife viewing

Spring

- expanding visitation (local and regional origin)
- many school groups in May with peak days on Thursday and Friday
- Memorial Day visitation as large as Labor Day, approaching July 4
- fishing picks up

Summer

- nuclear families or peer groups from Arkansas and surrounding states
- some visitors from outlying states; peak days from Friday through Sunday
- July 4 peak day of year with park packed until dark
- visitation slacks with arrival of hot weather and violent lightning storms
- fishing becomes a prominent activity

Fall

- nuclear families, retired couples, and a few school groups from the region
- peak days from Friday through Sunday
- Labor Day has heavy visitation approaching July 4
- visitation declines sharply with start of schools in late August

- visitation further declines sharply with the start of deer hunting season in October/November

Percent of Park Users by Age:

Children 0 – 12 years old	15
Teenagers 13 – 17 years old	5
Adults 18 – 61 years old	65
Seniors over 61 years old	15

Percent of Park Users by Group Affiliation

Alone	10
Peer groups	25
Organized groups	10
Nuclear family	30
Multiple families	1
Extended families	5
Partial family	1
Other	13

Visitor Origin

Local residents (within a 50-mile radius)	55%
Regional residents (Arkansas, Louisiana, Mississippi, Missouri)	25%
National	19%
International	1%

Local African Americans visit the memorial in smaller numbers than their percentage of the local population.

Interpretation and Visitor Service Program Participation

50% – use information/orientation and/or nonpersonal services only

10% – use personally conducted tours and other presentations

40% – use no programs or services

The rather high percentage of visitors who do not participate in any visitor services reflects the high percentage of local residents who repeatedly visit the area, as well as the frequent use of the park for recreation

(fishing, picnicking, walking, hiking, exercising, nature viewing, and attending family reunions) by individuals, peer groups, families, and extended families.

RECREATIONAL USE

About 40% of visitors come for recreational activities rather than interpretive experiences. The park's picnic area remains popular with local residents. Oppressive heat and humidity discourage summer use. Overall use has declined in the past few years due to an increasing population of mosquitoes. Fishing along the banks of Post Bayou, Post Bend, and the park's lake, and from boats is the most popular recreational activity. The park's lake and the Fort Hindman overlook offer the most popular fishing locations. Much of the fishing represents a subsistence activity. Common fish include bass, catfish, brim, and crappie. The National Park Service does not restrict boating within park boundaries except for a prohibition on docking.

Some people use the trails and roads for exercise. Many people drive the park's roads and walk its trails to observe plants and animals and to enjoy the views. Vegetative communities include terrace and bottomland hardwoods, open prairie areas, former agricultural areas, and aquatic vegetation. The park supports a large population of wildlife commonly found in most Southeastern forest areas, including white-tailed deer, raccoon, opossum, rabbit, squirrel, and armadillo. The abundance of water in and around the park provides habitat for a very large population of reptiles and amphibians, as well as a small population of American alligators. The park provides outstanding opportunities for bird watching with its location on the great Mississippi Flyway. Birds include migratory waterfowl, shorebirds, and songbirds, as well as resident bald eagles.

Recreational development will probably remain stable because there is no substantial regional or local development except for a Rails to Trails program. There is also little anticipation of any major visitation increase as a result of the construction and operation of Dam #1. The opening of the Osotouy Unit to the public will undoubtedly increase the number of people in that area, and if the park can provide shuttle service between the units, more visitors may take advantage of this transportation opportunity.

The construction of the Great River Bridge near Arkansas City to cross the Mississippi River and the possible routing of the proposed Interstate Highway 69 through the area could substantially increase the number of potential park visitors. However, there is no sound way to predict how many of these potential visitors would take the time to drive the 20 miles to visit the park.

It can be anticipated that there will be a small increase in visitation in the future, but probably less than 15% unless the National Park Service makes a concerted effort to attract visitors. The implementation of an attractive shuttle system between the units (e.g. steam-driven riverboat) would add a whole new dimension and greatly raise the park's attractiveness to nonhistorians. Short of such a "recreational" attraction, the park will appeal primarily to local residents, touring historians, and the occasional visitor who arrives out of curiosity. An increase in the park outreach programs will result in increase visitation by school groups, family groups with school-aged children, and interested educators.

The current regional population trend is that of a slight decrease. With farming as the main basis for the local economy, there is limited opportunity for new jobs, and many young people are leaving the area to pursue professional positions elsewhere. There may be an increase in support positions for

commercial interests attracted by the new highway and bridge, but that too is hard to predict with any certainty.

Local Attractions

Arkansas Post State Museum – Located 3 miles west of the park (6 miles south of Gillett), the museum interprets the cultural and biological heritage of the Arkansas Delta with an emphasis on Arkansas Post, the birthplace of Arkansas. Managed by the Arkansas Department of Parks & Tourism, the museum operates year-round. Several modern and historic structures offer exhibits including the main house, colonial kitchen, Refield-Hinman loghouse, and the playhouse. The Peterson Building exhibits American Indian artifacts, military memorabilia, agricultural implements, a general store, and a large collection of toys from the 1920s and 1930s. The museum stands at the southernmost point of the Grand Prairie in the Arkansas Delta. To interpret natural resources, the museum has begun a prairie restoration in cooperation with the Arkansas Natural Heritage Commission and The Nature Conservancy of Arkansas. A replica carriage house provides restrooms. The Main House includes an information desk, sales items and exhibits relating to the earliest periods of Arkansas Post.

White River National Wildlife Refuge – This refuge, adjacent to the Osotouy unit, offers spectacular bird watching in a significant habitat for the great Mississippi Flyway. The refuge staff anticipates major recreational development in the near future. The Delta Heritage Trail, a rails-to-trails project, would connect the refuge with other local attractions and facilities.

Desha County Historical Society Museum – Located in Dumas, 16 miles southwest of

the park, the museum interprets local history through several structures.

Rohwer Japanese-American Memorial Cemetery – Located in Rohwer, 29 miles southeast of the park, this national historical landmark commemorates the site of one of the camps operated during World War II by the U.S. Government for internment of Japanese-American citizens that were forcibly removed from their homes, farms, and businesses in California. Three compelling memorials at the cemetery recall the hardships endured by the people at this camp, as well as the sacrifice of men from the camp who died in the United States armed services during World War II.

Stuttgart Agricultural Museum – Located in Stuttgart, 50 miles northwest of the park, the museum illustrates the history of farming on the Grand Prairie, including the life and culture of early German settlers. It features a scale replica prairie village, a transportation wing, and water-fowling exhibit covering the area's duck hunting heritage.

Other Recreational Opportunities

The former U.S. Army Corps of Engineers campground at Moore Bayou adjacent to the park remains a popular launch facility for people who are boating and fishing.

The U.S. Army Corps of Engineers operates nearby campgrounds and picnic areas along the Arkansas River at Pendleton Park (7 miles), Notrebe Bend Park (30 miles), Wilber Mills Park (10 miles), Morgan Point Park (13 miles) and Merrisach Lake Park (24 miles). These facilities include hookups for recreational vehicles.

Many local residents engage in hunting deer, turkey, duck, geese, and squirrel in nearby areas.

SOCIOECONOMIC ENVIRONMENT

POPULATION

Arkansas's population was estimated at 2,673,400 in 2000. Arkansas Post National Memorial is in Arkansas County, which had an estimated population of 20,749 in 2000. The county was 74.8% white, 23.4% African American, 0.2% American Indian and Alaska natives, and .4% Asian in 2000. For comparison purposes the state averages were 78.6% white, 15.7% black, and 0.7% American Indian and Alaska natives, and 0.8% Asian.

ECONOMY

One of the largest sources of employment in Arkansas County is farming. The county is the state's top producer of rice, soybeans, and wheat. The per capita personal income for residents of Arkansas County was \$28,742 in 2000. The estimated percentage of people below poverty in Arkansas County in 2000 was 18.9%.

The park is a part of the local socioeconomic environment, and the National Park

Service's expenditures for goods, services, and staff provides a minor benefit to the area.

TRANSPORTATION / ACCESS

Arkansas Post is about 20 miles northeast of Dumas, Arkansas, approximately 100 miles southeast of Little Rock, Arkansas, and about 50 miles southeast of Pine Bluff, Arkansas. The nearest major commercial airport is in Little Rock.

Roads generally follow section lines and are used by general highway, trucking, recreation, and agricultural traffic.

LAND USE AND TRENDS

The land use of the immediate area surrounding Arkansas Post is primarily agricultural. A small amount of forested land in the area is being converted to farmland over time. There are no indications that land use trends in the area will change significantly during the life of this plan.

NATURAL RESOURCES

PHYSICAL SETTING

Arkansas Post lies in the Delta Region of Arkansas, and the Arkansas River influences the natural resources. The vegetative communities includes bottomland hardwoods, open prairie areas, former agricultural areas, and aquatic vegetation. The fauna is typical in most Southeastern forest areas. Fishery resources are diverse and populations appear abundant. The U.S. Army Corps of Engineers flooded the old Arkansas River channel and inundated approximately 80 acres within the park's authorized boundary when it raised the level of the Arkansas River during construction of the McClellan-Kerr navigation system in the 1960s.

The Memorial Unit is a peninsula created because of the construction and maintenance of the McClellan-Kerr Arkansas River navigation system. Post Bayou bounds the peninsula to the west, Post Bend Lake to the east, and the Arkansas River to the south. In addition, the peninsula contains a 9-acre artificial lake. About 80 acres of the 389 acres in the Memorial Unit is water. At the Osotouy Unit there are a few small drainages flowing through the area and a bayou on the south side. Lake Dumond, a cutoff channel lake, is on the west.

The climate is humid and temperate with hot summers, mild winters, and wide fluctuations in rainfall. Average high and low yearly temperatures range from 91°F to 31°F. Average annual precipitation is 52 inches, with most of this precipitation falling during the winter and spring (NRCS web site 1963-1990).

SOILS

Two dominant soil types occur at Arkansas Post: the Emmanuel silt loam and the Stuttgart silt loam. A small area of Ethel Silt Loam is in the center of the Memorial Unit; soils in the northeast corner of the site along the water shoreline belong to another type of Emmanuel silt loam as does a small area along the northwestern boundary. Soils at the Osotouy Unit are primarily the Emmanuel and the Stuttgart silt loam also.

The Emmanuel series soils are deep, moderately well-drained soils that formed in silty alluvium and are found in areas of the Grand Prairie of Arkansas. Runoff from Emmanuel soils can be negligible to very high. Emmanuel soils are suitable for growing rice, soybeans, and wheat and for uses as pastures. They are also support oak, hickory elm, and shortleaf pine.

Stuttgart soils are very deep, moderately well to somewhat poorly drained, slowly permeable soils that formed in silty and clayey alluvium. Runoff is negligible to high, depending on the slope; permeability is slow. Stuttgart soils support the same agriculture and forest types as the Emmanuel soils.

Ethel soils, which occur on level to depressional landscapes are fine-silty soils, and are poorly drained. They occur on Grand Prairie terraces in the Lower Mississippi Valley. Runoff is negligible to low. These soils have an apparent water table within 12 inches of the soil surface during late winter and spring. Ethel soils are generally used for such crops as rice, soybeans, and wheat and support naturally occurring hardwood species such as water oak, willow oak, and sweetgum.

WATER QUALITY

Along Post Bayou, which flows from major agricultural areas to the north, it is highly probable that Memorial Unit waters contain a substantial amount of agricultural chemicals from runoff and aerial spraying. It is unknown whether an observed increase in aquatic vegetation is a result of agricultural chemicals, increased rates of sedimentation caused by the navigation system or a yet unknown reason. No water quality information is available for the Osotouy Unit.

VEGETATION

There is a startling contrast between current vegetation patterns and the 1950 aerial photographs taken before completion of the McClellan-Kerr Arkansas River Navigation System and Arkansas Post Canal. Before the flooding required for the navigation system, the present-day park was a mix of agricultural and maintained open areas surrounded by hardwood bottomland. It is safe to say that humans have repeatedly disturbed all of the Memorial Unit's 389 acres. Today the unit is a mix of successional agricultural areas, maintained open space, and wetlands. The former agricultural areas are in various stages of succession including mature bottomland hardwood, cedar or sweetgum thickets, and areas that are still relatively open. The plant species encountered are typical of the southeastern United States. Historically, Arkansas Post was on the edge of a large native grassland known as the Grand Prairie. Today, little of the original Grand Prairie vegetation remains in Arkansas. Park staff, together with Edward Dale, Ph.D., with the University of Arkansas, have made efforts to create a 1-acre demonstration prairie plot.

Over the years, native trees in the historic town site have been lost to natural forces such as disease and storm damage. Their size suggests that they were possibly part of the historic landscape.

Three exotic plant species, Japanese honeysuckle, privet, and mock orange are common. Early inhabitants used Japanese honeysuckle to control erosion and they used privet as an ornamental hedge. Why mock orange was introduced is not known at this time. Past eradication efforts include manual removal and mowing in select areas to prevent their return. Park staff notes many other exotic ornamental and agricultural plant species occurring in varying degrees. An example is the large tracts of daffodils planted as part of a state park beautification project. A cultural landscape report (in preparation) will provide management direction for these other exotic species.

The large amount of water acreage supports a rich growth of aquatic vegetation. Most of this is large mats of alligator weed, lotus, cattails, marsh marigolds, and several species of moss. Long-time staff members and local residents note a marked increase in the density of aquatic vegetation in recent years. The underwater vegetation grows so quickly that large mats form from the bottom to the surface. These mats impede boating in park waters. Lotus and alligator weed have become so prolific that the main channel in Post Bayou is narrowing at a noticeable rate.

The native vegetation and exotic species at Osotouy are similar to those at the Memorial Unit. The majority of the land that is not owned by the government, but within the authorized boundary of the park, is in agricultural use.

There are no listed threatened or endangered plant species in the park.

WILDLIFE

Arkansas Post includes most of the vertebrate wildlife species native to the southern United States. The park has a large transient population of white-tailed deer that migrate from the park in the spring to feed on young crop sprouts in agricultural fields outside the park. In late summer and fall, after the agricultural harvest, the deer return for cover and food. Although few deer live in the park year-round, the seasonal population may be larger than the land's capacity to support it. Hunting on adjoining property and poaching within the Memorial Unit are two factors affecting local deer populations. Besides white-tailed deer, a diverse population of small mammals exists. Although rare, sightings of black bear, cougar, and bobcat occur. Coyotes are one of the few common predators in the area.

Arkansas Post National Memorial is in the Mississippi Flyway. Therefore, it is host to a great variety of transient waterfowl, shorebirds and songbirds. During the winter a large transient flock of wild turkeys live in

the park. Staff and visitors frequently sight bald eagles in the park, and there is one nest on U.S. Army Corps of Engineer managed property near the Memorial Unit's boundary. The National Park Service, U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service jointly monitor this nesting area.

Due to all the water in and around the park, there is a very large population of reptiles and amphibians. The reptiles are mostly nonpoisonous terrestrial and water snakes, however, three species of poisonous snakes (cottonmouths, copperheads, and pygmy rattlesnakes) are present. A population of American alligators is found in waters in and around the park. The alligators are abundant due to the suitable habitat and protection.

There are no listed threatened or endangered wildlife species in the park.

Arkansas Post has a large insect population, including abundant mosquitoes, ticks, and chiggers, which is a concern for park management.



ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The alternatives described in this document establish broad management guidelines. The general/conceptual nature of the alternatives necessitates that the analysis of the impacts of implementing the alternatives is also general. The environmental consequences analyses are qualitative rather than quantitative, because the action alternatives are general/conceptual.

This environmental impact statement will serve as a basis for later National Environmental Policy Act (NEPA) documents that may be prepared to assess subsequent developments or management actions. If and when specific actions are proposed to implement the *General Management Plan / Environmental Impact Statement*, NPS staff would determine whether more detailed environmental documentation is required, consistent with the National Environmental Policy Act.

The impact analysis sections are organized by major impact topic and then by alternative. The major topics include impacts on cultural resources; visitor use and recreational resources; the socioeconomic environment; natural resources; and transportation corridors, circulation, and links. For each major topic, the method used for impact assessment is described; this is followed by the impact analysis for alternative A, which includes a discussion of cumulative impacts and a conclusion statement that summarizes the key points or results of the analysis and that may include a discussion of impairment. The same framework is then applied to alternatives B, C, and D in subsequent sections. Environmental impacts are summarized in table 9.

Methods of analyzing impacts, cumulative impacts, and impairment are defined and clarified below.

METHODS FOR ANALYZING IMPACTS

CEQ regulations require that impacts of alternatives and their component actions be disclosed. The analysis of individual actions includes identification and characterization of impacts. Thus, each resource topic includes a discussion of the intensity, duration, and type of impact; these terms are defined for each impact topic.

