Metropolitan Park District
of the Toledo Area

National Park Service
U.S. Department of the Interior



FALLEN TIMBERS BATTLEFIELD
AND
FORT MIAMIS
NATIONAL HISTORIC SITE

Final
General Management Plan /
Environmental Impact Statement

Fallen Timbers Battlefield and Fort Miamis National Historic Site

Final General Management Plan / Environmental Impact Statement

Lucas County, Ohio

Fallen Timbers Battlefield and Fort Miamis National Historic Site is an affiliated area of the national park system that is managed by the Metropolitan Park District of the Toledo Area. The park consists of three units — Fallen Timbers Battlefield, Fallen Timbers State Monument, and Fort Miamis. This *Final General Management Plan / Environmental Impact Statement* presents four alternatives for the future management and use of the park; the final plan will guide park management over the next 15 to 20 years and establish a foundation for programs and priorities. The no-action alternative (alternative A) describes existing conditions and serves as a baseline for comparing the other alternatives. The action alternatives have been developed on the basis of public comments and the range of ideas proposed by the public; they are all compatible with the establishing legislation and mandates. Alternative B (the preferred alternative) would preserve resources, with an emphasis on protecting cultural resources and interpreting the historic events. Visitor experiences would be geared to learning about the sites, and most interpretation would take place at the edges of historic resources in order to ensure their preservation. Native vegetation at the battlefield site would be allowed to revert to species types more typical of those that existed in 1794. Alternative C would strike a balance between resource preservation and visitor experience. While historic resources would be protected, visitors would have access to more of the battlefield and the fort, encouraging them to become immersed in the interpretive and historical experience. Alternative D would establish an interpretive network of sites. Historic resources would be protected, and the historical importance of each unit would be presented through various interpretive media, with a small visitor center provided at each unit; visitors would be encouraged to visit other important historic sites in the region. Under all the action alternatives, all park units would be linked by means of walking/biking trails, a waterway connection by way of the Maumee River, and public transportation.

Under the no-action alternative potential impacts on archeological and historic resources at the battlefield and the fort could be major and adverse, and they could constitute an impairment of park resources and values. Impacts of the preferred alternative would generally be beneficial because cultural resources would be preserved, and natural vegetative conditions would be reestablished in major portions of the battlefield. Visitor experiences would be improved as a result of re-creating the historical appearance of the battlefield, providing in-depth interpretive programs, and establishing links between the three units. Impacts under alternatives C and D would be similar to those of the preferred alternative, except impact intensities would change depending on the action.

The *Draft Environmental Impact Statement* was on public review from March 10 to June 3, 2004. Two public forums were held during the review period, and 13 written comments were received. This *Final Environmental Impact Statement* includes responses to substantive comments, and the preferred alternative has been refined to incorporate suggestions from the public. This *Final Environmental Impact Statement* will be on public review for a 30 day no-action period. If no substantive comments are received, then a Record of Decision will be signed by the Regional Director of the Midwest Region of the National Park Service to document which alternative has been selected as the general management plan. For additional information contact

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Metropolitan Park District of the Toledo Area
and
National Park Service • United States Department of the Interior

A Guide to This Final General Management / Environmental Impact Statement

This *Final General Management Plan / Environmental Impact Statement* is organized in accordance with the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act, the National Park Service's *Director's Order #2: Park Planning* and *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making.*

- **Summary —** Beginning on the following page, the summary briefly describes what the approved general management plan will accomplish, the alternatives being considered, and the environmental consequences of implementing the alternatives.
- **Purpose of and Need for Action —** The first chapter sets the framework for the document. It describes why a plan is being prepared and what needs must be addressed. It gives the overall direction for the alternatives, which are based on the park's legislated mission, its purpose, and the significance of its resources, as well as statements of what the park should be like in the future (referred to as desired future conditions). It then details the specific problems, issues, and concerns that were raised during public scoping and that are addressed by the alternatives to varying degrees. The scope of the document lists the specific impact topics that are considered. Finally, how this plan relates to other plans and projects is described.
- **Alternatives, Including the Preferred Alternative —** The second chapter begins by describing the management prescriptions that will be used to manage the park units in the future. The four alternatives that are being considered are then presented, and the three action alternatives (alternatives B, C, and D) apply the management prescriptions in various combinations to achieve the vision for that alternative. Proposals are presented by park unit — first the battlefield, then the monument, and finally the fort. This chapter concludes with summary tables of the alternative actions and their environmental consequences.
- **The Affected Environment** — The third chapter describes those areas that would be affected by implementing the alternatives. Cultural resources include archeological resources, cultural landscapes, and sacred sites. Natural resources include air quality, soils, water resources, vegetation, and wildlife. Present visitor use for each unit is described in terms of access, interpretive programs, and visitor experience. Park operations and adjacent land uses are also discussed.
- **Environmental Consequences** — Chapter four analyzes the impacts of implementing the alternatives for each topic described in "The Affected Environment." Methodologies for assessing the impacts in terms of the intensity of impact are outlined.
- **Consultation and Coordination** — The fifth chapter describes the history of the current planning effort and lists agencies and organizations who received the *Draft Environmental Impact Statement.* It also includes summaries of substantive comments received on the draft document and responses to those comments. All written substantive comments are reprinted.
- The **Appendixes** present supporting information for the document, along with a glossary, references cited, the planning team and document preparers, and an index.

SUMMARY

This *Final General Management Plan / Environmental Impact Statement* describes a preferred alternative and three other alternatives for the management and public use of Fallen Timbers Battlefield and Fort Miamis National Historic Site. The Battle of Fallen Timbers played an important role in the history of the United States and the opening of the northwest frontier. It was the culminating event that demonstrated the tenacity of the American people in their quest for western expansion and the struggle for dominance in the Old Northwest Territory. The events resulted in the dispossession of American Indian tribes and a loss of colonial territory for the British military and settlers. Established as an affiliated unit of the national park system in 1999, the national historic site consists of three units — the battlefield, the state monument, and the fort. The alternative that is finally chosen as the plan will guide the management of the three units over the next 15 to 20 years and provide a foundation to help guide programs and set priorities.

ALTERNATIVES

Alternative A — Continue Current Conditions (No Action). This alternative maintains minimal public use and facilities at each of the three units. All three units are open to the public, and natural and cultural resources are protected to some degree. Current resource conditions, trends, and visitor experiences are maintained.

Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative). In the preferred alternative, resources would be preserved, with an emphasis on protecting cultural resources and interpreting the historic events. Visitor experiences would be geared to learning about the sites. Most interpretation would take place at the edges of historic resources in order to ensure their preservation. Native vegetation at the battlefield site would be allowed to revert to species more typical of those that existed in 1794. Linkages in terms of interpretation and access among the units would be established.

Alternative C — Multiple Interpretive Options. This alternative would strike a balance between resource preservation and visitor experience. Native vegetation would be reestablished at the battlefield site to resemble conditions present in 1794. While historic resources would be protected, visitors would have access to more of the battlefield and the fort units, encouraging them to become immersed in the interpretive and historical experience. Interpretive programs would serve all ages and interest levels, and links would be established among the three units.

Alternative D — An Interpretive Network of Sites. Historic resources would be protected, and the historical importance of each unit would be presented through various interpretive media, with a small visitor center provided at each unit. Each visitor center, as well as interpretive areas, would emphasize a particular historical perspective. Similar to the other two action alternatives, all park units would be linked, but in addition under this alternative visitors would be encouraged to visit other important historic sites in the region.

The action alternatives have been developed on the basis of public comments and the range of ideas proposed by the public. They are all compatible with the establishing legislation and mandates.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences or impacts take into consideration whether the impact would be beneficial or adverse, its intensity or severity (ranging from negligible to major), and how long it would last (short or long term). The impact analysis and conclusions were based on Metroparks' staff knowledge of the resources and the site, a review of existing literature and studies, information provided by experts in the National Park Service and other agencies, and best professional judgment.

Impacts were analyzed for cultural resources (including archeological resources, cultural landscapes, and sites important to Native American tribes), natural resources (air quality, soils, water resources, vegetation, and wildlife), visitor use (access and transportation, visitor interpretation and experience), land use, park operations and energy consumption, and social and economic impacts.

Impacts of Alternative A (No-Action Alternative). Continuing existing conditions under the no-action alternative could result in potentially major adverse impacts on archeological resources at Fallen Timbers Battlefield and Fort Miamis if resources were looted, and any such loss could be an impairment of park resources and values. Over time the landscape at the battlefield would return to native vegetation conditions, resulting in a moderate beneficial impact on the cultural landscape. There would be no additional impacts on cultural resources at the monument. Prohibiting certain recreational activities at Fort Miamis (all-terrain bike riding and sledding) would curtail further deterioration of the original fabric of the fort. However, if those regulations were not enforced, major adverse impacts would likely continue. Any loss of the hillside due to erosion as a result of the failure of the erosion control structure along the Maumee River would result in a major adverse impact.

Beneficial impacts on natural resources would range from negligible to moderate as a result of stopping agricultural uses on the battlefield. There would be no additional impacts on natural resources at the monument. At Fort Miamis impacts of stopping active recreational uses such as all-terrain biking and sledding, and allowing vegetation to become reestablished, would be minor and beneficial; if regulations were not enforced, present impacts would continue.

Visitor use and experience would remain unchanged from present conditions, and no additional access would be provided to the battlefield. Impacts would range from negligible to moderate adverse because visitors would not be able to learn about the historic events at the site of their occurrence.

Maintaining current maintenance and operational agreements with the City of Maumee, the Ohio Historical Society, and Heidelberg College would result in minor, beneficial impacts over the long term. On a cumulative basis present partnerships would encourage only limited community involvement and a sense of stewardship for park resources.

Impacts of Alternative B (Preferred Alternative). Impacts under the preferred alternative would generally be beneficial as a result of protecting cultural resources, prohibiting inappropriate recreational activities, and reestablishing natural conditions at the battlefield more typical of the historic period. There would be no impairment of cultural resources or park values.

Short-term, adverse impacts to soils, vegetation, and water quality would occur during construction projects at each site, but long-term impacts would be beneficial. There would be no impairment of natural resources or park values.

Providing access to the battlefield and onsite interpretation would result in major beneficial impacts for visitors. Preserving the historic remnants at Fort Miamis would enhance the visitor experience at this site. Linking the battle with events at other sites in the region would give visitors more opportuni-

ties to learn about regional history, a moderate beneficial impact. Seeking ways to preserve viewsheds at the monument and Fort Miamis would help protect the historic scene, a moderate beneficial impact.

Involving various groups in park-related programs would foster a greater sense of stewardship, more community involvement, and improved interpretive programs. Over the long term the impact of partnerships with other governmental agencies and private organizations would be moderate and beneficial, depending on the extent of involvement and financial support.

Constructing visitor facilities at the battlefield, and increasing the number and quality of interpretive programs at all units of the national historic site, would result in negligible, beneficial, short- and long-term impacts on the local economy. Alternative B would cost approximately $3.4 million.

Impacts of Alternative C. Impacts under alternative C would be similar to those described for alternative B except additional opportunities would be created for visitors to become more intimately involved and to learn about the historic events. Greater efforts would be taken to reestablish more natural vegetation patterns and to re-create the historical appearance of the battlefield. However, visitors would be allowed to wander through major parts of the battlefield unit; this degree of access could result in undesirable and unintended consequences because of a greater potential for adverse effects on archeological resources and intrusion on the historic scene.

Providing multiple opportunities for visitors to experience the battlefield would be a major beneficial impact, with slightly more impacts on natural resources. More native vegetation patterns would be established at the monument, with a moderate, adverse, long-term impact on the original landscape design. Reestablishing native plant species on a portion of the fort and a viewshed protection area outside the park unit would further preserve the historical appearance of the fort. Alternative C would cost approximately $3.8 million.

Impacts of Alternative D. Impacts under alternative D would be similar to those described for alternative B except there would be a greater emphasis on regional interpretation and links to other historic sites, along with fostering a greater sense of stewardship, more community involvement, and improved interpretive programs. Developing small, onsite visitor centers would provide opportunities for in-depth interpretation at each unit of the park, as well as incorporating the national historic site into regionwide interpretive programs. Resulting impacts would be major, beneficial, and long term. However, more trail development at the battlefield would increase the degree of impacts on natural and, potentially, cultural resources. This alternative would be the most expensive of the action alternatives, with estimated costs of $8 million.

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PURPOSE OF AND NEED FOR ACTION



INTRODUCTION

The Battle of Fallen Timbers played an important role in the history of the United States and the opening of the northwest frontier. It was the culminating event that demonstrated the tenacity of the American people in their quest for western expansion and the struggle for dominance in the Old Northwest Territory. The events resulted in the dispossession of American Indian tribes and a loss of colonial territory for the British military and settlers.

Fallen Timbers Battlefield and Fort Miamis National Historic Site was established by Public Law 106-164 on December 9, 1999 (see appendix A). The national historic site consists of three separate areas:

- the Fallen Timbers Battlefield, site of a 1794 battle between the United States military and a confederacy of American Indians backed by the British
- the Fallen Timbers Monument, erected in 1929 to commemorate the battle
- the site of Fort Miamis, a British fort used during the 1794 campaign and again in the War of 1812

Based on the conclusions of the National Park Service's *Special Resource Study of the Battle of Fallen Timbers* (1998), the legislation creating Fallen Timbers Battlefield and Fort Miamis National Historic Site established the area as an affiliated area or unit of the national park system. Even though the area is a part of the nationwide park system managed by the National Park Service, the management entity for this site, as referred to in the enabling legislation, is the Metropolitan Park District of the Toledo Area (Metroparks), in partnership with the Ohio Historical Society.

All affiliated areas must contain nationally significant resources. In addition, these areas must require special recognition or technical assistance beyond what is available through existing NPS programs. Finally, affiliated areas must be managed in accordance with the policies and standards that apply to units of the national park system, and there must be a formal agreement between the National Park Service and the nonfederal management entity to ensure the sustained protection of the site's nationally significant resources (NPS *Management Policies 2001,* sec. 1.3.4). The affiliated area status granted to Fallen Timbers Battlefield and Fort Miamis National Historic Site recognizes the area's importance to the nation, but it does not require day-to-day management by the National Park Service.

Fallen Timbers Battlefield and Fort Miamis National Historic Site is in Maumee, Ohio, southwest of Toledo. Both the battlefield and Fort Miamis have yielded significant archeological artifacts through various surveys and will likely yield even more significant finds in the future, enhancing their importance to American history.

FALLEN TIMBERS BATTLEFIELD

The battlefield area consists of 187 acres of open field with a woods near the center. The property, owned by Metroparks, is bounded on the east by Interstate 475, on the south by US Highway 24, on the west by a proposed retail/commercial development, and on the north by additional commercial property. A railroad spur cuts through the northwest corner of the battlefield. The property is generally flat with a small swale in the woods on the south edge of the site and terminating at US 24.

For many years the floodplain of the Maumee River below the Fallen Timbers Monument was thought to be the site of the Battle of Fallen Timbers, and this is the site that was designated a National Historic Landmark in 1960 and is listed on the National Register of Historic Places.

FALLEN TIMBERS STATE MONUMENT

The Fallen Timbers State Monument is a 9-acre site approximately 0.25 mile south of the battlefield. It is owned by the Ohio Historical Society and managed by Metroparks, and it is listed as a National Historic Landmark. The property is a fairly level site that falls off steeply on the southern edge to the Maumee River floodplain. The property contains a set of monuments to the battle, including

- the primary monument depicting General Anthony Wayne, an American Indian guide, and a Kentucky militiaman
- a stone recognizing U.S. troops killed in the battle
- a stone memorializing the American Indians
- Turkeyfoot Rock

FORT MIAMIS

The site of Fort Miamis is in a Maumee residential area approximately 5 miles east of the battlefield and memorial. The south side of the fort falls off steeply to the Maumee River. Remnants of the fort's earthworks are still visible. Archeological remains at the fort are still available for future study and interpretation. The fort was previously owned and managed by the City of Maumee, but on November 7, 2005, the City Council voted to return ownership to Metroparks (see appendix A).

HISTORICAL OVERVIEW

The 1783 Treaty of Paris ended the Revolutionary War, but it contained a provision that allowed the British to remain in the Northwest Territory until the United States resolved a land issue with Native Americans, who had been British allies. The Chippewa, Ottawa, Pottawatomi, Shawnee, Delaware, Miami, and Wyandot tribes formed a federation to halt further U.S. incursions into their territory (Library of Congress 2003a). After a stunning defeat of General Anthony St. Clair's American troops in 1791 by the Native American federation under Chief Little Turtle, George Washington put General Anthony Wayne, a Revolutionary War hero, in charge of the Legion of the United States. Two years later the Battle of Fallen Timbers became the decisive point for resolving U.S. jurisdiction of the Old Northwest Territory.

THE BATTLE OF FALLEN TIMBERS

On August 20, 1794, Maj. Gen. Anthony Wayne led troops of the Legion of the United States from their fort at Roche de Bout east along the crest of the valley bluff, parallel to the Maumee River, traversing open woods and crossing numerous ravines. The left wing and flanking militia from Kentucky crossed level but poorly drained land containing dense forest and underbrush. After a 5-mile march, the mounted volunteers came upon a line of 1,100 Indian warriors from a confederation of Ohio and Great Lakes Indian tribes. The militia volunteers retreated around the legion's front guard. The front guard returned fire while retreating but eventually fled. The warriors closely pursued the soldiers of the front guard until a light infantry skirmish line forced the Indians to seek shelter amid timbers that had been felled a few years before by a tornado (Pratt 1995).

The legion's right wing was under heavy fire from the concealed warriors, who broke down an effort to flank them from the river. The left flank of soldiers charged, inflicting heavy casualties on the Indians and driving them from the field. Wayne's scouts tracked the Indians to the mouth of Swan Creek, but they were not engaged. After regrouping his troops, Wayne held his position into the afternoon. With no Indian counter-attack developing, Wayne set up camp on high ground overlooking the foot of the rapids, within sight of Fort Miamis.

In the days that followed, Wayne's men returned to the battlefield to collect wounded and equipment. Minimal effort was made to bury the dead. Two officers and 15 to 17 soldiers were buried, but hard soil conditions deterred soldiers from burying more men.

The entire legion marched back through the battlefield on August 23 as they returned to Roche de Bout.

FORT MIAMIS

The British, with the support of the Indian Confederation, constructed Fort Miamis in spring 1794 to hold the Maumee Valley and stop Wayne's advances towards Detroit. It also afforded the British additional means to solidify Indian support against the U.S. settlers moving into the Ohio Territory. The fort consisted of four bastions surrounded by a 25-foot-deep trench lined with rows of stakes. The British also placed 14 cannon in the fort to thwart any attackers (Ohio Historical Society 2003a).

Despite the promise from the British that the fort would offer protection to the Indians, warriors retreating to the fort were not allowed to enter and instead had to proceed to the mouth of Swan Creek.

After the battle Wayne felt that Fort Miamis was too strong to be forced, and he returned to Roche de Bout.

THE WAR OF 1812

As a result of the Battle of Fallen Timbers, the Indians signed the Treaty of Greenville in 1795, which ceded strategic areas, including Detroit, and control of most of the river crossings in the Old Northwest Territory to the United States, essentially guaranteeing U.S. domination over the Indian tribes (Pratt 1993). The 1796 Jay Treaty formally ended the British presence, and troops withdrew from their forts, including Fort Miamis. However, these treaties did not resolve the underlying issue. British naval power continued to dominate Lake Erie and the lower Maumee River, while the Americans controlled the interior. The War of 1812 finally settled the boundary and jurisdictional disputes.

In 1813 General William Henry Harrison had Fort Meigs constructed as a winter encampment and supply base for the U.S. Army on the south bank of the Maumee River, at present-day Perrysburg, Ohio. In the spring of 1813 the British landed troops and artillery at Fort Miamis; while the fort was too deteriorated to be reoccupied, the British camped at the site and used it as a base of operations. The Indians who gathered in support of the British were led by the Shawnee chief Tecumseh. An army of British soldiers and Indians attacked Fort Meigs in April 1813, but the Americans held firm, and the attackers withdrew in early May. During this battle Tecumseh is credited with saving the lives of American soldiers caught in an ambush. In July the Indians persuaded the British to attack again, but this attack also failed. Britain's failure to drive the Americans from the region convinced Harrison to go on the offensive. In October 1813 Harrison defeated a joint English and Indian army at the Battle of the Thames. British occupation of the American Northwest ended as a result, and with the death of Tecumseh in the battle, hopes of building an Indian confederation ended (Ohio Historical Society 2003b). The Treaty of Ghent in 1815 ended the war, the British withdrew from American Territory, and Fort Meigs was abandoned.

FALLEN TIMBERS STATE MONUMENT

The Fallen Timbers Monument consists of a 10-foot statue of General Wayne, with an Indian guide to his right and a settler to his left. The statue was designed and built by Robert Louis Saville and was installed in 1929. The statue is on a 15-foot granite pedestal with four bas-reliefs and inscriptions. On the front of the pedestal the inscription commemorates the Greenville Treaty; on the right the white settlers massacred from 1783 to 1794; on the left the pioneers of Ohio; and on the back Chief Little Turtle and his Indian warriors. The monument is a National Historic Landmark and possesses exceptional value in commemorating and illustrating the history of the United States.

In addition to the Anthony Wayne monument are two side markers, one commemorating the soldiers killed or wounded in the battle, and the other commemorating the Indian casualties. Also, the Turkeyfoot Rock Monument was located at the site in 1953.

The monument site offers visitors an unobstructed view to the Maumee River from a point some 50 feet above the floodplain. This important natural corridor has not changed significantly since the time of the battle, showing visitors the ultimate prize of the battle — control of transportation and access along the Maumee River.

PURPOSE OF AND NEED FOR ACTION

Public Law 106-164 requires that a management plan be developed and implemented, including programs that will preserve and interpret the historic, cultural, natural, recreational, and scenic resources of the historic site.

The purpose of the general management plan is to outline the resource conditions and visitor experiences desired for the park, in accordance with the establishing legislation. The purpose of the environmental impact statement is to evaluate a range of management strategies for achieving the goals. It is the policy of the National Park Service (NPS) that each park unit maintain an up-to-date general management plan.

The need for the plan is to set forth a clearly defined management philosophy and a direction for resource preservation, interpretation, linkages, and visitor experiences for the next 15–20 years. A comprehensive interpretive plan will also be produced for the historic site.

DIRECTION FOR THE PLAN

The park's purposes are based on the enabling legislation and the significance of the sites. Scoping meetings were held to seek public input in the development of the following purpose and significance statements.

PURPOSES OF THE NATIONAL HISTORIC SITE

The purposes of the Fallen Timbers Battlefield and Fort Miamis National Historic Site, as stated in Public Law 106-164, are

- to recognize and preserve the 185-acre Fallen Timbers Battlefield site
- to recognize and preserve the Fort Miamis site
- to formalize the linkage of the Fallen Timbers Battlefield and Monument to Fort Miamis
- to preserve and interpret United States military history and Native American culture during the period from 1794 through 1813

SIGNIFICANCE OF THE NATIONAL HISTORIC SITE

Significance statements identify site resources and values based on the park purposes. The following statements were used to develop resource priorities and to identify interpretive themes and desired visitor experiences.

1. These sites are where change in control of the "Old Northwest" occurred, resulting in loss of American Indian homeland and leading to statehood for Ohio, Indiana, Wisconsin, Illinois, Michigan, and Minnesota.
2. The native confederacy that fought at Fallen Timbers was the longest lasting confederacy of Native Americans formed to combat Euro-American encroachment.
3. The native confederacy responded to the Wayne Campaign as another invasion of their homelands by the United States.
4. The Battle of Fallen Timbers was the first successful federal military campaign after the Revolutionary War.
5. In 1794 Fort Miamis was the site of British incursion into United States territory, which led to an international confrontation.
6. A remarkable gathering of present and future leaders participated in the events at Fallen Timbers and Fort Miamis.
7. Fort Miamis is the site of a major British invasion of the United States during the War of 1812.
8. Fort Miamis is the site where Tecumseh saved the lives of American prisoners following Dudley's defeat during the War of 1812.
9. Fort Miamis was the central location of the 12-mile military reserve that solidified U.S. control of a strategic region.

10. The Fallen Timbers Monument site expresses efforts to memorialize the events and participants of the Battle of Fallen Timbers.
11. Fort Miamis is an architecturally significant type of fort rarely built on the American frontier, of which original earthworks remain.
12. Fort Miamis and the Fallen Timbers Battlefield have yielded and are likely to yield additional significant archeological artifacts.

PRIMARY INTERPRETIVE THEMES

Interpretive themes represent concepts and underlying principles that the planning team thinks are important to communicating the significance of the sites, using programs, signs, brochures, and other media. The following ideas, concepts, or compelling stories are central to the historic site's purpose and significance, and to visitor experiences:

1. Events associated with the Battle of Fallen Timbers illustrate America's domineering approach to other cultures and ethnic groups.
2. The United States' direction of the Wayne campaign and its aftermath represents a foundation of U.S. foreign policy and the stimulus for "Manifest Destiny" and the expansion of the central government.
3. Commemoration of the Battle of Fallen Timbers illustrates changing and differing views and approaches to collective memory, symbols, and myths from generation to generation.
4. The geography of the Maumee Valley formed a portal for transportation, trade, and settlement. The valley's importance led to conflicts between cultures and nations.
5. Land use and the living patterns of various cultures in the Old Northwest stimulated the Battle of Fallen Timbers conflict.
6. The Battle of Fallen Timbers resulted in the disruption and displacement of the Native Confederacy and the eradication of some tribes. Those that survived continue to persevere and strive to preserve their culture and religious beliefs.
7. Racial, economic, religious, ethnic, and cultural conflict between the United States and Native Americans in the Ohio Country escalated into a total "no quarter" cultural war, where both sides attacked non-combatants and destroyed homes in order to drive the larger populations out of Ohio Country.
8. The alliances and confederations present at the Battle of Fallen Timbers illustrate how such allegiances most often arise out of self-interest and how they continually change.
9. The Battle of Fallen Timbers represented a focal point in the expansion or decline of clashing rival powers in the Old Northwest.
10. Leadership at the Battle of Fallen Timbers and Fort Miamis demonstrated how individual personalities and the interests of generations had shifted national focus and priorities to the West.
11. The Wayne campaign served as a foundation for a common U.S. response to a national crisis — a progression from catastrophe, to panic, to assessment, to a collective and sustained response.

DESIRED FUTURE CONDITIONS

Desired future conditions are the broad ideals and visions that define how park resources and visitor experiences are to be managed in the future and how visitor experiences are to be achieved. They articulate goals that are to be achieved. The following desired future conditions were identified during the initial phase of planning:

Cultural Resources (including archeological, ethnographic, and historic resources; cultural landscapes; collections):

- The cultural resources of Fallen Timbers Battlefield and Fort Miamis National Historic Site are preserved, protected, and maintained in good condition within the cultural context typical of 1794 to 1813.
- Existing structures related to the time between 1794 and 1813 are preserved in their current condition.
- The archeological remains from the national historic site are preserved and curated.

Natural Resources (including vegetation, wildlife, and hydrology):

- The natural areas of all units of Fallen Timbers Battlefield and Fort Miamis National Historic Site are maintained to the highest professional standards.