Pursuant to NEPA requirements, the impact analyses for alternative A (the no-action alternative) represents resource conditions for existing management trends. The impact analyses for the action alternatives (which collectively refers to alternative B, alternative C, and alternative D) compare the specific action alternative in the year 2020 to the no-action alternative in the year 2020.

It is assumed that annual visitation to the park would increase over 2000 levels by the year 2020. Although it is not known how much annual visitation would increase by 2020, annual visitation is assumed to be the same in all alternatives in 2020.

As described in the “Alternatives including the Preferred Alternative” chapter, this *General Management Plan / Environmental Impact Statement* contains management prescriptions (zones) that provide guidance for managing the park’s resources and visitor use. To provide decision makers and the public with an accurate idea of the environmental consequences of the alternatives, the analysis team identified potential effects/impacts that could result from applying the

management zoning prescriptions and compared these effects to conditions under the no-action alternative.

CUMULATIVE IMPACTS

A cumulative impact is described in regulations developed by the Council on Environmental Quality (CEQ), regulations 1508.7, as follows:

A “cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

More simply stated, the cumulative impacts provide an analysis of the impacts of the park’s action(s) when combined with the action(s) of others. The purpose of this analysis is to make ensure that the National Park Service is considering how other outside actions might also affect the park. For example, the implications for the local/regional economy are very different if the National Park Service builds a visitor center compared to the implications of the communities of Dumas, Gillette, and Stuttgart each building a visitor center in addition to the NPS visitor center.

To determine potential cumulative impacts, projects within the area surrounding Arkansas Post National Memorial were identified. The cumulative impact assessment area included Arkansas and Desha Counties, the White River National Wildlife Refuge, recreational areas administered by the Little Rock District of

the U.S. Army Corps of Engineers, Arkansas Post State Museum, and Lake Chicot State Park. However, different cumulative analysis areas were used for each impact topic depending on the characteristics of the resource affected.

Initially, projects occurring in the three communities of Dumas, Gillett, and Stuttgart were identified through correspondence and telephone calls with county and city governments and federal land managers. Potential projects, identified as “cumulative actions,” included any planning or development activity that was being implemented or that would be implemented in the reasonably foreseeable future. These projects can be characterized as being an upgrade of existing facilities with some expansion to accommodate some additional visitation.

IMPAIRMENT

In addition to determining the environmental consequences of all the alternatives, NPS policy (*Management Policies*, 2001, section 1.4) requires a determination of whether or not proposed actions would impair the park’s resources.

Impairment is defined as an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of the resources and values, including the opportunities that otherwise would provide enjoyment of those resources or values. An impact would most likely constitute an impairment if it affected a resource or value whose conservation would be

- (a) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- (b) key to the natural or cultural integrity of the park or to opportunities to enjoy it, or

(c) identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment could result from NPS activities in managing a park, from visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. In this document, a determination on impairment is made in the conclusion section for each impact topic in this "Environmental Consequences" chapter.

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities

Act, as amended, begins with a mandate to conserve resources and values. As such, national park managers must always seek ways to avoid or minimize, to the greatest degree practical, adverse impacts on the resources and values. However, these laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park as long as the impact does not constitute impairment of the affected resources and values.

IMPACTS ON CULTURAL RESOURCES

METHOD OF IMPACT ASSESSMENT

This impact analysis covers four basic types of cultural resources: archeological resources/sites, ethnographic resources, cultural landscapes (including individually significant historic structures), and museum collections.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of its undertaking on properties included on, or eligible for inclusion on, the National Register of Historic Places and to provide the Advisory Council on Historic Preservation the reasonable opportunity to comment. This also applies to properties that have not been determined eligible for listing on the National Register of Historic Places through the formal process but that are considered likely to meet the eligibility criteria for listing. All NPS undertakings affecting historic properties are subject to the provisions of the 1995 programmatic agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Applicable legislation and regulations and specific management procedures regarding cultural resources are detailed in the National Park Service's *Cultural Management Guideline*, Director's Order 28 (1998).

Assessing impacts on cultural resources is based on the regulations of the Advisory Council on Historic Preservation (36 CFR 800) implementing Section 106. These methods include: (1) identifying the area that could be impacted, (2) comparing the area with that of resources listed, eligible, or potentially eligible for listing on the National Register of Historic Places, (3) identifying the extent and type of effects, (4) assessing those effects according to procedures established in the Advisory Council's

regulations, and (5) considering ways to avoid, reduce, or mitigate adverse effects as described in the "Mitigation Measures" section.

The cultural resources impact analysis is also consistent with requirements of both the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations.

Context

The context for impact analysis is the park and Arkansas and Desha Counties. Cultural resources impacts are not expected to extend beyond the counties.

Intensity of Impacts

Impact intensity for cultural resources analysis is defined as

Negligible – Impact is so slight as to be difficult to measure or perceive and has no meaningful implications; confined to small areas or a single contributing element of a larger National Register of Historic Places district or archeological site(s) with low data potential.

Minor – Impact is perceptible and measurable; remains localized and confined to a single contributing element of a larger National Register of Historic Places district or archeological site(s) with low to moderate data potential.

Moderate – Impact is sufficient to cause a change in a character-defining feature; generally involves a single or small group of contributing elements or

archeological site(s) with moderate to high data potential.

Major – Impact results in substantial and highly noticeable change in character-defining features; involves a large group of contributing elements and/or individually significant property or archeological site(s) with high to exceptional data potential.

Archeological resources are typically considered eligible for inclusion on the National Register of Historic Places when they have yielded, or may yield, information important to understanding history or prehistory. Intensity of impacts on archeological resources relates, additionally, to the importance of the information they contain and the extent of disturbance/degradation.

Ethnographic resources are considered eligible for inclusion on the National Register of Historic Places as traditional cultural properties when they are rooted in a community's history and are important in maintaining the continuing cultural identity of the community and meet criteria for evaluation and integrity. Intensity of impacts on ethnographic resources may relate to access and use of, as well as changes to, traditionally important places.

A *cultural landscape* is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general kinds of cultural landscapes, which are not mutually exclusive: historic site, historic designed landscape, historic vernacular landscape, and ethnographic landscape. Intensity of impact on cultural landscapes relates to the importance of the information they contain and the extent of disturbance/degradation.

Park collections consist of material pertinent to such disciplines as archeology, ethnography, and history. Archeological collections include artifacts, specimens, and associated records. Ethnographic collections consist of objects associated with contemporary cultures and the records that document their collection and study. Historical collections encompass diverse materials made or used by cultures with a written tradition up to the present time. Natural historic collections contain biological, geological, paleontological, and environmental specimens and associated records such as collection inventories; computer documentation and data; conservation treatment records; field catalogs; field notes; lists, maps, and drawings; photographic negatives, prints, and slides; manuscripts and records; and resource identification documentation. The intensity of impact on collections relates to their preservation and accessibility.

CEQ guidelines, moreover, call for a discussion of the “appropriateness” of mitigation and Director’s Order 12, the NPS *Conservation Planning, Environmental Impact Analysis, and Decision-making* guideline, requires an analysis of the “effect” of mitigation. The resultant reduction in intensity from mitigation is an estimate of the effectiveness of mitigation under the National Environmental Policy Act.

Duration of Impacts

The duration would be either short term or long term. A short-term impact would be temporary and not lasting more than two years. A long-term impact would have a lasting effect on cultural resources and last more than two years.

Type of Impact

Impacts on cultural resources would be beneficial or adverse. Beneficial impacts would provide greater cultural resources protection and preservation of these resources. Adverse impacts would result in less cultural resources protection and preservation.

Mitigation for NEPA purposes includes avoiding, rectifying, or compensating for the impact. Every effort would be made to avoid adverse impacts on cultural resources through avoidance. When avoidance is neither feasible nor prudent and the undertaking could result in adverse impacts, a number of mitigation measures might be employed, which would lessen or avoid the effect.

Additionally, under the National Historic Preservation Act (Section 106), an impact on historic properties is either adverse or not adverse. Adverse effects under Section 106 may also be partially or completely mitigated; however, unlike NEPA analysis, the effect cannot be reduced and remains an adverse effect. To comply with this difference in terminology for Section 106, an additional "Section 106 Summary" discussion has been added for each subheading under the impacts on cultural resources for each alternative. The required determination of effect for the undertaking (implementation of the alternative) is included in the "Section 106 Summary" sections for each alternative.

Effects under both the National Environmental Policy Act and the National Historic Preservation Act are considered adverse when they diminish the significant characteristics of a historic property.

ALTERNATIVE A

Archeological Sites/Resources

Analysis. The park staff's ongoing efforts to complete site research to identify and protect archeological features would continue to have a long-term, minor, beneficial impact on protecting resources. Research and resource documentation would improve the park's ability to make informed management decisions.

In the short term, the placement of temporary structures on the site for security purposes (after acquisition) would result in better protection against vandalism and other illegal activities. This would be a short-term minor, beneficial impact. In the long term, 24-hour security would be a long-term minor beneficial impact.

Cumulative Impacts. Over the years, the Osotouy site and other archeological sites in the study area have been vandalized by pot-hunters. A number of archeological surveys have evaluated a portion of the Osotouy site. Even though the National Park Service is in the process of acquiring the Osotouy site, vandalism continues to occur there.

In the short term, without an onsite security presence vandalism would likely continue to occur at the Osotouy site. In the long term, alternative A would provide for 24-hour protection for the site. Surveys at the site would continue. Vandalism and development are taking place in the study area. Other federal and state agencies are carrying out archeological inventories and protecting archeological resources in the region. The protective actions being undertaken by the National Park Service along with those actions being undertaken by other entities are being offset by acts of vandalism on archeological resources. This would result in long-term, minor adverse cumulative

impacts on the area's archeological resources.

Conclusion. The ongoing efforts to complete site research to identify and protect archeological resources would continue to have a long-term, minor, beneficial impact on protecting these resources. Research and resource documentation would continue to improve the park staff's ability to make informed management decisions. Site security would provide better resource protection.

There would be no impairment of archeological sites because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service found that the inventory and survey actions in the alternative would probably not have an adverse effect on archeological resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Cultural Landscapes

Analysis. The continuation of activities at the Memorial Unit would result in negligible impacts on the cultural landscape because the original cultural landscape has been modified greatly over time. The cultural landscapes for both park units would be identified, and treatment would be developed for the preservation of these landscapes. Based on this cultural landscape documentation, development would be designed to minimize impacts on the cultural landscapes.

Currently trash receptacles are not available at the Osotouy Unit so various types of litter

can be found around the site. The Osotouy Unit is closed to visitors.

Cumulative Impacts. The limited development undertaken by the National Park Service under alternative A in conjunction with the limited number of projects occurring outside the park boundaries by others would cumulatively result in long-term, minor, adverse cumulative impacts on cultural landscapes.

Conclusion. Actions such as new development undertaken in this alternative would have short-term, minor, adverse impacts on cultural landscapes.

There would be no impairment of cultural landscapes because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service found that alternative A would probably not have an adverse effect on cultural landscapes. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Ethnographic Resources

Analysis. The park staff would continue to develop inventories for ethnographic resources to better understand and manage these resources.

No inventory of ethnographic resources has been developed for the park to date. As ethnographic resources are identified, the park staff would work to protect these resources in cooperation with the community and consistent with any legal and policy requirements.

Cumulative Impacts. The limited development undertaken by the National Park Service and lack of projects outside park boundaries by others would result in a long-term, negligible, adverse cumulative impact on ethnographic resources.

Conclusion. The long-term, minor, beneficial impact of developing inventories for ethnographic resources would be partially offset by the lack of in-depth programs and would result in an overall long-term, negligible, beneficial impact on ethnographic resources.

There would be no impairment of ethnographic resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service found that ongoing action would probably not have an adverse effect on ethnographic resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Collections

Analysis. Park collections would continue to be managed following federal regulations and NPS guidelines. A limited number of artifacts would be on display or available for study. The lack of adequate facilities for preservation and protection of collections would continue to have a long-term, negligible, adverse impact on collections.

Cumulative Impacts. The National Park Service along with other entities such as the Arkansas Post State Museum and the University of Arkansas would continue to develop measures using new technology to better protect and preserve collections. This

would result in a long-term, minor, beneficial cumulative impact on these resources.

Conclusion. This alternative would have neither a positive nor negative impact on collections as the new technology to better protect and preserve the park's collections would be offset by the limited ability of the park to display and access its collections.

There would be no impairment of the museum collection because of actions proposed in this alternative.

ALTERNATIVE B

Archeological Sites/Resources

Analysis. The ground disturbance at the Memorial and Osotouy Units for the development of trails, parking areas, and buildings could damage currently unknown archeological resources. Development would be sited outside the area with known archeological resources and should not impact these resources.

The National Park Service would monitor ground-disturbing construction in areas where subsurface remains might be present. If archeological resources were found during construction, it would be stopped and a professional archeologist would make an evaluation following the consultation process with the park, region, the Arkansas State Historic Preservation Office, and the Arkansas Archeological Survey. If the artifacts were identified as being associated with the Quapaw, consultation would be undertaken with the tribe.

Mitigation measures would be undertaken in consultation with the Arkansas State Historic Preservation Office, the Advisory Council on Historic Preservation, and/or the Quapaw tribe on all projects that involve ground

disturbance and/or impact ethnographic resources or cultural landscapes.

To help prevent impacts on archeological resource opportunities would be provided for the Quapaw Tribe to participate in resource identification and protection activities.

Visitors would be encouraged through the park's interpretive programs to respect archeological resources leading to better protection for those resources and resources in other areas.

Further evaluation of development proposals would be necessary when design documents were prepared. The archeological resources for both units would be further documented, and treatment would be developed for the preservation of existing or newly discovered resources. Based on this documentation, development would be designed to avoid or minimize impacts on resources.

The provision of onsite security at the Osotouy Unit would help preserve the site's archeological integrity, lessen the amount of vandalism of archeological resources, and help meet the NPS mission to preserve resources for future generations. This would be a long-term, minor, beneficial effect.

The management prescriptions, mainly the conservation zone, used in this alternative would have long-term, negligible, beneficial impacts on archeological resources.

Cumulative Impacts. The emphasis on developing long-term partnerships for cultural resource preservation and interpretation outside the park's boundaries would have a long-term, minor, beneficial impact on archeological resources throughout Arkansas and Desha Counties. Particular benefit would go to those resources that are directly associated with Arkansas Post. This effort would counteract the adverse effect of ongoing development that would result in

the loss of some of the areas' cultural resources. The park partnership coupled with research and preservation efforts by the Arkansas Post State Museum and the University of Arkansas would have a long-term, minor, beneficial impact on archeological resources.

Conclusion. New development in the Memorial and Osotouy Units would be minor in scale and impact. Impacts on archeological resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources, augmented with other measures such as vegetative screening where appropriate. The park's archeological resources would more likely remain intact with onsite security. The management prescription zones would result in moderate ground disturbance in the park and so would have moderate potential for damaging archeological resources. Interpretive programs and emphasis on partnerships with the local communities would potentially have a long-term, negligible to minor, beneficial impact on helping to preserve regional archeological resources.

There would be no impairment of archeological resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service has found that the ground disturbance and construction activities would probably not have an adverse effect on archeological resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Cultural Landscapes

Analysis. The cultural landscapes for both units would be identified, and treatment would be developed for the preservation of these landscapes. Based on this documentation, development would be designed to minimize impacts on the cultural landscapes. Development at the Memorial Unit and rehabilitation of the visitor center would have a negligible to long-term, minor, adverse impact on the cultural landscape. The vegetation patterns at the Memorial Unit would help to screen much of this development from the core historic area. Vegetative screening could be augmented to further mitigate the visual impact of vehicles and the administrative center. A small picnic area (1-2 tables) at the Osotouy Unit would keep litter concentrated in one area, and in turn help preserve the area's cultural landscape.

Constructing a visitor contact station, housing, maintenance area, research support facility, picnic area, parking, and interpretive trail at the Osotouy Unit would have a long-term, minor to moderate, adverse impact on the cultural landscape due to the proximity of these developments to the core archeological area. The vegetation patterns at the Osotouy Unit would help to screen much of this development from the core historic area. This vegetative screening could be augmented to further mitigate the visual impact of development.

At the Osotouy Unit, the profile of the parking area would be relatively low and unobtrusive when observed from the historic area. Visitor and administrative use would result in car, truck, and bus movement across southwestern sections of the site, and it would be visible on the landscape, resulting in long-term, negligible, adverse impacts. Construction activities would have a short-term, minor, adverse impact on the cultural landscape. This short-term disruption of the cultural landscape would be caused by the

presence of construction equipment and the soil and vegetation disturbance caused by construction activities. Further evaluation of development proposals would be necessary when design documents are prepared. The cultural landscapes for both units would be further documented, and treatment recommendations would be developed for preserving these resources. Based on that documentation, development would be designed to avoid impacts on these resources. Applying the interpretive management prescription would allow for a greater visitor understanding by the visitor of cultural landscapes in the park and result in a long-term, minor, beneficial impact.

The emphasis on developing various partnerships for cultural resource preservation and interpretation outside park boundaries would have a long-term, moderate to major, beneficial impact on the cultural landscapes throughout Desha and Arkansas Counties, with particular benefit going to those resources that are directly associated with Arkansas Post.

Cumulative Impacts. NPS interpretive programs and emphasis on partnerships with the local communities would help preserve and conserve cultural landscapes in the region. These beneficial impacts would add to the ongoing efforts by federal and state agencies to protect and preserve cultural landscapes. Increasing development in the area could offset this beneficial cumulative effect, although land use change is not expected to be dramatic in the next 20 years.

Conclusion. New development in the park would be minor in scale and impact. Impacts on the cultural landscape resources or cultural landscapes would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources and augmenting with other measures such as vegetative screening where appropriate. The application of the

management prescription zones in this alternative would provide for a better understanding and appreciation of the park's cultural landscapes. There would be long-term, minor to moderate, beneficial impacts on cultural landscapes.

There would be no impairment of cultural landscapes because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the new structures and parking area would probably not have an adverse effect on cultural landscapes. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Ethnographic Resources

Analysis. The emphasis on developing various partnerships for cultural resource preservation and interpretation outside the park's boundaries would have long-term, moderate to major, beneficial impacts on ethnographic resources in Desha and Arkansas Counties, with particular benefit going to those resources that are directly associated with Arkansas Post. Festivals and events sponsored by the park would create an appreciation and understanding of various cultures that would have an impact beyond the park's boundaries. The educational and interpretive programs would be beneficial to the protection of tangible and intangible resources in the area.

New development in the park would be moderate in scale and impact. Impacts on the ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources. The interpretive programs and

emphasis on partnerships with the local communities would potentially have a long-term, moderate to major, beneficial impact on helping preserve and conserve ethnographic resources and traditions in the region.

Enhanced interpretation efforts in this alternative would allow for a greater understanding by the visitor of ethnographic resources. Greater visitation to the park could result in some accidental disturbance of ethnographic resources. A long-term, negligible, beneficial impact would result from implementing this alternative.

Cumulative Impacts. The park's interpretive programs and emphasis on partnerships with the local communities would potentially have a long-term, moderate to major, beneficial impact on helping preserve and conserve ethnographic resources in the region. These beneficial impacts would be added to the ongoing efforts by other federal agencies in the area to protect and preserve ethnographic resources. The result would be a long-term, moderate to major, beneficial cumulative impact.

Conclusion. New development in the national park units would be moderate in scale and impact. Impacts on the ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources and augmenting with other measures such as vegetative screening where appropriate. The park's outreach program could have a long-term, moderate, beneficial impact on ethnographic resources.

Consequently, there would be no impairment of ethnographic resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations

(36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service found that the ground disturbance and construction activities would probably have no adverse effect on ethnographic resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Collections

Analysis. The display of the park's artifacts could result in possible vandalism of these items or loss due to natural processes such as deterioration by sunlight, insect damage, and moisture. These effects would be minimized by the park's strict adherence to NPS standards and guidelines on display and care of artifacts. This would also include ensuring that irreplaceable items were kept above the 500-year floodplain. This could be accomplished either by a design solution or only displaying reproductions of the original artifacts. In the long term, there would be minor, beneficial impacts on collections.

Cumulative Impacts. Protecting and curating artifacts at the park, along with preserving collections at Arkansas Post State Museum would result in long-term, negligible to minor, beneficial cumulative impacts on area collections.

Conclusion. This alternative would result in long-term, minor, beneficial impacts on the care and protection of the park's collections.

There would be no impairment of the museum collection because of actions proposed in this alternative.

ALTERNATIVE C

Archeological Sites/Resources

Analysis. Ground disturbance at the Memorial and Osotouy Units for trails, parking areas, and buildings could damage currently unknown archeological resources. Identifying and treating archeological resources would result in a long-term, minor, beneficial impacts.

The National Park Service would monitor ground-disturbing construction in areas where subsurface remains might be present. If archeological resources were found during construction, it would be stopped and a professional archeologist would make an evaluation following the consultation process with the park, region, the Arkansas State Historic Preservation Office, and the Arkansas Archeological Survey. If the artifacts were identified as being associated with the Quapaw, consultation would be undertaken with the tribe.

Mitigation measures would be undertaken in consultation with the Arkansas State Historic Preservation Office, the Advisory Council on Historic Preservation, and/or the Quapaw tribe on all projects that involve ground disturbance and/or impact ethnographic resources or cultural landscapes.

To prevent impacts on archeological resources opportunities would be provided for the Quapaw Tribe to participate in cultural resources identification and protection activities.

The park's interpretive programs and emphasis on preservation partnerships with the local communities would potentially have a long-term, moderate, beneficial impact on helping preserve and conserve archeological resources by providing the public with a more in-depth understanding of the area's archeological resources. This

effort would be limited by the availability of partners and funds.

The provision of onsite security at the Osotouy Unit would help preserve the site's archeological integrity, lessen the amount of vandalism of archeological resources, and help meet the NPS mission to preserve resources for future generations. This would be a long-term, minor, beneficial impact.

The extensive use of the conservation management prescription and limited use of those prescriptions allowing for development would provide additional protection for archeological resources and result in long-term, minor, beneficial impacts on archeological resources.

Cumulative Impacts. The ongoing archeological survey work by the University of Arkansas with the archeological survey and conservation activities undertaken by NPS staff would result in long-term, minor, beneficial cumulative impacts on the area's archeological resources.

Conclusion. New development in these units would be minor in scale and impact. The onsite security presence would result in enhanced protection of the park's archeological resources. Impacts on the archeological resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources, augmented with other measures such as vegetative screening where appropriate. The management prescription zones would result in the least ground disturbance in the park and so would have the least potential for damaging archeological resources. Interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, minor, beneficial impacts on preserving and conserving archeological resources.

There would be no impairment of archeological resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the ground disturbance would probably have no adverse effect. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Cultural Landscapes

Analysis. The cultural landscapes for both units would be identified, and treatment recommendations would be developed for preserving these landscapes. Based on this cultural landscape documentation, development would be designed to minimize impacts on cultural landscapes.

Rehabilitating and expanding the visitor center at the Memorial Unit would have a long-term, negligible, adverse impact on the cultural landscape. Mitigation measures such as using the vegetation at the Memorial Unit to help screen much of this development from the core historic area would be used. In addition, this vegetative screening could be augmented to further mitigate the visual impact of vehicles and administrative center. This would result in no new impacts. No designated picnic area could result in litter being scattered around the site, visually affecting the cultural landscape.

Constructing the visitor contact station, housing, maintenance area, parking, and interpretive trail at the Osotouy Unit would have long-term, minor to moderate, adverse impacts on the cultural landscape due to the proximity of this development to the core archeological area as defined in the National Register of Historic Places form for the site.

The vegetation at the Osotouy Unit would help to screen much of this development. This vegetative screening could be augmented to further mitigate the visual impact of development. At the Osotouy Unit, the profile of the parking area would be relatively low and unobtrusive when seen from the core archeological area. Visitor and administrative use would introduce cars, trucks, and buses across southwestern sections of the unit, which would be visible on the landscape and result in a long-term, minor, adverse visual impact.

The construction activities would have short-term, minor, adverse impacts on the cultural landscape by introducing temporary visual intrusions and temporary ground disturbance. In the long term, there would be minor beneficial impacts resulting from better resource protection from an onsite NPS presence.

Without a designated picnic area litter could be scattered around the site, visually impacting the cultural landscape.

Further evaluation of development proposals would be necessary when design documents were prepared. The cultural landscapes for both units would be further documented, and treatment recommendations would be developed for preserving these landscapes. Based on this documentation, development would be designed to avoid or minimize impacts on these landscapes.

Actions under the management prescriptions used in this alternative would provide protection for cultural landscapes but limit the park's ability to fully interpret those landscapes. The emphasis on developing various partnerships outside the park's boundaries would have a long-term, moderate, beneficial effect on resources in Desha and Arkansas Counties, with particular benefit going to those landscapes that

have a direct association with Arkansas Post.

Cumulative Impacts. The continuing development for recreational use and other purposes undertaken by the U.S. Army Corps of Engineers and the state of Arkansas, along with the minor development by the National Park Service could result in long-term, minor, adverse cumulative impacts on the region's cultural landscapes. The NPS contribution to these adverse cumulative impacts would be negligible.

Conclusion. New development in the park would be minor in scale and impact. Impacts on the cultural landscapes would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources, and augmenting with other measures such as vegetative screening where appropriate. The application of the management prescription zones in this alternative would allow for limited new development and would help in preserving most of the park's cultural landscapes. All the actions taken in the park would result in long-term, minor, beneficial impacts on cultural landscapes.

The park's interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, minor to moderate, beneficial impacts on preserving and conserving the area's cultural landscapes. This effort would be limited by the availability of partners and funds.

There would be no impairment of cultural landscapes because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5) addressing the criteria of effect and adverse effect, the National Park Service found that the trails, structures, and parking areas would probably have no

adverse effect on cultural landscapes. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Ethnographic Resources

Analysis. Ground disturbance at the Memorial and Osotouy Units for trails, parking areas, and buildings could result in long-term, minor, adverse impacts on ethnographic resources. Construction activities would have short-term, minor, adverse impacts on the ethnographic resources resulting from temporary visual intrusions, noise, and ground disturbances. The long-term impact would be minor to moderate and beneficial, as these resources would be better protected.

No inventory of ethnographic resources has been developed for the park to date. As ethnographic resources are identified, the park would work to protect these resources in cooperation with the community and consistent with legal and policy requirements.

To prevent impacts on ethnographic resources opportunities would be provided for the Quapaw Tribe to participate in cultural resource identification and protection activities.

The emphasis on developing various partnerships for cultural resource preservation outside the park's boundaries would have long-term, minor to moderate, beneficial impacts on ethnographic resources in Desha and Arkansas Counties, with particular benefit going to those resources that are directly associated with Arkansas Post. This beneficial impact would be limited by the availability of partners and funds.

Extensively using of the conservation management prescription and the limited use

of other prescriptions would provide additional protection for ethnographic resources. The result would be a long-term, minor, beneficial impact on ethnographic resources.

Cumulative Impacts. The National Park Service and other federal agencies such as the U.S. Army Corps of Engineers and the Fish and Wildlife Service are gathering ethnographic information as part of their environmental impact statements for project work. This work would have a long-term, minor, beneficial impact.

Conclusion. New development in the park would be minor in scale and impact. Impacts on the ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities in relation to the park's resources and augmenting with other measures such as vegetative screening where appropriate. The park's interpretive programs and emphasis on preservation partnerships with the local communities would potentially have a long-term, minor to moderate, beneficial impact on helping preserve and conserve ethnographic resources.

There would be no impairment of ethnographic resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the ground disturbance and other actions would probably have no adverse effect on ethnographic resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Collections

Analysis. Displaying the park's artifacts could result in vandalism of these items or loss due to natural processes such as deterioration by sunlight, insect damage, and moisture. These effects would be minimized by the park's strict adherence to NPS standards and guidelines on display and care of artifacts. This would also include ensuring that irreplaceable items are kept above the 500-year floodplain and could be accomplished either by a design solution or only displaying reproductions of the original artifacts. In the long term, there would be a minor, beneficial impact on collections.

Cumulative Impacts. The park staff, along with other entities such as the Arkansas Post State Museum and the University of Arkansas, would continue to develop measures using new technology to better protect and preserve collections. This would result in a long-term, minor, beneficial cumulative impact on collections.

Conclusion. This alternative would provide a long-term, minor, beneficial impact on the park's collection.

There would be no impairment of the museum collection because of actions proposed in this alternative.

ALTERNATIVE D

Archeological Resources

Analysis. Disturbing ground at the Memorial and Osotouy Units for trails, parking areas, and buildings could damage currently unknown archeological resources. Also the management prescriptions for this alternative allows for more of the park land area to be developed. These actions could have a long-term, minor, adverse impact on currently unknown archeological resources.

The National Park Service would monitor ground-disturbing construction in areas where subsurface remains might be present. If archeological resources were found during construction work, it would be stopped and a professional archeologist would make an evaluation including consultations with the park, region, the Arkansas State Historic Preservation Office, and the Arkansas Archeological Survey. If the artifacts were identified as being associated with the Quapaw, consultation would also be undertaken with the tribe.

Mitigation measures would be undertaken in consultation with the Arkansas State Historic Preservation Office, the Advisory Council on Historic Preservation, and/or the Quapaw Tribe on all projects that involve ground disturbance and/or impact ethnographic resources or cultural landscapes.

To prevent impacts on archeological resources, opportunities would be provided for the tribe to participate in cultural resources identification and protection activities.

Visitors would be encouraged through the park's interpretive programs to respect archeological resources leading to increased protection for those resources and resources in other areas.

The provision of onsite security at the Osotouy Unit would help preserve the site's archeological integrity, lessen the amount of vandalism of archeological resources, and help meet the NPS mission to preserve resources for future generations. This would be a long-term, minor beneficial effect.

The management prescriptions used in this alternative, particularly recreation, could allow for more development, which would increase the potential for impacting as yet unknown archeological resources.

Cumulative Impacts. The continuing development for recreational use and other purposes undertaken by the U.S. Army Corps of Engineers and the state of Arkansas, along with the minor development by the National Park Service, could result in long-term, minor to moderate, adverse cumulative impacts on archeological resources in Desha and Arkansas Counties.

Conclusion. New development in Memorial and Osotouy Units would be minor in scale and impact. Onsite security would result in enhanced protection of the park's archeological resources. New development in the park would be minor to moderate in scale and impact. Impacts on archeological resources would be partially or fully mitigated by sensitively siting and designing facilities. The expanded management prescription zones that would allow for greater potential ground disturbance in the park have a greater potential for damaging as yet unknown archeological resources. Overall there would be a long-term negligible to minor beneficial effect on archeological resources.

There would be no impairment of archeological resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the ground disturbance under this alternative would probably have no adverse effect on archeological resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Cultural Landscapes

Analysis. Development under alternative D could have a slight impact on cultural

landscapes, particularly at the Osotouy Unit. The cultural landscapes for both units would be identified, and treatment would be developed for the preservation of these landscapes. Based on this cultural landscape documentation, development would be designed to minimize impacts on resources.

Development at the Memorial Unit and the application of the "recreation" prescription would have long-term, negligible, adverse impacts on the cultural landscape. The vegetation at the Memorial Unit would help to screen much of this development from the core historic area. This vegetative screening could be augmented to further mitigate the visual impact from vehicles. The visitor center expansion would introduce a larger structure into the cultural landscape, slightly closer to the core historic area. It would not be visually screened from the core historic area. This would result in long-term, minor, adverse impacts.

Constructing a visitor contact station, housing, maintenance area, parking, and interpretive trail at the Osotouy Unit would have a long-term, minor, adverse impact on the cultural landscape due to its proximity to the core archeological area. The lack of a designated picnic area could result in litter being scattered around the site, visually impacting the cultural landscape. The vegetation at the Osotouy Unit would help to screen much of this development from the core area. This vegetative screening could be augmented to further mitigate the visual impact of development. The profile of the parking area would be relatively low and unobtrusive when observed from the historic area. Cars, trucks, and buses moving across the southwestern section of the site and would be visible on the landscape. This would result in a long-term, minor, adverse impact. Construction activities would have short-term, negligible, adverse impacts on the cultural landscapes on the site by introducing temporary visual intrusions and

ground disturbance. However, an onsite NPS presence would result in better protection and preservation of cultural landscapes in the long term, and this would be a minor, beneficial impact.

Partnerships and interpretive programs in this alternative would have a long-term, negligible, beneficial impact on cultural landscapes outside the park's boundaries. These efforts would be limited by the availability of partners and funds.

Cumulative Impacts. The continuing development for recreational use and other purposes by the U.S. Army Corps of Engineers, along with the minor development by the National Park Service, could result in the long-term, minor to moderate, adverse impacts on the area's cultural landscapes.

Conclusion. New development in the park would be minor in scale and impact. Impacts on the cultural landscapes would be partially or fully mitigated by sensitively siting and designing facilities and augmenting with other measures such as vegetative screening where appropriate. The application of the management prescription zones in this alternative would include more "recreation" areas that would potentially impact the park's cultural landscapes. The park's interpretive programs and emphasis on preservation partnerships with the local communities would potentially have long-term, negligible, beneficial impacts on cultural landscapes.