Visitor Use (including orientation, visitor services and facilities, access and circulation, and trails):

- All units of Fallen Timbers Battlefield and Fort Miamis National Historic Site provide rewarding and meaningful experiences and excellent services to all visitors.
- All units of Fallen Timbers Battlefield and Fort Miamis National Historic Site provide enriching experiences for the public by providing an understanding and appreciation of military history and Native American culture of the region during the period 1794 to 1813.
- Visitors to the units of Fallen Timbers Battlefield and Fort Miamis National Historic Site are aware of the significance of the events of 1794 and 1813 within the broader context of Native American history / culture and nation building.
- The public visits all three areas to better understand the entire story.
- Visitors have an understanding of the course of the battle and the events at Fort Miamis.

Viewsheds:

- Viewsheds are maintained as feasible.

Boundaries:

- Existing boundaries are maintained and protected from encroachment.

Surrounding Land Uses:

- All three units of Fallen Timbers Battlefield and Fort Miamis National Historic Site are surrounded by compatible land uses.
- Related historic sites are identified, recognized, and preserved.

Connections/Linkages:

- The relationship between the sites is clear and concise, and there is quality access to all units and circulation among them.

Park Management and Operations:

- Appropriate administrative, interpretive, and maintenance spaces are provided to serve the programs and operations at the three units, with emphasis given to both sustainability and aesthetics.

Partnerships:

- An environment exists to provide partnerships, community initiatives, and collaboration at the Fallen Timbers Battlefield and Fort Miamis National Historic Site.

SCOPE OF THE DOCUMENT

This *Final General Management Plan / Environmental Impact Statement* is based on an analysis of existing and potential resource conditions and visitor experiences, environmental impacts, and costs of alternative courses of action. It is not intended to provide specific details about development, but to outline a vision derived from the historic site's enabling legislation. The analysis of environmental consequences was conducted in accordance with requirements of the National Environmental Policy Act (NEPA), the National Historic Preservation Act, and other appropriate federal regulations and NPS procedures and policies. The environmental impact statement presents an overview of impacts on the environment for each alternative.

Metroparks will draft implementation plans once the general management plan has been approved. Additional analysis will deal with visitor access and circulation, functions at each site, as well as specific on-site interpretation and educational opportunities.

ISSUES AND DECISION POINTS

The public, park staff, and other agencies identified a variety of issues and concerns during the scoping process. Comments were requested during public meetings and through a series of newsletters. Public input came in the form of responses to questionnaires, e-mails, telephone calls, and letters.

Some concerns are outside the scope of the plan. Certain items are already covered in existing legislation or would be in violation of such legislation. Other comments concerned operational or development details that will be addressed as the general management plan is implemented.

Based on the scoping process, the following questions need to be answered in this *Final General Management Plan / Environmental Impact Statement* for the Fallen Timbers Battlefield and Fort Miamis National Historic Site:

1. To what degree should visitor access, circulation, and linkages be provided to the Fallen Timbers Battlefield, the Fallen Timbers Monument, and Fort Miamis?
2. To what degree should sites be provided for quiet reflection or for active interpretive opportunities?
3. To what extent should resource management actions be applied to the sites to preserve them yet allow for visitor experiences that are consistent with the purposes of the sites?
4. Considering how the national historic site relates to neighboring uses, regional historic sites, and organizations, what is the best management scenario for the site to achieve its purposes?

The decision points were addressed during the development of the four alternatives. Three action alternatives, including the preferred alternative, are compared to the no-action alternative (alternative A), which is a continuation of existing conditions. Each alternative presents a different solution for addressing these questions.

NPS MANDATES AND POLICIES

In addition to the mandates of the establishing legislation for Fallen Timbers Battlefield and Fort Miamis National Historic Site, several acts and executive orders guide the management of the site. These include the following:

Endangered Species Act

National Historic Preservation Act and its implementing regulations (36 CFR Part 800)

National Environmental Policy Act and its implementing regulations (40 CFR 1500–1508)

NPS *Director's Order #2: Park Planning*

NPS *Director's Order #6: Comprehensive Interpretive Planning, Conservation Planning*

NPS *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making*

Site management is also defined through an agreement for Fallen Timbers Monument between Metroparks and the Ohio Historical Society (see appendix A).

IMPACT TOPICS ANALYZED

The following impact topics were selected for analysis based on resources cited in the establishing legislation, resources critical to maintaining the significance and character of the sites, resources recognized as important by law or regulation (e.g., cultural resources, threatened or endangered species), or public concerns mentioned during scoping for the draft plan.

Cultural Resources

The Fallen Timbers Battlefield and Fort Miamis National Historic Site is nationally significant for its association with the struggle to control the Old Northwest Territory. The battlefield was designated a National Historic Landmark in 1960 as "the culminating event which demonstrated the tenacity of the American people in their efforts of western expansion through the struggle for dominance in the Old Northwest Territory." The westward expansion by Euro-American settlers meant dispossession for American Indians and loss of colonial territory for British settlers and the military.

Archeological Resources. Part of the significance of the park units is that they are likely to yield significant archeological resources. Many of these artifacts are unique to the Fallen Timbers campaign of the 1790s. Other materials associated with prehistoric cultures may further knowledge about the people who originally inhabited the area. Consequently, preserving the archeological material at the battlefield and Fort Miamis is a main focus of the plan.

Cultural Landscape. Each of the three units of the national historic site has a unique cultural landscape. Fallen Timbers Battlefield retains a portion of the ravine system and wet woods that were integral to the progression of the battle. The ravine system and the woods have been identified by members of the planning advisory committee as a remnant of the cultural landscape from the 1794 battle. Fort Miamis was noted as significant by the advisory committee (see "The Planning Process and Public Participation") because it "is an architecturally significant type of fort rarely built on the American frontier; original earthworks remain." These earthworks constitute a very important segment

of the cultural landscape, so much so that every alternative placed a high priority on their preservation. Fallen Timbers Monument is a designed landscape that encourages public use and visitation.

Historic Structures. Impacts on historic structures are analyzed for two of the park units. Structures include the sculpture of General Anthony Wayne and other monuments at Fallen Timbers State Monument, and intact fabric of Fort Miamis (foot trenches, sill logs, log wall fragments, and wooden flooring), as well as visible earthworks. No historic structures have been identified at the battlefield.

Sacred Sites. According to many period narratives, resident Native American groups used Turkeyfoot Rock, originally located along the Maumee River, for offerings. In 1953 the rock was moved to its present location in the monument, where it is still used by some American Indian individuals and groups as a site for offerings.

No sacred sites have been identified by any group at either the battlefield or Fort Miamis. However, prehistoric or historic graves could be discovered during future development.

Natural Resources

Air Quality. The Fallen Timbers Battlefield and Fort Miamis National Historic Site is within a Class II air quality protection zone. Prescribed fire might be used to reestablish historical vegetative conditions and could impact air quality. The battlefield is adjacent to interstate and US highways on two sides, and air quality at the site could be impacted.

Soils and Water Resources. All action alternatives propose development, trail placement, and erosion control measures. These actions could impact the soil and water resources. Impacts on prime or unique farmlands are also considered for the battlefield unit (no prime or unique agricultural lands have been identified at the monument or at Fort Miamis).

Vegetation and Wildlife. All of the action alternatives include removing invasive and exotic species, and reestablishing conditions more typical of 1794 to provide a more appropriate setting for interpreting the historic events. This could have an impact on the composition and structure of existing vegetation and fuel loading. Natural resources, although important, should be managed to support the preservation and management of the cultural resources that give the sites their significance.

Threatened or Endangered Species or Species of Concern. Floral and faunal surveys indicate that habitat is available for two federally endangered species: the Indiana bat (*Myotis sodalis),* and the Karner blue butterfly *(Lycaeides Melissa samuelis).* Potential impacts and mitigating measures are discussed for these species.

No impacts are expected for two species listed as federally threatened — the bald eagle *(Haliaeetus leucocephalus)* and the eastern prairie fringed orchid *(Platanthera leucophaea),* or for one federal candidate species — the eastern massasauga *(Sistrurus catenatus catenatus).* According to the Ohio Department of Natural Resources, there is no habitat in the park units for the eastern prairie fringed orchid or the eastern massasauga. The nearest bald eagle nesting site is 6 miles northeast of the battlefield and the monument units, and 3 miles northeast of Fort Miamis. The national historic site is within the range of the piping plover, a federally endangered species. However, the U.S. Fish and Wildlife Service has determined this species will not be affected by any proposed actions, and no further action under the Endangered Species Act with regard to the plover is required (see appendix F, U.S. Fish and Wildlife Service letter).

The nodding rattlesnake root *(Prenanthes crepidinea),* which is listed by the state as a potentially threatened species, has been documented in the woods just north of the central ravine in the battlefield unit.

Visitor Use

Access and Transportation. The impact on local and regional transportation systems was identified as a potential impact topic. Modification of existing bus routes and stops could impact local transportation. Access to the units would result in the modification or development of entry points, which could have potential impacts.

Visitor Interpretation and Experience. All action alternatives propose changes in the way visitors would use, learn about, and experience the resources of Fallen Timbers Battlefield and Fort Miamis National Historic Site.

Land Use

The impact of adjacent land uses on the historic sites was considered, as well as whether or not plans would be consistent with local land use planning efforts.

Park Operations and Energy Consumption

The location, implementation, and development of park operations are considered in the impact process as they relate to each unit. The consumption of energy resources is evaluated against current conditions to identify impacts.

Partnerships

Partnerships, which have developed during the planning process, are to be maintained and enhanced with additional resources as they become identified. Management of the sites will be shared by the Ohio Historical Society and various special interest groups.

Socioeconomic Effects

The alternatives provide various levels of development and use at each unit that could affect how long visitors would stay in the community and where facilities would be located.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

Environmental Justice. Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. None of the proposed alternatives would have a disproportionately high and adverse effect on any minority or low-income population or community. This conclusion is based on the following information:

- The proposed developments and actions in the alternatives would not result in any identifiable adverse human health effects. Therefore, there would be no direct, indirect, or cumulative adverse effects on any minority or low-income population or community.
- The impacts on the natural and physical environment under any alternative would not substantially and 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 comments during the development of this plan and gave equal consideration to all input, and no possible concerns related to environmental justice issues were raised.
- The National Park Service has consulted and worked with the Seneca-Cayuga and the Delaware Nation and will continue to do so in cooperative efforts to improve communications and to resolve any problems that occur. No negative or adverse effects were identified that would disproportionately and adversely affect American Indians.
- Impacts on the socioeconomic environment due to the alternatives would be minor and beneficial and would occur mostly within the local and regional geographic areas near the park units. These impacts would not occur at one time but would be spread over a number of years, which would reduce their magnitude. The impacts on the socioeconomic environment would not substantially alter the physical and social structure of nearby communities.

Geology and Topography. The altering of geologic processes and features is not proposed in any of the alternatives. Some earth-moving activities associated with facility and parking lot construction is proposed; however, it would not impact the geologic processes or features or cause substantial alteration of the topography.

Prime and Unique Agricultural Lands (Monument and Fort Miamis). No prime or unique agricultural lands have been identified at either the monument or the fort. Impacts on agricultural lands are considered only for the battlefield.

Water Quantity and Runoff. None of the proposed alternatives would measurably affect the quantity of water or timing of runoff.

Coastal Zone Management. Fort Miamis is within the Lake Erie Coastal Resources Inventory of the Ohio Department of Natural Resources (ODNR) Ohio Coastal Management Program. The boundary of the Ohio coastal management zone follows River Road from the City of Toledo boundary to the I-475 bridge, where it crosses the Maumee River to the south side. This status requires review of the federal consistency provisions of section 307 of the Coastal Zone Management Act as to the effect on land or water use or natural resources within Ohio's Lake Erie Coastal Management Program. No alternative would affect land or water use or natural resources outside the national historic site. The *Draft General Management Plan / Environmental Impact Statement* was generally reviewed by the Coastal Zone Management Program through the Ohio Department of Natural Resources.

Floodplains. Regulatory floodplain mapping for Lucas County shows a floodplain at the base of the hill at Fort Miamis extending along Jerome Road. Consequently, NPS floodplain policy will be followed, which requires the preservation of floodplain values, minimizes potentially hazardous conditions associated with flooding, and adheres to all federally mandated laws and regulations related to the management of activities in flood-prone areas. This topic was determined to be a project level issue; therefore, it will not be addressed further in this document. Floodplains will be addressed at the

project-level by ensuring that projects are consistent with the floodplain policy of the NPS *Management Policies* (NPS 2000, sec. 4.6.4) and Executive Order 11988: "Floodplain Management."

Wetlands. Regulatory wetlands and waters of the United States exist within the national historic site. The Maumee River forms the southeastern boundary of Fort Miamis. There is an approximately 20-acre palustrian, saturated, semi-permanent seasonal wetland within the Fallen Timbers Battlefield as shown on the National Wetlands Inventory Map TLO-10. It is NPS policy to avoid affecting wetlands and to minimize impacts when they are avoidable. However, it is difficult to address impacts on wetlands without site plans, and impacts can often be avoided by simply relocating a development. This topic was determined to be a project-level issue; therefore, it will not be addressed further in this document. Wetlands will be addressed at the project level by ensuring that projects are consistent with NPS *Management Policies* (sec. 4.6.5), *Director's Order #77-1: Wetlands Policy,* Executive Order 11990: "Protection of Wetlands," and section 404 of the Clean Water Act.

Exotic Vegetation and Noxious Weeds. Out of the 204 plant species surveyed at the park, approximately 43 (or 21%) are nonnative or exotic plant species (see appendix D). Only 11 of these species are of concern to the ODNR Division of Natural Areas and Preserves; the rest are innocuous and do not change ecosystem function. A land management program is in place to control these noxious weeds, and the management prescriptions accommodate this program because of the emphasis on restoring a historic landscape.

One plant is listed on Ohio's noxious weed list as a primary noxious weed — Canada thistle (*Cirsium arvense* var. *horridum).* This listing obligates Metroparks to take steps to control these plants within park boundaries. The populations are currently monitored and controlled through mowing, hand pulling, and applications of glyphosate herbicide.

Public Health and Safety. The proposed developments and actions in the alternatives would not result in any identifiable human health or safety concerns, either direct or indirect. The alternatives were designed to take these factors into consideration and to remove them wherever possible. Several alternatives describe changes to the local transportation system within and outside the sites that could reduce the possibility of vehicle/pedestrian accidents.

THE PLANNING PROCESS AND PUBLIC PARTICIPATION

The alternatives considered in this document were developed cooperatively by Metroparks and the National Park Service's Midwest Regional Office in conjunction with the Fallen Timbers Advisory Board, interested parties, and the general public. Public participation has played an integral role in every stage of the planning process, with newsletters and public meetings used to solicit input. Ideas were also sought from federal, state, and local governmental entities, legislators, as well as local, regional, and national public interest groups.

The planning group that was assembled to develop and guide the planning process included representatives of Indian nations, regional planners, historical interpreters, natural resource managers, and other organizations with interests in or ties to the project. The planning group was a subcommittee of the advisory committee. The following groups are represented on the planning team:

American Indian Intertribal Association
City of Maumee, Ohio
Delaware Nation
Fallen Timbers Battlefield Preservation Commission
Heidelberg College
Lucas County / Maumee Valley Historical Society
Maumee Valley Heritage Corridor
Metropolitan Park District of the Toledo Area
National Park Service, Midwest Regional Office
Ohio Historical Society
Seneca-Cayuga Nation
Toledo Metropolitan Area Council of Governments

The *Draft General Management Plan / Environmental Impact Statement* was on public review from March 10, 2004, to June 3, 2004. All comments received on the document were analyzed, and the document was revised as needed to respond to substantive comments. This *Final General Management Plan / Environmental Impact Statement* will be available for public review during a 30-day no-action period. A record of decision will then be issued by the regional director of the Midwest Regional Office of the National Park Service to document which alternative has been selected as the general management plan, and the selected plan will be implemented.

RELATIONSHIP TO OTHER PLANS, PROJECTS, AND PROPOSALS

The following plans, projects, and proposals could affect the Fallen Timbers Battlefield and Fort Miamis National Historic Site. These plans and projects form the basis for the analysis of cumulative impacts.

- *Fort Meigs* — Fort Meigs, an Ohio Historical Society site, was built in 1813 to defend the Ohio Country against a British invasion. The fort withstood two sieges by the British and their Indian allies during the War of 1812. During this period, the British military reoccupied Fort Miamis across the river. At that time Fort Meigs constituted the largest wooden walled fortification in North America. The stockade, blockhouses, and batteries have been reconstructed on their original locations within a 65-acre wooded park. The 10-acre fort site is enclosed by a stockade wall and contains seven blockhouses, five cannon batteries, and numerous interior 8-foot high earthworks.

  A new visitor center, museum, and the restored fort were opened to the public in 2003. Other highlights of the park include the following:

  - The visitor center has 1,700 square feet for exhibits, interpretive programs, and outreach efforts. It also includes a classroom with video facilities and seating for 54, a conference room with seating for 18, and a museum gift shop.
  - New exhibits on the War of 1812 feature an orientation video and soldiers' letters and diaries, weapons, maps, uniforms, and other military artifacts. New rotating programs on Ohio military history are also available.
  - New blockhouse exhibits explore how the fort was built, living conditions in the fort, fighting and weaponry.
  - The site monument, which was erected by Ohio in 1908 to honor the soldiers who defended the fort, has been restored.
  - Paths around the interior of the fort are paved and have interpretive signs.

  Not only are the sites connected by a mutual history with Fort Miamis, both sites played a vital role in the struggle for dominance of the Old Northwest Territory. Fort Meigs State Memorial and Fallen Timbers Battlefield and Fort Miamis National Historic Site will benefit one another in terms of programming, promotion, and visitation. Cooperative programming and further partnering in terms of promotion will help make northwest Ohio a destination for heritage tourism.

- *Audubon Islands State Nature Preserve* — Comprised of Grape and Ewing Islands, this 170-acre preserve in the Maumee River extends from river mile 13.5 to 14.6 within the City of Maumee and adjacent to Perrysburg. It is 0.2 mile upstream from Fort Miamis and 4 miles downstream from Fallen Timbers State Monument. The river islands offer bird-watching opportunities and habitat for migrating waterfowl and songbirds. Purchased by the Maumee Valley Audubon Society and donated to the Metroparks, the site is dedicated as a nature sanctuary of the ODNR Division of Natural Areas and Preserves and is the only riverine island community in the Ohio nature preserve system. It is managed for a variety of habitats and species. The area is open to the public daily from 7:00 A.M. to dark, but accessible only by private watercraft. There is a small, unimproved boat landing, but no other visitor facilities. It lies within the viewshed of Fort Miamis.

- *577 Foundation Island in the Maumee River* — A 3-acre island in the Maumee River across from Fort Miamis and within the viewshed is co-owned by the 577 Foundation and two private owners. Negotiations are underway by Metroparks to acquire the island to protect viewsheds. The 577 Foundation is dedicated to preserving the integrity of the historic property at 577 East Front Street in Perrysburg. The foundation seeks to foster exploration, experimentation, personal enjoyment, and creativity in education.
- *Viewshed protection* — Present views of larger areas from vista points within Fallen Timbers Battlefield and Fort Miamis National Historic Site have a pristine appearance, typical of what would have existed around 1794. Metroparks is seeking to protect these views of adjacent lands. Because these areas are outside the boundaries of the national historic site and are managed by other private or governmental entities, Metroparks is making recommendations to local planning commissions to establish special development restrictions for these areas and is seeking to develop agreements with private landowners to protect views. Modern developments would be screened. These lands are compatible with the Ohio Department of Natural Resource's Scenic River Designation Zone.
- *A trail connection between the Wabash Cannonball Trail and the Maumee bicycle trail and regional bikeways plan of Metroparks, including the Jerome Road pedestrian bridge over US 24* — The Wabash Cannonball Trail is a 63-mile trail that is comprised of two rail lines that converge in Maumee at Jerome Road. The north fork of the trail runs 46 miles in an east-west direction from Maumee to within 15 miles of the Indiana state line near Montpelier, Ohio. The south fork runs 17 miles to the southwest from Maumee to the edge of Liberty Center, Ohio (Wabash Cannonball Trail Organization 2003).
- *Runoff from US 24 and I-475* — US 24 is a divided four-lane highway that borders the Fallen Timbers Battlefield on the south, with I-475 on the east. Fallen Timbers State Monument is just south of US 24. Runoff from the interstate interchange with US 24 is diverted by means of drainage swales and catch basins to the floodplain and the Maumee River. To the east of the battlefield, runoff is diverted from I-475 to the Monclova Road storm sewer to the east.

  Runoff along US 24 is diverted into Whidden Ditch, which forms a portion of the southern boundary of the battlefield and crosses the highway by means of a 24-inch culvert at the outlet of the large central ravine. Periodic maintenance is conducted by Ohio Department of Transportation to remove trash and debris, which might block the culvert. Runoff from Fallen Timbers State Monument is along the south side of the highway and intercepts Whidden Ditch to the northeast.

  Each highway has grass covered swale areas to minimize surface erosion from runoff.
- *Proposed commercial / retail development west of Jerome Road* — Commercial / retail development is being considered on the west side of the battlefield. The scale of development is unknown at this time, although a large mall-type complex has been dismissed by developers. Local land use plans would assist in preventing future impacts to the battlefield. Surface and stormwater drainage from the commercial / retail development site would be diverted away from Whidden Ditch, which flows on the south side of the battlefield. Drainage would instead be to the southwest to an intermittent stream, which flows into the Maumee River near the intersection of Jerome and River Roads. With this runoff diversion, there would be no impacts to the battlefield.

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE



The alternatives for the Fallen Timbers Battlefield and Fort Miamis National Historic Site describe overall management concepts, and they address the decision points, issues, and concerns for the site, as well as desired future conditions and visitor experiences. Management prescriptions are tools for managers to judge the appropriate kinds and levels of management, use, and development, and the geographic areas that prescriptions are applied to are referred to as management zones. While the management prescriptions would be the same for all the action alternatives, the zones where they would be applied would vary by alternative.

MANAGEMENT PRESCRIPTIONS

Management prescriptions are used to help ensure cultural resource integrity, environmental quality, and diverse visitor experiences. They are tools for managers to judge the appropriate kinds and levels of management, use, and development. Each management prescription describes a specific set of desired resource conditions, essential elements of the visitor experience under that prescription, and the kind of area in which those experiences should be provided, as explained below:

Resource conditions:

- Landscape condition (e.g., developed, limited development, undeveloped, special type of development)
- Amount of allowable change to natural or cultural resources, or the amount of preservation or sensitivity to resources

Visitor experience:

- Amount of human contact/encounters
- Type of experience (e.g., contemplative vs. interactive)
- Amount and type of interpretation (e.g., large-scale programs, interpretive waysides, or no interpretation)

Appropriate visitor use and facilities:

- Kinds of facilities (e.g., unpaved pathways, formalized pathways, interpretive areas, informal ballfields / spontaneous play areas, no facilities)
- Uses (e.g., large-scale interpretive programs, youth ball games, sledding, biking, walking, passive activities)

The planning team identified the various management prescriptions that could be used for all properties within the Fallen Timbers Battlefield and Fort Miamis National Historic Site. Regardless of the target visitor experience or resource condition, all management prescriptions comply with the purpose and significance of the national historic site. (Because management prescriptions define desired future conditions, they do not apply to the no-action alternative.) Table 1 summarizes the prescriptions.

TABLE 1: SUMMARY OF MANAGEMENT PRESCRIPTIONS

	Resource Condition	Visitor Experience	Appropriate Visitor Use and Facilities
Historic Preservation	Resources preserved intact.	No direct contact with resources, except with written permission.	No visitor use or facilities.
Resource Protection	Intact historic and archeological resources. Natural succession of vegetation with management to control invasive species.	No visitor use.	No visitor use or facilities.
Vegetation Restoration	High degree of disturbance to reestablish vegetative conditions more typical of 1794. Natural hydrology reestablished.	Strong connection to historic site context, with sense of discovery and adventure. Opportunities for quiet and solitude. Low contact with other visitors.	Visitors are permitted, but no trails or facilities. No noticeable visitor use impacts.
Reflective Area	Resources are highly modified and maintained.	Quiet, respectful, contemplative area for individual or shared experiences. Feeling of anticipation as visitors move toward an established destination point. Formal or informal visitor activities.	Monuments, commemorative elements, formal walks, resting places. Both organized and spontaneous events and activities.

	Resource Condition	Visitor Experience	Appropriate Visitor Use and Facilities
Higher Intensity Historical Interpretation	Area may possess high resource integrity. Some resources may be surveyed and studied, with such activities exhibited for the public and the findings used to support interpretive programs.	Multiple, in-depth, interpretive opportunities to learn about the history of the site. Programs for guided and unguided groups.	Hard-surfaced trails accessible to all visitors; interpretive and directional signs.
Lower Intensity Interpretation	Area may have high resource integrity, with limited disturbance. Human use impacts and invasive plant species are controlled.	A quiet area where the influence of the environment on historic events is conveyed. Little onsite programming and limited human contact.	Self-guiding, unpaved trails accessible to all visitors. Minimal interpretation and directional signs; no benches or rest areas.
Transitional	Highly manipulated area where the impact of surrounding land uses is softened. Archeological resources documented and left in place if possible.	Incompatible adjacent land uses are screened from visitors to enhance their experiences.	Plantings, berms, and walls. No trails or interpretive materials.
Developed Area	Natural and cultural resources have low integrity or were previously disturbed. High degree of modification for visitor use and comfort.	Visitor experience is created through site design. Structured interaction between visitors and staff.	Visitor center, orientation exhibits, parking, restrooms., signage, roads, access routes, bridges, and other structures.
Recreation Trail (Linkage to Other Units)	Archeological resources are documented and left in place if possible.	Connections and convenient access to other regional sites. Multiple recreational uses, with limited interpretation.	All-purpose, improved surface trails, directional signs, interpretive waysides. Only non-motorized traffic allowed.

HISTORIC PRESERVATION

Resource Condition. Resources are preserved intact. Any development or uses by park visitors would negatively impact the resources.

Visitor Experience. The historic preservation zone includes the sites where the historic events took place. Most visitors view it only from outside the zone. Any participation by park visitors within this space should be considered a privileged experience.

Appropriate Visitor Use and Facilities. Onsite visits and research are done only with written permission from the managing entity. No facilities are established within this area.

RESOURCE PROTECTION

Resource Condition. This area is highly fragile, with intact historic and archeological resources, some of which are unexplored. This zone is in a state of natural succession and is managed to control invasive species. Any development or uses by park visitors would negatively impact the resources.

Visitor Experience. No visitor use is allowed. Visitors may have a view from outside this area.

Appropriate Visitor Use and Facilities. There are no visitor facilities within this area.

VEGETATION RESTORATION

Resource Condition. The area has a high degree of natural resource disturbance as a result of intensive land management to bring the site back to a wooded landscape more typical of 1794. Site conditions are modified and maintained to comply with desired visitor experiences. Natural hydrology on the site is modified to a wet, poorly drained environment. Native plant species are reintroduced on site. Archeological resources may be impacted slightly by the planting of native species.