There would be no impairment of cultural landscapes because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the structures and ground

disturbance under this alternative would probably have no adverse effect on cultural landscapes. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Ethnographic Resources

Analysis. New development under alternative D would be minor to moderate in scale and impact. Impacts on the ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities. The management prescriptions in this alternative allow for more of the park to be developed. These actions could have long-term, minor, adverse impacts on ethnographic resources. The construction activities could have short-term, minor, adverse impacts on ethnographic resources from noise and ground disturbances. A long-term, minor, beneficial impact on ethnographic resources would result from an onsite NPS presence, which would provide greater protection for these resources.

No inventory of ethnographic resources has been developed for the park to date. As ethnographic resources are identified, the National Park Service would work to protect these resources in cooperation with the community and consistent with legal and policy requirements.

To prevent impacts on ethnographic resources opportunities would be provided for the tribe to participate in cultural resource identification and protection activities.

Cumulative Impacts. The National Park Service and other federal agencies such as the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service are gathering ethnographic information as part of their environmental impact statements for project work and for compliance with federal

cultural resource legislation. This would result in long-term, minor, beneficial cumulative impacts on ethnographic resources.

Conclusion. New development in the park would be minor in scale and impact. Impacts on the ethnographic resources would be partially or fully mitigated by sensitively siting and designing facilities and augmenting with other measures such as vegetative screening where appropriate. The management prescriptions in this alternative would allow for more development in the park that could impact ethnographic resources. These actions could have long-term, minor, adverse cumulative impacts on ethnographic resources. The park's interpretive programs and preservation partnerships would potentially have a long-term, minor, beneficial impact on ethnographic resources.

There would be no impairment of ethnographic resources because of actions proposed in this alternative.

Section 106 Summary. Under the Advisory Council on Historic Preservation regulations (36 CFR 800.5), addressing the criteria of effect and adverse effect, the National Park Service found that the ground disturbance and other actions would probably have no adverse effect on ethnographic resources. A formal determination can only occur in consultation with the public, tribe, and the State Historic Preservation Office.

Collections

Analysis. Displaying the park's artifacts could result in a greater potential for these items to be damaged through vandalism or natural processes, such as deterioration by sunlight, insect damage, and moisture. These effects would be minimized by strict adherence to NPS standards and guidelines

on display and care of artifacts. Irreplaceable items would be kept above the 500-year floodplain, which could be accomplished either by a design solution or by only displaying reproductions of the original artifacts. In this alternative, only a small number of the artifacts would be displayed.

Cumulative Impacts. The park, along with other entities such as the Arkansas Post State Museum and the University of Arkansas at Pine Bluff, would continue to develop measures using new technology to better protect and preserve collections. This would result in a long-term, minor, beneficial impact on collections.

Conclusion. This alternative would provide increased protection and preservation of the park's collection, thus resulting in a long-term, minor, beneficial impact.

There would be no impairment of the museum collection because of actions proposed in this alternative.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irretrievable and irreversible commitments of resources that are associated with cultural resource actions are summarized by alternative below. Irreversible commitments are those that cannot be reversed except perhaps in the extreme long term (e.g., the regrowth of an old-growth forest).

Irretrievable commitments are those that are lost for a period of time (e.g., if a road is constructed, the vegetative productivity is lost for as long as the highway remains).

Alternative A – There would be no irreversible and irretrievable commitments of resources under this alternative.

Alternative B – The construction of trails, parking areas, and facilities in this alternative would result in ground disturbance to more than 3 acres. This could result in disturbance and loss of part or all of previously unknown archeological resources.

Alternative C – The construction of trails, parking areas, and facilities in this alternative would result in ground disturbance to more than 3 acres. This could result in disturbance and loss of part or all of previously unknown archeological resources.

Alternative D – The construction of trails, parking areas, and facilities in this alternative would result in ground disturbance to more than 4 acres. This could result in disturbance and loss of part or all of previously unknown archeological resources.

RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section discusses the effects of the short-term use of resources in the alternatives on the long-term productivity. In other words, are any long-term management possibilities, or the productivity of park resources being traded for the immediate use of the land? Is the action being taken something that will affect future generations

– is it an action that can continue over the long term without environmental problems?

The opening of the Osotouy Unit with construction of trails and visitor and operation facilities could result in slight adverse impacts on archeological, ethnographic, or cultural landscape values. These impacts could occur during construction when the site would be more vulnerable to vandalism and other destructive activities. The onsite NPS presence would contribute to long-term sustainability and productivity of the resource for scientific study. The long-term beneficial impacts would be in all action alternatives, with the greatest impact in alternative B.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Energy requirements would increase in the short term for constructing new structures. This would be mitigated in that all structures would be designed to be energy efficient. Of all the alternatives, alternative D would result in the greatest energy requirements because of the number of structures that would be maintained and used.

UNAVOIDABLE ADVERSE IMPACTS

There would be minor, adverse alterations to the cultural landscapes of the units to accommodate visitors, their vehicles, and new facilities.

IMPACTS ON VISITOR USE AND RECREATIONAL RESOURCES

This impact analysis evaluated two aspects of visitor use – (1) interpretation and orientation/visitor services and (2) recreation. This analysis evaluated the quality characteristics of the visitor experience in terms of how they might be altered by the management zone prescriptions and the actions in the alternatives. It is assumed that visitor numbers and trends would remain constant in all action alternatives.

Visitor use in Arkansas Post National Memorial covers a spectrum, including access to and availability of interpretation and orientation programs and recreational opportunities. In addition, each visitor brings unique expectations and thus each has a unique experience. As a result, this environmental impact statement identifies, where possible, how the quality of the experience would change given the management zoning and actions in each alternative.

A quantitative analysis of potential effects on the visitor experience is not feasible due to the general prescriptive nature of the plan. Analysis of effects is therefore qualitative, and professional judgment was applied to reach reasonable conclusions on the intensity and duration of potential impacts.

INTERPRETATION AND ORIENTATION/VISITOR SERVICES

The impact analysis was based on whether there would be a change in the range of interpretation programs and orientation/information sources and visitor services resulting from the management prescriptions and actions under the alternatives.

RECREATION

The impact analysis was based on whether there was a complete loss of recreational opportunity, a change in access to or availability of a recreational opportunity, or a change in the aggregate of recreational opportunities for the visitor.

METHOD OF IMPACT ASSESSMENT

The assessment for visitor use and recreational resources focused on the intensity and duration of impacts that would result from the preferred alternative relative to the two different aspects of visitor use, and whether those impacts were considered to be beneficial or adverse to visitor use. The assessment looked specifically at whether access to availability of some aspect of visitor use would be altered. This discussion was provided only for contextual purposes to facilitate an understanding of impact implications.

Context

The context area of impact is the park and Desha and Arkansas Counties. The greatest impact would be in these counties and their communities.

Intensity

The impact intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive, and would have no meaningful implications. Minor impacts would be effects that would be slightly detectable, though not expected to have an overall effect on the visitor experience. Moderate impacts would be clearly

detectable to the visitor and could have an appreciable effect on the visitor experience. Major impacts would have a substantial, highly noticeable influence on the visitor experience and could permanently alter access to and availability of various aspects of the visitor experience.

Duration

The duration would be either short term or long term. A short-term impact would last two years or less in duration (or transition types of activities). A long-term impact would last two years or more and would have a continuing effect on the visitor experience.

Type of Impact

Impacts on visitor experience were evaluated in terms of whether they would be beneficial or adverse. Beneficial impacts would allow greater access to or availability of recreational opportunities or opportunities for interpretation or orientation programs. Adverse impacts would result in less availability of recreational opportunities or opportunities for interpretation or orientation programs.

ALTERNATIVE A

Analysis

Although the visitor center exhibits, wayside exhibits, and other media at the Memorial Unit would provide an orientation and overview of the park's themes, they are outdated, lack depth and inclusion of all topics, and do not adequately address the park's interpretive themes. Consequently, visitors would not have a full opportunity to understand and appreciate the diverse cultural heritage of the region. They would have little chance to pursue their preferred

depth of information and experiences. Emphasis on interpreting the town site would cause most visitor experiences to focus on the United States era of Arkansas Post. Although some programs would refer to the point of view of American Indians and African-Americans, most visitor experiences would not include multiple points of view. This would cause many visitors to feel left out of the park's experiences. A high level of contact with both cultural and natural resources would provide visitors with an opportunity to link tangible resources to the intangible meanings of the park. For the most part, visitors would make intellectual connections. Some interpretive programs would provide visitors with an occasional opportunity to make emotional connections to the park.

Use of the visitor center as it is, without the separation of offices and public spaces or separate space for staff meetings and workshops, would continue to affect the visitor experience, especially when meetings and workshops are held. It would also continue to affect efficient park operations and administration. This would be a long-term, minor to moderate, adverse impact. However, the visitor center would continue to be in the best location for gaining an understanding and overview of the park before touring the resources, a long-term, minor, beneficial impact.

There would be continued use of the picnic area and interpretive trails and informal areas for watching wildlife and fishing at the Memorial Unit, and visitors would not encounter many restrictions on their access to popular locations for recreation. Some visitors would continue to be inconvenienced by the lack of developed access areas for fishing and wildlife observation. Any increased recreational levels would depend on the capacity of existing facilities and informal areas. Continuing fishing, boating,

and wildlife observation in the offshore areas would be a positive impact.

At the Osotouy Unit, the limited interpretive facilities and programs would hinder the opportunity for visitors to grasp the meaning and significance of the area. A site bulletin would only provide visitors with an overview of the site's significance from an intellectual perspective. The undeveloped nature and sense of self-discovery of the site would combine to provide a positive emotional experience to a few adventuresome visitors. Most visitors, however, would be disappointed with the very limited opportunities to understand and appreciate the unit. The site's lack of development and low level of visitation, nevertheless, would provide the Quapaw people easier opportunities to have emotional and spiritual experiences.

The opening of the Osotouy Unit to visitors would provide for a better visitor understanding and appreciation of the resource. Improving the road from the Canal Bridge to the Osotouy Unit would increase access to the site and allow for a safer visitor experience. In the short term, the vandalism that could occur in this alternative would diminish the visitor experience – a short-term negligible to minor adverse impact on the visitor experience. In the long term, improved security would deter vandalism and improve the visitor experience, a long-term negligible to minor beneficial impact.

Managing the park under the existing direction could have long-term, moderate, adverse impacts on visitor experiences.

Cumulative Impacts

The diverse government and community efforts to interpret the heritage of the Arkansas Post area would somewhat counter the limited ability of the park to adequately address the area's heritage. This would result

in long-term, negligible to minor, beneficial cumulative impacts on public understanding and appreciation of the meaning and significance of the region's history.

In addition to the beneficial effect of research, education, interpretation, and preservation efforts ongoing and proposed at the park, a number of other government and nonprofit sites in the area engage in similar activities. Regional universities, local schools, and other organizations provide opportunities for research and education. All these activities would have long-term, negligible to minor, beneficial cumulative impacts on regional opportunities for interpretation and education.

Conclusion

The outdated exhibits, absence of multiple points of view, and lack of variety in the park's interpretive programs would result in visitors not having the opportunity to fully understand and appreciate the diverse cultural heritage of the region and in many visitors feeling unwelcome or unappreciated by the park. Conflicts between staff and public spaces in the visitor center would continue to affect the visitor experience and the efficiency of park operations and administration. Local residents would continue to view the park primarily as a location for recreation. The limited potential for new recreational facilities in both units would limit expansion of recreational activities on land to respond to increased use in the future. Water recreation growth would not be limited. All these actions would result in long-term, minor to moderate adverse impacts on visitor experience.

ALTERNATIVE B

Analysis

At the Memorial Unit, the expanded visitor center exhibits, new outdoor exhibits, and the enhanced interpretation of the Civil War Trail would all enable visitors to understand and appreciate the diverse cultural heritage of the region. Visitors would have opportunities to choose their preferred depth of information and experiences. An emphasis on incorporating multiple points of view would ensure that all visitors feel welcome and accepted in their perspectives of the park.

A high level of contact with both cultural and natural resources would provide visitors with an opportunity to link tangible resources to the intangible meanings of the park. Interpretive programs and areas for contemplation would enhance the emotional impact of park visits. The research center would provide local residents and interested visitors with an opportunity to make a personal connection to individual people in the historical period of Arkansas Post. This would expand local residents' interest of in the park's programs and facilities.

At the Memorial Unit, continued use of the picnic area would be a positive impact on the visitor experience. The National Park Service would not expand the picnic area to respond to any increased use in the future. This could inconvenience future users of the picnic area; it also might discourage local interest and park use by local residents.

Other land use recreation and water recreation would take place under the conservation prescription. Because that prescription does not intend to provide additional recreational facilities, fishing and wildlife observation would take place in their present informal areas. Interpretive trails also would provide opportunities for

wildlife observation and walking. Fishing, boating, and wildlife observation would continue to take place in the offshore areas, providing a positive impact on visitors. This emphasis on the conservation prescription would prevent future expansion of any facilities to support recreational use. Some visitors would be disappointed by the lack of developed access in the conservation prescription area.

The opening of the Osotouy Unit to visitors would provide for a better visitor understanding and appreciation of the resource. The paving of the road from the Canal Bridge to the Osotouy Unit would increase access to the site and allow for a safer visitor experience. This would result in a long-term, negligible to minor beneficial impact on the visitor experience.

At the Osotouy Unit, orientation exhibits, an interpretive trail, and conducted programs would provide a broad view of the meaning and significance of the area. Visitors would have an opportunity to appreciate the diversity of the cultures represented at the site. The long interpretive trail would provide opportunities for visitors to consider the interaction of those cultures. A high level of contact with both cultural and natural resources would provide visitors with an opportunity to link the tangible resources with the intangible meanings of the site. Exhibits and other media, along with personal services, would enable visitors to make intellectual connections. Interpretive programs and the areas for contemplation would enhance the emotional impact of visits.

Opening the Osotouy Unit could result in short-term, major, adverse impacts on the visitor experience and interpretive and recreational values during facility and trail development. Construction activities would disrupt the quiet nature of the unit, thereby disrupting interpretive, contemplative, and recreational experiences.

Extensive use of the conservation prescription at the Osotouy Unit would prevent recreation facility development except for a small picnic area. This would inconvenience visitors seeking activities such as fishing. The continued isolation of the area from developed facilities, however, would enhance the desirability of the area for other recreational activities such as birdwatching. The picnic area would fulfill a demand for picnicking at the unit.

Partnerships with other historic sites and related facilities would enhance visitor understanding and appreciation by providing additional historical context. An active outreach program would enable area residents to find meaning and significance in the park.

Cumulative Impacts

The diverse government (U.S. Army Corps of Engineers) and state (Arkansas Post State Museum) efforts to interpret the heritage of the Arkansas Post area plus the park activities would have long-term, minor to moderate, beneficial cumulative impacts on public understanding and appreciation of the region's history. The National Park Service's contribution to this would be long term, minor, and beneficial.

In addition to the beneficial impacts of research, education, interpretation, and preservation efforts ongoing and proposed at the park, a number of other government and nonprofit sites in the area engage in similar activities. Regional universities, local schools, and other organizations provide opportunity for research and education. All these activities would result in long-term, minor to moderate, beneficial cumulative impacts on regional opportunities for interpretation and education.

Conclusion

Proposed actions under alternative B would have long-term, major, beneficial impacts on visitor experiences by providing multiple opportunities for visitors to make intellectual and emotional connections to the park. Access to resources at both units would enable visitors to link the tangible resources with the intangible meanings and significance of the park. The research center would have a long-term, minor to moderate, beneficial impact on local residents by serving their interests and by encouraging them to participate in the programs and facilities of the park. The limited potential for future land use recreational facilities in both units would limit opportunities to respond to increased use in the future. Because expansion of water-related recreation would not be limited, there would be long-term, positive effects on visitors seeking this type of recreation.

ALTERNATIVE C

Analysis

The expanded visitor center exhibits and the intensive interpretation in the area from the visitor center to Front Street would encourage visitors to understand and appreciate the area's natural and cultural resources of the area. Visitors would have limited opportunities to choose their preferred depth of information and experiences. Considering multiple points of view within interpretation would focus on various views of the value of the park's natural resources. Visitors would be aware of the emphasis on resource preservation and protection. Many visitors, therefore, would feel excluded and unappreciated.

Although visitors would have much direct contact with some of the cultural resources of the unit, they would not have access to all

areas with cultural resources. They would have limited access to the Memorial Units' natural resources. This would hinder the ability of visitors to link tangible resources to the intangible meanings of the unit. Exhibits and other media, as well as interpretive programs, would enable visitors to make some intellectual connections to the park. Interpretive programs would somewhat enhance the emotional impacts of visits.

Visitors would have continued access to the existing picnic area along with personal services, but the adjacent trails would be removed. This would limit recreational opportunities near the picnic area. Although opportunities for walking, wildlife observation, and fishing would still exist, they would be limited due to the lack of trails. An emphasis on preserving and protecting natural resources would limit access to other areas of the Memorial Unit for recreation. The extensive use of the conservation prescription would permit fishing, wildlife observation, and walking, but only with existing points of access. Some visitors would be inconvenienced by the lack of developed access to desirable locations for recreation.

Fishing, boating, and wildlife observation would continue to take place in offshore areas under the conservation prescription zone. Because the conservation management prescription would not provide developed recreational facilities, the park would not respond to future demand for recreation.

The opening of the Osotouy Unit to visitors would provide for a better visitor understanding and appreciation of the resource. Improving the road from the Canal Bridge to the Osotouy Unit would increase access to the site and allow for a safer visitor experience. This would result in a long-term, negligible to minor beneficial impact on the visitor experience.

At the Osotouy Unit, orientation exhibits, the short interpretive trail, and occasional interpretive programs would provide visitors with an overview of the site's significance. These limited interpretive opportunities; however, would not provide visitors with an ability to develop a broad understanding of and appreciation for the site.

The interpretive trail would focus visitor attention on the cultural resources connected to the mound area. Visitors would gain an intellectual connection to the American Indian culture without an appreciation for the rich cultural interaction in the area over the centuries. Access limits would hinder the opportunity for visitors to make intellectual connections to the natural resources of the area. An emphasis on cultural resource preservation and protection of archeological resources would limit a consideration of multiple points of view. The undeveloped appearance of the mound area might have a great emotional impact upon many visitors. This resource condition and moderate level of visitation would provide the Quapaw people with a highly emotional and spiritual experience by enhancing their sense of identity as a people.

Trail and facility construction at the Osotouy Unit the construction of trails and visitor and park facilities could result in short-term, major, adverse impacts on the visitor experience and interpretive and recreational values. Construction activities would disrupt the quiet nature of the unit, thereby disrupting interpretive and recreational experiences.

Little opportunity would exist for land use recreation at the Osotouy Unit due to this alternative's emphasis on resource preservation and protection, limited visitor access, and the preservation of the area for future scientific study. This would inconvenience and disappoint most visitors seeking to participate in recreational activities such as fishing, wildlife observation, and walking.

The continued isolation of the area from developed facilities, however, would enhance the desirability of the site for other recreational activities such as contemplation and meditation. This situation could pose a serious clash of interests between recreation seeking visitors and park management.

Cumulative Impacts

The diverse government and community efforts to interpret the heritage of the Arkansas Post area added to the park's efforts would have a long-term, minor beneficial cumulative impact on public understanding and appreciation for the meaning and significance of the region's history.

In addition to the research, education, interpretation, and preservation efforts ongoing and proposed at the park, a number of other government and nonprofit sites in the area engage in similar activities. State universities, local schools, and other organizations are providing expanded opportunity for research and education. All these activities would result in long-term, moderate, beneficial cumulative impacts on interpretation and education. Resource preservation and protection actions would enable future generations to enjoy similar interpretive experiences.

Conclusion

Actions under alternative C at the Memorial Unit would have long-term, negligible, beneficial impacts on visitor experiences by providing additional exhibits and programs related to resources. Overall, however, many visitors would have an unsatisfactory experience because the experience might not meet their expectations. Proposed actions at the Osotouy Unit would have long-term, moderate, adverse impacts on visitor experi-

ences due to the limited lack of interpretive facilities, trails, and programs. Visitors would not have an opportunity to understand and appreciate the site's significance and meaning.

Limitations on access to resources at both units would thwart the opportunity for visitors to link the park's tangible resources with the intangible meanings and significance. Limitations on recreational opportunities caused by an emphasis on resource preservation and protection would disappoint and frustrate visitors seeking recreational experiences at either unit. Increased recreational opportunities would not be an option in the future.

ALTERNATIVE D

Analysis

The expanded visitor center exhibits at the Memorial Unit would enable park visitors to have a moderately comprehensive understanding and appreciation of the natural, cultural, and recreational resources of the area. Visitors would have some opportunities to choose their preferred depth of information and experiences, including research and recreation. Interpretation would emphasize the perspectives of inhabitants of the area over the centuries. Visitors would have an intensive experience with cultural resources; they would have a somewhat less intensive experience with natural resources; and they would have extensive opportunities for recreational experiences.

The exhibits, interpretive programs, and research facility would provide visitors primarily with intellectual opportunities to find meaning in the resources. Many users of the research facility would find the direct contact with primary documents as both an intellectual and emotional experience through a personal connection to individual people

who lived at Arkansas Post. The research center would expand the local residents' interest in park programs and facilities.

In the Memorial Unit visitors would have access to formal recreation areas at the existing picnic area and at several newly developed areas for fishing. Additional parking in the picnic area would accommodate more users, but it could cause overcrowding of the picnic and restroom facilities. Developing fishing facilities in currently popular areas would make the experience more convenient and enjoyable for many users. This would increase the use, possibly developing conflicts between users seeking prime fishing spots.

Other land-based recreation, such as wildlife observation and walking, would take place under the interpretation prescription. Interpretive trails would provide access through the conservation prescription for such recreation and would provide multiple options for recreational experiences ranging from developed facilities to informal areas. Recreational use of the area by local residents would likely increase. Some conflict could develop in the interpretation prescription zone if visitors seeking an interpretive experience resented the presence of people engaged in recreational activities.

Fishing, boating, and wildlife observation would continue in offshore areas without significant interference or control by the park staff, but the National Park Service would not develop boat launch ramps or boat docks to facilitate water recreation. This would cause some inconvenience to local residents seeking water recreation within the Memorial Unit.

The opening of the Osotouy Unit to visitors would provide for a better visitor understanding and appreciation of the resource. The paving of the road from the Canal Bridge to the Osotouy Unit would increase

access to the site and allow for a safer visitor experience. This would result in a long-term, negligible to minor beneficial impact on the visitor experience.

Orientation exhibits, the interpretive trail, and conducted programs at the Osotouy Unit would provide a broad view of the area's meaning and significance. Visitors would have an appreciation for the diversity of the cultures represented at the site. The interpretive trail would offer visitors an opportunity to understand the interaction between American Indian and Euro-American cultures. Contact with both cultural and natural resources would provide visitors with an opportunity to link the tangible resources with the intangible meanings of the site. Exhibits and other media, as well as interpretive programs, would enable visitors to make intellectual connections. Interpretive programs would provide some opportunity for emotional connections. Trail and facility construction would result in short-term, major, adverse impacts on the visitor experience and interpretive and recreational values during construction. It would disrupt the quiet nature of the unit, thereby disrupting existing interpretive and recreational experiences.

The interpretive trail at the Osotouy Unit would provide access to a developed fishing area on Lake Dumond. This would accommodate visitors seeking an opportunity for fishing. Wildlife observation would take place at the fishing area and along the interpretive trail. Some conflict could develop along the trail between visitors seeking recreational opportunities and those seeking interpretive experiences. The continued isolation of the Osotouy Unit from developed facilities would limit visitation, thereby reducing the potential for such conflict. Overall, the unit would fulfill the expectations of visitors seeking recreational opportunities.

Partnerships with other agencies would focus on providing additional recreational opportunities near the park such as camping. This primarily would serve the needs of local residents seeking additional recreation. It could enhance local interest and support for the park.

Cumulative Impacts

The diverse government and community efforts to interpret the heritage of the Arkansas Post area would have long-term, moderate, and cumulative beneficial impacts on public understanding and appreciation of the region's meaning and significance. Resource preservation and protection actions would enable future generations to enjoy similar interpretive experiences.

In addition to the research, education, interpretation, and preservation efforts ongoing and proposed at the park, a number of other government and nonprofit sites in the area engage in similar activities. In addition, state universities, local schools, and other organizations provide opportunities for research and education. All these activities would result in moderate, beneficial cumulative impacts on the long-term, regional opportunities for interpretation and education.

Conclusion

Actions in alternative D would have long-term, major, beneficial impacts on visitor experiences by providing opportunities for visitors to make intellectual and emotional connections to the park. Access to resources at both units would enable visitors to link the tangible resources with the intangible meanings and significance of the site. The developed recreational areas at both units would provide convenient access to land-based recreation for local residents. Lack of similarly developed facilities for water-based

recreation might cause some inconvenience and disappointment for certain visitors. Overall, recreational facilities would attract additional local interest and use. The research center would have long-term, minor, beneficial impacts on the visitor experience for local residents by serving as a repository for local history. The center would attract additional local interest and use of the park.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irretrievable and irreversible commitments of resources that are associated with recreational activities are summarized by alternative below. Irreversible commitments are those that cannot be reversed except perhaps in the extreme long term (e.g., the regrowth of an old-growth forest). Irretrievable commitments are those that are lost for a period of time (e.g., if a road is constructed, the vegetative productivity is lost for as long as the highway remains).

Under all alternatives, there would be no irreversible and irretrievable commitments of resources under this alternative.

RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

See this heading under "Impacts on Natural Resources" for a discussion of the impacts.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Energy requirements would increase when new structures were built. Energy saving and efficient utility systems would mitigate this

impacts somewhat. The Osotouy Unit's isolation encourages solar-powered applications. Such sustainable design would create an interpretive opportunity to enlighten visitors about the tangible and intangible benefits of alternative utility systems. Alternative B would have the greatest energy requirements due to the size and number of new structures.

UNAVOIDABLE ADVERSE IMPACTS

Multiple uses in areas where visitors are seeking interpretive, contemplative, or recreational experiences could cause conflict and inconvenience between the various user groups.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

The impact analysis evaluated the effect on the local economy. Quantitative analysis of potential effects on socioeconomic conditions was not feasible due to the conceptual nature of the plan. Rather, analysis of effects was qualitative, and professional judgement was applied to reach reasonable conclusions as to the context, intensity, and duration of potential impacts.

METHOD OF IMPACT ASSESSMENT

Proposed actions and management prescriptions in the alternatives were evaluated for the context, intensity, and duration of the impacts, and whether they were considered to be beneficial or adverse.

Context

The context for impact analysis is the park and Desha and Arkansas Counties. Socioeconomic impacts are not expected to extend beyond this area.

Intensity

Impact intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive and have no meaningful implications for the socioeconomic environment. Minor impacts would be effects on the socioeconomic environment that would be slightly detectable but not expected to have an overall effect. Moderate impacts would be clearly detectable to the visitor and could have an appreciable effect. Major impacts would have a substantial, highly noticeable influence on the socioeconomic environment.

Duration

The duration of the impacts considered whether the impacts would occur in the short term or the long term. A short-term impact would be two years or less in duration (or transition types of activities). A long-term impact would be two years or more and have a continuing effect on the socioeconomic environment.

Type of Impact

Impacts were evaluated as to whether they would be beneficial or adverse. Beneficial socioeconomic impacts would improve the social or economic conditions in the affected area. Adverse socioeconomic impacts would be detrimental to the social or economic conditions in the affected area.

ALTERNATIVE A

Analysis

Under alternative A the park would continue to employ staff and contractors at various tasks to maintain and administer the park. The spending resulting from these activities would continue to provide a small amount of economic stimulus to the local area. Park visitation would gradually increase over time, which would result in long-term, negligible, beneficial economic effects on the regional economy.

Cumulative Impacts

The local economy would have slowly increasing tourism and recreational opportunities, with Arkansas Post National Memorial contributing negligibly to this growth. The combination of the local growth

and park increases would result in long-term, minor, beneficial cumulative impacts.

Conclusion

Under this alternative, there would be a long-term, negligible, beneficial impact on the area's socioeconomic environment.

ALTERNATIVE B

Analysis

The preferred alternative could have long-term, minor to moderate, beneficial impacts on the socioeconomic environment. Visitation to the park would gradually increase over time, which could increase business activity in the area. The new facilities in the Osotouy Unit would bring additional visitors and might increase the average length of stay for visitors, leading them to spend more time and money in the local community. This would result in increased benefits of a minor to moderate degree over the long term for a small number of firms and/or individuals, mostly those related to the tourism and service industries.

New facilities at the park would provide short-term, moderate to major economic benefits for a limited number of individuals and businesses involved in construction or in support for their workers. These short-term beneficial impacts would be concentrated in the construction and material supply sectors, and could either be local or regional, depending on the contractors selected.

Cumulative Effects

Additional improvements at Arkansas Post State Park and upgrading of nearby U.S. Army Corps of Engineers recreational facilities along with the development at the

Osotouy Unit would result in short- and long-term, minor, beneficial impacts on the local economy.

Although many beneficial impacts would occur in the region, some long-term, minor to moderate, adverse cumulative impacts could take place. Although traditional agricultural landscapes in the country have slowly declined due to residential and commercial development, this has not been the case locally. Increased tourism in the region, however, might reverse this trend.

Conclusion

Under this alternative there would be short- and long-term, minor to moderate, beneficial socioeconomic impacts.

ALTERNATIVE C

Analysis

Implementing alternative C would have long-term, negligible, beneficial impacts on the socioeconomic environment. The new Osotouy facilities would bring additional visitors and might increase the average length of stay for visitors, leading visitors to spend more time and money in the local community. Park visitation would gradually increase over time, which would increase business activity in the area. This would create negligible benefits over the long term for a small number of firms and/or individuals – mostly those concentrated in the tourism and service industries.

New park facilities and site work would provide short-term, moderate to major, beneficial economic impacts for a limited number of individuals and businesses. These benefits would mostly be concentrated in the construction and material supply sectors, and

could either be local or regional depending on the contractors selected.

Cumulative Effects

Additional improvements at Arkansas Post State Museum and upgrading of nearby U.S. Army Corps of Engineers recreational facilities along with the development at the park would result in short- and long-term, minor, beneficial impacts on the local economy. The NPS contribution to these beneficial impacts would be negligible.

Conclusion

Under this alternative there would be short- and long-term negligible, beneficial impacts on the socioeconomic environment.

ALTERNATIVE D

Analysis

New facilities at the Osotouy Unit would bring additional visitors and might increase the average length of stay for visitors, leading them to spend more time and money in the local community. Park visitation would gradually increase over time and this would increase business activities in the area. This would create long-term, beneficial impacts of a minor to moderate degree for a small number of firms and/or individuals, mostly those related to the tourism and service industries.

Facility construction would provide short-term, moderate to major, beneficial economic impacts for a limited number of individuals and the businesses. These impacts would be concentrated in the construction and materials supply sectors, and could be either local or regional depending on the contractors selected.

Cumulative Impacts

Additional improvements at Arkansas Post State Park and upgrading of nearby U.S. Army Corps of Engineers recreational facilities along with the development at the Osotouy Unit would result in short- and long-term, minor, beneficial impacts on the local economy.

Conclusion

Under this alternative there would be short- and long-term, minor to moderate, beneficial impacts on the socioeconomic environment.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irretrievable and irreversible commitments of resources that are associated with socioeconomic actions are summarized by alternative below. Irreversible commitments are those that cannot be reversed except perhaps in the extreme long term (e.g., the regrowth of an old-growth forest).

Irretrievable commitments are those that are lost for a period of time (e.g., if a road is constructed, the vegetative productivity is lost for as long as the highway remains).

Alternative A – There would be no irreversible and irretrievable commitments of resources under this alternative.

Alternative B – The rehabilitation of facilities at the Memorial Unit and the development of new facilities at the Osotouy Unit would result in the expenditure of energy to rehabilitate or develop the facility. In addition, with the rehabilitation of facilities and construction of new facilities there would be an irreversible commitment of materials, such as concrete, asphalt, wood,

and metal, that would be used in rehabilitation and construction activities.

Alternative C – The rehabilitation and expansion of facilities at the Memorial Unit and the development of new facilities at the Osotouy Unit would result in the expenditure of energy to rehabilitate or develop the facility. In addition, with the rehabilitation of facilities and the construction of new facilities, there would be an irreversible commitment of materials, such as concrete, asphalt, wood, and metal, that would be used in rehabilitation and construction activities.

Alternative D – The rehabilitation and expansion of facilities at the Memorial Unit and the development of new facilities at the Osotouy Unit would result in the expenditure of energy to rehabilitate or develop the facility. In addition, with the rehabilitation of facilities and construction of new facilities there would be an irreversible commitment of materials, such as concrete, asphalt, wood, and metal, that would be used in rehabilitation and construction activities.

RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section discusses the effects of the short-term use of resources in the alternatives on the long-term productivity. In other

words, are any long-term management possibilities or the productivity of park resources being traded for the immediate use of the land? Is the action being taken something that will affect future generations – is it an action that can continue over the long term without environmental problems?

There would be no adverse effect on economic productivity associated with implementation of any of the alternatives. However, the least beneficial alternative is alternative A, with alternatives B, C, and D resulting in greater economic productivity in the long term.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Park development and rehabilitation of existing structures would be done in such a manner as to provide for the greatest conservation of energy.

UNAVOIDABLE ADVERSE IMPACTS

There would be no unavoidable adverse impacts on the region's economy. Impacts are expected to be beneficial, although not large.