Visitor Experience. The vegetation restoration zone has a strong connection to the historical context of the site at the time of 1794 and offers a sense of discovery and adventure. It is an area where quiet and opportunities for solitude are available, where visitors can be close to nature, and where there is low contact with other visitors. Experiences are often self-guided.

Appropriate Visitor Use and Facilities. Visitors are permitted, but there are no trails or facilities to support uses. No visitor use impacts are noticeable.

REFLECTIVE AREA

Resource Condition. The resources are highly modified and maintained.

Visitor Experience. This is a quiet, respectful, contemplative area for individual or shared experiences. A processional type of experience may be offered, creating a feeling of anticipation as visitors move through the space towards an established destination point. Formal or informal visitor activities may be offered.

Visitor Use and Facilities. Monuments, commemorative elements, formal and ceremonial walks, and resting places are appropriate. The space can support both organized and spontaneous events and activities.

HIGHER INTENSITY HISTORICAL INTERPRETATION

Resource Condition. Some resources may be surveyed and studied, with such activities exhibited for the public and the findings used to support interpretive programs. This area may possess high resource integrity.

Visitor Experience. Visitors have multiple opportunities to learn about the historical themes, with a high degree of interpretive programs and in-depth interpretation about the history of the site. Programs are provided for guided and unguided groups.

Appropriate Visitor Uses and Facilities. Hard-surfaced trails accessible to all visitors, along with interpretive and directional signs, are provided. Trails are aligned to take advantage of topography, and they may lead to high spots and vistas where visitors can gain a perspective of what took place.

LOWER INTENSITY INTERPRETATION

Resource Condition. There is limited resource disturbance. A moderate amount of land management techniques are used to minimize invasive plant species and human impacts. This area may have high resource integrity, including archeological and natural resources.

Visitor Experience. This is an area where the influence of the environment on historic events is conveyed. There is a feeling of solitude where people can reflect and visualize the historic events. The area is quiet, with little onsite programming and limited human contact. Visitors must take more time to experience this area.

Appropriate Visitor Use and Facilities. Established trails are self-guiding and directional. Paths are accessible to all visitors, but they are unpaved, and their width limits group use. There is minimal interpretation and directional signage. No benches or rest areas are permitted in this area.

TRANSITIONAL ZONE

Resource Condition. This is a highly manipulated area where the impact of surrounding land uses is softened and where invasive plant species are limited. Archeological resources are documented prior to development and left in place for future research if possible.

Visitor Experience. The purpose of this zone is to enhance the visitor experience by reducing the effects of adjacent inappropriate uses that conflict with the national historic site and are not appropriate for interpreting the events of 1794.

Appropriate Visitor Use and Facilities. This area contains plantings, berms, and walls. Visitors are not restricted from the site, but there are no trails or interpretive materials.

DEVELOPED AREA

Resource Condition. Natural and cultural resources are highly modified for visitor use and comfort. Natural and cultural resources have low integrity or have been disturbed. The landscape is planted only with native plant material appropriate for the year 1794.

Visitor Experience. The developed area is a "built landscape," where the visitor experience is created through site design. There is a high degree of human interaction between visitors and staff. This contact with visitors is a structured experience, with opportunities for interpretation. Visitor comfort is high.

Appropriate Visitor Use and Facilities. The area contains facilities that orient visitors to the site and provide interpretation. Convenient, safe access is provided to visitor services on the site. Facilities may include orientation exhibits, a visitor center, parking, restrooms, signage, roads, access routes, bridges, and other structures. Designs are compatible with site resources. This area is adjacent to a transportation network.

RECREATION TRAIL (LINKAGE TO OTHER UNITS)

Resource Condition. Areas are cleared of resources in order to provide formal trail linkages to other units. Archeological resources are documented and left in place for future research.

Visitor Experience. Trails connect sites and provide convenient access to other sites in the region. Multiple active recreational uses are allowed on the trail. Interpretation is limited but may address historic issues outside the interpretive themes for Fallen Timbers Battlefield and Fort Miamis National Historic Site.

Appropriate Visitor Uses and Facilities. All-purpose, improved-surface trails are appropriate, with directional signs. Interpretive waysides may provide incidental to intensive levels of information. Only nonmotorized traffic is allowed. A portion of the trail may be part of a regional hike / bike trail system between the adjacent Wabash Cannonball Trail and the trail from Maumee / Perrysburg Bridge to Wood County.

ALTERNATIVES

The no-action alternative and the three action alternatives outline a range of visitor experiences and resource conditions and are based on actual conditions. The alternatives were first reviewed by the public in August 2002. Alternative A would continue existing conditions and is referred to as the no-action alternative; it is the baseline for comparing the other alternatives. The three action alternatives (B, C, and D) would all support the park's significance and purpose, achieve desired future uses, and avoid unacceptable resource impacts; however, the focus of each alternative is different.

The alternative that was originally presented as alternative C would have promoted a direct visitor experience and educational experience; however, this alternative was closely related to alternative D because both alternatives would have provided an intense and diverse interpretive experience, with cultural resources preserved and native plants reestablished. Therefore, it was decided to drop the original alternative C from any further consideration; alternative D was subsequently relabeled alternative C, and alternative E became alternative D.

In September 2002 the planning team evaluated the alternatives using the "Choosing by Advantages" technique. As a result of that process, alternative B was chosen as the proposed action with some minor modifications. The planning team felt that elements of the original alternatives D and E that supported richness and diversity of experiences could be integrated into the proposed action without diluting other elements of that alternative.

The alternatives are summarized in Table 8, beginning on page 68, and the environmental consequences are summarized in Table 9 beginning on page 74.

ALTERNATIVE A — NO ACTION

The no-action alternative describes current management practices and future trends. Existing visitor experiences and activities are maintained, as well as the site's natural, cultural, and scenic values. All sites are managed to preserve archeological artifacts.

Minimal public access and uses are allowed at Fallen Timbers Battlefield, while present use patterns continue at the monument and Fort Miamis. A bicycle / pedestrian bridge is planned over US 24 to connect the north and south forks of the Wabash Cannonball Trail, which would also provide access to the monument. Current management practices remain at the monument, no visitor support facilities are provided, and minimal interpretation is offered. Important natural and cultural resources are protected from degradation as a result of visitor use; however, current resource conditions and trends are generally maintained, as well as visitor experiences and trends. Fort Miamis is managed and used as a neighborhood park, although active recreational uses, such as all-terrain bicycling and sledding, have been stopped to protect the remnants of the fort landforms.

Because this alternative is a description of existing conditions and current management practices, no management prescriptions are applied, and no zones are delineated.

Fallen Timbers Battlefield

The Fallen Timbers Battlefield continues to be managed to protect remaining elements of the historic scene. Minimal visitation is allowed, and no formal interpretive programs are offered.

Cultural Resources. *Archeological Resources* — In cooperation with Heidelberg College, Metroparks continues to conduct archeological studies directly related to particular developments. Curated artifacts are maintained at Heidelberg College but are not available for public display. Other cultural resources are preserved as they are identified. There are no historic structures on site to be preserved or protected.

Cultural Landscape — The cultural landscape, consisting of the ravine and wooded area, is being retained in its current condition. The railroad tracks separate the northwest corner of the property from the rest of the unit. Active crop production has been stopped. The open fields are being maintained with a vegetative cover crop, and invasive plants are kept to a minimum through mowing and herbicide applications.

Natural Resources. *Vegetation* — Exotic plants, especially shrubs, are removed. The site is observed to determine what vegetation was historically on the site and to determine the extent of the wet woods.

Wildlife — Wildlife is monitored to identify species, and habitats are being defined. Deer are observed to identify any negative impacts on the natural resources.

Soils and Water Resources — Soil studies determine how pH levels are related to vegetation and if residuals remain from past farming practices. Drainage patterns from surrounding areas are monitored.

Visitor Use. *Access and Circulation* — A small area off Jerome Road at a former residential site provides informal parking. A bicycle / pedestrian bridge is planned over US 24 to provide access to the monument.

Interpretation and Education — While there are signs and historical markers on roads leading to the battlefield, there is minimal orientation on the site. Programs accommodate the needs of the general public, including school programs connected to the anniversary of the battle, commemorative programs for community groups, and self-guided, independent programs. Personal services are provided, with special programs by reservation, or non-personal services such as brochures may be provided. Interpretation is integrated with Metroparks' other educational programs. Seasonal walking tours continue to be offered.

Visitor Experience — No special efforts are made to create a certain feeling for the battlefield site. Most visits are in connection with special programs. A battlefield website has been developed (<http://www.fallentimbersbattlefield.com>), which provides background information regarding the battle, educational materials for teachers, and upcoming program information.

Adjacent Land Uses. Metroparks is maintaining a dialog with adjacent landowners along the western boundary to purchase private homes from willing sellers as they become available, or properties may be donated. Once acquired, the structures are removed. The semi-manicured landscapes at these properties remain. Some acquired properties are used as informal parking areas for activities on site.

Park Operations. The battlefield is open from 7 A.M. until dark, with visits by appointment. Park operations are supported through Side Cut Metropark, a 562-acre park and maintenance facility operated by Metroparks that is about 3 miles to the north along the Maumee River. Present operations consist of grass mowing and security, along with maintaining structures, facilities, and parking areas. Volunteers are used where appropriate.

Partnerships. Partnerships are continued with the Ohio Historical Society, Heidelberg College, and the City of Maumee, and partnerships are formed on a limited basis with other organizations, such as the Fallen Timbers Battlefield Preservation Commission, for shared programming, information, and materials.

Special events and fund-raising campaigns are continued as part of the overall Metroparks marketing strategy, with cooperative promotions for special events.

Fallen Timbers State Monument

The Fallen Timbers State Monument site continues to be managed as a commemorative site showing how the battle was memorialized during the 1930s and 1940s.

Cultural Resources. *Archeological Resources* — Any artifacts discovered during archeological investigations are stored at Heidelberg College or the Ohio Historical Society.

Cultural Landscape — The parking area, walkways, plantings, and monuments are maintained in their present condition as a designed landscape.

Historic Structures / Sacred Sites — Historic monuments and walkways are maintained in their current condition. Turkeyfoot Rock is retained as a spiritual site at the memorial.

Natural Resources. *Vegetation* — A baseline survey of vegetation is conducted to monitor future impacts.

Wildlife — A baseline survey of wildlife is conducted to monitor future impacts.

Soils and Water Resources — Soil and hydrologic information on this property are obtained for future reference.

Visitor Use. *Access and Circulation* — Existing parking lots and pathways are retained. The planned bridge over US 24 and the trail around the monument are constructed to link the north and south forks of the Wabash Cannonball Trail.

Interpretation and Education — Interpretive signs are maintained. Programs that are primarily commemorative are offered.

Visitor Experience — The present reflective experience is maintained, with intermittent recreation on the property. The current services continue. As previously described, a battlefield website (<http://www.fallentimbersbattlefield.com>) has been developed to provide background information, educational materials, and program information.

Adjacent Land Uses. It is anticipated that no new land uses would impact the site. No boundaries would be changed.

Park Operations. The memorial is operated under the current agreement between the Ohio Historical Society and Metroparks. As for the battlefield unit, operations are supported from Side Cut Metropark.

Partnerships. Partnerships would be maintained with the Ohio Historical Society, Heidelberg College, the American Indian Intertribal Association, and the Fallen Timbers Battlefield Preservation Commission.

Fort Miamis

Existing conditions are maintained at the Fort Miamis site, with no formal interpretive programs. The emphasis is on a neighborhood park experience. The fort resources are protected from further degradation by prohibiting active recreational uses, such as all-terrain bicycling and sledding.

Cultural Resources. *Archeological Resources* —To ensure the protection of archeological resources, archeological surveys are conducted before any construction. Artifacts are stored at Heidelberg College. Further investigation is being done to determine the extent of American Indian involvement at the fort.

Cultural Landscape — The cultural landscape of Fort Miamis is maintained in its current condition.

Historic Structures — Historic structures at the fort are protected and retained in their current condition to prevent further degradation.

Natural Resources. *Vegetation* — Vegetation surveys are conducted, and the riverbank is stabilized with native species. Historic land surveys are researched to provide a record of natural pre-settlement conditions. Nonnative species and woody vegetation are controlled.

Wildlife — Wildlife species on site are surveyed.

Soils and Water Resources — Soils and hydrology are maintained to protect the integrity of the fort and the site in general.

Visitor Use. *Access and Circulation* — Existing walks and parking areas are used. There is a small 10-space, paved parking area at River Road and Michigan Street at the northwest corner of the site. There is also a two-car parking area at the foot of Corey Street at the Maumee River.

Interpretation and Education — Interpretation is enhanced to provide a moderate level of educational programs to maintain and enhance reflective experiences and to provide a moderate degree of emotional connections. Minimal new signage and orientation are done on site. Self-guiding brochures are provided. Fort Miamis is tied to the other sites in a simple way. As previously described, a battlefield website (<http://www.fallentimbersbattlefield.com>) has been established to provide background information, educational materials, and program information.

Visitor Experience — The neighborhood park experience is maintained, but recreational activities such as all-terrain biking and sledding are prohibited.

Adjacent Land Uses. It is assumed the current adjacent land uses continue, with no need to change boundaries.

Park Operations. Park operations for the fort have been taken over by Metroparks and are staged off site.

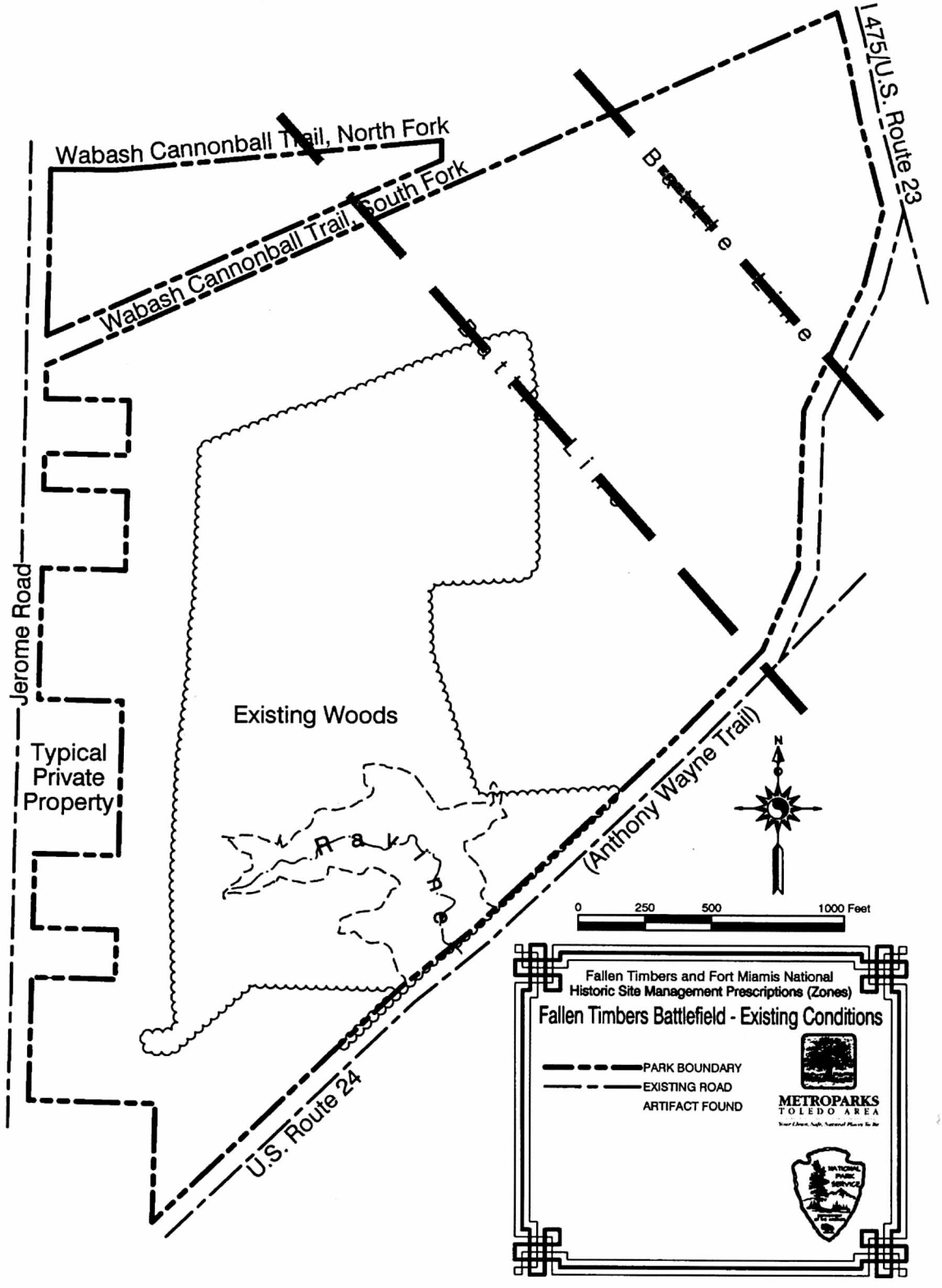
Linkages to Other Units

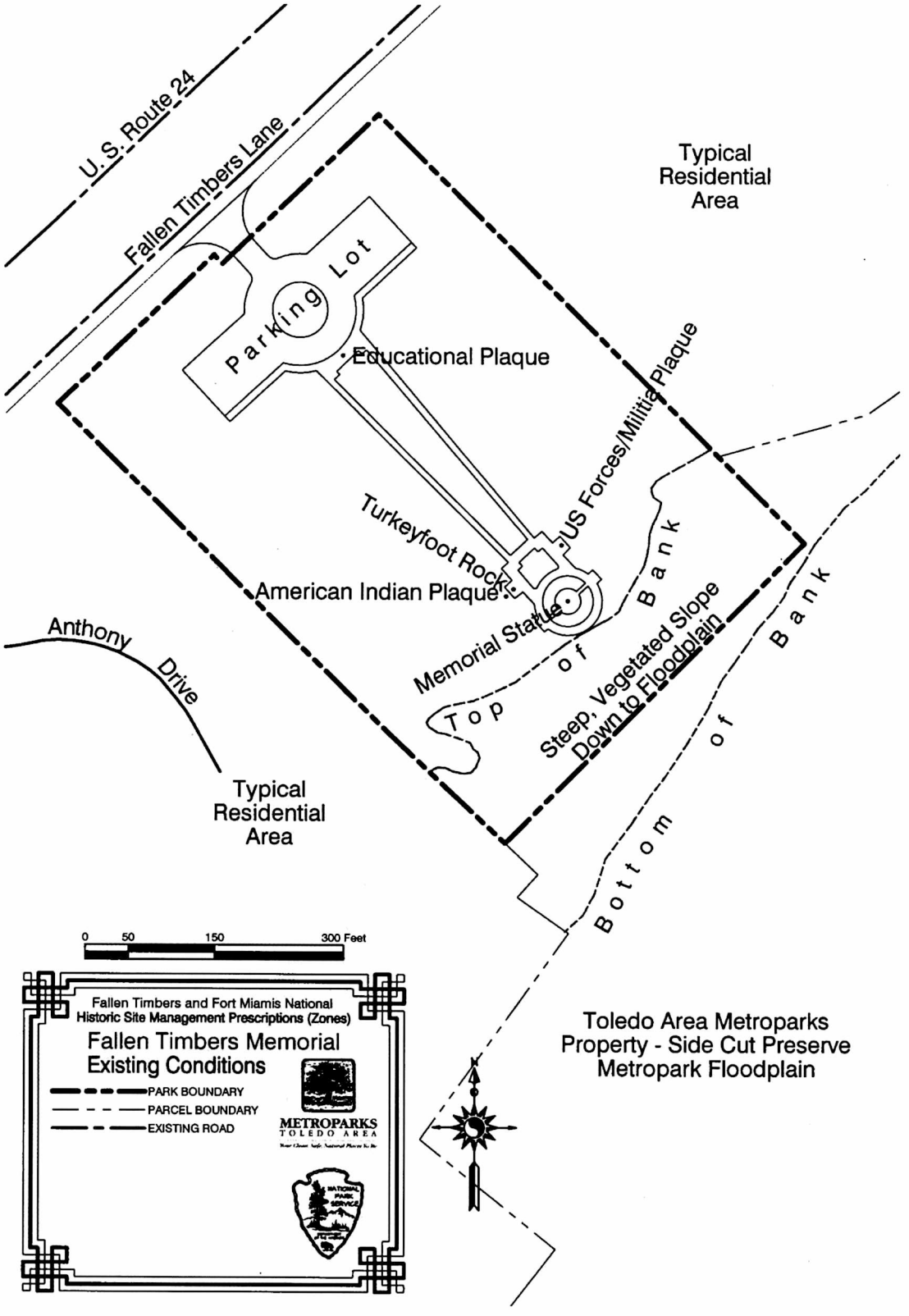
No improvements to create linkages among the units are planned. Visitors utilize existing park maps and local maps for orientation between sites. Jerome Road is a major circulation route, with signs and unpaved paths linking the north and south forks of the Wabash Cannonball Trail.

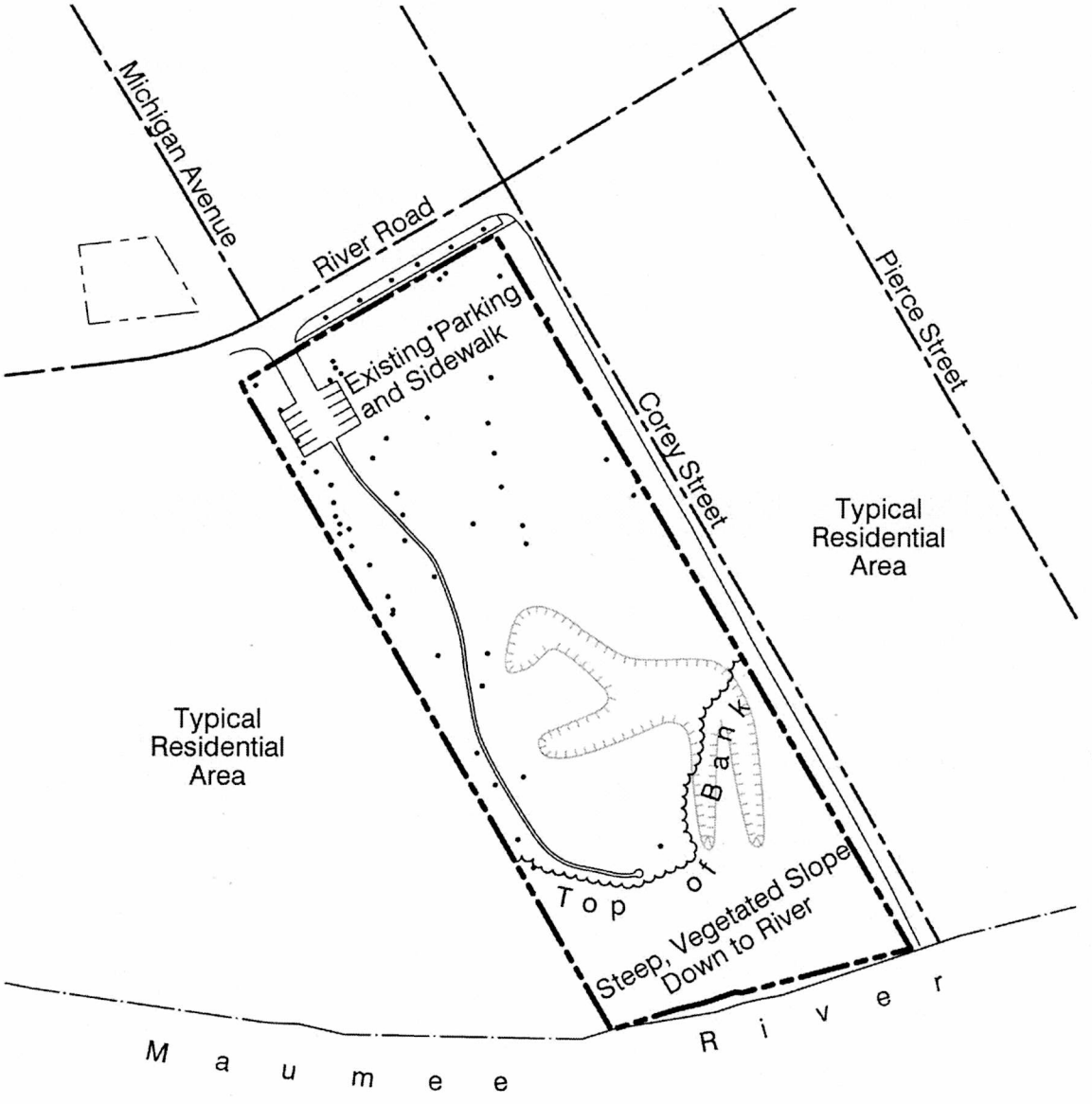
Existing bike and vehicle routes are used to link the units, and they are appropriately signed. Jerome Road is used for access to the Anthony Wayne Trail or River Road for travel between the three units. Formal pedestrian and bike paths are planned to link the fort and the monument, and a bike / pedestrian bridge is planned between the monument and the battlefield. River Road is used after the Maumee / Perrysburg bridge in Maumee to complete the connection to Fort Miamis.

Cost

Approximately $4,500 in maintenance costs have been incurred by Metroparks for Fallen Timbers Battlefield. The annual operations and maintenance cost for Fallen Timbers State Monument is $5,053, and for Fort Miamis $9,815. Total operations and maintenance costs to date are $19,368.


I-475/U.S. Route 23
Wabash Cannonball Trail, North Fork
Wabash Cannonball Trail, South Fork
Battle Line
Jerome Road
Existing Woods
Typical Private Property
Track Road
(Anthony Wayne Trail)
U.S. Route 24
N
0 250 500 1000 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Battlefield - Existing Conditions
PARK BOUNDARY
EXISTING ROAD
ARTIFACT FOUND
METROPARKS TOLEDO AREA


U.S. Route 24
Fallen Timbers Lane
Typical Residential Area
Parking Lot
Educational Plaque
US Forces/Militia Plaque
Turkeyfoot Rock
American Indian Plaque
Memorial Statue
Top of Bank
Steep, Vegetated Slope Down to Floodplain
Bottom of Bank
Anthony Drive
Typical Residential Area
Toledo Area Metroparks Property - Side Cut Preserve Metropark Floodplain
0 50 150 300 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Memorial
Existing Conditions
PARK BOUNDARY
PARCEL BOUNDARY
EXISTING ROAD
METROPARKS TOLEDO AREA
N


Michigan Avenue
River Road
Pierce Street
Existing Parking and Sidewalk
Corey Street
Typical Residential Area
Typical Residential Area
Top of Bank
Steep, Vegetated Slope Down to River
Maumee River
0 50 150 300 Feet
N
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fort Miamis - Existing Conditions
PARK BOUNDARY
POTENTIAL AQUISITION PARCEL
EXISTING ROAD
BRUSH LINE
FORT LANDFORM REMNANT
SPECIMEN TREES
METROPARKS TOLEDO AREA
NATIONAL PARK SERVICE

ALTERNATIVE B — HIGH RESOURCE PRESERVATION WITH INTERPRETATION TO ENGAGE VISITORS (PREFERRED ALTERNATIVE)

Under the preferred alternative cultural resources would be preserved, and various types of interpretive programs would be developed to encourage visitors to learn about the importance of the park units and the historic events. At the battlefield natural succession would be encouraged to allow vegetation to revert to species types more typical of those that existed in 1794, and exotic vegetation would be removed. Most interpretation would take place at the edges of the historic resources in order to ensure their preservation. A new visitor center would be constructed near the battlefield, and interpretive programs would cover all three units and the American Indian, British, and American perspectives of the time period. Partnerships would be pursued with a wide variety of agencies and organizations to protect viewsheds outside the park and to share programming, information, and materials.

Management zones under this alternative are shown in Table 2.

TABLE 2: MANAGEMENT ZONING, ALTERNATIVE B (PREFERRED ALTERNATIVE)

Zones	Fallen Timbers Battlefield	Fallen Timbers State Monument	Fort Miamis
Historic Preservation			4.59 ac.
Resource Protection	167.89 ac.		
Reflective Area		5.36 ac.	
Higher Intensity Historical Interpretation	14.0 ac total (1.25 miles of trail plus four interpretive nodes)		0.57 ac. (0.3 mile of trail)
Transitional Zone	5.02 ac.	2.19 ac.	
Developed Area	5.37 ac.	0.68 ac.	0.28 ac.
Recreation Trail (linkage to other units)	0.8 mile of trail (outside park)	0.25 mile of trail (outside park)	
Total	**192.28 ac.**	**8.23 ac.**	**5.44 ac.**

NOTE: There would be no vegetation restoration or lower intensity interpretation zones under this alternative.

Fallen Timbers Battlefield

Most of the battlefield would be managed as a resource protection zone, and public access would be limited. The battle would be interpreted at a visitor center on Jerome Road, with exhibits of artifacts used to support the interpretive program.

Cultural Resources. *Archeological Resources* — Archeological resources would continue to be studied, and construction sites would be surveyed before any development occurred. Artifacts from all three units would be displayed at a new visitor center, rather than off site at another institution.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. To protect the battlefield area, a resource protection zone consisting of 167.89 acres would be established. Wooded areas would be retained, previously cultivated areas would be allowed to revert to more of a historical character through natural succession; and invasive species would be controlled. After completion of a cultural landscape report to document likely historic conditions, site characteristics reminiscent of the 1794 time period would be restored. This area is known to be highly fragile, with intact historic and archeological resources, some of which have not been studied.

To protect views of the battlefield, a transitional zone (5.02 acres) would be established along US 24 and adjacent to private properties on Jerome Road. Vegetation, berms, and walls would be used to screen views.

Natural Resources. *Vegetation* — Natural areas would be allowed to succeed with native species, and nonnative species would be removed. A landscape more typical of what would have been present in 1794 would be reestablished, subject to the findings of the cultural landscape report.

Wildlife — Historic wildlife research would be conducted, and certain native species present for the 1794 period would be encouraged and monitored, and habitats would be defined.

Soils and Water Resources — Soils and hydrology would be managed to reestablish a higher integrity palustrian woodland, which would more closely reflect the landscape of 1794. As described for alternative A, soil studies would determine how pH levels are related to vegetation and if residuals remain from past farming practices. Drainage patterns would be monitored from surrounding areas, and drainage tiles would be blocked to restore wetter conditions that existed historically on the site.

Visitor Use. *Access and Circulation* — Parking areas would be provided at the new visitor center and on adjacent property off Jerome Road along the western boundary. A group entrance would be provided south of the visitor center. Visitors could enter the property from either location.

A trail about 1.25 miles long would be constructed from the visitor center to the ravine then circling through the U.S. and Indian battle lines and returning to the visitor center (see the "Alternative B — Fallen Timbers Battlefield" plan). The trail and interpretive nodes would be within the higher intensity historical interpretation zone. The trail would be accessible to all visitors. No other areas beyond the trail and interpretive nodes would be open to visitors.

Interpretation and Education — At the visitor center (medium in size compared to the other two alternatives) detailed stories of all three units would be told — the battle, military history, and the culture of the Indians. The center would possess important interpretive resources to support the limited outdoor experience at all three units. Hands-on exhibits would be provided, and interpretive programs would be developed to appeal to various interest levels, learning styles, and the time that visitors have. Much of the museum collection would be on display in the visitor center. A comprehensive interpretive plan would be prepared at a later date to identify interpretive programs and media.

An outdoor interpretive area, including kiosks and signage, gathering areas for groups, and program drama areas would be used to further explain the story and to link the battle to other historic sites.

Onsite interpretation would be provided along the trail from the visitor center to different areas of the battlefield. Interpretive signs along the trail would provide visitors with further information. Gathering spaces would be complemented with interpretive and directional signs. Users would range from guided groups to individuals.

Visitor Experience — To protect the historic resource, no off-trail use would be allowed. However, visitors could walk to all key resource areas, giving them the opportunity to see the actual sites and to learn about the different stories represented at the site.

Adjacent Land Uses. Metroparks would cooperate and maintain a dialog with adjacent landowners in order to purchase private homes along the western boundary as they became available, or homeowners could donate their properties. Once acquired, the structures would be removed and the areas used for park purposes. None of these structures has any historical value.

Park Operations. Minor support facilities would be provided on the site, while major park operations would be supported through Side Cut Metropark. Structures, facilities, and parking areas would be maintained. Volunteers would be utilized where appropriate.

Partnerships. Partnerships would be maintained with the Ohio Historical Society, Heidelberg College, and the City of Maumee, but under the preferred alternative additional partnerships would be formed with the American Indian Intertribal Association for shared programming, information, and materials. More formal agreements to support interpretive programs and park operations would be pursued with the Fallen Timbers Battlefield Preservation Commission, the Lucas County / Maumee Valley Historical Society, the Toledo Metropolitan Area Council of Governments, and the Maumee Valley Heritage Corridor.

Marketing of special events and fund-raising campaigns would be established as part of the overall Metroparks marketing strategy, with cooperative promotions for special events.

Fallen Timbers State Monument

The Fallen Timbers Monument unit would be managed as a sacred, contemplative area, and the existing cultural landscape would be maintained. A kiosk would be provided at the parking area to tell visitors more about the site. A transitional zone would be established to screen incompatible adjacent uses.

Cultural Resources. *Archeological Resources* — Sites would be surveyed before any construction to ensure that resources would not be inadvertently disturbed.

Cultural Landscape — A cultural landscape report would be prepared to document the landscape design of the monument. The manicured landscape and trees along the memorial walkway would be preserved.

Historic Structures / Sacred Sites — Monuments and walkways would be retained in their historic condition.

Natural Resources. *Vegetation* — Plant surveys would be conducted to establish baseline information. The slope on the southeast edge of the site would be managed to control nonnative species.

Wildlife — Wildlife surveys would be conducted to establish baseline information.

Soils and Water Resources — Information on soils and hydrology would be gathered, and current conditions would be maintained.

Visitor Use. *Access and Circulation* — The current entrance drive and parking facility (0.68 acre) would remain so as not to impact any additional areas. The recreation trail providing access to the other units and the Maumee River, as well as linking the forks of the Wabash Cannonball Trail, would be routed along the northwestern and northeastern edges of the monument. A pedestrian overpass would cross US 24.

The memorial walk through the center of the property to the monument would be maintained.

Interpretation and Education — A kiosk would be provided adjacent to the parking lot to interpret the main points of the unit and to inform people about the other two park units. Wayside signs would be

retained. Subsequent events at Fort Meigs and in the Maumee Valley during the War of 1812 would also be explained. An interpretive plan would be created at a later date.

Visitor Experience — A highly reflective experience would be established as visitors proceeded toward the monument; this experience would be emphasized by establishing a 5.36-acre reflective zone. Opportunities for remote and retrospective experiences would be established. Inappropriate recreational uses (such as jogging, biking, or school sports programs) would be prohibited or routed around the site on the recreation trail so that the primary focus would not be degraded.

To minimize outside interference, a transitional zone (2.19 acres) would be established around three sides of the unit. Historical plantings would be reestablished along the southwest and northeast boundaries, and the monument would be screened from US 24 along the northwest boundary. Heavy plantings, berms, and fences would be used.

To preserve the vista from the monument toward the Maumee River, typical of what would have existed around 1794, a viewshed protection area would be established outside the park, including the floodplain adjacent to the monument. Metroparks would need to maintain this property in a pristine condition since it is not part of the national historic site.

Adjacent Land Uses. Present land uses and boundaries would be maintained. As discussed under the "Visitor Experience" section, views of incompatible development would be screened.

Park Operations. Operations would be maintained off site at Side Cut Metropark, the same as alternative A.

Partnerships. Partnerships between the Ohio Historical Society and Metroparks would be maintained. In addition, partnerships would be enhanced with the American Indian Intertribal Association, Parks Canada, and South Wales Borders to improve interpretive opportunities related to international participation in the battle and its interpretation.

Fort Miamis

Most of the Fort Miamis unit would be managed as a historic preservation zone, with offsite parking and interpretation. Visitor use would be restricted to trails that were sited to provide a variety of views and experiences.

Cultural Resources. *Archeological Resources* — Surveys would be conducted at construction sites to avoid inadvertent impacts to resources. All archeological artifacts would be preserved and protected.

Cultural Landscape — A cultural landscape report would be prepared to document the fort's historic setting. A historic preservation zone of 4.6 acres would cover most of the property. The zone would ensure the protection of the highly fragile and intact historical and archeological resources. Views would only be from outside the zone, and a fence would protect the perimeter. Native plant species appropriate to the fort setting would be reintroduced through reseeding.

Historic Structures — The landforms associated with the fort would be repaired and protected from any further damage caused by visitor use. Public access would be prohibited to prevent further degradation to fort resources, although access would be permitted for research and related projects. Erosion control structures would be replaced along the Maumee River to protect the edge of the fort, and potential resources within the river would be protected and preserved.

Natural Resources. *Vegetation* — Plant surveys would be continued, and native plants would be maintained. The entire site would be reseeded with native grasses, and visitor use would be restricted to trails. The Maumee River bank would be stabilized with native species. Nonnative species and woody vegetation would be controlled.

Wildlife — Wildlife surveys would be continued, the same as the other alternatives.

Soils and Water Resources — The historic preservation zone would be reseeded with native plant species to prevent further erosion. New erosion control structures would be installed in the Maumee River.

Visitor Use. *Access and Circulation* — Parking at the existing location would be maintained. A visitor kiosk (a free-standing, open structure containing maps and printed interpretive material) would be provided at the parking area in the northwest corner. A fence around the perimeter would limit access to the main parking area. Development would remain in areas already disturbed by the installation of a city storm sewer some years ago.

A total of 0.3 mile of hard-surfaced walkways or trails within the higher intensity historical interpretation zone would allow pedestrian access to the perimeter of the fort on the west, east, and north. The existing path to the fort would be widened and resurfaced and used as the main interpretive walkway within the site. A second walkway would be established along the northern and eastern edges of the unit (parallel to River Road and Corey Street), eventually leading to an existing dock on the Maumee River. Walkways would be wide enough to accommodate groups. An observation area off Corey Street would be provided adjacent to the fort remnants. Trails would be designed or redesigned for universal access.

Interpretation and Education — Information about this unit would be focused at the visitor kiosk at the parking area.

Direct interpretation would be provided along the trails leading to two observation platforms on the perimeter of the fort site. Interpretive and directional signs would be posted along the trails. An interpretive plan would be created at a later date.

Visitor Experience — Most of the fort unit would be managed to provide a highly reflective experience. Interpretive exhibits and waysides at platforms overlooking the fort remnants would help people visualize the historic fort and learn about connected events and stories. Most of the area would be designated as a historic preservation zone, with a narrow, higher intensity historical interpretation zone for visitors to view the remnants of the fort.

To protect views toward the Maumee River as seen from vista points within the unit, a viewshed protection area would be established outside the park. This vista has been identified as needing to be preserved because of its pristine appearance, typical of what would have existed around 1794. Because this area is outside the boundaries of the national historic site, recommendations would be made to the Perrysburg Planning Commission to protect this area from uncontrolled development.

Adjacent Land Uses. Adjacent property might be purchased to accommodate an interpretive facility and additional parking. Current public docks on the Maumee River would be maintained as they are now.

Park Operations. Park operations for the fort would be maintained off site.

Partnerships. Potential partnerships with Parks Canada (to enhance the British colonial and French Canadian perspective), the American Indian Intertribal Association, and South Wales Borders would be investigated for future improvements to site interpretation.

Linkages to Other Units

Proposed actions under the preferred alternative to link all three park units would include

- a bicycle/walking connection along River Road
- a waterway connection by way of the Maumee River
- public transportation and park transportation, with established bus stops at each unit
- connections to sites not directly related to the national historic site but with historical content

These linkages would rely heavily on signage along the various routes connecting the three units, along with kiosks offering maps and brochures. These same materials would be available in the visitor center, as well as a Website connection. Convenient pedestrian and bicycle connections would be provided between sites and to other sites in the region.

Electronic touring aids could also enhance the visitor experience. For example, routes could be customized according to visitor interests, with the following types of computer-generated itineraries:

- Visitors could trace Wayne's route along the Maumee River; a CD would describe encampments and pertinent information.
- A CD that describes the route and provides networking options to other sites, all based on visitor interests, could be made available.

Potential visitors could log on to the Website from home, view options, make choices, and have information e-mailed to them or copied to a CD.

Specific linking trails would include

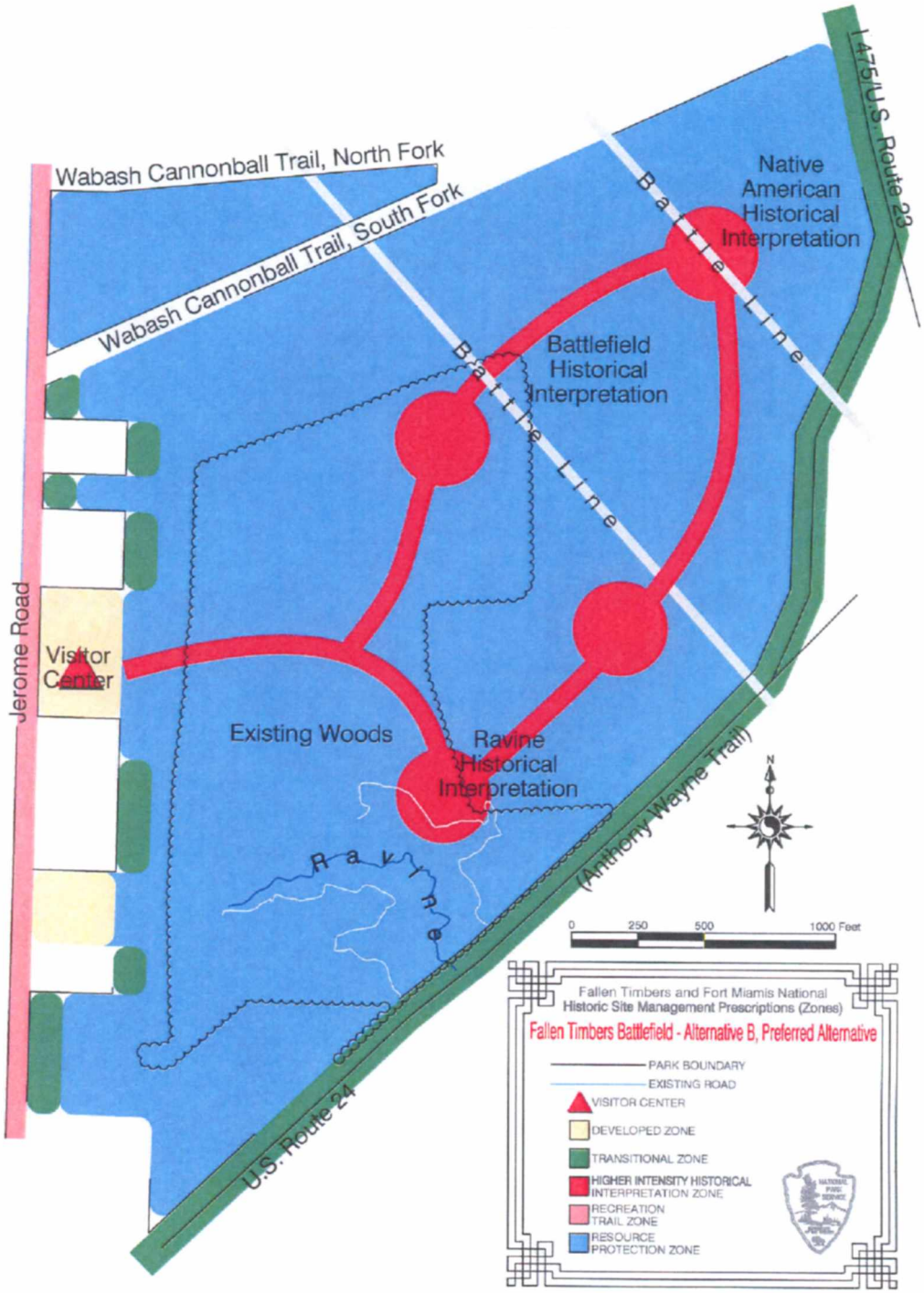
- A 0.8-mile recreation trail along the western boundary of the Fallen Timbers Battlefield (outside the park boundary), with connections to the monument as well as to Fort Miamis, would also provide convenient access to other sites in the region.
- At the monument a 0.25-mile recreation trail would be constructed along the northern and eastern boundaries to connect to the adjacent battlefield, the floodplain, and the river.
- A water/boating link would be established on the Maumee River from near the monument to the fort, when water levels permit.

Cost

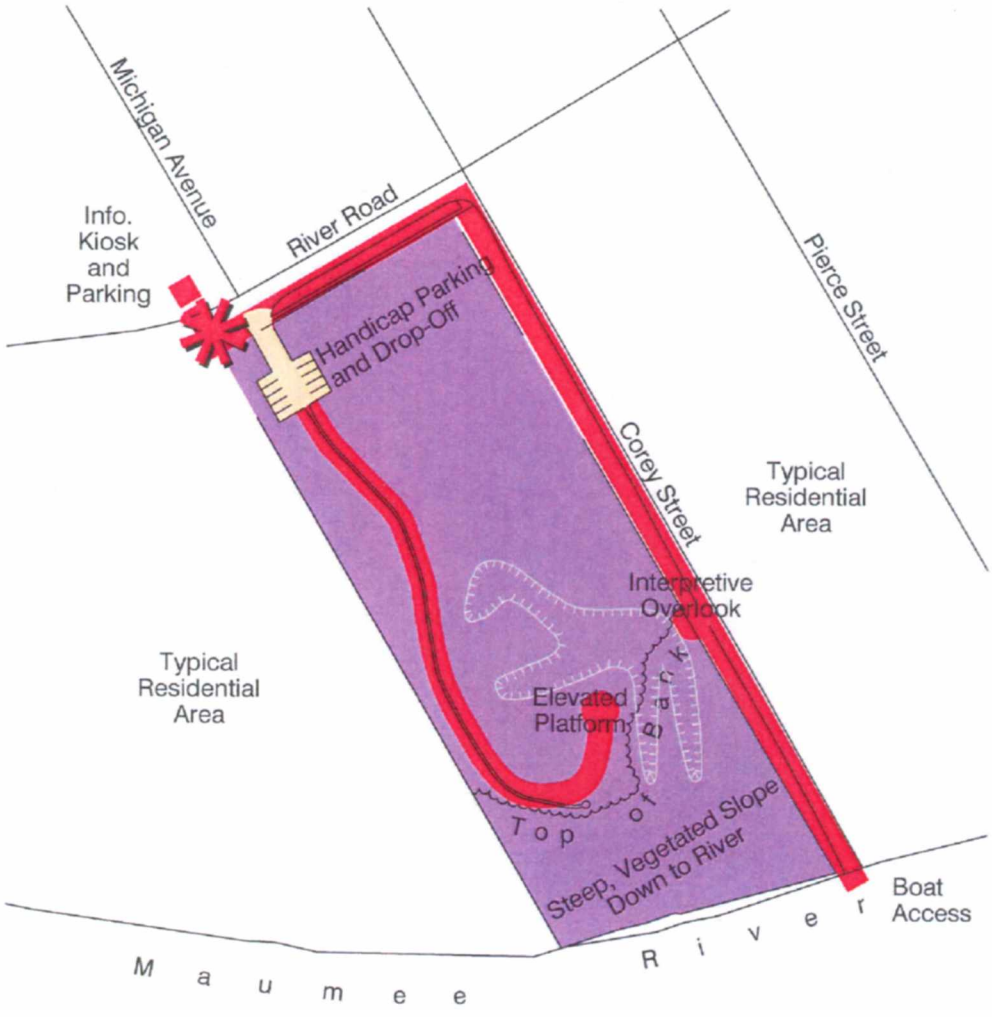
The estimated cost of alternative B would be approximately $3.4 million, as shown in Table 3.

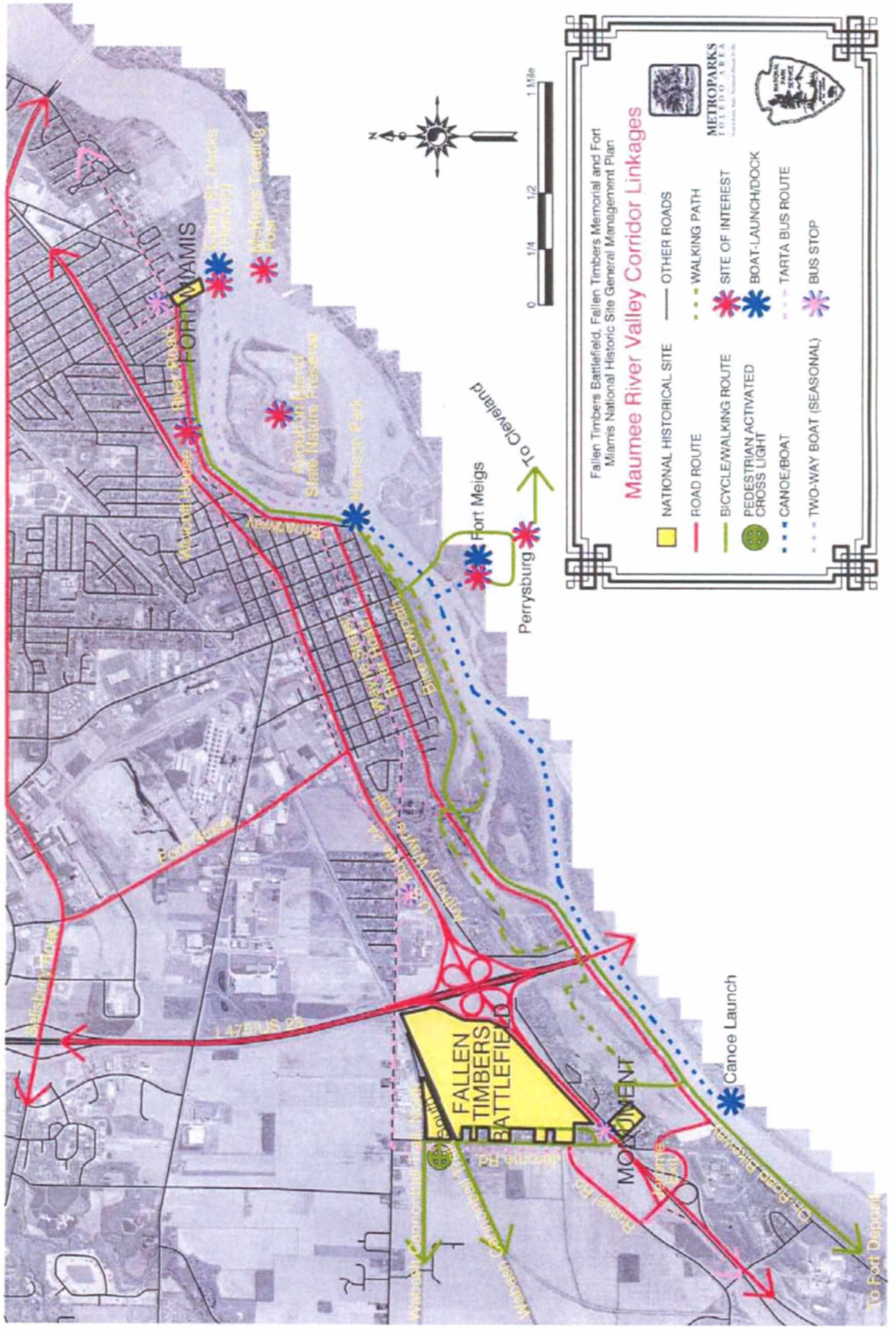
TABLE 3: ESTIMATED COSTS, ALTERNATIVE B

Fallen Timbers Battlefield		
Visitor Center		$2,028,960
Trails		$252,280
Parking		$58,968
Miscellaneous		$76,230
	Subtotal	$2,416,438
Contingency (30%)		$724,931
	Total	**$3,141,369**
State Monument		
Trails/Pavement		$54,905
Kiosk		$25,000
	Subtotal	$79,905
Contingency (30%)		$23,972
	Total	**$103,877**
Fort Miamis		
Trails		$70,065
Kiosk		$25,000
Parking		$9,072
	Subtotal	$104,137
Contingency (30%)		$31,241
	Total	**$135,378**
	GRAND TOTAL	**$3,380,624**


Wabash Cannonball Trail, North Fork
Wabash Cannonball Trail, South Fork
I-475/U.S. Route 23
Native American Historical Interpretation
Battle Line
Battle Line
Battlefield Historical Interpretation
Jerome Road
Visitor Center
Existing Woods
Ravine Historical Interpretation
Rake Line
(Anthony Wayne Trail)
U.S. Route 24
N
0 250 500 1000 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Battlefield - Alternative B, Preferred Alternative
PARK BOUNDARY
EXISTING ROAD
VISITOR CENTER
DEVELOPED ZONE
TRANSITIONAL ZONE
HIGHER INTENSITY HISTORICAL INTERPRETATION ZONE
RECREATION TRAIL ZONE
RESOURCE PROTECTION ZONE


U.S. Route 24
Fallen Timbers Lane
Typical Residential Area
Parking Lot
Educational Plaque
US Forces/Militia Plaque
Turkeyfoot Rock
American Indian Plaque
Memorial Statue
Top of Bank
Steep, Vegetated Slope Down to Floodplain
Bottom of Bank
Anthony Drive
Typical Residential Area
0 50 150 300 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Memorial - Alternative B Preferred Alternative
PARK BOUNDARY
PARCEL BOUNDARY
EXISTING ROAD
METROPARKS TOLEDO AREA
KIOSK
TRANSITION ZONE
DEVELOPED ZONE
REFLECTIVE ZONE
RECREATION TRAIL ZONE
NATIONAL PARK SERVICE
Viewshed Zone Extends to Metropark/Privately Owned Floodplain and Opposite Bank of the Maumee River
Toledo Area Metroparks Property - Side Cut Preserve Metropark Floodplain


Michigan Avenue
River Road
Pierce Street
Info. Kiosk and Parking
Handicap Parking and Drop-Off
Corey Street
Typical Residential Area
Interpretive Overlook
Typical Residential Area
Elevated Platform
Top of Bank
Steep, Vegetated Slope Down to River
Boat Access
Maumee River
Viewshed Zone Extends to Audubon Island and the Opposite Bank of the Maumee River
0 50 150 300 Feet
N
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fort Miamis - Alternative B
Preferred Alternative
PARK BOUNDARY
POTENTIAL ACQUISITION PARCEL
EXISTING ROAD
BRUSH LINE
FORT LANDFORM REMNANT
SPECIMEN TREES
KIOSK
HISTORIC PRESERVATION ZONE
DEVELOPED ZONE
HIGHER INTENSITY HISTORICAL INTERPRETATION ZONE


Fallen Timbers Battlefield, Fallen Timbers Memorial and Fort Miamis National Historic Site General Management Plan
Maumee River Valley Corridor Linkages
NATIONAL HISTORICAL SITE
ROAD ROUTE
BICYCLE/WALKING ROUTE
PEDESTRIAN ACTIVATED CROSS LIGHT
CANOE/BOAT
TWO-WAY BOAT (SEASONAL)
OTHER ROADS
WALKING PATH
SITE OF INTEREST
BOAT-LAUNCH/DOCK
TARTA BUS ROUTE
BUS STOP
METROPARKS TOLEDO AREA
0
1/4
1/2
1 Mile
FORT MIAMIS
Fort Meigs
Perrysburg
To Cleveland
FALLEN TIMBERS BATTLEFIELD
MONUMENT
Canoe Launch
To Fort Deposit

ALTERNATIVE C — MULTIPLE INTERPRETIVE OPTIONS

The concept of this alternative is to provide a strong interpretive emphasis, using various resources to appeal to visitors, depending on their interest levels, learning styles, and available time. Visitors would have opportunities for many direct, indirect, and virtual experiences when visiting the sites. Different opportunities would be available for both emotional and intellectual connections to the stories and resources.