IMPACTS ON NATURAL RESOURCES

METHOD OF IMPACT ASSESSMENT

Soils

The impact assessment focused on what effect the alternatives would have on the geologic processes, namely the formation and conservation of soil resources. Development actions could affect soils through accelerated erosion or soil removal. When possible, mitigation measures were incorporated into the alternatives to reduce the intensity of adverse effects. Proposed actions and management prescriptions were evaluated for context, intensity, and duration of the geologic impacts, and whether the impacts would be beneficial or adverse.

Context. The context for the impact analysis is the park. Soil impacts should not extend beyond park boundaries.

Intensity. The impact intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive and have no meaningful implications on soils. Minor impacts would be effects on the soils that would be slightly detectable, but not expected to have an overall effect on soils. Moderate impacts would be clearly detectable and could have an appreciable effect on soils. Major impacts would have a substantial, highly noticeable influence on soils.

Duration. The duration would be either short term or long term. A short-term impact would last two years or less. A long-term impact would be two years or more and have a permanent effect on the soil resources.

Type of Impact. Impacts would be beneficial or adverse. Beneficial impacts would improve soils by restoring areas and

limiting development. Adverse impacts would deplete or harmfully effect soils.

Water Quality

This assessment focused on the physical and chemical hydrologic processes that might be altered under the actions and management prescriptions in the alternatives. The analysis identified potential effects on water quality from visitor use and nonpoint pollution such as refuse and automobile-related pollutants. Additionally, the analysis examined potential impacts that construction would have on water quality.

Context. The context would be either local or regional. Local impacts would be those that occur at specific areas within the park, such as at construction sites. Regional impacts would be those actions that affect the waters that surround the park.

Intensity. The intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive, and have no meaningful implications on water quality. Minor impacts would be effects on the hydrologic processes that would be barely detectable and not expected to have an overall effect on water quality. Moderate impacts would be clearly detectable and could have an appreciable effect on hydrologic processes, the adjacent floodplain, or water quality. Major impacts would have a substantial, highly noticeable influence on the hydrologic environment and could alter river processes, floodplain formation and evolution, and water quality.

Duration. The duration would occur in the short term or the long term. A short-term

impact would last two years or less. A long-term impact would last two years or more and have a continuing effect on water quality.

Type of Impact. Impacts would be beneficial or adverse. Beneficial impacts would sustain streamflow dynamics, allow natural processes to prevail, and protect or improve water quality. Adverse impacts would negatively alter hydrologic processes, thereby hindering processes and reducing protection of the river, bayou, its floodplain, and water quality.

Vegetation and Wildlife

Vegetation and wildlife are so intertwined that both have a similar analysis. The ability to perform a quantitative analysis is limited due to the conceptual nature of the alternatives. The analysis was based on the assumptions listed below.

The bigger the size of a biotic community and the stronger its links to neighboring communities, the more valuable it is to the integrity and maintenance of biotic processes. Development can limit the size of a community and fragment and disassociate communities from each other.

The more developed an area becomes, the less valuable it is as wildlife habitat. New development would increase human presence and increase the potential for soil, vegetation, and wildlife disturbance. The potential for human/wildlife conflicts (such as human injuries from wildlife and humans introducing unnatural food sources) also would increase. Removing development from an area would increase the habitat value. The effects of human food on wildlife behavior, distribution, and abundance would continue in existing developments and would begin in new

developments unless adequate facilities, education, and enforcement were provided.

Park development and visitor activities near sensitive habitat might adversely affect adjacent natural communities.

Disturbance in or near hydrological features might reduce the natural productive capability. Modifications that cause soil compaction, riparian vegetation losses, and accelerated erosion and sediment transport influence important habitat characteristic such as substrate type, location, and cover. These physical aspects often determine the composition of vegetative and wildlife communities.

Roads and trails generally form barriers for wildlife and fragment habitat.

The alternatives were evaluated for context, intensity, and duration of the impacts, as defined below, and whether the impacts were beneficial or adverse. Generally, the methodology for natural resource impact assessments follows direction provided in the *Council of Environmental Quality Regulations for Implementing the National Environmental Policy Act*, section 1508.27.

Context. The context would be local or regional. Local impacts would occur at specific areas in the park such as at construction sites. Regional impacts would affect areas surrounding the park.

Intensity. The intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive, and have no meaningful implications on biological resources. Minor impacts would be effects that would be barely detectable, but not expected to have an overall effect on natural community structure. Moderate impacts would be clearly detectable and could have

an appreciable effect on individual species, community ecology (e.g., the number of different kinds of amphibians present), or natural processes (e.g., fire). Major impacts would have substantial, highly noticeable influence on natural resources. This would include impacts that have a substantial effect on individual species, community ecology, or natural processes.

Duration. There would be both short-term and long-term effect. A short-term impact would be temporary in duration lasting two-years or less and would be associated with transitional types of impacts, such as facility construction. Long-term impacts would last two years or more.

Type of Impact. Impacts would be beneficial or adverse for biological resources. Effects would be beneficial if an action causes no detrimental effect and results in an increase in species numbers or habitat components, native ecosystem processes, native species richness/diversity, or native habitat quantity and quality. Adverse impacts would cause a decrease in species numbers or habitat components, native ecosystems processes, native species richness/diversity, or native habitat quantity and quality.

ALTERNATIVE A

Soils

Analysis. Soil compaction and minor soil erosion from trail use would continue to have a long-term, minor, adverse impact. No new land disturbances would occur from park development under the no-action alternative.

Cumulative Impacts. Impacts on soils from actions would be long-term, moderate, and adverse with farming being the primary use in the area. This affects soil profiles by

tilling and applying of herbicides and fertilizers that affect soil chemistry. These impacts along with the impacts under the no-action alternative would be long-term, moderate, and adverse. The magnitude of impacts on soils at Arkansas Post are extremely small in comparison to impacts by others on soils in the area.

Conclusion. Long-term, minor, adverse impacts on soils from trail use would continue.

There would be no impairment of soil resources because of actions proposed in this alternative.

Water Quality

Analysis. Predicted increases in visitation and associated parking lot use would increase the potential for runoff of petroleum-based products (e.g., oil, gasoline, and coolant). Increased erosion from temporary facility installation at the Osotouy Unit would minimally increase sediment runoff into surface waters. Mitigation such as erosion control and runoff filtration systems would minimize adverse impacts. This would result in long-term, negligible to minor, adverse impacts.

Cumulative Impacts. There are several sources of water contamination in the Arkansas River watershed upstream of the park. Most of these are considered nonpoint sources of pollution from agricultural and industrial uses outside the park. The impact from ongoing park management activities on water quality would be long term, minor, and adverse. The cumulative impact from all sources in the region plus the minor contribution by the park would be long term, moderate, and adverse.

Conclusion. Long-term, negligible to minor, adverse impacts on water quality would result under this alternative.

There would be no impairment of water quality resources because of actions proposed in this alternative.

Vegetation

Analysis. Increased trail use would cause continued minor losses of native vegetation. Most of this loss would be from disturbance to trail edges but might also come from social trail development. Mitigation, which would include monitoring trail edges and educating visitors about impacts, could minimize these long-term, minor, adverse impacts. The continued threat of exotic plants species inside the park would continue.

Cumulative Impacts. Numerous exotic plant species in the park threaten native vegetation. The impact of these exotic species on native species in the area would continue to be moderate to major because most all areas in the region are populated by exotic plants. The cumulative impact of the no-action alternative in combination with actions by others on exotic species would cause long-term, moderate to major, adverse cumulative impacts on native plant species in the area. The NPS contribution to this impact would be long-term, minor, and adverse.

Conclusion. Under the no-action alternative long-term, minor, adverse impacts on native vegetation would continue.

There would be no impairment of vegetation resources because of actions proposed in this alternative.

Wildlife

Analysis. Trail system use and maintenance would continue to cause temporary displacement of wildlife. Habitat fragmentation created by the existing trail would continue to have long-term, minor, adverse impacts on smaller wildlife species. Continued ambient noise levels from visitor use and park operations would have short-term, minor, adverse impacts on wildlife species that rely on sound for communication. These combined impacts would cause long-term, negligible to minor, adverse impacts.

Cumulative Impacts. Farming and development in the region has caused a long-term, moderate to major, adverse impact on wildlife communities due to substantial habitat loss. The impacts of the no-action alternative in combination with the impacts of farming and development would continue to result in long-term, moderate to major, adverse impacts. The NPS contribution would be small compared to the total cumulative impact.

Conclusion. The no-action alternative would continue to cause long-term, negligible to minor, adverse impacts on wildlife resources from visitor and maintenance activities.

There would be no impairment of wildlife resources because of actions proposed in this alternative.

ALTERNATIVE B

Soils

Analysis. A hardened trail surface, additional parking, and new park facilities would cause long-term, minor, adverse soil erosion. A loss of soil permeability and increased precipitation runoff would occur in areas hardened by pavement. Vegetation losses along the trail edges could be

expected from increased visitor use, further contributing to erosion impacts. Careful design and placement of the proposed trail would minimize longer-term erosion problems. Restoration activities at the Osotouy Unit would cause short-term, minor to moderate, adverse impacts on soil resources, but these activities would ultimately result in long-term, moderate, beneficial impacts on soils as native plant communities were reintroduced. The actions in this alternative would stabilize soils and restore soil chemistry over time. Short-term impacts from increased erosion would be mitigated by limiting the amount of time that soil is left exposed and by using standard erosion control measures such as erosion matting and silt fencing. Revegetation (with native plants) of the disturbed work zones after construction would help mitigate the impacts on soils.

Cumulative Impacts. Continued impacts on native soils in the area from farming are long-term, moderate, and adverse. They include disrupting the soil profile and introducing chemicals via fertilizers and herbicides. These regional impacts, along with the impacts under the proposal, would remain long term, moderate, and adverse. The NPS contribution would be negligible compared to the total cumulative impact.

Conclusion. This alternative would result in long-term, minor to moderate, adverse impacts on soils from facility and trail construction.

There would be no impairment of soil resources because of actions proposed in this alternative.

Water Quality

Analysis. Short-term, minor, adverse impacts on water quality would occur from increased sediment runoff during new facil-

ity construction. These temporary impacts would be mitigated to some extent by standard erosion control measures. Another short-term, minor, adverse impact could result from construction vehicles leaking fluids. This would be minimized with regular equipment inspections. Long-term, minor, adverse water quality impacts would occur from increased vehicle parking and runoff of petroleum-based (and other) chemicals that leak from many vehicles. These impacts would be minimized through proper parking facility design and possibly some type of filter system or other method to control runoff.

Increased soil erosion from new hardened trail surfaces would cause long-term, minor, adverse impacts from increases in turbidity and suspended solids caused by sediment runoff.

Short-term, negligible to minor, adverse impacts on water quality would result from restoration activities at the Osotouy Unit.

Cumulative Impacts. There are several water contamination sources in the Arkansas River watershed upstream of the national memorial. Most of these are considered nonpoint pollution sources and attributed to agricultural and industrial uses. The NPS contribution to this long-term, moderate, adverse impact on water quality would be negligible.

Conclusion. Actions proposed under this alternative would result in short- and long-term, minor, adverse impacts on water quality.

There would be no impairment of water quality resources because of actions proposed in this alternative.

Vegetation

Analysis. Permanent vegetation loss would occur with the new facility development and trail construction. Long-term, minor to moderate, adverse impacts on native vegetation could occur in areas adjacent to all park facilities and visitor use areas where exotic species could be brought in and dispersed. The threat of exotic vegetation from within the park and surrounding areas is a long-term, moderate, adverse impact. Increased trail use would result in continued minor losses of native vegetation. Most of this would be from disturbances along trail edges but might be from the creation of social trails. Impacts on native vegetation would be minimized during construction by limiting the size of the work zone to the minimum necessary. Also, diligent monitoring of visitor use areas for signs of damage and timely revegetation of disturbed areas with native species would minimize the potential for long-term vegetation loss. Restoration of areas in the Osotouy Unit would have a long-term, moderate, beneficial impact on native vegetation.

Cumulative Impacts. The presence of numerous exotic plant species represents a threat to native vegetation resources in the area. The impact of these exotic species on native plants in the area is long term, moderate to major, and adverse. Most all areas in the region are populated by exotic species. The impact from other areas in the region in combination with this alternative would result in long-term, moderate to major adverse impacts on native plant species. The NPS contribution to this impact would be minor.

Conclusion. This alternative would result in long-term, minor, adverse impacts on vegetation resources and would increase the amount of continual active restoration required to maintain native plant communities by a small amount. There would be over-

all long-term, moderate, beneficial impacts on plant communities from active plant restoration.

There would be no impairment of vegetation resources because of actions proposed in this alternative.

Wildlife

Analysis. Temporary displacement of wildlife would occur during construction of new facilities at the Memorial Unit and at the Osotouy Unit. These impacts would likely affect smaller wildlife species more than larger mammals.

Increased visitation to the Osotouy Unit would result in a long-term, moderate adverse impact on wildlife. This would cause an increase in wildlife displacements due to greater vehicle/visitor congestion, trail use, and higher noise levels. Increased ambient noise could have long-term, minor, adverse impacts on wildlife species that rely on sound as a form of communication or for breeding. Long-term, minor to moderate, beneficial impacts on wildlife would result from the vegetation restoration of parts of the Osotouy Unit.

Cumulative Impacts. Farming and development outside the park has had a long-term, moderate to major, adverse impact on wildlife communities as a result of substantial habitat loss. The actions under the preferred alternative in combination with ongoing regional impacts would continue to have long-term, moderate to major, adverse cumulative impacts on wildlife. The park's contribution to this impact would be minor.

Conclusion. This alternative would result in short- and long-term, moderate, adverse impacts on wildlife species that live on or travel near the park. Impacts would be most severe during peak visitation periods and/or

during sensitive breeding seasons for wildlife. However, there would be long-term, moderate, beneficial impacts as a result of vegetation restoration at the Osotouy Unit.

There would be no major adverse impacts on resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the national memorial's establishing legislation, (2) key to the natural or cultural integrity or opportunities for enjoyment of the national memorial, or (3) identified as a goal in this general management plan or other relevant NPS planning documents. Consequently, there would be no impairment of wildlife resources.

ALTERNATIVE C

Soils

Analysis. This alternative would eliminate some trails and would limit visitor access to a smaller area of the park. This would result in long-term, minor, beneficial impacts on soils. Adverse impacts such as soil compaction and accelerated erosion resulting from trail use would be reduced because portions of the park would be restored to native vegetation. Short-term, minor to moderate, adverse impacts on soils would be expected as a result of construction at the Osotouy Unit. In the long term, moderate, beneficial impacts would result from the reintroduction of native plant communities. This would be beneficial in stabilizing and chemically restoring soils.

Cumulative Impacts. Long-term, minor, adverse impacts on native soils in the area would continue from current farming practices. These on-going impacts along with the actions proposed under this alternative would result in long-term, moderate, and adverse impacts on soils. The park's

contribution to this impact would be negligible.

Conclusion. Long-term, minor to moderate, beneficial impacts on soils would occur under this alternative.

There would be no impairment of soil resources because of actions proposed in this alternative.

Water Quality

Analysis. Short-term, minor, adverse impacts on water quality might occur as a result of increased sediment runoff during new facility construction. Temporary impacts on water quality would be mitigated to some extent through erosion control measures. Another short-term minor adverse impact could result from construction vehicles leaking fluids. This would be minimized with regular equipment inspections of equipment. Long-term, minor, adverse water quality impacts would likely occur from increased vehicle parking and runoff of petroleum-based (and other) chemicals that leak from many vehicles. These impacts would be minimized through proper parking facility design and possibly some type of filter system or other methods to control runoff.

Increased soil erosion from new hardened trail surfaces would cause long-term, minor, adverse impacts on water quality by increasing sediment runoff, which would cause greater turbidity and suspended solids.

Short-term, minor, adverse impacts on water quality would occur from vegetation restoration and new park facilities at the Osotouy Unit.

Cumulative Impacts. There are several sources of water contamination in the Arkansas River watershed upstream from the national memorial. Most of these are

nonpoint sources of pollution and can be attributed to agricultural and industrial land uses. The NPS impact on water quality would be negligible and would not change the regional impacts, which are long-term, moderate, and adverse.

Conclusion. Actions in this alternative would result in short- and long-term, minor, adverse impacts on water quality.

There would be no impairment of water quality resources because of actions proposed in this alternative.

Vegetation

Analysis. Minor vegetation losses might occur immediately adjacent to the remaining trails at the park and along a new trail in the Osotouy Unit. Limitations to site access, however, would allow for some restoration of vegetation communities while eliminating the potential for further human-induced adverse impacts on vegetation resources. The threat of exotic vegetation invasion from within the park and from surrounding areas is a long-term, moderate, adverse impact. Restoring native vegetation at the Osotouy Unit would have a long-term, moderate, beneficial impact. A long-term, minor, adverse impact on native vegetation could be expected in areas adjacent to all park facilities and visitor use areas because these areas would continue to be affected by park visitors.