Under this alternative a visitor center (the largest of the three alternatives) would be constructed adjacent to the battlefield at an undetermined site, and a direct connection to the battlefield would be provided. The visitor center would contain artifacts and hands-on exhibits that would appeal to various interest levels. The American Indian, British, and American perspectives of the time period would be interpreted, offering multiple points of view of the battle, similar to alternative B. The visitor center would also contain a resource library, meeting rooms, and an area to show orientation videos. Maintenance facilities not directly related to the visitor center would be off site so as not to impact the resources, similar to alternative B.

Management zones under this alternative are shown in Table 4.

TABLE 4: MANAGEMENT ZONING, ALTERNATIVE C

Zones	Fallen Timbers Battlefield	Fallen Timbers State Monument	Fort Miamis
Historic Preservation			2.09 ac.
Resource Protection	60.76 ac.		
Vegetation Restoration	95.38 ac.	1.35 ac.	
Reflective Area		1.35 ac.	0.15 ac.
Higher Intensity Historical Interpretation	8.63 ac. total (0.75 mile of trail)		2.08 ac.
Lower Intensity Interpretation	11.32 ac. total (0.4 mile of trail)	1.92 ac.	
Transitional	16.19 ac.	2.93 ac.	0.29 ac.
Developed Area	outside park	0.68 ac.	0.83 ac.
Recreation Trail (linkage to other units)	0.8 mile of trail outside park	0.25 mile of trail outside park	
Total	**192.28 ac.**	**8.23 ac.**	**5.44 ac.**

Fallen Timbers Battlefield

Most of the battlefield would be managed as a vegetation restoration zone in order to reflect conditions at the time of the battle and to allow visitors to explore more of the battlefield area firsthand and to become immersed in the experience. Various interpretive opportunities would be created for visitors to directly experience the resource.

Cultural Resources. *Archeological Resources* — Archeological resources would continue to be studied, and construction sites would be surveyed for the presence of resources before development. Artifacts from all three units would be displayed at the new visitor center.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. Agricultural uses would be discontinued, and the landscape would be restored to more of a historical character through natural succession. To protect the most important areas of the battlefield, a resource protection zone consisting of 60.76 acres (the smallest of any alternative) would be established. This zone would consist of three portions — the area around the ravine, the area between the battle lines,

and the area north of the railroad tracks. Vegetation would be managed to encourage natural succession and to control invasive species. This area is known to be highly fragile, with intact historic and archeological resources, some unexplored.

Under this alternative a vegetation restoration zone would be established encompassing 95.38 acres, the majority of the battlefield. Historical vegetation patterns would also be reestablished in this zone, subject to a cultural landscape report, and more visitor use would be allowed.

Natural Resources. *Vegetation* — Vegetation would be reestablished to resemble conditions at the time of the battle, with a high level of management and reintroduction of native plants.

Wildlife — Wildlife species would be monitored and habitats defined (the same as alternative A).

Soils and Water Resources — Soils and hydrology would be managed to reestablish a higher integrity palustrian woodland, which would more closely reflect the landscape of 1794. As described for alternative A, soil studies would determine how pH levels are related to vegetation and if residuals remain from past farming practices. Drainage patterns would be monitored from surrounding areas, and some drainage tiles would be blocked to restore wetter conditions on the site, like alternative B.

Visitor Use. *Access and Circulation* — Parking would be provided at an offsite visitor center on Jerome Road, across from the battlefield.

Within a higher intensity historical interpretation zone, 0.75 mile of trails would be constructed for direct, onsite interpretation of the battle. A system of paved and unpaved trails would allow visitors to explore the ravine and woods. One trail leading to the northwest corner of the site would offer views of the battlefield from the Native American perspective. Trails would be designed for use by guided groups and individuals. A number of outdoor interpretive areas, totaling 8.63 acres, would be created.

Within the lower intensity interpretation zone, about 0.4 mile of trails would be constructed, and a 10.68-acre area would be provided for walking off trail through a wooded area.

Interpretation and Education — The intent of this alternative would be to immerse and integrate visitors into the site by presenting intellectual and emotional first-person stories and allowing direct contact with the resources in the higher intensity historical interpretation zone. The lower intensity interpretation zone in the center of the battlefield would offer little onsite programming and more seclusion. Interpretive signs would provide visitors with further information. A comprehensive interpretive plan would be created at a later date to outline interpretive programs and media.

In the visitor center hands-on exhibits would relate to the American Indian, British, and American perspectives of the battle. Interpretive programs would be developed to appeal to various interest levels, learning styles, and the time that visitors have. A resource library, orientation videos, meeting rooms, and outdoor learning areas would be included in the center.

Visitor Experience —The experience in the higher intensity historical interpretation zone would be geared to interpretation focused on the resources, while the experience in the lower intensity interpretation zone would emphasize quieter opportunities for walks through a wooded area, both on and off trail. Contacts with other visitors would be limited.

Visitors in the vegetation restoration zone would likely have little contact with other visitors. This would be a quiet area that provides a feeling of solitude and offers visitors a place to be close to nature. Visitors could choose how they wanted to move through this area; there would be no trails.

This zone would provide visitors with a strong connection to history and a sense of discovery and adventure, relating more to the 1794 historical context of the site.

To protect views of the battlefield, a transitional zone (16.9 acres) would be established to screen views of adjacent areas or uses that would be out of context with the historic time period. Walls and fences would be used to a greater extent to reduce outside noise and visual intrusions.

Adjacent Land Uses. As described for alternative B, Metroparks would cooperate and maintain a dialog with adjacent landowners in order to purchase private homes along the western boundary as they became available. Homeowners could also donate their properties. Once acquired, the structures would be removed and the properties used for park purposes. None of the structures has any historical value.

Park Operations. Minor support facilities would be provided at the visitor center, while major park operations would be supported through Side Cut Metropark, as described for alternative B. Structures, facilities, and parking areas would be maintained. Volunteers would be used where appropriate.

Partnerships. Partnerships would be maintained with the Ohio Historical Society, Heidelberg College, and the City of Maumee, but under alternative C additional partnerships would be formed with the American Indian Intertribal Association, and various British military organizations for shared programming, information, and materials.

As described for the other alternatives, the marketing of special events and fund-raising campaigns would be established as part of the overall Metroparks marketing strategy, with cooperative promotions for special events.

Fallen Timbers State Monument

The Fallen Timbers Monument would be managed as a commemorative area, but interpretation would be expanded to tell more about the historic events. More natural vegetative conditions would be established, and incompatible adjacent uses would be screened.

Cultural Resources. *Archeological Resources* — Sites would be surveyed before any construction to ensure that resources would not be inadvertently disturbed.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. The core of the monument would be maintained as it is, with 1.35 acres designated as a reflective zone.

Historic Structures / Sacred Sites — Monuments and walkways would be retained in their historic condition.

Natural Resources. *Vegetation* — Baseline plant surveys would be conducted. The hillside below the monument would be designated as a vegetation restoration zone (1.35 acres), and native plant materials would be reestablished, ultimately recreating a prairie landscape. This would be the only alternative for the monument with a vegetation restoration zone. The slope on the southeast edge of the site would be managed to control nonnative species.

Wildlife — Baseline wildlife surveys would be conducted, the same as the other alternatives.

Soils and Water Resources — Information on soils and hydrology would be gathered, and current conditions would be maintained, the same as the other alternatives.

Visitor Use. *Access and Circulation* — The current entrance drive and parking facility (0.68 acre) would remain so as not to impact additional areas.

The memorial walkway through the center of the property to the monument would be maintained.

Interpretation and Education — A kiosk would be provided adjacent to the parking lot to interpret the main points of the unit and to inform people about the other two units, similar to alternative B. A lower intensity interpretation zone (1.92 acres) would be established on each side of the reflective zone. Interpretive signs would focus on the monument and the landscape, plus natural and historic viewscapes. Subsequent events at Fort Meigs and in the Maumee Valley during the War of 1812 would also be explained.

Visitor Experience — Opportunities would be established for direct, indirect, and virtual experiences that would appeal to all visitors. As described for alternative B, inappropriate recreational experiences would be eliminated in order to support a more reflective experience.

As mentioned under the cultural landscape section, a 1.35-acre reflective zone would be established around the monument (the smallest such zone under any of the alternatives). The experience here would be quiet, respectful, and contemplative.

Visitor experiences in the lower intensity interpretation zone would be more individually oriented, and no group activities would be allowed.

To minimize outside interference, a transitional zone (2.93 acres) would be established around three sides of the unit. Heavy plantings, berms, and fences would be used to screen adjacent uses.

To preserve the vista from the monument toward the Maumee River, typical of what would have existed around 1794, a viewshed protection area would be established outside the park and would include the floodplain adjacent to the monument. Metroparks would need to maintain this property in a pristine condition since it is not part of the national historic site.

Adjacent Land Uses. Present land uses and boundaries would be maintained. As discussed under the "Visitor Experience" section, views of incompatible development would be screened.

Park Operations. Operations would be maintained off site.

Partnerships. Partnerships between the Ohio Historical Society and Metroparks would be maintained. In addition, partnerships would be pursued with the American Indian Intertribal Association, Parks Canada, and South Wales Borders to enhance interpretive opportunities.

Fort Miamis

The Fort Miamis unit would be managed as a mix of zones for historic preservation and higher intensity historical interpretation. Diverse interpretive opportunities appealing to a wide range of visitors would be provided. Visitors would be able to look into the fort from various angles, but no direct contact with the fort landforms or the hillside would be allowed in order to protect historic resources. A reflective area, a rest area, and an overview of the fort and river would be provided.

Cultural Resources. *Archeological Resources* — Surveys would be conducted at construction sites to avoid inadvertent impacts to resources, the same as the other alternatives. In addition under alternative C more archeological study would be conducted on the northern half of the property before establishing a higher intensity historical interpretation zone. Any artifacts found in the new parking area and proposed transitional zone would be removed. All archeological artifacts would be preserved and protected.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. A historic preservation zone of 2.1 acres would be established (the smallest of any alternative) to ensure the protection of the highly fragile and intact historic and archeological resources, including artifacts and portions of a wooden structure. The area would be viewed only from adjacent areas, and no direct contact with the historic resources would be allowed. Vegetation around the fort would be managed to emphasize its defensive position and to re-create more of a historical appearance. The hillside below the fort would be stabilized, with some native trees and vegetation remaining in place.

Historic Resources — The landforms associated with the fort would be repaired and protected from any further damage caused by visitor use, the same as alternative B. Erosion control structures would be maintained along the Maumee River to protect the edge of the fort, and potential resources within the river would be protected and preserved.

Natural Resources. *Vegetation* — Plant surveys would be undertaken, as described for the other alternatives. Under this alternative turf would be maintained on the northern portion of the property to allow for circulation by visitors. The fort and the hillside would managed to promote native species. Nonnative species and woody vegetation would be controlled.

Wildlife — Wildlife surveys would be undertaken, the same as the other alternatives.

Soils and Water Resources — Present conditions would be maintained, the same as the other alternatives.

Visitor Use. *Access and Circulation* — The parking area along River Road on the northwest edge of the unit would be enlarged (0.83 acre) to accommodate more car and bus parking. Visitor access would be allowed throughout the northern portion of the unit, but direct access to the fort would be prohibited. Trails would be accessible to all visitors. A dedicated access to the Maumee River along Corey Road would be provided. Trails would be elevated above potential archeological resources to protect them from impacts.

Interpretation and Education — Diverse interpretive experiences would be provided throughout the site, establishing emotional and intellectual connections to the fort through personal historic accounts. Onsite interpretation would take the place of a visitor kiosk or center.

A total of 2.09 acres would be set aside as a higher intensity historical interpretation zone, the largest zone for this unit of any alternative. This zone would include an outdoor area and gathering spot for interpreting the history of the site. Interpretive and directional signs would be provided, along with an interpretive overlook of the Maumee River and docks. An interpretive plan would be created at a later date to specify programs and interpretive media.

Visitor Experience — Visitors would have opportunities for direct, indirect, and virtual experiences. They would be able to look into the fort from various angles, but no contact with the fort landforms or the hillside would be allowed in order to protect historic resources. Inappropriate recreational uses, such as sledding and all-terrain bike use, would be prohibited, the same as the other alternatives.

A small area (0.15 acre) would be set aside as a reflective zone overlooking the fort site and the river. It would be a quiet, respectful, and contemplative space for individuals.

A transitional zone (0.29 acre) would be established to screen views of the parking lot and River Road by means of plantings, berms, and walls. This zone would be more developed and slightly wider than under alternative B.

To protect views toward the Maumee River as seen from vista points within the fort, a viewshed protection area would be established outside the park, the same as alternative B. This vista has been identified as needing to be preserved because of its pristine appearance, typical of what would have existed around 1794. Because this area is outside the boundaries of the national historic site, recommendations would be made to the Perrysburg Planning Commission, the 577 Foundation, and the ODNR Division of Natural Areas and Preserves to protect this area from uncontrolled development.

Adjacent Land Uses. It is assumed that current land uses would continue, and no boundaries would be changed.

Park Operations. Park operations for the fort would be maintained off site.

Partnerships. Potential partnerships between Metroparks, Parks Canada, the American Indian Intertribal Association, the Perrysburg Planning Commission, the Ohio Department of the Natural Resources' Division of Natural Areas and Preserves, South Wales Borders, and private groups such as the 577 Foundation would be encouraged for interpretive programs and viewshed management.

Linkages to Other Units

Linkages would be the same as those described under alternative B. The recreation trail that runs along the west side of the battlefield would connect the three units of the national historic site and would provide access to other historic sites in the region.

The recreation trail at the monument would cross the entrance drive into this unit, would be routed around the southern edge of the parking lot, and would then follow the eastern boundary of the monument to the floodplain.

Cost

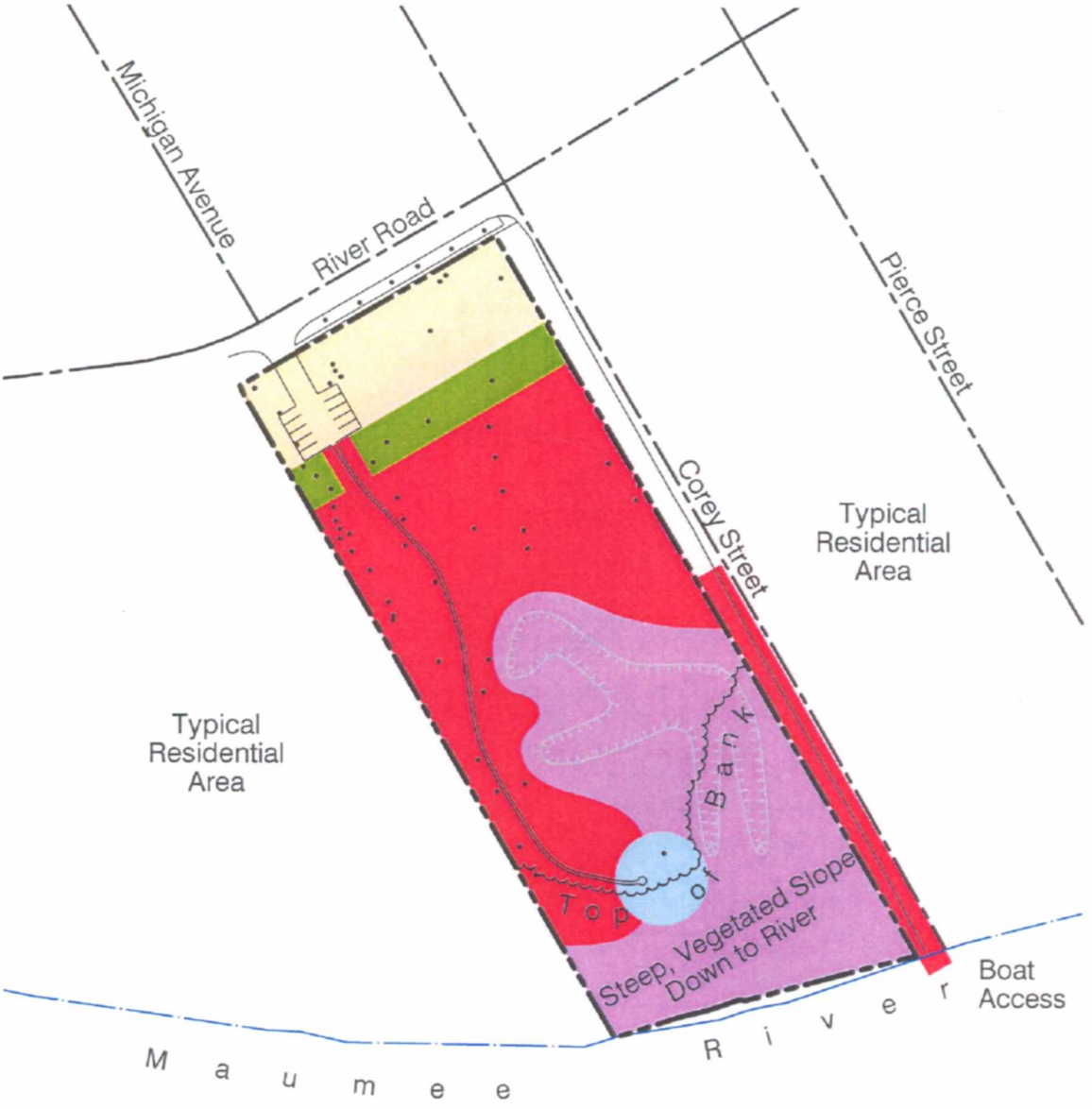
The estimated cost of alternative C would be approximately $3.8 million, as shown in Table 5.

TABLE 5: ESTIMATED COSTS, ALTERNATIVE C

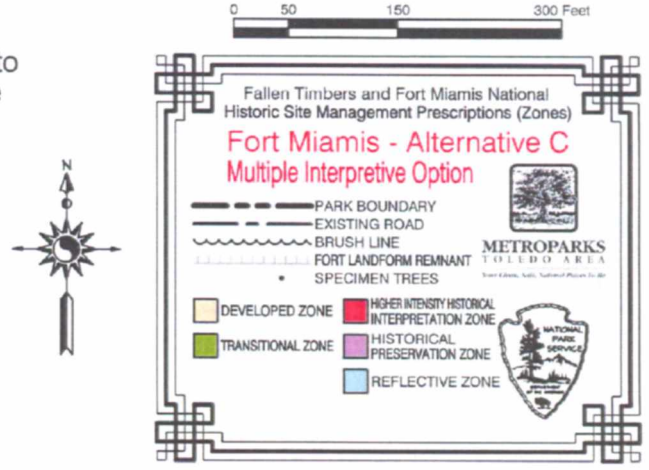
Fallen Timbers Battlefield		
Visitor Center		$2,325,030
Trails (paved)		$150,021
Trails (stone)		$42,000
Parking		$136,080
Miscellaneous		$56,564
	Subtotal	$2,709,695
Contingency (30%)		$812,909
	Total	**$3,522,604**
State Monument		
Trails/Pavement		$54,905
Kiosk		$25,000
	Subtotal	$79,905
Contingency (30%)		$23,972
	Total	**$103,877**
Fort Miamis		
Trails		$70,065
Kiosk		$25,000
Parking		$45,360
	Subtotal	$140,425
Contingency (30%)		$42,128
	Total	**$182,553**
	GRAND TOTAL	**$3,809,034**


Wabash Cannonball Trail, North Fork
Wabash Cannonball Trail, South Fork
I-475/U.S. Route 23
Battle Line
Battle Line
Jerome Road
Existing Woods
Trailhead
Park Drive
(Anthony Wayne Trail)
U.S. Route 24
N
0 250 500 1000 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Battlefield - Alternative C
Multiple Interpretive Options
PARK BOUNDARY
EXISTING ROAD
VEGETATION RESTORATION ZONE
HIGHER INTENSITY INTERPRETIVE ZONE
LOW INTENSITY INTERPRETIVE ZONE
RECREATION TRAIL ZONE
TRANSITIONAL ZONE
RESOURCE PROTECTION ZONE
* VISITOR CENTER OFF SITE
METROPARKS TOLEDO AREA
NATIONAL PARK SERVICE


U.S. Route 24
Fallen Timbers Lane
Typical Residential Area
Parking Lot
Educational Plaque
Turkeyfoot Rock
U.S. Forces/Militia Plaque
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TRANSITION ZONE
VEGETATION RESTORATION ZONE
REFLECTIVE ZONE
LOW INTENSITY INTERPRETIVE ZONE
RECREATION TRAIL ZONE
METROPARKS TOLEDO AREA
NATIONAL PARK SERVICE
Viewshed Zone Extends to Metropark/Privately Owned Floodplain and Opposite Bank of the Maumee River
Toledo Area Metroparks Property - Side Cut Preserve Metropark Floodplain



Viewshed Zone Extends to Audubon Island and the Opposite Bank of the Maumee River



ALTERNATIVE D — AN INTERPRETIVE NETWORK OF SITES

The three park units would be interpreted to show the different historical experiences that significantly helped shape the region. Small-scale visitor centers at each of the three units would show the differences and some of the connections between the units and would encourage visitors to go to the other units and associated sites to learn more. This interpretive thrust would create more of an interconnected experience, with each center highlighting one aspect of the story within the context of the overall historic events. The Fallen Timbers Battle would be the obvious focus at the battlefield, multi-cultural commemoration and the perspective of American Indians would be emphasized at the monument, and the viewpoint of the British would be interpreted at Fort Miamis.

Because of the strong educational focus, the resources would be closely integrated with the interpretive programs. Visitors should leave with a strong understanding of regional and local history, and they should know what other sites to visit to get the whole story.

Management zones under this alternative are shown in Table 6.

TABLE 6: MANAGEMENT ZONING, ALTERNATIVE D

Zones	Fallen Timbers Battlefield	Fallen Timbers State Monument	Fort Miamis
Historic Preservation			4.28 ac.
Resource Protection	151.31 ac.		
Reflective Area	16.36 ac	3.98 ac	
Higher Intensity Historical Interpretation	0.65 ac (0.4 mile of trail)		0.11 ac (0.06 mile of trail)
Lower Intensity Interpretation	2.07 ac. total (1.25 mile of trail)		
Transitional	16.46 ac	3.57 ac.	
Developed	5.43 ac.	0.68 ac.	1.05 ac.
Recreation Trail (linkage to other units)	0.8 mile of trail (outside park)	0.2 mile of trail (outside park)	
Total	**192.28 ac.**	**8.23 ac.**	**5.44 ac.**

NOTE: There would be no vegetation restoration zone under this alternative.

Fallen Timbers Battlefield

Most of the battlefield would be managed as a resource protection zone. The American perspective of the battle would be interpreted at a small visitor center, and a loop trail would be provided through the battlefield area, with interpretive nodes to enhance various aspects of the experience.

Cultural Resources. *Archeological Resources* — Archeological resources would continue to be studied, and construction sites would be surveyed before any development. Artifacts would be displayed at the visitor center.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. To protect the battlefield area, a resource protection zone consisting of 151.31 acres would be established. In relation to alternative B, less area would be available for this zone designation because more area would be used for the reflective area and interpretation. Wooded areas would be retained, and agricultural uses would be discontinued so the landscape could revert to more of a historical character through natural succession, and invasive species would be controlled. The intent would be to

reestablish site characteristics reminiscent of the 1794 time period. This area is known to be highly fragile, with intact historic and archeological resources, some unexplored.

Natural Resources. *Vegetation* — Natural areas would be allowed to succeed with native species, and nonnative species would be removed in order to reestablish a more historic landscape, the same as alternatives B and C.

Wildlife — Wildlife species would be monitored and habitats defined, as described for the other alternatives.

Soils and Water Resources — Soils and hydrology would be managed to reestablish a higher integrity palustrian woodland, which would more closely reflect the landscape of 1794. As described for the other alternatives, soil studies would determine how pH levels are related to vegetation and if residuals remain from past farming practices. Drainage patterns would be monitored from surrounding areas, and some drainage tiles would be blocked to restore wetter conditions on the site.

Visitor Use. *Access and Circulation* — Parking would be provided at the new visitor center adjacent to Jerome Road along the western boundary.

A 0.4-mile improved trail accessible to all visitors would extend from the visitor center into the center of the site and would overlook the ravine. A second loop trail about 1.25 miles long would be provided through the lower intensity interpretation zone, with spurs to quiet reflective areas throughout the battlefield. Across the railroad tracks in the northwestern portion of the unit a short spur trail would provide access to an interpretive node for the Indians' battle line.

Interpretation and Education — The visitor center would be constructed on the east side of Jerome Road, adjacent to the battlefield. Interpretive programs would provide an in-depth understanding of the battle and the relationship to the other units. The visitor center would be relatively small compared to the other two action alternatives, but it would be complemented by the visitor centers at the other units. Visitors would be encouraged to go to all the units. A comprehensive interpretive plan would be created at a later date to outline programs and media.

The developed zone, at 5.43 acres, would be the largest of the three action alternatives and would infringe slightly on the battlefield site. However, a majority of the zone would be contained within previously disturbed Metroparks land, adjacent to the battlefield.

Interpretation more directly related to the resource would occur in the higher intensity historical interpretation zone (the trail to the ravine overlook) and in the lower intensity interpretation zone, where self-guided interpretive opportunities would be provided.

Visitor Experience — The visitor experience would be geared toward providing visitors with a comprehensive understanding of events from 1794 to 1813. Visitors would be encouraged to go to all three units of the national historic site as well as other sites in the region to fully understand the struggle for the Old Northwest Territory.

The trail from the visitor center to the ravine overlook would provide a more structured experience for visitors, while the loop trail through the northeastern portion of the site, as well as in the north battle line area, would offer a quieter experience, with little onsite interpretation and limited human contact.