Permanent vegetation loss would occur with the new facility development. Impacts on native vegetation would be minimized during construction by limiting the size of the work zone to the minimum necessary. Diligent monitoring of visitor use areas for signs of damage and timely revegetation of disturbed areas with native species would minimize the potential for long-term vegetation loss.

Cumulative Impacts. The presence of numerous exotic plant species represents a threat to native vegetation resources in the area. The impact of these exotic species on native plants in the area is long term, moderate to major, and adverse. Most all areas in the region are populated by exotic species. The impact of nonnative vegetation in the region in combination with actions in this alternative would result in a long-term, moderate to major, adverse impact on native plant species in the area. The NPS contribution to this impact would be minor.

Conclusion. The highest level of native plant protection would occur under this alternative, resulting in a long-term, moderate, beneficial impact.

There would be no impairment of vegetation resources because of actions proposed in this alternative.

Wildlife

Analysis. Short-term displacement of wildlife would occur during construction of new facilities at the Memorial Unit and at the Osotouy Unit. These impacts would likely affect smaller, less mobile wildlife species more severely than larger mammals.

Increased visitation to the Osotouy Unit would cause a moderate increase in wildlife displacements due to increased vehicle/visitor congestion, trail use, and higher noise levels. Increased ambient noise levels could have long-term, minor, adverse impacts on wildlife species that rely on sound for communication or breeding. Long-term, minor to moderate, beneficial impacts on wildlife would result from vegetative restoration on parts of the Osotouy Unit. Restrictions on visitor use and reduced habitat fragmentation would provide long-term, moderate, beneficial impacts on area wildlife.

Cumulative Impacts. Farming and other development outside the park would continue to have a long-term, moderate to major, adverse impact on wildlife. The actions under this alternative in combination with regional impacts would continue to result in a long-term, moderate to major, adverse impact. The impacts from alternative C would be minor compared to the total cumulative impact.

Conclusion. This alternative would result in short- and long-term, minor, beneficial impacts on wildlife species.

There would be no impairment of wildlife resources because of actions proposed in this alternative.

ALTERNATIVE D

Soils

Analysis. A hardened trail surface and additional parking and new park facilities would cause long-term, minor, adverse soil erosion. A loss of soil permeability and increased precipitation runoff would occur in areas hardened by pavement. Vegetation losses along the trail edges could be expected from increased visitor use, further contributing to erosion impacts. Careful design and placement of the proposed trail system and facilities would minimize longer-term erosion problems. Restoration activities at the Osotouy Unit would cause short-term, minor to moderate, adverse impacts on soils but would result in long-term, moderate beneficial impacts. The benefits would include soil stabilization and the chemistry restoration.

The short-term impacts from increased erosion could be mitigated by limiting the amount of time that soil is left exposed and by using standard erosion control measures

such as erosion matting and silt fencing. Revegetating disturbed work zones after construction would also assist in mitigating impacts on soil resources.

Cumulative Impacts. Combined impacts on native soils in the area from farming are long-term, moderate, and adverse. They come from application of agricultural chemicals and plowing. These regional impacts along with the impacts under this alternative would not change. The NPS contribution would be a negligible compared to the total cumulative impact.

Conclusion. This alternative would result in long-term, minor to moderate, adverse impacts on soils from facility and trail construction.

Impairment. There would be no major adverse impacts on resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the national memorial's establishing legislation, (2) key to the natural or cultural integrity or opportunities for enjoyment of the national memorial, or (3) identified as a goal in this general management plan or other relevant NPS planning documents. Consequently, there would be no impairment of soil resources because of actions proposed in this alternative.

Water Quality

Analysis. Short-term, minor, adverse impacts on water quality occur from increased sediment runoff during construction. These temporary impacts would be mitigated to some extent with standard erosion control measures. Another short-term minor adverse impact would result from construction vehicles leaking fluids. This would be minimized with regular equipment inspections. Long-term, moderate, adverse impacts on water quality would occur from increased

vehicle parking and associated runoff of petroleum-based (and other) chemicals that leak from many vehicles. These impacts would be minimized through proper parking facility design and possibly of some type of filter system or other methods to control runoff.

Increased soil erosion from new hardened surfaces would likely cause long-term, minor, adverse impacts on water quality. This would be caused by increased sediment runoff resulting in greater turbidity and suspended solids.

Short-term, minor, adverse impacts on water quality would result from restoration activities at the Osotouy Unit.

Cumulative Impacts. There are several water contamination sources in the Arkansas River watershed upstream from the national memorial. Most of these are nonpoint pollution sources and attributed to agricultural and industrial uses. The NPS impact on water quality would be negligible and would not change the regional impact. The cumulative impacts would continue to be long term, moderate, and adverse.

Conclusion. Actions proposed under this alternative would result in short- and long-term, minor, adverse impacts on water quality.

There would be no impairment of water quality resources because of actions proposed in this alternative.

Vegetation

Analysis. Permanent vegetation loss would occur with new facility and trail construction. Long-term, minor to moderate, adverse impacts on native vegetation could be expected in areas adjacent to all park facilities and visitor use areas. The threat of

exotic vegetation from within and from surrounding areas is a long-term, moderate, adverse impact. Increased trail use would result in continued minor losses of native vegetation. Most of this loss would be disturbances to trail edges but might be due to the creation of social trails. Impacts on native vegetation would be minimized during construction by limiting the work zones to the minimum areas required. Monitoring visitor use areas for disturbance and timely revegetation would minimize the potential for vegetation loss. Restoring areas at the Osotouy Unit to native vegetation would result in a long-term, moderate, beneficial impact to natural vegetation communities in the area.

Cumulative Impacts. The presence of numerous exotic plant species represents a threat to native vegetation in the area. The impact of these exotic species on native plants in the area results in a long-term, moderate to major, adverse impact. Most all areas in the region are populated by exotic species. The impact of nonnative vegetation in the region in combination with NPS activities would result in a continued long-term, moderate to major, adverse impacts on native plant species in the area. The NPS contribution to this impact would be minor.

Conclusion. This alternative would result in long-term, minor, adverse impacts on vegetation and would increase the amount of continual active restoration required to maintain native plant communities by a small amount. There would be an overall long-term, moderate, beneficial impact on plant communities from active plant restoration.

There would be no impairment of vegetation resources because of actions proposed in this alternative.

Wildlife

Analysis. Short-term displacement of wildlife would occur during construction of new facilities in the Memorial Unit and at the Osotouy Unit. These impacts would likely affect smaller, less mobile wildlife species more severely than larger mammals.

With more visitors at the Osotouy Unit there would be a moderate increase in wildlife displacements due to increased vehicle/visitor congestion trail use and noise levels. Increased ambient noise levels could have long-term, minor, adverse impacts on wildlife species that rely on sound for communication or breeding. Long-term, minor to moderate, beneficial impacts on wildlife would result as areas were returned to their natural state at the Osotouy Unit.

Cumulative Impacts. Farming and other development outside the park has had a long-term, moderate to major adverse impact on wildlife communities due to significant habitat loss. The actions under this alternative in combination with regional impacts would continue to have long-term, moderate to major, adverse impacts on wildlife.

Conclusion. This alternative would result in short- and long-term, moderate, adverse impacts on wildlife species. Impacts would be most severe during peak visitation periods and/or during sensitive breeding seasons. However, there would be long-term, moderate beneficial impacts from vegetation restoration at the Osotouy Unit.

There would be no major adverse impacts on resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the national memorial's establishing legislation, (2) key to the natural or cultural integrity or opportunities for enjoyment of the national memorial, or (3)

identified as a goal in this general management plan or other relevant NPS planning documents. Consequently, there would be no impairment of wildlife resources.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irretrievable and irreversible commitments of resources that are associated with natural resource actions are summarized by alternative below. Irreversible commitments are those that cannot be reversed except perhaps in the extreme long term (e.g., the regrowth of an old-growth forest). Irretrievable commitments are those that are lost for a period of time (e.g., if a road is constructed, the vegetative productivity is lost for as long as the highway remains).

Alternative A – There would be no irreversible and irretrievable commitments of resources under this alternative.

Alternative B – The construction of facilities and trails would result in the loss of vegetation and wildlife habitat, with the Memorial Unit having less loss than the Osotouy Unit.

Alternative C – The construction of park facilities and trails would result in the loss of vegetation and wildlife habitat, although slightly less than in B with the Memorial Unit having less loss than the Osotouy Unit.

Alternative D – The construction of park facilities and trails would result in about the same loss of vegetation and wildlife habitat as in alternative B, with the Memorial Unit having less loss than the Osotouy Unit.

RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section discusses the effects of the short-term use of resources in the alternatives on the long-term productivity. In other words, are any long-term management possibilities or the productivity of park resources being traded for the immediate use of the land? Is the action being taken something that will affect future generations – is it an action that can continue over the long term without environmental problems?

Alternative A – There would be slight adverse effects on biological productivity in the area of trails, facilities, and parking lots.

Alternative B – There would be adverse effects on biological productivity in the area of trails, facilities, and parking lots.

Alternative C – There would be beneficial effects on biological productivity because of the reduced number of trails.

Alternative D – There would be adverse effects on biological productivity in the area of trails, facilities, and parking lots.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Energy requirements would increase for new structures. This would be mitigated by energy-efficient design. Alternative D would result in the greatest energy requirements because of the number of structures that would be maintained and used.

UNAVOIDABLE ADVERSE IMPACTS

Overall, there would be minor to moderate adverse impacts on natural resources under the three action alternatives to accommodate visitors and their vehicles.

IMPACTS ON TRANSPORTATION CORRIDORS, CIRCULATION, AND LINKS

METHOD OF IMPACT ASSESSMENT

The focus of this impact assessment was on the effect of changes in overnight accommodations (campground and lodging), parking spaces, and vehicles on traffic volumes and associated traffic flow and safety conditions. When possible, mitigation measure(s) were incorporated into the alternatives to reduce the intensity of adverse effects.

Proposed management prescriptions and actions in the alternatives were evaluated for context, intensity, and duration of the transportation impacts, and whether the impacts would be beneficial or adverse.

Context

The context of the impact considers whether the impact would be local or regional. For this analysis, local impacts would occur within or between the two park units. Regional impacts would be on regional highways providing access to the park.

Intensity

The intensity would be negligible, minor, moderate, or major. Negligible impacts would be effects so slight as to be difficult to measure or perceive and would have no meaningful implications on traffic flow and/or traffic safety conditions. Minor impacts would be barely detectable effects on traffic flow and/or traffic safety conditions that would be slightly detectable, but it is not expected that there would be an overall effect on those conditions. Moderate impacts would be clearly detectable and could have an appreciable effect on traffic flow and/or traffic safety. Major impacts

would have a substantial, highly noticeable influence on traffic flow and/or traffic safety conditions.

Duration

The duration would be short term or long term. A short-term impact would last two years or less and would be associated with transitional types of activities. A long-term impact would last two years or longer and have a lasting effect on traffic flow and/or safety conditions.

Type of Impact

Impacts on traffic flow and/or traffic safety were determined to be beneficial or adverse. Beneficial impacts would improve traffic flow and traffic safety by reducing congestion and vehicle/vehicle, vehicle/bicycle, and vehicle/pedestrian conflicts. Adverse impacts would obstruct or slow traffic flow and decrease traffic safety by increasing levels of congestion and such conflicts.

ALTERNATIVE A

Analysis. Some road rehabilitation, paving, or widening might be required for visitor access at the Osotouy Unit. Increased visitation would increase vehicular traffic near Osotouy and on local roads and highways, potentially causing inconvenience for local residents and increased traffic hazards. This would result in short-term, minor to moderate, adverse impacts on local residents during road construction and long-term, minor, adverse impacts from increasing traffic.

Cumulative Impacts. Regional traffic increases over time would result in long-term, minor to moderate, adverse cumulative impacts on road congestion and safety. Traffic to the park would be spread out over time and over the road network and would have a negligible contribution to this traffic increase.

Conclusion. There could be long-term, negligible, adverse impacts on traffic in the region.

ALTERNATIVE B

Analysis. This alternative would result in minor increased local traffic over time. Road rehabilitation, paving, or widening would take place near the Osotouy Unit. Additional visitation would increase vehicular traffic on local roads and highways, potentially causing inconvenience to local residents and increased traffic hazards. This would result in short-term, minor to moderate, adverse impacts on local residents during road construction, and long-term, minor, adverse impacts from increasing traffic.

Cumulative Impacts. Regional traffic gradually increasing over time would result in long-term, minor to moderate adverse cumulative impacts on road congestion and safety. Traffic to the park would be spread out over time and over the road network. It would have a negligible contribution to this traffic increase.

Conclusion. There would be long-term, minor, adverse impacts on traffic in the region.

ALTERNATIVE C

Analysis. Road building, paving, or road widening would take place around Osotouy and between that site and the park. Additional visitation would increase vehicular

traffic in the area and on local highways, potentially causing some inconvenience for local residents. In this alternative, substantial areas of the park would not be developed and this action is expected to limit the increase in visitation. The increase in vehicular traffic would be negligible.

Cumulative Impacts. Regional traffic in the coming years would be increasing, which could result in long-term minor to moderate cumulative impacts on road congestion. Traffic to the park would be spread out over time and over the road network. It would have a negligible contribution to this traffic increase.

Conclusion. There could be long-term, negligible, adverse impacts on traffic in the region.

ALTERNATIVE D

Analysis. Roadwork and widening would occur between the Memorial and Osotouy Units with parking areas being developed at the Osotouy Unit. Increasing visitation to the Osotouy Unit would result in higher volumes of vehicular traffic on local roadways, potentially causing some inconvenience for local residents and increased traffic hazards. This would result in short- and long-term, minor, adverse impacts.

Cumulative Impacts. Regional traffic in the coming years would be increasing and result in minor to moderate cumulative impacts on road congestion. Traffic to the park would be spread out over time and over the road network and would have a negligible contribution to this traffic increase.

Conclusion. There could be long-term, minor, adverse impacts on road congestion and increased vehicular traffic volume.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The ir retrievable and irreversible commitments of resources that are associated with transportation corridors and circulation actions are summarized by alternative below. Irreversible commitments are those that cannot be reversed except perhaps in the extreme long term (e.g., the regrowth of an old-growth forest). Ir retrievable commitments are those that are lost for a period of time (e.g., if a road is constructed, the vegetative productivity is lost for as long as the highway remains).

Alternative A – There would be no irreversible and ir retrievable commitments of resources under this alternative.

Alternatives B – D – Implementing the action alternatives would result in the commitment of capital, energy, materials, and labor for constructing parking facilities and small sections of roads. This impact would be similar in all action alternatives. Park-destined visitors would gradually contribute to increases in traffic on the local road system, which might contribute to the commitment of capital, energy, materials, and labor for the maintenance and improvement of road and development of alternative transportation modes.

RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

See this heading under the “Impacts on Natural Resources” section for a discussion of the impacts.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

The use of vehicles to access the national park units would result in fuel consumption. All action alternatives would result in approximately the same level of fuel consumption. Providing access and parking for vehicles at the park would result in a short-term increase in energy requirements for constructing and maintaining parking and circulation areas. The level of energy commitment would be about the same in all action alternatives.

UNAVOIDABLE ADVERSE IMPACTS

Park visitation would contribute to increased traffic on local roads. This would likely add slightly more noise, pollution, safety concerns, and visual impacts on the cultural landscape. This would result in a long-term, negligible, adverse impact.



CONSULTATION AND COORDINATION

PUBLIC INVOLVEMENT ON THE DRAFT GENERAL MANAGEMENT PLAN

The *Draft General Management Plan/Environmental Impact Statement* for Arkansas Post National Memorial is a collaboration of the National Park Service and the public. Consultation and coordination among the agencies and public were vitally important throughout the planning process. The public had two primary avenues by which it participated in the development of the plan – public meetings and newsletter responses.

PUBLIC MEETINGS AND NEWSLETTERS

A mailing list was compiled during the planning process. This list included members of governmental agencies, nongovernmental groups, businesses, legislators, local governments, and interested citizens.

The first opportunity for the public to become involved in the plan for Arkansas Post National Memorial came in July of 1999. The National Park Service held five public meetings in Gillett, DeWitt, Dumas, Stuttgart, and Pine Bluff. There were 102 people at these meetings. In addition to the public meetings, the park superintendent made 28 presentations during the next several months to various civic organizations. In October 1999 a newsletter was issued describing the planning effort. The National Park Service received several comments responding to the meetings and newsletter. A number of these comments were incorporated into the issues and alternatives for the general management plan.

The National Park Service issued a second newsletter, with draft alternative management concepts in March 2000. Forty comments were received favoring more

interpretation, identifying and emphasizing cultural resources, and expanding water recreation. Several commenters advocated combining the research and administration functions of the park, physically linking the Memorial and Osotouy Units through an interpretive shuttle, retaining and/or expanding the current trail system, and providing an area for camping. Respondents recommended keeping areas of the Memorial and Osotouy Units in a conservation management prescription. Separating the administrative area from the visitor center area, building an amphitheater, or providing a space for organized games had little support.

CONSULTATION WITH THE U.S. FISH AND WILDLIFE SERVICE

Consultation with the U.S. Fish and Wildlife Service began in June 1999 with a request for a list of endangered and threatened species that may occur in or near the park. U.S. Fish and Wildlife Service responded July 1999 with a list of species. These letters are included in appendix C. A copy of this draft plan will be sent to the U.S. Fish and Wildlife Service for comment under section 7 of the Endangered Species Act.

CONSULTATION WITH THE STATE HISTORIC PRESERVATION OFFICERS AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

Section 106 of the National Historic Preservation Act of 1966 as amended (16USC270, et seq.) requires that federal agencies that have direct or indirect interest jurisdiction take into account the effect of an undertaking on national register properties and allow the Advisory Council on Historic

Preservation an opportunity to comment. Toward that end the National Park Service works with the Arkansas Historic Preservation Officer, and the Advisory Council on Historic Preservation to meet requirements of 36 CFR 800. The state historic preservation officer and advisory council were invited to participate in the planning process for Arkansas Post National Memorial, and each had an opportunity to review and comment on the preliminary alternatives. Identical letters and schedule of public meetings were sent to the state historic preservation office and the advisory council in June 1999 (see appendix D). In a July 2, 1999, phone call between the National Park Service and the state historic preservation, that office requested a copy of the draft public document when it was published. A copy of the draft public document will also be sent to the advisory council.

CONSULTATION WITH AMERICAN INDIANS

The National Park Service initiated consultation with the Quapaw, who historically occupied the area, in meetings between the park and tribe on December 15-16, 1999. The tribe expressed a desire to have a Quapaw cemetery established in Arkansas Post National Memorial for

interment of Quapaw remains. A preliminary draft copy of the general management plan was provided the tribe to assure that any issues needing further discussion could be identified. On May 18, 2001, the park met with the tribe and they again expressed a desire to have an interment cemetery on the site and it has been included in this *Draft General Management Plan*. The tribe expressed their desire to participate with the park and U.S. Fish and Wildlife Service in any archeological investigations of the mounds and suspected site of the village of Osotouy. The tribe will be sent a copy of this *Draft General Management Plan* and the National Park Service will solicit their comments.

CONSULTATION WITH THE NATURAL RESOURCES CONSERVATION SERVICE ON PRIME AND UNIQUE FARMLANDS

Barry Cooper of the Natural Resources Conservation Service on April 23, 2002 advised that there are no lands in the areas that would be affected by actions proposed in this plan that are considered prime and unique.

LIST OF AGENCIES AND ORGANIZATIONS RECEIVING COPIES OF THE DRAFT PLAN

FEDERAL AGENCIES

Advisory Council on Historic Preservation
Arkansas Congressional Delegation
Federal Emergency Management Agency
Natural Resource Conservation Service
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service

STATE AGENCIES

Department of Environmental Quality
Department of Parks and Tourism
Department of Highways and Transportation
Governor's Office
Historic Preservation Office

LOCAL AGENCIES

Arkansas County
City of DeWitt
City of Gillett
City of Stuttgart
Desha County

TRIBES

Quapaw



APPENDIXES / BIBLIOGRAPHY / PREPARERS

APPENDIX A: ESTABLISHING LEGISLATION AND LEGISLATION FOR THE ADDITION OF THE OSOTOUY UNIT

X. LEGISLATION RELATING TO NATIONAL MEMORIALS

1. Arkansas Post National Memorial Project

Establishment of memorial authorized-----Act of July 6, 1960 Page
369

An Act To provide for the establishment of the Arkansas Post National Memorial, in the State of Arkansas, approved July 6, 1960 (74 Stat. 333)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior shall acquire, by gift, purchase, condemnation, or otherwise, the lands (together with any improvements thereon) known as the Arkansas Post State Park, and any other lands adjacent to such park which, in his opinion, are necessary or desirable to carry out the purposes of this Act.

Arkansas Post
National
Memorial.

SEC. 2. (a) The lands acquired under the first section of this Act shall be set aside as a public park for the benefit and enjoyment of the people of the United States, and shall be designated as the Arkansas Post National Memorial. The Secretary of the Interior shall administer the park as a part of the national park system, subject to the provisions of the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat. 535).

16 U.S.C. 1,
2-4, 22, 43.

(b) In order to provide for the proper development and maintenance of the park, the Secretary of the Interior shall construct and maintain therein such roads, trails, markers, buildings, and other improvements, and such facilities for the care and accommodation of visitors, as he may deem necessary.

SEC. 3. There are hereby authorized to be appropriated such sums, but not more than \$125,000, as may be needed for the acquisition of lands and interests in lands and for development of the Arkansas Post National Memorial, of which not more than \$25,000 shall be used for acquisition purposes, and in addition thereto, such sums as may be needed for its administration and maintenance. (See 16 U.S.C. § 431 note [Supp. II].)

Appropriation.

SEC. 126. ARKANSAS POST NATIONAL MEMORIAL.—(a) The boundaries of the Arkansas Post National Memorial are revised to include the approximately 360 acres of land generally depicted on the map entitled “Arkansas Post National Memorial, Osotouy Unit, Arkansas County, Arkansas” and dated June 1993. Such map shall be on file and available for public inspection in appropriate offices of the National Park Service of the Department of the Interior. 16 USC 431 note.

(b) The Secretary of the Interior is authorized to acquire the lands and interests therein described in subsection (a) by donation, purchase with donated or appropriated funds, or exchange: *Provided*, That such lands or interests therein may only be acquired with the consent of the owner thereof.

APPENDIX B: SUMMARY OF KEY LEGAL MANDATES

Legal mandates provide direction for what can and cannot be considered in this plan. Several of the provisions of key legal mandates are summarized below.

NATIONAL PARKS AND RECREATION ACT OF 1978 (PL 95-625)

Section 604(b) of this act requires that general management plans be prepared and revised in a timely manner for each unit in the national park system. The act further specifies that general management plans shall include measures for the preservation of the area's resources, indications of the types and intensities of development associated with public use of the unit, visitor carrying capacities for all areas of the unit, and indications of potential modifications of the unit's external boundaries if needed.

ENDANGERED SPECIES ACT OF 1973, AS AMENDED (16 USC 1531 ET SEQ.)

The purpose of this act is to provide protection for animal and plant species that are currently in danger of extinction (endangered) and those that may become so in the foreseeable future (threatened). Section 7 requires all federal agencies to ensure that their activities do not have adverse impacts on the continued existence of threatened or endangered species or on designated areas (critical habitats) that are important in conserving those species. Thus, the National Park Service is required to fully integrate endangered species conservation planning into park system management. Agencies also are required to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The result of formal or informal consultation with the Fish and Wildlife Service should be documented in an

environmental assessment or environmental impact statement.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA; PL 91-190)

This act sets forth the federal policy to preserve important historic, cultural, and natural aspects of our national heritage. Another purpose of NEPA is to help public officials make decisions that are based on an objective understanding of environmental consequences and to take actions that protect, restore, and enhance the environment. The act applies to all federal projects or projects that require federal involvement. All federal agencies are directed to use a systematic, interdisciplinary approach that integrates natural and social sciences in planning and decision making that may impact the human environment. NEPA and the Council on Environmental Quality implementing regulations describe the process a proposed federal action such as this plan must follow. Among the steps in the process, NEPA and the regulations require early coordination, called "scoping," to determine the scope and significance of issues to be addressed in an environmental impact statement. A structured format for public involvement during the public review process is specified. When preparing an environmental impact statement, the regulations further require federal agencies to rigorously explore and objectively evaluate all reasonable alternatives to the preferred alternative.

NATIONAL HISTORIC LANDMARKS

The park contains two national historic landmark properties. These properties are Arkansas Post and Menard-Hodges Site. The *National Historic Landmarks* database list the threat level for these site as "Watch" for 2000. This would indicate that these national historic

landmarks face impending actions or circumstances that likely will cause a loss of integrity. The threat is described as follows:

Bank erosion threatens cultural deposits on the river at Arkansas Post. Nutria digging into the bank threaten a historic cemetery area and will accelerate land loss and the loss of cultural resources unless the nutria are dissuaded. At the Osotouy Unit, damage to cultural resources and human remains will continue until the field road is closed and an alternative route to Lake Dumond is established.

**NATIONAL HISTORIC PRESERVATION
ACT OF 1966, AS AMENDED (16 USC
470, ET SEQ.)**

This act establishes as federal policy that the historical and cultural foundations of the nation's heritage be preserved. Section 106 requires that federal agencies that have direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on properties eligible for or included in the National Register of Historic Places. The section also provides the Advisory Council on Historic Preservation and the state historic preservation officer an opportunity to comment on the undertaking. The 1992 amendments to the act have further defined the role of the Quapaw tribe and the affected public in the section 106 consultation process. Section 110 requires federal managers, in consultation with the state historic preservation officers, to

establish programs to identify, evaluate, and nominate properties to the National Register of Historic Places.

National register eligible or listed properties and national historic landmarks are afforded special protection in federal project federal project planning and implementation. In 1999 the Advisory Council on Historic preservation issued revised Section 106 regulations. The role of early and continuing consultation with the state historic preservation office and American Indian groups is clarified.

Under the terms of stipulation VI.E of the 1995 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, the National Park Service, "in consultation with the SHPO, will make a determination about which undertakings are programmatic exclusions under IV. A and B, and all other undertakings, potential effects on those resources to seek review and comment under 36 CFR 800.4-6 during the plan review process." The implementation of all construction actions in the preferred alternative would require consultation and review at the scoping, conceptual, and design stages by the Arkansas Historic Preservation Office. American Indian groups would participate in these reviews as well.

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APPENDIX C: LETTERS TO AND FROM U.S. FISH AND WILDLIFE SERVICE



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. ALAMEDA PARKWAY
P.O. BOX 25287
DENVER, COLORADO 80225-0287



D50-19 (ARPO 400-02)

June 10, 1999

Field Supervisor
U.S. Fish and Wildlife Service
1500 Museum Road
Conway, AR 73032

The National Park Service (NPS) is initiating a general management plan for Arkansas Post National Memorial, Arkansas County, AR. As the Natural Resource Specialist assigned to this project, I am requesting a current list of federal listed or candidate threatened or endangered species, any other special status species that might occur in the locality mentioned above, and designated critical habitats, if any, for these species.

This letter will serve as a record that the NPS is initiating informal consultation with your agency pursuant to the requirements of the Endangered Species Act and National Park Service Management Policies.

We appreciate your response to this inquiry. Send any responses to:

Greg Jarvis (DSC-RP)
National Park Service
12795 W. Alameda Parkway
Denver, CO 80225
(303) 969-2263

Sincerely,

Greg Jarvis
Natural Resource Specialist



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

1500 Museum Road, Suite 105
Conway, Arkansas 72032



July 6, 1999

Mr. Greg Jarvis
National Park Service
12795 W. Alameda Parkway
Denver, Colorado 80225

Dear Mr. Jarvis:

The Fish and Wildlife Service has reviewed the information supplied in your letter dated June 10, 1999, requesting endangered species and critical habitat information for the Arkansas Post National Memorial in Arkansas County, Arkansas [D50-19 (ARPO 400-02)]. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The threatened American bald eagle (*Haliaeetus leucocephalus*) and the endangered pink mucket pearly mussel (*Lampsilis abrupta*) are known to occur in Arkansas County. The bald eagle is a winter resident found mainly along rivers and lakes, and the pink mucket pearly mussel is found in medium to large rivers in habitats with varying substrates. No pink mucket pearly mussel beds are currently known to occur in the waters immediately surrounding the Arkansas Post National Memorial. There are no critical habitats currently listed in the project area.

We appreciate your interest in the preservation of endangered species and your cooperation in supplying the project location on a USGS 7.5 minute quadrangle. To help us expedite future requests for technical assistance, we request you also provide latitude and longitude.

Sincerely,

Margaret Harney
Acting Field Supervisor

99-324

**APPENDIX D: LETTER TO STATE HISTORIC PRESERVATION OFFICE (AND
ADVISORY COUNCIL) AND SCHEDULE OF PUBLIC MEETINGS**



United States Department of the Interior
NATIONAL PARK SERVICE
Arkansas Post National Memorial
1741 Old Post Road
Gillett, Arkansas 72055



In Reply Refer to:
H-30

Ms. Cathryn H. Slater
Director
Arkansas Historical Preservation Program
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

Dear Ms. Slater,

The National Park Service proposes to develop and subsequently implement a general management plan (GMP) for Arkansas Post National Memorial, Arkansas County, Gillett, Arkansas. Although we are just beginning our data gathering efforts for this plan, its eventual implementation may affect resources listed on or potentially eligible for the National Register of Historic Places.

Accordingly, we would like to begin the consultation process set forth in 36 CFR 800 and the Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

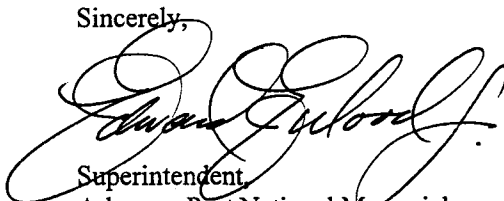
A project agreement outlining the scope of this GMP will be sent later for your review and comment. Should you or any member of your staff desire to join the team as a full member, we will be contacting you to let you know when the team is in the park and when major planning meetings are to occur. Otherwise, your comments will be sought at various stages of the planning process.

We would like to invite a representative of your office to participate in one or more of the public scoping meetings for the project. The meetings will be held in the following locations: July 12th at 7:00 PM in Gillett at the Gillett High School Cafeteria; July 13th at 7:00 PM in DeWitt at the Phillips Community College, Community Room; July 15th in Dumas at 7:00 PM in the City Hall Courtroom; July 19th at 7:00 PM in Stuttgart at the First Electric Community Room; and, July 22nd at 7:00 PM in Pine Bluff at the Jefferson County Historical Museum.

We look forward to your participation in the National Park Service planning process for Arkansas Post National Memorial. We believe that your participation will result in a better planning effort with regard to responsible cultural resource management. The Arkansas Post National Memorial GMP process is being conducted by the Denver Service Center of the National Park Service. The Job Captain is John Paige, who can be reached at (303) 969-2356. He is also responsible for cultural resource management issues.

While this project is being completed by the Denver Service Center, please continue to direct all questions and correspondence concerning this project to Kevin Eads, Resource Management Specialist at Arkansas Post National Memorial. Mr. Eads can be reached at (870) 548-2210, FAX (870) 548-2431.

Sincerely,



Superintendent
Arkansas Post National Memorial

bcc:
DSC-PM-Alesch
DSC-PDS-Paige

Arkansas Post National Memorial

Public Meeting Schedule



G
General
M
Management
P
Planning

GILLETT

July 12, 1999 - 7:00 PM
Gillett High School Cafeteria

DEWITT

July 13, 1999 - 7:00 PM
Phillips Community College
Community Room

DUMAS

July 15, 1999 - 7:00 PM
City Hall Courtroom

STUTTGART

July 19, 1999 - 7:00 PM
First Electric Community Room

PINE BLUFF

July 22, 1999 - 7:00 PM
Jefferson County Historical
Museum

For further information contact:
Arkansas Post National Memorial, 1741 Old Post Road, Gillett, AR 72055
Telephone: (870) 548-2207 fax: (870) 548-2431

APPENDIX E: RELATIONSHIP TO OTHER PLANNING EFFORTS

There are no known current local or state plans for the immediate area of Arkansas Post. A small number of plans have been prepared by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service that mention the memorial. All of the alternatives proposed

in this plan are consistent with the actions in these plans. Currently, federal agencies in the area informally work cooperatively in planning for the region's federal lands.

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Shane Lind – Park Ranger (now at Lincoln Boyhood National Memorial); B.S. History; Park Ranger, Arkansas Post NM; Park Ranger, Fort Smith NHS; 6 years NPS, Interpretation/ Visitor Experience.

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Edward E. Wood, Jr. – Superintendent, B.S. Biology; formerly Superintendent at War in the Pacific NHS and American Memorial Park; Visitor Center Supervisor, South Rim, Grand Canyon NP; Chief, Interpretation and Resource Management, Lehman Caves NM; Supervisory Park Ranger, Padre Island NS; Park Ranger, Everglades NP; and Park Ranger, Jefferson Expansion NMem. 28 years NPS.

Denver Service Center

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS D-37 November 2002

Arkansas Post National Memorial
Arkansas County, Arkansas