Under this alternative seven interpretive nodes would be created as part of the reflective zone (totaling 16.36 acres), offering quiet, respectful, contemplative spots for individual or group experiences. The

intent of these nodes, each of which would focus on certain themes related to various aspects of the battle, would be to offer diverse ways for visitors to relate to the historic events.

To reduce the impacts of outside influences on the site, a transitional zone of 16.46 acres would be established. It would contain a variety of plantings, berms, and walls.

Adjacent Land Uses. Metroparks would cooperate and maintain a dialog with adjacent landowners in order to purchase private homes along the western boundary as they became available, or homeowners could donate their properties, the same as the other alternatives. Once acquired, the structures would be removed and the properties used for park purposes. None of the structures has any historical value.

Park Operations. As described for the other alternatives, maintenance and storage would be provided at Side Cut Metropark.

Partnerships. Under this alternative strong working relationships would be developed with the Ohio Historical Society, the City of Maumee, the American Indian Intertribal Association, British military organizations, and Heidelberg College for shared programming, information, and materials.

As described for the other alternatives, the marketing of special events and fund-raising campaigns would be established as part of the overall Metroparks marketing strategy, with cooperative promotions for special events.

Fallen Timbers State Monument

The Fallen Timbers Monument unit would be managed as a commemorative area, with a small visitor center in the parking area for interpreting the diverse cultures involved in the historic events.

Cultural Resources. *Archeological Resources* — Sites would be surveyed before any construction to ensure resources would not be inadvertently disturbed.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. The cultural resources would be preserved, along with the monument's cultural landscape design, including the manicured landscape, the memorial walk, and trees along the walkway, the same as alternative B.

Historic Structures / Sacred Sites — Monuments and walkways would be retained in their historic condition.

Natural Resources. *Vegetation* — Plant surveys would be conducted to establish baseline information, the same as the other alternatives. The slope on the southeast edge of the site would be managed to control nonnative species.

Wildlife — Wildlife surveys would be conducted to establish baseline information, the same as the other alternatives.

Soils and Water Resources — Information on soils and hydrology would be gathered, and current conditions would be maintained.

Visitor Use. *Access and Circulation* — The existing entrance drive and parking facility (0.68 acre) would remain so as not to impact any additional area, the same as alternative B. The recreation trail providing access to the other units would cross the entrance drive.

The memorial walkway through the center of the property to the monument would be maintained.

Interpretation and Education — A small visitor center would be constructed in the parking area at the entrance to the monument. The focus of interpretation would be the commemoration of diverse cultures relative to the time of the battle. Visitors would also be informed about the other two units. Wayside signs would be retained. An interpretive plan would be created at a later date.

Visitor Experience — The visitor experience would be geared more to education, with in-depth explanations of how this unit relates to the other units. Inappropriate recreational uses would be eliminated to foster this type of experience, similar to alternative B. Most of the unit would be managed as a reflective zone (3.98 acres), with opportunities for individual contemplative experiences or group experiences. This zone would be slightly smaller than under alternative B.

To minimize outside interference, a transitional zone (3.57 acres) would be established around three sides of the memorial unit; this would be similar to but larger than under alternative B. It would contain heavy plantings, berms, and walls to screen adjacent incompatible uses.

To preserve the vista from the monument toward the Maumee River, typical of what would have existed around 1794, a viewshed protection area would be established outside the park, including the floodplain adjacent to the monument. Similar to the other action alternatives, Metroparks would need to maintain this property in a pristine condition since it is not part of the national historic site.

Adjacent Land Uses. Present land uses and boundaries would be maintained. As discussed under the "Visitor Experience" section, views of incompatible development would be screened.

Park Operations. Operations would be managed from off site.

Partnerships. Partnerships between the Ohio Historical Society and Metroparks would be maintained. In addition, partnerships would be pursued with the American Indian Intertribal Association, Parks Canada, and South Wales Borders to enhance interpretive opportunities.

Fort Miamis

The majority of the Fort Miamis unit would be managed as a historic preservation zone with a small, onsite visitor center to interpret the British perspective of the historic events, plus related themes. An educational experience would be provided, with in-depth interpretation of the fort and related themes.

Cultural Resources. *Archeological Resources* — Surveys would be conducted at construction sites to avoid inadvertent impacts to resources, as described for the other alternatives. All archeological artifacts would be preserved and protected.

Cultural Landscape — A cultural landscape report would be prepared to document historic conditions. A historic preservation zone of 4.28 acres would cover most of the property. The zone, which would be slightly smaller than under alternative B, would ensure the protection of the highly fragile and intact historic and archeological resources. The area would be viewed only from outside the zone. Native plant species appropriate to the fort setting would be reintroduced.

Historic Resources — The landforms associated with the fort would be repaired and protected from any further damage caused by visitor use. Public access would be banned to prevent further degradation to fort resources. Erosion control structures would be maintained along the Maumee River to protect the edge of the fort, and potential resources within the river would be protected and preserved.

Natural Resources. *Vegetation* — Plant surveys would be continued, and present native plants would be maintained. A developed zone (1.05 acres) in the northwest corner of the unit would reduce the amount of vegetation. The Maumee River bank would be stabilized with native species. Assistance would be provided to the city of Maumee to control nonnative species and woody vegetation.

Wildlife — Wildlife surveys would be continued, as described for the other alternatives.

Soils and Water Resources — Present conditions would be maintained, as described for the other alternatives.

Visitor Use. *Access and Circulation* — A larger parking area in the northwestern portion of the unit would be developed to accommodate more visitors. Development would remain in areas already disturbed by the installation of a city storm sewer some years ago.

A 0.06-mile (331 feet), hard-surface trail or elevated walkway would be constructed from the visitor center to the fort area. The trail would be designed for universal access and would be wide enough to accommodate groups.

Interpretation and Education — The visitor center for the fort would focus on a Euro-American perspective of the historic events from 1794 to 1813. Related topics would include the French involvement in the Old Northwest Territory and the fur trade.

A higher intensity historical interpretation zone (including the trail) would be established to directly interpret the fort. Interpretive and directional signs would be posted along the trail. The outdoor area and a small gathering spot at the end of the trail would allow for interpretive programs for guided and unguided groups. An interpretive plan would be created at a later date.

Visitor Experience — Similar to the other units under this alternative, Fort Miamis would be managed to provide an in-depth, educational experience for visitors, with connections to the other two units. This would be underscored by designating most of the area as a historic preservation zone, with a narrow, higher intensity historical interpretation zone for visitors to view the remnants of the fort. Inappropriate recreational uses, such as sledding and all-terrain bike use, would be prohibited (the same as the other alternatives).

To protect views toward the Maumee River as seen from vista points within the fort, a viewshed protection area would be established outside the park, the same as alternative B. This vista has been identified as needing to be preserved because of its pristine appearance, typical of what would have existed around 1794. Because this area is outside the boundaries of the national historic site, recommendations would be made to the Perrysburg Planning Commission, the 577 Foundation, and the ODNR Division of Natural Areas and Preserves to protect this area from uncontrolled development.

Adjacent Land Uses. It is assumed the current land uses would continue, and no boundaries would be changed.

Park Operations. Park operations for the fort would be maintained off site.

Partnerships. Strong working relationships would be developed with the Ohio Historical Society, the American Indian Intertribal Association, and various British military organizations to support the comprehensive interpretive program.

Linkages to Other Units

Linkages among the three units would be the same as those described for alternatives B and C. A 0.8-mile recreation trail along the western boundary of the Fallen Timbers Battlefield would provide a connection to the other two units and convenient access to other sites in the region.

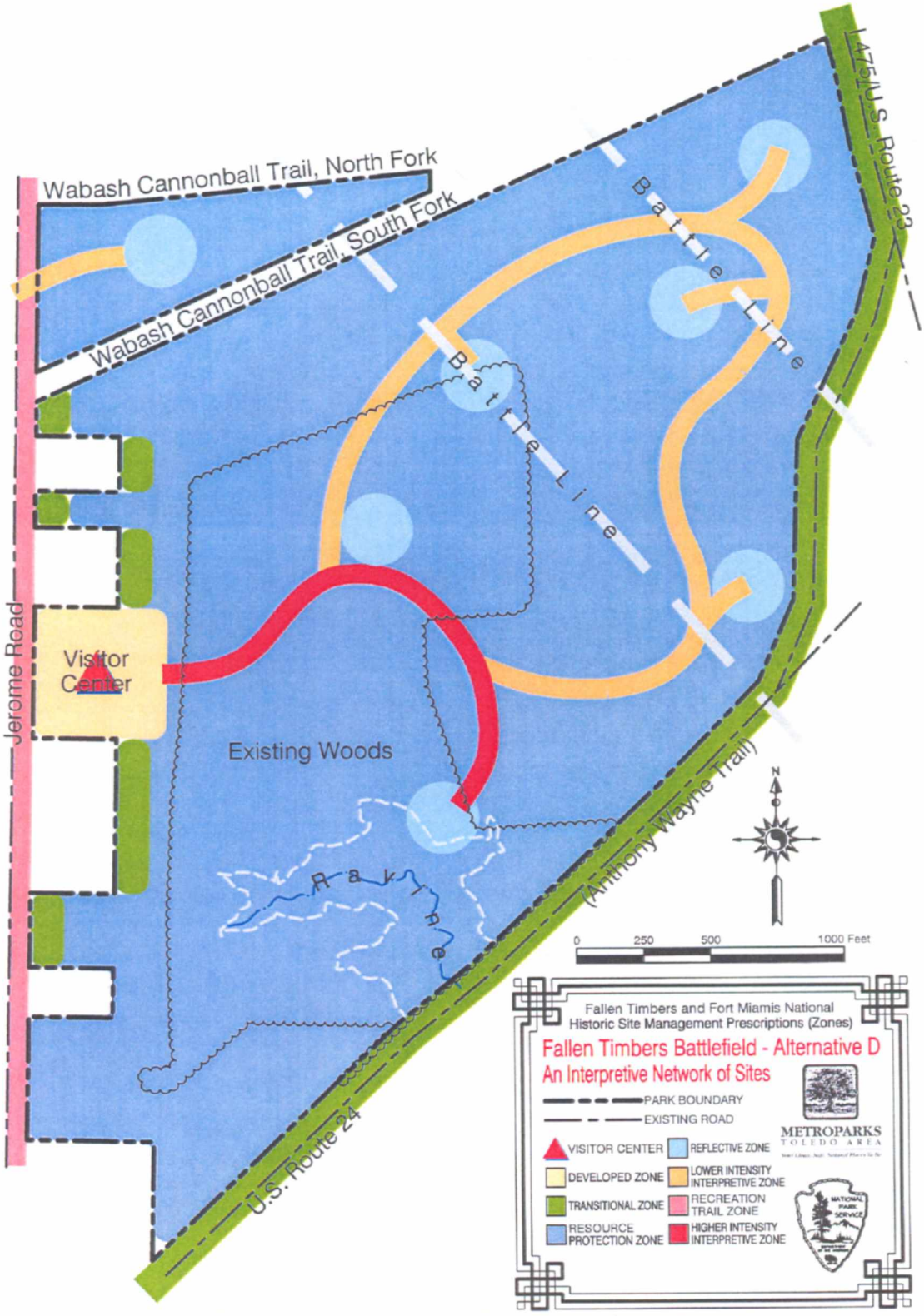
At the monument site a 0.2-mile recreation trail would follow the north and east boundaries of the memorial site, connecting it to the adjacent battlefield and the floodplain. It would provide a direct pedestrian and bicycle connection between sites and convenient access to other sites in the region.

Cost

The estimated cost of alternative D would be approximately $8 million, as shown in Table 7.

TABLE 7: ESTIMATED COSTS, ALTERNATIVE D

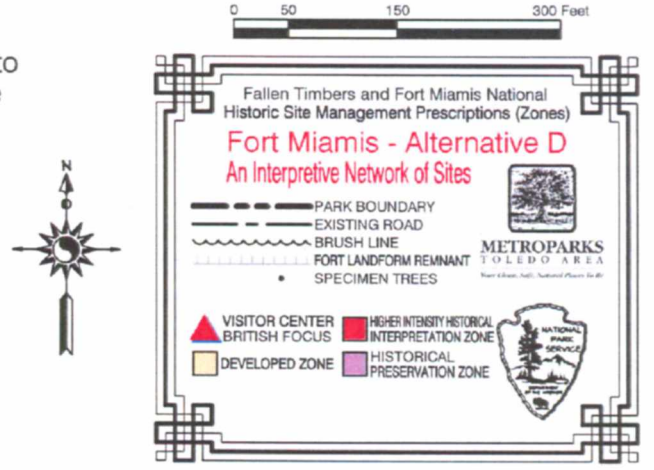
Fallen Timbers Battlefield		
Visitor Center		$1,693,640
Trails (paved)		$79,395
Trails (stone)		$135,303
Parking		$45,360
Miscellaneous		$712,641
	Subtotal	$2,666,339
Contingency (30%)		$799,902
	Total	**$3,466,241**
State Monument		
Visitor Center		$1,693,640
Trails/Pavement		$54,905
	Subtotal	$1,748,545
Contingency (30%)		$524,564
	Total	**$2,273,109**
Fort Miamis		
Visitor Center		$1,693,640
Trails		$13,075
Parking		$22,680
	Subtotal	$1,729,395
Contingency (30%)		$518,819
	Total	**$2,248,214**
	GRAND TOTAL	**$7,987,564**


Wabash Cannonball Trail, North Fork
Wabash Cannonball Trail, South Fork
Battle Line
Battle Line
Jerome Road
Visitor Center
Existing Woods
Rail Line
(Anthony Wayne Trail)
U.S. Route 24
U.S. Route 23
N
0 250 500 1000 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Battlefield - Alternative D
An Interpretive Network of Sites
PARK BOUNDARY
EXISTING ROAD
VISITOR CENTER
REFLECTIVE ZONE
DEVELOPED ZONE
LOWER INTENSITY INTERPRETIVE ZONE
TRANSITIONAL ZONE
RECREATION TRAIL ZONE
RESOURCE PROTECTION ZONE
HIGHER INTENSITY INTERPRETIVE ZONE
METROPARKS TOLEDO AREA
NATIONAL PARK SERVICE


U.S. Route 24
Fallen Timbers Lane
Typical Residential Area
Parking Lot
Educational Plaque
US Forces/Militia Plaque
Turkeyfoot Rock
American Indian Plaque
Memorial Statue
Top of Bank
Steep, Vegetated Slope Down to Floodplain
Bottom of Bank
Anthony Drive
Typical Residential Area
0 50 150 300 Feet
Fallen Timbers and Fort Miamis National Historic Site Management Prescriptions (Zones)
Fallen Timbers Memorial - Alternative D
An Interpretive Network of Sites
PARK BOUNDARY
PARCEL BOUNDARY
EXISTING ROAD
METROPARKS TOLEDO AREA
VISITOR CENTER AMERICAN INDIAN PERSPECTIVE
TRANSITION ZONE
DEVELOPED ZONE
REFLECTIVE ZONE
RECREATION TRAIL ZONE
NATIONAL PARK SERVICE
Viewshed Zone Extends to Metropark/Privately Owned Floodplain and Opposite Bank of the Maumee River
Toledo Area Metroparks Property - Side Cut Preserve Metropark Floodplain



Viewshed Zone Extends to Audubon Island and the Opposite Bank of the Maumee River



POSSIBLE ACTIONS ELIMINATED FROM FURTHER STUDY

Certain potential actions identified during public scoping or other early phases of the planning process were dropped from further consideration as described below:

- Purchasing commercial properties north of the battlefield for parking and/or a visitor center was rejected because of the expense and because this location would be too hazardous for pedestrians crossing the railroad right-of-way.
- Locating a visitor center for the national historic site away from any of the units was rejected because it would pull people away from the historic resources, and it was not considered feasible without an established and consistent transportation system.
- The original alternative C was dropped from further consideration because the visitor experiences and educational themes were similar to what was discussed in the original alternatives D and E. (Note: As a result of this decision, alternatives D and E were renamed as alternatives C and D.)

THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is defined by the Council on Environmental Quality as the alternative that best meets the following criteria or objectives, as set out in section 101 of the National Environmental Policy Act:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, whenever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

This discussion also summarizes the extent to which each alternative meets section 102(1) of the National Environmental Policy Act, which asks that agencies administer their own plans, regulations, and laws so that they are consistent with the policies outlined above to the fullest extent possible.

All three action alternatives for Fallen Timbers Battlefield and Fort Miamis National Historic Site would essentially meet all of the objectives in the National Environmental Policy Act. However, alternative B, the preferred alternative, would ensure the highest degree of protection of cultural resources because no off-trail visitor use would be allowed, ground disturbance would be minimized, and intrusions would be limited to protect the historic landscape scene. To reestablish a more historic scene on the battlefield, native vegetation, including the wet woodland community, would be reestablished throughout most of the site through natural succession and the removal of nonnative species.

Protecting historic resources for the benefit of future generations and preserving important aspects of our national heritage would achieve goals 1 and 4.

While alternatives C and D would also protect the historic resources, visitors would have greater access to other parts of the battlefield and there would be more development on site. Under alternative C more of the battlefield and the fort units would be open to visitors, thus intruding on the historic scene. Historic vegetation patterns would be actively reestablished on over half of the battlefield site, possibly affecting archeological resources. Under alternative D historic vegetation patterns would be reestablished through natural succession, similar to the preferred alternative, but more trail development at the battlefield would increase the degree of impacts on natural and, potentially, cultural, resources.

In terms of natural resources, the preferred alternative would support protection of the natural areas in the following ways. Water resources would benefit more from this alternative in that drainage patterns would be monitored from surrounding areas, and drainage tiles would be blocked to restore wetter conditions that existed historically on the site. There would be an increase over other alternatives because natural succession would occur on more acreage.

In terms of the visitor experience, alternatives B and C would focus interpretive programs at a visitor center near the battlefield, while under alternative D small visitor centers would be provided at each unit. Under all of the action alternatives visitors would be able to view the battle areas and the fort from adjacent trails and platforms, with minimal, if any, off-trail use. Visitors would also be able to appreciate how the natural environment affected the battle and why Fort Miamis was placed on a hill overlooking the Maumee River. This would achieve goals 2, 3, and 5 because aesthetically and culturally pleasing surroundings would be provided; the widest range of beneficial uses of the environment would be offered without degradation, risk of health or safety, or other undesirable and unintended consequences; and a balance would be achieved between population and resource use that would permit high standards of living and a wide sharing of life's amenities. Under alternative C visitors would have opportunities to become immersed in the historical experience by being allowed to wander through major parts of the battlefield unit, supporting diversity and variety of individual choice; however, this degree of access could result in undesirable and unintended consequences because of a greater potential for adverse effects on archeological resources.

SUMMARY OF ALTERNATIVES AND IMPACTS

Table 8 presents a summary of alternatives so that the various topics can be directly compared. Table 9 summarizes the environmental impacts of the alternatives.

TABLE 8: COMPARISON OF ALTERNATIVES

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
Overall Concept	No substantial change in management or operation of the three units, with minimal public access and use. Maintain present cultural, natural, and scenic values.	Manage the three units to maintain a high level of preservation and the integrity of cultural resources. Interpret all three units from a visitor center at the battlefield unit. Emphasize a reflective visitor experience, with interpretation away from the historic resources.	Develop an interpretive program with multiple options for visitors to immerse themselves in the site history with direct access to most historic resources. Focus interpretation at a primary visitor center near the battlefield unit, with programs on the American Indian, British, and American perspectives of the historic events.	Provide a strong educational/learning experience by interpreting each unit in-depth at separate visitor centers. Integrate the resources with the visitor experience, emphasizing the American perspective at the battlefield, the American Indian perspective at the monument, and the British perspective at Fort Miamis. Expand interpretation to relate to other themes (the struggle for the Old Northwest Territory, the fur trade).
FALLEN TIMBERS BATTLEFIELD				
Concept	Continue current conditions, with limited visitor use and interpretation.	Manage most of the battlefield as a resource protection zone, with limited public access. Interpret the battle at an adjacent visitor center. Ensure the integrity of cultural resources.	Manage most of the battlefield as a vegetation restoration zone reflecting conditions at the time of the battle. Create various opportunities for visitors to directly experience the resource.	Manage most of the battlefield as a resource protection zone. Interpret the American perspective of the battle at a small visitor center, and provide a loop trail with interpretive nodes.
Management Zones				
•Resource Protection		167.89 ac.	60.76 ac.	151.31 ac.
•Vegetation Restoration		–	95.38 ac.	–
•Reflective Area		–	–	16.36 acres (seven interpretive nodes)
•Higher Intensity Historical Interpretation		14.0 ac. total (1.25 miles of trail)	8.63 ac. total (0.75 mile of trail)	0.65 ac. (0.4 mile of trail)
•Lower Intensity Interpretation		–	11.32 ac. total (0.4 mile of trail)	2.07 ac. total (1.25 miles of trail)
•Transitional		5.02 ac.	16.19 ac.	16.46 ac.
•Developed		5.37 ac.	Outside park	5.43 ac.
•Recreation Trail		0.8 mile of trail (outside park)	Same as alternative B.	Same as alternative B.
Total		192.28 ac.	192.28 ac.	192.28 ac.
Cultural Resources				
•Archeological Resources	Continue archeological studies only as related to particular developments; survey construction sites before any development.	Continue to study and discover archeological resources; survey construction sites before any development.	Same as alternative B.	Same as alternative B.

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
	Store artifacts off site where they could be properly curated.	Display and store artifacts from all three sites at the visitor center.	Display most artifacts from all three sites at the visitor center.	Display battlefield artifacts at the visitor center.
•Cultural Landscape	Retain wooded areas, with railroad continuing to split the northwest corner from the rest of the unit. Stop active crop production.	Similar to alternative A, except prepare a cultural landscape report, allow the vegetation to revert to conditions likely present in 1794 by restoring a wet woodland community through natural succession.	Similar to alternative B except there would be a vegetation restoration zone where native vegetation would be actively reestablished and the resource protection zone would be substantially smaller.	Similar to alternative B except the resource protection zone would be smaller.
Natural Resources				
•Vegetation	Maintain native plants and manage nonnative species. Conduct no active management.	Maintain natural areas in succession by removing nonnative species. Reestablish species more typical at the time of the battle. Allow vegetation to evolve into wet woods by altering drainage patterns.	Reestablish vegetation species more typical at the time of the battle, with a high level of management and reintroduction of native plant material.	Same as alternative B.
•Wildlife	Monitor to determine species and define habitats.	Same as alternative A.	Same as alternative A.	Same as alternative A.
•Soils and Water Resources	Monitor drainage patterns. Monitor stormwater quality from offsite sources. Study pH levels related to vegetation and residuals from farming.	Same as alternative A plus block some drainage tiles, manage soils and hydrology for a higher integrity, palustrian woodland, reflecting the landscape of 1794.	Same as alternative B.	Same as alternative B.
Visitor Use				
•Access and Circulation	Provide a simple parking area on adjacent property, with access by appointment only (site open 7 A.M. to dark). No circulation restrictions on site; no trails.	Provide parking at two sites — at the visitor center and on adjacent property along the western boundary (east of Jerome Road). Provide a group entrance south of the visitor center. Construct a trail from the visitor center to the battlefield area.	Provide parking at an adjacent, offsite visitor center west of Jerome Road. Construct trails to the center of the property, the northeast corner, and the north-central area.	Provide parking at the visitor center east of Jerome Road. Provide an improved trail from the visitor center into the center of the site and a second loop trail with spurs to interpretive nodes.
•Interpretation and Education	No visitor center. Provide special programs and minimal wayside signage.	Provide a visitor center, where all three sites would be interpreted, with a minimal outdoor experience. Use interpretive exhibits to illustrate the history of the American and British military and American Indians.	Provide a visitor center adjacent to the battlefield, with hands-on exhibits and focusing on the American Indian, British, and American perspectives of the battle. Provide diverse interpretive programs, a resource library, orientation videos, meeting rooms, and outdoor learning areas.	Provide a small visitor center and in-depth interpretation of the battle, with connections to the other units and associated sites. Encourage visitors to go to the other sites to gain a well-rounded perspective.

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Visitor Experience	Provide minimal onsite orientation. Experience would be programmed.	Foster a quiet, respectful feeling in the battlefield area, with a sense of entering sacred ground. Apart from the trail, no other battlefield areas would be accessible to the public.	Immerse and integrate visitors into the site, with direct contact with the resources as well as spaces for quieter, more reflective experiences.	Emphasize an educational / learning experience. Also direct visitors to other sites in the region to understand related themes.
Park Operations	Provide operation off site, supported through Side Cut Metropark.	Provide minor support facilities on site; share major facilities with Side Cut Metropark.	Same as alternative B.	Same as alternative A.
Adjacent Land Uses	Continue a cooperative dialog with adjacent landowners. Acquire properties along the western boundary from willing sellers or through donation. Retain the semi-manicured landscapes at these properties. Develop some properties as parking areas for informal group activities on site.	Same as alternative A except manage acquired properties consistent with park purposes.	Same as alternative B.	Same as alternative B.
Partnerships	Continue partnerships primarily with the Ohio Historical Society, Heidelberg College, and the City of Maumee.	Similar to alternative A plus develop partnerships with the American Indian Intertribal Association for viewshed protection and shared programming, information, and materials.	Similar to alternative B plus also develop partnerships with various British military organizations.	Similar to alternative C except develop strong working relationships with these entities.
	Maintain Metroparks marketing partnerships for fund raising.	Same as alternative A.	Same as alternative A.	Same as alternative A.
FALLEN TIMBERS STATE MONUMENT				
Concept	Continue to manage the site as a commemorative area, focusing on the memorialization of the battle during the 1930s and 1940s.	Manage as a sacred area, with a kiosk in the parking area for interpretation. Establish a transitional zone to screen incompatible, adjacent uses.	Manage as a commemorative area, but expand interpretation to tell more about historic events. Reestablish more natural vegetative conditions, and screen incompatible, adjacent uses.	Manage as a commemorative area, with a small visitor center in the parking area for interpreting the American Indian perspective of the events. Screen incompatible, adjacent uses.
Management Zones				
•Vegetation Restoration		–	1.35 ac.	–
•Reflective Area		5.36 ac.	1.35 ac.	3.98 ac.
•Lower Intensity Interpretation		–	1.92 ac.	–
•Transitional		2.19 ac.	2.93 ac.	3.57 ac.
•Developed		0.68 ac.	0.68 ac.	0.68 ac.
•Recreation Trail		0.25 mile of trail (outside park)	Same as alternative B.	0.2 mile of trail (outside park)
Total		8.23 ac.	8.23 ac.	8.23 ac.
Cultural Resources				
•Archeological Resources	Survey sites before any construction.	Same as alternative A.	Same as alternative A.	Same as alternative A.

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Cultural Landscape	Retain monument area as a memorial site.	Same as alternative A plus prepare a cultural landscape report to document historic conditions.	Prepare a cultural landscape report; maintain the core monument area as a manicured landscape; designate as a reflective zone.	Same as alternative B.
•Historic Structures / Sacred Sites	Maintain monuments and walkways in their historic condition.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Natural Resources				
•Vegetation	Conduct a baseline plant survey.	Same as alternative A plus manage slope vegetation for nonnative species and maintain the manicured landscape.	Similar to alternative A except reestablish the native prairie landscape on site and manage slope vegetation to reduce exotic species. Reduce the amount of manicured landscape.	Same as alternative B.
•Wildlife	Identify wildlife species and observe uses.	Same as alternative A.	Same as alternative A.	Same as alternative A.
•Soils and Water Resources	Gather information on soils and maintain current conditions.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Visitor Use				
•Access and Circulation	Maintain existing parking and walkways.	Use existing parking off Fallen Timbers Lane. Maintain a trail through the center of the property to the monument.	Same as alternative B.	Same as alternative B.
•Interpretation and Education	Maintain current level of programming and interpretation, including wayside signs.	Provide a kiosk adjacent to the parking lot to interpret the main points of the unit and to inform people about the other two units. Retain existing wayside signs.	Provide a kiosk and signs interpreting the monument, the landscape, and natural and historic viewscapes. Interpret the events leading up to and including the War of 1812 (Fort Meigs and the Maumee Valley).	Construct a visitor center; describe the area's American Indian culture from the time of the battle to the present.
•Visitor Experience	Maintain a reflective experience, with a transitional zone between the monument and US 24. Eliminate inappropriate recreational uses.	Support a highly reflective experience and minimize outside intrusions. Same as alternative A.	Support opportunities for direct, indirect, and virtual experiences that appeal to all visitors throughout the site. Same as alternative A.	Provide an educational site with in-depth interpretation and a connection to the other two sites. Same as alternative A.
Park Operations	Maintain operations off site.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Adjacent Land Uses	Maintain existing land uses and boundaries.	Same as alternative A plus screen views of US 24 and adjacent residential properties.	Same as alternative B.	Same as alternative B.
Partnerships	Maintain partnership between Metroparks and the Ohio Historical Society.	Same as alternative A plus pursue partnerships with Parks Canada and South Wales Borders.	Same as alternative B.	Same as alternative B plus develop a strong working relationship between the American Indian tribes, various British organizations, the Ohio Historical Society, and the City of Maumee.

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
FORT MIAMIS				
Concept	Maintain current conditions and develop a strategy to prevent further degradation of fort resources. Provide minimal onsite interpretation and orientation. Maintain the neighborhood park experience.	Manage most of the fort unit as a historic preservation zone. Restrict visitor use to trails. Offer a highly reflective experience on the site.	Manage the fort unit as a mix of historic preservation and higher intensity historical interpretation zones. Allow visitors to view the fort from various angles but restrict access to fort landforms. Provide diverse interpretive waysides to appeal to various interest levels.	Manage the majority of the fort unit as a historic preservation zone with a small, onsite visitor center to interpret the British perspective of the historic events, plus related themes.
Management Zones				
•Historic Preservation		4.59 ac	2.09 ac	4.28 ac
•Reflective Area		–	0.15 ac.	–
•Higher Intensity Historical Interpretation		0.57 ac. (0.3 mile of trail)	2.08 ac.	0.11 ac. (0.06 mile of trail)
•Transitional		–	0.29 ac.	–
•Developed		0.28 ac	0.83 ac.	1.05 ac.
Total		5.44 ac.	5.44 ac.	5.44 ac.
Cultural Resources				
•Archeological Resources	Conduct a survey before any construction.	Same as alternative A plus preserve and protect all archeological artifacts.	Same as alternative A plus conduct an additional archeological study on the northern half of the property before establishing a higher intensity historical interpretation zone.	Same as alternative B.
•Cultural Landscape	Maintain current conditions and gather historical information as part of ongoing research.	Prepare a cultural landscape report to document historic conditions. Protect fort from visitor impacts by establishing a historic preservation zone.	Similar to alternative B, except the historic preservation zone would be smaller.	Similar to alternative B.
•Historic Structures	Maintain fort resources in their current condition; develop a strategy to prevent further degradation.	Repair fort resources; prohibit public access to prevent any further damage. Maintain erosion control structures along the Maumee River to protect the fort edge. Protect and preserve potential resources within the river.	Same as alternative B.	Same as alternative B.
Natural Resources				
•Vegetation	Continue plant surveys; stabilize bank with native species. Assist the city of Maumee in controlling nonnative species and woody vegetation.	Similar to alternative A plus reintroduce appropriate native species; maintain existing native plants.	Maintain turf on the northern portion of the property to allow for circulation by visitors. Manage area of the fort and the hillside to more accurately reflect the fort's defensive position.	Similar to alternative B.
•Wildlife	Identify and monitor species.	Same as alternative A.	Same as alternative A.	Same as alternative A.

Description	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with Interpretation to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Soils and Water Resources	Maintain existing conditions, but prohibit bike riding and sledding.	Prohibit bike riding and sledding. Reseed the historic preservation zone with native species to prevent further erosion. Install new erosion control structures in the Maumee River.	Similar to alternative B.	Similar to alternative B.
Visitor Use				
•Access and Circulation	Utilize the existing parking area, with access from River Road. Utilize existing walks.	Maintain parking at the present location but improve the surface and drainage. Resurface and widen the existing walkway as the only means for visitors to enter the site. Establish another walkway along Corey Street to the Maumee River.	Enlarge the parking area to parallel River Road. Allow visitors to experience the northern portion of the site. Provide a dedicated access to the Maumee River along Corey Road.	Enlarge the existing parking area on the north and west portions of the property. Direct visitors to a trail leading to the fort landforms.
•Interpretation and Education	Provide minimal onsite interpretation and orientation.	Construct an elevated interpretive platform overlooking the fort site and Maumee River. Construct a second interpretive platform off Corey Road.	Provide diverse interpretive waysides throughout the site.	Construct a small visitor center and interpret the Euro-American perspective and related themes (French involvement, the Old Northwest Territory, and the fur trade). Construct an interpretive trail to the fort.
•Visitor Experience	Maintain a reflective experience while preserving some characteristics of a neighborhood park. Eliminate bike riding and sledding.	Provide a reflective experience, with interpretive exhibits about the fort and the historic events. Eliminate inappropriate recreational uses.	Provide opportunities that appeal to various visitor interests. Same as alternative B.	Provide an educational experience, with in-depth interpretation of the fort. Provide a connection to the other two units. Same as alternative B.
Park Operations	Maintain operations off site.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Adjacent Land Uses	No change.	Purchase adjacent property to accommodate an interpretive facility and overflow.	Same as alternative A.	Same as alternative A.
Partnerships		Pursue partnerships with Parks Canada and South Wales Borders.	Same as alternative B.	Similar to alternative B except develop strong working relationships between all entities.
Linkages				
	No specific actions to link the three units other than using existing roads and trails.	Link the three units by means of signs, pedestrian and biking trails, a waterway connection, and public transportation. Highlight connections through interpretive programs, and develop a Website for site history and tour options.	Same as alternative B.	Same as alternative B.

TABLE 9: SUMMARY OF IMPACTS

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
IMPACTS COMMON TO ALL PARK UNITS				
Regional Air Quality	Impacts on regional air quality would be negligible. No impairment.	Impacts on regional air quality from increased visitation (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts from other air pollution sources would continue to affect air quality, but the contribution to these impacts from use at Fallen Timbers and Fort Miamis would be negligible. No impairment.	Same as alternative B.	Same as alternative B.
Threatened or Endangered Species or Species of Concern	No impacts on any species are expected. No impairment.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Partnerships	Maintaining current agreements (the City of Maumee, the Ohio Historical Society, and Heidelberg College) would result in minor, beneficial impacts over the long term. On a cumulative basis present partnerships would encourage only limited community involvement and a sense of stewardship for park resources.	Over the long term the impact of partnerships with other governmental agencies and private organizations would be moderate and beneficial, depending on the extent of involvement and financial support. Involving various groups in park-related programs would foster a greater sense of stewardship, more community involvement, and improved interpretive programs, with moderate, beneficial, long-term, regional impacts.	Same as alternative B.	Similar to alternative B but a greater emphasis on more regional interpretation and links to other historic sites, along with fostering a greater sense of stewardship, more community involvement, and improved interpretive programs, would have major, beneficial, long-term impacts.
Socioeconomic Impacts	Impacts on the local and regional economies from park operations and maintenance would be negligible at all units. Cumulative impacts of regional development are expected to be minor to moderate.	Compared to $12.9 billion in total personal income in Lucas County in 2001, the economic impacts on the local and regional economies of annual visitor expenditures (estimated at $924,500 per year), construction costs (about $3.2 million over several years), and park operations and maintenance would be negligible over the short and long terms. Cumulative impacts of regional development are expected to be minor to moderate.	Similar to alternative B except construction costs would total $3.8 million, with a negligible impact on the local and regional economies.	Similar to alternative B except construction costs would be approximately $8 million, with a negligible impact on the local and regional economies.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
FALLEN TIMBERS BATTLEFIELD				
Cultural Resources				
•Archeological Resources	Continued unauthorized snowmobile and ATV use could cause a minor adverse impact on archeological resources. Potential looting of archeological resources could result in a major, adverse, long-term impact. In terms of cumulative impacts, the construction of a planned pedestrian / bicycle bridge over US 24 would be preceded by an archeological survey, and mitigating measures would be taken as appropriate; impacts are expected to be negligible. There could be impairment of the archeological integrity of the Fallen Timbers Battlefield site due to looting.	Alternative B would ensure the protection of archeological resources on 167.89 acres at the battlefield, the largest area of any alternative. Establishing a higher intensity historical interpretation zone could result in limited resource impacts in this zone. However, prohibiting inappropriate recreational activities, confining visitor use to the higher intensity historical interpretation zone, conducting archeological surveys before any ground disturbance, and increasing onsite monitoring and patrols would all help preserve archeological resources in place and provide opportunities for future research. Overall, alternative B would result in major, beneficial, long-term impacts. Cumulative impacts would be similar to alternative A. Any increase in knowledge about historic events would contribute to regional history, with potentially major, beneficial, long-term impacts. No impairment.	Alternative C would ensure the protection of archeological resources on approximately 60.76 acres at the battlefield, the smallest area of any action alternative. The long-term impact would be beneficial but moderate in effect because less area would be protected. Onsite development and interpretation would be substantially increased, and large portions of the site would be accessible to public use. Any impacts to the integrity of archeological resources as a result of greater public access or active revegetation efforts could be minor and adverse over the short and long terms. Cumulative impacts would be similar to alternative B except any impacts to the integrity of archeological resources as a result of greater public access and active revegetation would have an adverse, long-term impact. No impairment.	Similar to alternative B except the resource protection zone would consist of 151.31 acres. Cumulative impacts would be similar to alternative B. No impairment.
•Cultural Landscape	Over the long term alternative A would have a moderate, beneficial impact on the cultural landscape of Fallen Timbers Battlefield because no more farming would be allowed and the wet woods would be reestablished gradually as a result of fallen trees and other natural debris accumulating in the ravine and natural drainage areas, decreasing the amount of drainage from the area. No impairment.	Alternative B would have major, beneficial, long-term impacts as a result of reestablishing wet woodland conditions through natural succession on 167.89 acres. Providing a higher intensity historical interpretation zone with a 0.75-mile paved trail through the woods and near the ravine would occupy a very small percentage of the total battlefield area, with a minor, adverse, long-term impact. Screening adjacent incompatible uses would result in moderate, beneficial, long-term impacts. No impairment.	Alternative C would have moderate, beneficial, long-term impacts as a result of reestablishing wet wood conditions over 156.14 acres, 95.38 acres of which would be a vegetation restoration zone with access allowed by visitors. Constructing about 1.2 miles of trails, including a trail across the ravine system, and allowing visitor access to large areas of the landscape would have a moderate, adverse, long-term impact because the historic ravine would be affected and greater visitor use could cause more wear and tear. Screening adjacent incompatible	Similar to alternative B except wet woodland conditions would be reestablished on 151.31 acres. Constructing about 1.65 miles of trails and seven interpretive nodes would have a minor, adverse, long-term impact by increasing wear and tear on the cultural landscape. No impairment.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
			uses would result in moderate, beneficial, long-term impacts. No impairment.	
•Sacred Sites	No impacts on sacred sites are expected because no development would take place at the battlefield. No impairment.	No impacts on sacred sites are expected. If prehistoric or historic graves were discovered during future development, mitigating measures would be taken to avoid or reduce the impact. No impairment.	Same as alternative B.	Same as alternative B.
Natural Resources				
•Air Quality	Impacts on air quality from any increased vehicle use would be negligible. Cumulative impacts are expected to be negligible to minor. No impairment.	Construction-related impacts would be localized, minor, adverse, and short term. Impacts from additional visitor traffic to the battlefield (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts on air quality are expected to be negligible to minor. A transitional zone would help mitigate the effects of traffic on US 24. No impairment.	Same as alternative B.	Same as alternative B.
•Soil and Water Resources	Alternative A would result in a beneficial, negligible, long-term impact on soil and water quality as a result of stopping agricultural production. Cumulative impacts would be negligible. No impairment.	Long-term impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns (which favor the hydric soils on site), and reestablishing native vegetation through natural succession on 167.89 acres. Impacts on soils from construction would affect a total of 20 acres and would result in localized, minor, adverse, short-term impacts. Taking 120 acres of prime farmland out of production would have a negligible impact. Overall impacts on water resources would be beneficial and long term. No impairment.	Similar to alternative B, except native vegetation would be reestablished on 156.14 acres through natural succession and active management. Impacts on soils from construction would affect 19.95 acres.	Similar to alternative B, except native vegetation would be reestablished through natural succession on 151.31 acres in the resource protection zone. Impacts on soils from construction would affect 24.51 acres.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Vegetation and Wildlife	Over the long term the gradual succession of native vegetation and wildlife at Fallen Timbers Battlefield would reestablish conditions more typical of the 1794 period. Alternative A would result in a moderate, beneficial, long-term effect. Cumulative impacts would be negligible. No impairment.	Reestablishing natural vegetation patterns on 167.89 acres would result in minor, beneficial, long-term impacts . Visitor use and construction would affect a total of 20 acres, with negligible, adverse, short- and long-term impacts. Cumulative impacts would be negligible, beneficial, and long term. No impairment.	Similar to alternative B except natural vegetative communities would be reestablished on 156.14 acres. Visitor use and construction would affect a total of 19.95 acres, with negligible, adverse, short- and long-term impacts.	Similar to alternative B except natural vegetative conditions would be reestablished on 151.31 acres. Visitor use and construction would affect a total of 24.51 acres, the most of any alternative, but long-term impacts would be negligible.
Visitor Use				
•Access and Transportation	Present access options to the battlefield have a negligible impact on the local transportation system. Impacts are not expected to increase because no visitor development would take place. Cumulative impacts on the local and regional transportation systems related to commercial / retail development could be moderate and adverse. Impacts of regional trail links and a bus line past the battlefield would be negligible.	Visitors coming to Fallen Timbers Battlefield by vehicle would have negligible to minor, adverse, long-term impacts on the local and regional transportation system; about 11 cars per hour could be expected for six hours a day in the peak summer season. However, this number could be reduced if monument visitors used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there, or if they used public transportation. During construction there could be minor adverse impacts on local traffic. Cumulative impacts would be the same as A.	Similar to alternative B except visitor facilities would be developed across from the battlefield site.	Similar to alternative B except a small visitor center would be developed on site.
•Interpretation and Experience	Opportunities to visit the battlefield and to appreciate the significance of site resources would be extremely limited. Impacts on visitor experiences and interpretation would be moderate and adverse over the long term. With regard to cumulative effects, not providing interpretive or physical connections to the other park units, or to regional historic sites, would have an adverse effect on visitor experiences.	Alternative B would have major, beneficial, long-term impacts on visitor experiences at the battlefield because interpretive facilities and programs would tell visitors about the importance of historic events, visitors would have access to parts of the battlefield, and opportunities would be provided for more reflective experiences. On a cumulative basis, linking the battle with events at other sites in the region would give visitors more opportunities to learn about the struggle for the Old Northwest Territory, a moderate beneficial impact.	Similar to alternative B except visitors would be provided multiple opportunities to learn about the struggle for the Old Northwest Territory, and a large visitor center adjacent to the battlefield with direct access to the historic resource would benefit visitors of all ages and interest levels.	Similar to alternative B except an onsite visitor center would focus on the American perspective of the war and introduce visitors to a wide variety of options for further experiences within the park and throughout the region. A loop trail system would give visitors access to most areas of the battlefield, including interpretive nodes for more reflective experiences.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
Land Use	Ending farming and continuing to acquire inholdings along Jerome Road from willing sellers would not result in any conflict with local land use plans.	Managing the battlefield as primarily a resource protection zone where more natural vegetative conditions would be reestablished, and providing for visitor use, would not result in any conflict with local land use plans. No boundary changes are proposed.	Managing the battlefield as a mix of vegetation restoration and interpretive zones, and providing for visitor use, would not result in any conflict with local land use plans. No boundary changes are proposed.	Same as alternative B.
Park Operations and Energy Consumption	Locating park operations off site would result in a negligible impact to the battlefield now and in the future. Continuing minimal operations at the park would have a minor adverse impact on staffing. Infrequent security patrols have increased the potential for looting. Energy consumption related to maintenance operations would continue to result in a minor impact over the short and long terms.	Locating park maintenance operations off site would be more efficient in terms of personnel and equipment. Impacts of increased staffing would be moderate over the long term. Allowing natural succession throughout most of the site (167.89 ac.) would reduce intensive maintenance operations, a moderate, beneficial impact. Energy consumption would be related to routine maintenance, resulting in minor, short- and long-term impacts.	Similar to alternative B except establishing a vegetation restoration zone on 95.38 acres would initially be labor intensive, a moderate adverse impact. Allowing natural succession on 60.76 acres would result in less intensive maintenance operations in this area, a minor beneficial impact.	Similar to alternative B except slightly less area would be managed as a historic preservation zone (151.31 ac.).
Socioeconomic Impacts	The no-action alternative would result in a negligible increase in visitation and tourism, with a negligible economic impact locally or regionally.	Constructing visitor facilities (estimated cost of $3.1 million) and opening the battlefield to visitation (estimated annual expenditures of $924,500) would likely result in negligible, beneficial, short- and long-term impacts on the local and regional economies. As described under "Impacts Common to All Park Units," cumulative impacts of regional development would be minor to moderate and beneficial.	Same as alternative B except costs at the battlefield would total about $3.5 million.	Similar to alternative B except costs at the battlefield would total about $3.5 million.
FALLEN TIMBERS STATE MONUMENT				
Cultural Resources				
•Archeological Resources	Alternative A would result in negligible, adverse, long-term impacts on archeological resources from increased visitor use. Preconstruction surveys and evaluations for the US 24 bridge would identify any possible impacts on archeological resources; no other cumulative impacts were identified. No impairment.	Constructing a visitor kiosk and establishing a transitional zone could result in negligible, adverse, long-term impacts on archeological resources. No impairment.	Constructing a visitor kiosk and a recreation trail, and reestablishing more natural conditions on the site, could result in negligible to minor, adverse, short- and long-term impacts.	Similar to alternative B except a visitor center would be constructed in a previously disturbed area, and the transitional zone would be larger.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Cultural Landscape	Alternative A would have no additional impact on the cultural landscape of the monument. Cumulative impacts from constructing a trail link between the forks of the Wabash Cannonball Trail would result in a negligible, adverse, long-term impact. No impairment.	Preserving the original landscape design of most of the monument area (5.36 ac.) would be a moderate, beneficial, long-term impact. The transitional zone would have a minor, beneficial, long-term impact within the monument because incompatible uses and activities would be screened; however, outside the monument views would be obscured, conflicting with the original design intent, a minor, adverse, long-term impact. In terms of cumulative impacts, the construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact. A viewshed protection area outside the monument would preserve historic views toward the river, a moderate, beneficial, long-term impact. No impairment.	Similar to alternative B except allowing prairie grasses to become established on more than half of the site would have a moderate, adverse, long-term impact on the original landscape design.	Similar to alternative B except that 3.98 acres of the original landscape design would be preserved, resulting in a moderate, beneficial, long-term impact, and a small visitor center would be constructed in the parking area, resulting in a minor adverse impact.
•Historic Structures	The monument would continue to be maintained. No adverse impacts are expected. No impairment.	Same as alternative A.	Same as alternative A.	Same as alternative A.
•Sacred Sites	Continued recreational uses at the monument under alternative A would have a moderate, adverse, long-term impact on the use of Turkeyfoot Rock. No impairment.	Alternative B would have a moderate, beneficial, long-term impact on Turkeyfoot Rock because inappropriate recreational activities would be prohibited, and interpretive signs would educate visitors about sacred uses, possibly fostering a more respectful attitude. No impairment.	Same as alternative B.	Same as alternative B.
Natural Resources				
•Air Quality	Alternative A would result in some additional impacts on air quality. Impacts, including cumulative impacts, would be negligible to minor, adverse, and long term. No impairment.	Alternative B would result in negligible, adverse, short-term impacts on air quality as a result of construction. Long-term impacts from visitors coming to the monument by vehicle (estimated at about 82 cars per day during the peak summer season) would be negligible. Impacts of traffic on US 24 would be partially mitigated by vegetation in the	Similar to alternative B.	Similar to alternative B.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
		transitional zone, which would help block the transport of pollutants. Cumulative impacts would be negligible to minor and adverse over the long term. No impairment.		
•Soils and Water Resources	Alternative A would result in no additional impacts on soils or water resources. Cumulative impacts would be negligible. No impairment.	Alternative B would result in a negligible, adverse, short-term impact on soils and water quality as a result of construction activities affecting a total of 0.68 acre in the developed zone, plus 2.19 acres in the transitional zone. Cumulative impacts would be negligible. No impairment.	Alternative C would result in a minor, adverse, short-term impact on soils and water quality as a result of construction activities along 0.25 mile of trail. Transitioning to more natural vegetative conditions on a total of 6.2 acres would reduce overall maintenance, mowing, and fertilizer application, with a minor, beneficial impact. Cumulative impacts would be negligible. No impairment.	Alternative D would result in a minor, adverse, short-term impact on soils and water quality as a result of constructing 0.2 mile of trail. No impacts are expected from constructing a visitor center in a previously disturbed area. Cumulative impacts would be negligible. No impairment.
•Vegetation and Wildlife	Continuing current vegetation and wildlife conditions would result in negligible, beneficial, long-term impacts on vegetation and wildlife. On a cumulative basis removing limited amounts of vegetation for recreation trail development would have negligible, adverse impacts. No impairment.	Similar to alternative A except allowing native forbs and grasses on the hillside and along the boundary edges would have negligible, beneficial, long-term impacts. Maintaining the existing floodplain prairie in the viewshed protection zone would result in moderate, beneficial, long-term impacts. On a cumulative basis removing limited amounts of vegetation for trail development would have negligible adverse impacts. No impairment.	Similar to alternative B except managing portions of the monument as a lower intensity interpretation zone, vegetation restoration zone, and transitional zone would result in the reestablishment of more native vegetation patterns typical of 1794.	Same as alternative B.
Visitor Use				
•Access and Transportation	No additional impacts are expected on the local or regional transportation systems because present visitor use patterns would continue. Cumulative impacts related to commercial / retail development could be moderate. Establishing a bus stop at the monument could have moderate beneficial impacts. Impacts on access to the monument from trail connections with the Wabash Cannonball Trail would be negligible.	Alternative B could result in negligible to minor, adverse, long-term impacts on the local and regional transportation systems (the same as for the battlefield). However, traffic could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 to visit the monument instead of driving, or if they used public transportation. Connections to the battlefield and the fort by land and water trails would result in a minor impact	Impacts would be similar to alternative B.	Impacts would be similar to alternative B.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
		on local transportation from additional visitation. During construction activities there could be a minor impact on local traffic. Cumulative impacts would be similar to alternative A.		
•Interpretation and Experience	Inadequate interpretive information and intrusions from recreational activities would result in minor to moderate, adverse, long-term impacts on visitor experiences. Over the long term cumulative impacts would be minor and adverse because Fallen Timbers would not be incorporated into regionwide interpretive programs, and incompatible uses in the Maumee River valley could detract from views at the monument.	Providing interpretive information at a kiosk and fostering reflective experiences throughout the main portion of the monument, with no intrusions from recreational uses, would have moderate, beneficial, long-term impacts. Screening incompatible adjacent uses would enhance onsite experiences. Over the long term cumulative impacts would be minor to moderate and beneficial, with more information about other regional historic sites and efforts to protect the viewshed of the Maumee River valley.	Similar to alternative B except reestablishing native vegetation on the majority of the site could have adverse or beneficial impacts, depending on visitor expectations about the monument.	Alternative D would have major, beneficial, long-term impacts on visitor experiences because an onsite visitor center would offer expanded interpretation. A greater emphasis on incorporating the national historic site into regionwide interpretive programs would have a moderate, beneficial, cumulative impact over the long term.
Land Use	Under alternative A no new land uses would impact the site, and no boundaries would be changed. Land uses would remain consistent with local land use plans.	Similar to alternative A except the addition of a kiosk in the parking area and a recreation trail would be consistent with local plans. A viewshed protection zone in the floodplain, which would be managed as floodplain prairie, would maintain the historical open appearance.	Same as alternative B.	Similar to alternative B except the addition of a small visitor center in the parking area would be consistent with local plans.
Park Operations and Energy Consumption	Continuing to manage park operations from an offsite location would be cost-effective over the long term and would have a negligible impact on the monument. Energy consumption would be related to the daily maintenance operations, with a minor impact. Recreation trail maintenance would be an additional responsibility for Metroparks staff, a minor adverse impact.	Similar to alternative A except maintaining the kiosk and the perimeter fence would be additional responsibilities for Metroparks staff, a minor adverse impact.	Similar to alternative B except allowing a portion of the site to revert to native vegetation would reduce the amount of mowing, a negligible beneficial impact.	Same as alternative B.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
Socioeconomic Impacts	No additional economic impacts from actions at the monument are expected under this alternative.	Construction costs at the monument (estimated at about $100,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Cumulative impacts, as described under "Impacts Common to All Park Units," would range from minor to moderate as a result of commercial / retail development.	Similar to alternative B.	Similar to alternative B except construction costs would total approximately $2.4 million because of an onsite visitor center.
		FORT MIAMIS		
Cultural Resources				
•Archeological Resources	Alternative A would result in minor to major, adverse, long-term impacts on archeological resources at Fort Miamis due to access to fort remnants and potential looting. On a cumulative basis, depending on the types of artifacts removed, the cultural significance of the site would be compromised, possibly diminishing contributions to regional history. There could be a major adverse impact on archeological resources due to looting under this alternative. Therefore, the archeological integrity of the Fort Miamis site could be impaired.	The preferred alternative would have major, beneficial, long-term impacts on archeological resources because of managing most of the site (4.59 ac.) for historic preservation, restricting visitors to trails and two overlooks, prohibiting active recreational uses, educating visitors about the delicate nature of the resource, increasing the presence of park personnel, and patrolling to lessen the potential for looting. Any adverse effects from construction and establishing more natural conditions in the historic preservation zone would be mitigated through archeological surveys and evaluations before any ground disturbance. With regard to cumulative impacts, ensuring the preservation of resources for future study could result in major beneficial contributions to regional history. No impairment.	Similar to alternative B except only 2.09 acres would be managed for historic preservation. Visitor access to the higher intensity historical interpretation zone (2.08 ac.) would lessen the protection of the archeological resources in this area. No impairment.	Impacts would be similar to alternative B except the historic preservation zone would be 4.28 acres and the development zone for a parking area and visitor center would be 1.05 acres. No impairment.
•Cultural Landscape	Alternative A would have a minor, adverse, long-term impact because active recreational uses would be stopped, but visitors would still have access to the fort's earthen fortifications. Further erosion of the site into the Maumee River would result in a minor to major adverse	Managing most of the Fort Miamis unit as a historic preservation zone (4.59 ac.) and limiting visitor access to the higher intensity historical interpretation zone (0.57 ac.) would result in a major, beneficial, long-term impact. A more natural erosion control method	Managing the immediate area of the fort earthworks as a historic preservation zone (2.09 ac.), and limiting visitor access to the higher intensity historical interpretation zone (2.08 ac.), would result in a major, beneficial, long-term impact. Managing hillside vegetation below	Impacts would be similar to alternative B except the historic preservation zone would be slightly smaller (4.28 ac.), as would the higher intensity historical interpretation zone (0.11 ac.). Moderate adverse impacts would result from enlarging the parking area and constructing a small,

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
	impact on the cultural landscape at Fort Miamis. Adjacent development would continue to intrude on the historic cultural landscape. If large portions of the fort were lost, resulting in a major adverse impact, park resources and values would be impaired.	along the Maumee River would have a moderate, beneficial impact. Minor adverse impacts would result from two viewing platforms adjacent to the fort and from not clearing the hillside down to its historical appearance as a cleared area. On a cumulative basis, adjacent development would continue to intrude on the historic cultural landscape, a minor adverse effect. Establishing a viewshed protection area would help preserve the historical appearance of the river landscape, a moderate beneficial impact. No impairment.	the fort to reflect its defensive position would have a moderate beneficial impact. Conducting onsite interpretive programs in lieu of a kiosk or visitor center would have no adverse effect. Erosion control along the Maumee River would have a beneficial impact. Expanding the current parking area (0.83 ac.) would have a minor adverse impact that would be mitigated by screening it from the fort. On a cumulative basis, adjacent development would continue to intrude on the historic cultural landscape, a minor adverse effect. Impacts of a viewshed protection zone would be similar to alternative B. No impairment.	onsite visitor center, which could be seen from the fort site.
•Historic Structures	Prohibiting certain recreational activities at the site (all-terrain bike riding and sledding) would curtail further deterioration of the original fabric of the fort. However, if those regulations were not enforced, major adverse impacts would likely continue. Any loss of the hillside due to erosion as a result of the failure of the erosion control structure along the Maumee River would result in a major adverse impact. On a cumulative basis the loss of historic fort remnants would destroy a visible link to historic events important to the growth and development of the United States. The loss of any additional historic fabric of the fort due to recreational activities or erosion would be a major adverse impact, which would impair park resources and values.	Prohibiting inappropriate recreational activities at Fort Miamis and controlling erosion along the riverbank would protect the historic remnants of the fort, a major, beneficial, long-term impact. On a cumulative basis protecting the remaining landforms would maintain a visible link to formative events in our nation's history. No impairment.	Same as alternative B.	Similar to alternative B, plus educating visitors about the delicate nature of the historic remnants at the onsite visitor center would have a beneficial impact.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
•Sacred Sites	No impacts on sacred sites are expected because no development would take place at the fort. No impairment.	No impacts on sacred sites are expected at the fort. If prehistoric or historic graves were discovered during future development, mitigating measures would be taken to avoid or reduce the impact. No impairment.	Same as alternative B.	Same as alternative B.
Natural Resources				
•Air Quality	Impacts on regional air quality from present use levels would be negligible. Impacts from all sources are expected to be negligible to minor and adverse over the long term; however, overall regional air quality is expected to remain good. No impairment.	Construction impacts at Fort Miamis would have localized, minor, adverse, short-term impacts. Over the long term alternative B would have a negligible adverse impact on air quality as a result of more visitors coming to the site by vehicle (estimated at about 82 cars per day during the peak summer season). Cumulative impacts would be negligible to minor. No impairment.	Similar to alternative B.	Similar to alternative B.
•Soils and Water Resources	Alternative A would result in long-term, negligible impacts on soil and water resources. However, if regulations prohibiting biking and sledding were not enforced, adverse impacts would continue. No impairment.	Alternative B would result in minor, adverse, short-term impacts on soils and water resources from constructing a 0.3-mile trail. Reseeding 4.59 acres in the historic preservation zone with native plant species would help prevent erosion in the future, resulting in a moderate, beneficial, long-term impact on soils and water quality. Cumulative impacts would be negligible. No impairment.	Alternative C would result in minor, adverse, short-term impacts on soils and water resources from expanding the parking area (0.83 ac.) and constructing a trail to a fort overlook (2.08 ac.). Reestablishing native plant species on 2.09 acres in the historic preservation zone would help prevent erosion in the future, resulting in a minor, beneficial, long-term impact . Cumulative impacts would be negligible. No impairment.	Similar to alternative B except enlarging the parking area and constructing a small visitor center, plus a trail to a fort overlook, would affect 1.16 acres total. Native plant species would be reestablished on 4.28 acres
•Vegetation and Wildlife	Under the no-action alternative the vegetation and wildlife at Fort Miamis would reflect current conditions. Prohibiting all-terrain bicycle use and sledding would reduce adverse impacts to vegetation on the hillsides, resulting in a minor, beneficial, long-term impact. However, if regulations were not enforced, adverse impacts would continue. No impairment.	Managing most of the Fort Miamis unit as a historic preservation zone and reseeding with native species would result in a moderate, beneficial, long-term impact on vegetation and wildlife. Removing 0.57 acre of vegetation in the higher intensity historical interpretation zone would have a negligible adverse impact. Cumulative impacts would be minor, beneficial, and long term. No impairment.	Managing the area immediately around the fort and the hillside for historic preservation would allow vegetation patterns more typical of 1794 to be reestablished. Altogether, 3.35 acres of vegetation would be affected, with a negligible, adverse, long-term impact. Allowing higher intensity historical interpretation and development on the northern portion of the site would be similar to current conditions, with negligible, adverse impacts. Overall,	Similar to alternative B except development would affect a total of 1.16 acres.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
			impacts would be beneficial, moderate, and long term. Cumulative impacts would be minor, beneficial, and long term. No impairment.	
Visitor Use				
•Access and Transportation	No additional impacts on the local or regional transportation systems are expected. Establishing a bus stop at the fort site would have a minor, beneficial impact on access.	Alternative B could have negligible to minor, adverse, long-term impacts on the local and regional transportation systems (assuming 11 cars per hour, for six hours a day in the summer, the same as the other units). Connections to the battlefield and the monument by land and water trails would result in a minor impact from additional visitation. During construction there could be a minor impact on local traffic. Establishing a bus stop at the fort site would have a minor beneficial impact.	Same as alternative B.	Similar to alternative B except the addition of an onsite visitor center could have a minor impact on access.
•Interpretation and Experience	Alternative A would have a minor to moderate, adverse, long-term impact on visitor experiences at the Fort Miamis site because no opportunities would be provided for visitors to learn about the fort's historic significance. The unit would remain open to the public; however, certain recreational activities (all-terrain bike riding and sledding) would be prohibited. The lack of interpretive information would have a moderate, adverse, long-term cumulative impact.	The preferred alternative would have a major, beneficial, long-term impact on visitor experiences, which would be enhanced by prohibiting active recreation and constructing two interpretive platforms near the fort's earthworks. Interpretation would greatly enhance visitor understanding of the struggle for the Old Northwest Territory on a regional level, resulting in moderate to major, beneficial, long-term impacts.	Alternative C would have a major, beneficial, long-term impact on visitor experiences because greater onsite interpretation would allow visitors of all ages and interest levels to gain a better understanding of the site's historic significance. Similar to alternative B, interpretation would greatly enhance visitor understanding of the historic events on a regional level, resulting in moderate to major, beneficial, long-term impacts.	Similar to alternative B except a small, onsite visitor center and actively connecting the site to other historic sites that were involved in the development of the region would enhance interpretation. On a cumulative basis, impacts from expanded regional interpretation would be major and beneficial.
Land Use	Prohibiting bicycling and sledding that could impair the resource would be consistent with local plans to protect resources. No boundaries would be changed. Restricting development on islands visible from Fort Miamis would result in a moderate beneficial impact.	Managing most of the fort site for historic preservation would help ensure the long-term protection of this National Historic Landmark, a major beneficial impact. This would be the highest and best use of this nationally significant site. No boundaries would be changed. Land use management plans would be consistent with local plans. On a cumulative basis,	Similar to alternative B except about half of the site would be managed as a higher intensity historical interpretation zone, where visitor use would be allowed. Uses in this zone could intrude to some degree on the historic preservation zone.	Similar to alternative B.

Impact Topic	Alternative A — Continue Current Conditions (No Action)	Alternative B — High Resource Preservation with an Interpretive Program to Engage Visitors (Preferred Alternative)	Alternative C — Multiple Interpretive Options	Alternative D — An Interpretive Network of Sites
		establishing a viewshed protection area for the Audubon Islands in cooperation with the Perrysburg Planning Commission and other entities would help preserve the 1794 cultural and historic landscape setting, complementing the management of Fort Miamis as a historic preservation zone. This would result in moderate, beneficial, long-term impacts.		
Park Operations and Energy Consumption	Park operations would be located off site, resulting in a negligible impact. No additional staff would be added for onsite operations. Energy consumption for routine maintenance activities would be negligible.	Park operations would continue to be managed from off site, with a negligible impact. Modest increases in park staffing would be required, resulting in a minor impact. Energy consumption for routine maintenance would be reduced over the long term as a result of allowing interior portions to revert to native vegetation, a minor, long-term impact.	Similar to alternative B except additional maintenance staffing would be required with a larger high intensity historical interpretation zone, and impacts would be moderate. Energy consumption for routine maintenance would result in a minor, long-term impact.	Similar to alternative B except providing a visitor center on site would require additional staff for operations and interpretation, resulting in a moderate impact.
Socioeconomic Impacts	The no-action alternative would have no effect on the local economy. Current prohibitions on recreational activities such as sledding and all-terrain bike riding would adversely affect local residents, but there would be no additional economic impact. Preventing further damage to historic landforms would have a beneficial effect in terms of preserving resources for future enjoyment and education.	Construction costs at the fort (estimated at about $135,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Similar to alternative A, prohibitions on recreational activities such as sledding and biking would adversely affect local residents, but there would be no additional economic impact. Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies.	Similar to alternative B except construction costs would total about $183,000.	Similar to alternative B except construction costs would total about $2.5 million. Providing a small visitor center on site and connecting Fort Miamis to other historic sites in the region would further enhance interpretive opportunities, possibly resulting in additional socioeconomic benefits.

THE AFFECTED ENVIRONMENT



This section describes the regional setting of Fallen Timbers Battlefield and Fort Miamis National Historic Site, including natural resources, recreational opportunities, transportation characteristics, and socioeconomic conditions that are common to all three units. The regional setting is followed by specific descriptions of cultural resources, natural resources, visitor use and experience, park operations, and adjacent land uses for each unit.

REGIONAL SETTING OF THE PARK

Fallen Timbers Battlefield and Fort Miamis National Historic Site is within the glaciated region of the Ohio and Maumee Lake Plains Physiographic Region of Ohio (ODNR, Brockman 1998). This area experienced several ice age events, with the last occurring 12,000 to 14,000 years ago. Melt waters from the glacial lakes during this time provided sediments that formed into underlying clay subsoils. Plant life then added to the formation of organic matter and topsoils, which are all related to a lacustrian origin.

NATURAL RESOURCES

Air Quality

The climate of northwestern Ohio is controlled generally by four air masses — the continental polar, the continental tropical, the maritime polar, and the maritime tropical. The continental polar air mass from the Arctic brings cold, dry weather in the winter and cool conditions in the summer. The continental tropical air mass usually forms over the desert southwest and Mexico and brings record hot and dry summers. The maritime polar air mass from the northern Pacific Ocean brings cloudy, damp weather. The maritime tropical air mass from the Gulf of Mexico brings warm, moist winter weather and hot, humid summer conditions. Occasionally, the continental arctic air mass brings extremely cold temperatures and little moisture to the region in winter (Michigan State University 2003).

Total annual precipitation in the vicinity averages about 33 inches (837.4 mm), with the heaviest rainfall from April through September. Snowfall accumulations from November through March exceed 5.3 inches a month, with a mean annual accumulation of 37.1 inches. July tends to be the warmest month, with the average daily temperature of 83.3°F (28.5°C) and January the coldest, with average daily minimum temperatures of about 30.2°F (-1.0°C) (National Oceanic and Atmospheric Administration 2003).

Lucas County is a Class II air quality area under the Clean Air Act. In general, the air quality at the national historic site is considered good and is in attainment with state air quality standards. Current air quality for the region is shown in Table 10. The major sources of air pollution within the region are motor vehicle emissions, wood burning for home heating, and industrial activity. The prevailing wind is from the southwest, and the battlefield is southwest of the urban and industrial area.

An air quality monitoring site 3 miles southwest of the battlefield monitors ozone (Toledo Department of Public Utilities 2002). There were no exceedances of the current ozone standard (0.12 ppm, one-hour average) in 2002; there were 12 days in 2002 when exceedances of the proposed U.S. EPA standard (0.08 ppm, eight-hour average) occurred.

TABLE 10: AIR POLLUTANT CONCENTRATIONS AND STANDARDS (2002 ANNUAL AVERAGES)

Pollutant	Concentration	US EPA Standard
Sulfur Dioxide	0.007 ppm	0.030 ppm
Particulate Matter ($PM_{2.5}$)	14.7 µg/m³	15 µg/m³
Carbon Monoxide*	2.3 ppm	9.0 ppm
Lead**	0.021 µg/m³	1.5 µ/m³
Nitrogen Dioxide**	0.026 ppm	0.050 ppm

SOURCE: City of Toledo Department of Public Utilities, Environmental Services Division, Criteria of Air Pollutants, 2002 Annual Averages.
* The standard for carbon monoxide is based on the second highest eight-hour average.
** The Ohio EPA has requested that ESD no longer monitor for lead or nitrogen dioxide. The data presented are from 1997.

Regional Water Resources and Quality

The dominant hydrologic feature is the Maumee River, which flows into Maumee Bay some 18 river miles northeast of Fallen Timbers Battlefield and Fallen Timbers State Monument, and then into the western basin of Lake Erie. The Maumee River is a 6,628-square-mile watershed that drains 4,882 square miles in Ohio, 1,283 square miles in Indiana, and 463 square miles in Michigan; it is the largest watershed flowing into the Great Lakes. The river is listed as a navigable stream up to the US 20/25 bridge between Maumee and Perrysburg. On July 18, 1974, the Maumee River was designated as an Ohio State Scenic and Recreational River from the Indiana/Ohio line to this bridge. The upstream portion to the US 24 bridge in Defiance is designated as scenic, and the downstream portion as recreational.

Swan Creek is a 208-square-mile watershed 1 mile northwest of Fallen Timbers Battlefield. This stream was an important route of seasonal migration from the Oak Openings region to the Maumee River for early inhabitants of the area.

Water quality for the Maumee River is monitored at 10 sites from the Indiana state line to Maumee, Ohio. According to an evaluation system developed by the Ohio Environmental Protection Agency, the Maumee River at mile 16.60 meets current warmwater habitat standards.* An updated survey was scheduled for 2003.

The lower Maumee River basin and Lake Erie tributaries were designated as an area of concern by the International Joint Commission of the United States and Canada in 1987 because of various pollution problems. Although there have been dramatic improvements over the last 20 years, serious problems still affect not only water quality, but also fish, wildlife, wetlands, and public uses. These problems are a result of excess sediments, nutrients, and toxics entering the system, creating stress on aquatic organisms. Advisories about fish consumption and body contact water use have been issued. Sedimentation throughout the Maumee River watershed has been reduced through the Conservation Reserve Program and the Conservation Reserve Enhancement Program.

Vegetation

Fallen Timbers Battlefield and Fort Miamis National Historic Site lies in a transitional zone between northern hardwood forests, eastern hardwood forests, and the prairies and grasslands of the west. One federally listed threatened plant species, the eastern prairie fringed orchid *(Platanthera leucophaea),* occurs within the region in isolated sites within the coastal zone of Lake Erie. This tall showy orchid is found in wet prairies, sedge meadows, and moist roadside ditches. The orchid blooms in early July. It has not been identified at any park unit (see appendix D).

Wildlife

General Description. Wildlife species are discussed for the Fallen Timbers Battlefield unit. The other two units have wildlife typical of parks in the Toledo area, including mammals such as raccoons, red and gray foxes, fox squirrels, opossums, skunks, and weasels. Bird species include titmice, chickadees,

* River mile designations are established by ODNR Scenic Rivers and begin at the mouth of the Maumee River where it flows into Maumee Bay in the City of Toledo. Fort Miamis is located at river mile 13.3, and Fallen Timbers State Monument and Fallen Timbers Battlefield from river mile 17.2 to 17.7. See appendix G.

blue jays, crows, and cardinals. Reptiles and amphibians include bullfrogs, green frogs, lead-backed salamanders, box turtles, and garter snakes. None of these species is rare or unusual.

Common fish species in the Maumee River include smallmouth bass, largemouth bass, blue gill, brown bullhead, carp, channel catfish, white crappie, freshwater drum, yellow perch, gizzard shad, and various species of shiners and sunfish. Less abundant are such rare fish species as longnose gar, various salmon, lake sturgeon, and suckers. The Maumee River provides spawning habitat for many lake species on its gravel bedrock substrate, including walleye, white bass, and northern pike. It has been estimated that 20% of the western basin Lake Erie walleye spawn in the Maumee River. The annual walleye run in the river brings thousands of fishermen from all over the United States to the river rapids below the Fallen Timbers Battlefield and Monument.

From the late 1800s to the present fish diversity in the Maumee River has decreased from over 100 species to around 40. This decline has been attributed to sedimentation, loss of habitat, and invasive fish species.

Threatened or Endangered Species or Species of Concern. Habitat for one federally listed endangered mammal species, the Indiana bat *(Myotis sodalis),* and one federally listed endangered insect species, the Karner blue butterfly *(Lycaeides Melissa samuelis),* occur in the region. Summer habitat requirements for the bat species are thought to include (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunks and/or branches, or cavities, which may be used as maternity roost areas; (2) live trees (such as shagbark hickory), which have exfoliating bark; and (3) stream corridors, riparian areas, and upland woodlots that provide forage sites. The bats would only be expected in the project area from approximately April 15 to September 15 (see appendix E, U.S. Fish and Wildlife Service letter).

The Karner blue butterfly is found in the Oak Openings region of northwest Ohio, due to the presence of lupines, an important plant in the life cycle of the butterfly. This species of lupine has not been identified at any park unit (see appendix D).

The bald eagle *(Haliaeetus leucocephalus)*, a federally threatened bird species, occurs along the Maumee River corridor. According to the Ohio Department of Natural Resources, active nests are located 6 miles to the northeast of Fallen Timbers Battlefield and monument, and 9.5 miles to the southwest. Active bald eagle nests are located 3 miles to the northeast and 12.5 miles to the southwest of Fort Miamis (Shieldcastle, ODNR, pers. comm. with Jaeger, Dec. 15, 2003).

The eastern massasauga *(Sistrurus catenatus catenatus),* a federal candidate species and an Ohio endangered species, occurred historically in the wet prairies of western Lucas County. According to the Ohio Department of Natural Resources, no habitat for the massasauga occurs in the park units.

REGIONAL RECREATIONAL OPPORTUNITIES

The south fork of the Wabash Cannonball Trail begins some 1.5 miles southwest of the battlefield at Black Road. The north fork of the trail begins across from Jerome Road at the extreme northwest corner of the battlefield.

Park units within Lucas County under the jurisdiction of Metroparks include Bend View, Farnsworth, Pearson, Secor, Side Cut, and Providence. Preserves include Blue Creek Conservation Area, Oak Openings, Swan Creek, and Wildwood. Trails include University / Parks Trail, as well as the Wabash

Cannonball Trail. The Wood County, Hancock County, Sandusky County, and Erie County Park Districts all maintain natural areas/parks within the region. Audubon Islands State Nature Preserve, a 170-acre nature preserve owned by Metroparks, is just upstream from Fort Miamis.

Within 50 miles of Fallen Timbers Battlefield and Fort Miamis National Historic Site are Perry's Victory and International Peace Memorial National Monument and the Ottawa National Wildlife Refuge. State parks include Crane Creek, Maumee Bay, Mary Jane Thurston, Independence Dam, Harrison Lake, Van Buren Lake, Catawba Island, East Harbor, and Kelly's Island.

TRANSPORTATION

Fallen Timbers Battlefield and Fallen Timbers State Monument are near the intersection of I-475 and US 24. Average daily traffic volumes for these roads in 2000 are shown in Table 11. The combined total average for I-475 and US 24 was 79,970 vehicles per day.

TABLE 11: AVERAGE DAILY TRAFFIC VOLUMES, I-475 AND US 24 (2000)

Vehicle Type	US 24	I-475
Passenger Cars and Class A Commercial Vehicles*	17,660	49,120
Classes B and C Commercial Vehicles**	1,550	11,640
Total	19,210	60,760

Source: Ohio Department of Transportation (ODOT) 2000.

* Includes passenger cars, panel and pick-up trucks, motorized recreational vehicles, and school buses.

** Includes tractors or trucks with semi-trailers and trucks with trailers; single-unit trucks most generally with dual rear tires (may be greater than 2-axle units).

POPULATION

The 2000 census estimated the population of Ohio at 11,353,140, or seventh largest in the nation (U.S. Bureau of the Census 2001). In 2000 the population of Lucas County was estimated at 453,348, ranking it sixth in Ohio. In 2000 American Indian and Alaska Native persons, including persons reporting only one race, was 0.3% for Lucas County and 0.2% for Ohio. Other ethnic groups (Black or African American persons, Asian/Native Hawaiian/Pacific Islander, Hispanic or Latino origin) made up 23% of the county's population.

Per capita personal income in Lucas County in 2001 was $28,307, 99% of the statewide average ($28,699) and 93% of the national average ($30,413) (Bureau of Economic Analysis [BEA] 2001a). Total personal income in Lucas County in 2001 was estimated at $12.86 billion (BEA 2001b).

Lucas County is a mix of urban and rural areas, with the vast majority of its population in Toledo and the adjacent communities of Oregon, Maumee, and Sylvania. Other suburban and rural areas include Harding, Jerusalem, Monclova, Providence, Richfield, Spencer, Springfield, Swanton, Sylvania, Washington, and Waterville Townships. Villages include Berkey, Holland, Waterville, Whitehouse, Harbor View, and Ottawa Hills.

Based on U.S. 2000 census data, approximately 2.4 million people live within a 50-mile radius or approximately a one-hour drive of Fallen Timbers Battlefield. An estimated 9.7 million people live

within 100 miles (approximately a two-hour drive), and an estimated 18.5 million people live within 150 miles (approximately a three-hour drive) (U.S. Bureau of the Census 2002).

EMPLOYMENT

Ohio's largest industries in 2000 were services (18.8%); financial, insurance, and real estate (16.4%); durable goods manufacturing (15.5%); state and local government (11%); and retail (9.7%). For Lucas County, the largest industries were durable goods manufacturing (18.3%), services (15.8%), and state and local government (11.9%). The unemployment rate was 5.5% in January 2002 for Ohio and 6.9% for Lucas County in 2002 (Bureau of Labor Statistics 2002).

FALLEN TIMBERS BATTLEFIELD

The Fallen Timbers Battlefield consists of approximately 185 acres. The site formerly thought to be the location of the battlefield, 0.25 mile south of the actual site and on the floodplain along the Maumee River, was included in the 1959 National Survey of Historic Sites and Buildings as one of 22 sites representing the national historic theme "The Advance of the Frontier, 1763–1830." It was designated a National Historic Landmark in 1960, signifying "the culminating event which demonstrated the tenacity of the American people in their efforts of western expansion through the struggle for dominance in the Old Northwest Territory."

CULTURAL RESOURCES

Archeology and History

A 1995 archeological survey by Dr. G. Michael Pratt of the Heidelberg College Center for Historic and Military Archaeology Studies revealed the actual site of the Battle of Fallen Timbers (Pratt 1995). This study led to the site being declared a national historic site and an affiliated unit of the national park system. The 1995 archeological survey, followed by one in 2001, provided a wealth of information regarding the progression of the Battle of Fallen Timbers. Perhaps the most important insight was the identification of the main battle lines of the American legion and the Native Confederacy by carefully interpreting the location of recovered artifacts using state-of-the-art technology. Clusters of buttons, fragments from weapons and uniforms, and varying sizes of shot from muskets, rifles, and artillery allowed archeologists to reconstruct battle lines as they developed during the course of the battle. Numerous button clusters found on the site indicated the location of fallen soldiers from Wayne's legion, and locations of spent ammunition, coupled with contemporary accounts, helped researchers determine from which direction the ammunition was fired. What emerged through this research and artifact identification was a clear image of the battle as described by eyewitness accounts. Included in these accounts are recollections of members of Wayne's Legion, Kentucky militiamen, British military, and American Indians as recorded by other Euro-Americans and Indian captives.

The American legion advanced on a northeast course, heading down the Maumee River. The main American battle line ran on a northwest to southeast course through the center of the battlefield. This battle line intersects with the northernmost tip of the remaining woods. The southern end of the line crosses US 24 some 500 yards northwest of the ravine. American Indian forces had deployed in the area of the fallen timber on a line running perpendicular to the river and facing southwest in order to attack the legion as it advanced up the river. The main Indian battle line ran perpendicular to the American line some 300 yards to the northeast. All action alternatives include some trail system that would allow visitors to view the battlefield from both of these vantage points. They also address the importance of preserving large portions of these battle lines because of their historic and archeological significance.

There have been a few random instances of persons entering the site and digging in areas around groundhog holes and at the base of ravines. There is no evidence that any artifacts have been illegally removed from the site. There are no remnants of historic structures or other signs of occupation on the battlefield.

Cultural Landscape

Compared to some other historic sites, Fallen Timbers Battlefield has been the site of relatively little human activity since the battle on August 20, 1794, and several significant natural features relevant to the battle are present today. Portions of the site were logged sometime during the late 19th or early 20th century, and farming has occurred on this area ever since.

One landscape feature that became vitally important on the morning of August 20, 1794, was a ravine in the center section of the battlefield. This ravine runs from west to east then turns southeast, draining towards the Maumee River. As the American Indian forces advanced on a confused Legion of the United States early in the battle, the commander of the legion dragoons Captain Robert MisCampbell, fell back to reform his squadron. After completing this task, MisCampbell was ordered by General Anthony Wayne to charge the Indian forces toward the river. Although MisCampbell and his horsemen carried out this charge, they rode forward instead of heading toward the river. After proceeding about 200 paces through the fallen timber, MisCampbell and several of his men were killed. However, this charge was followed by the advance of the infantry and dragoons to the right of MisCampbell, which turned the tide of the battle. A significant portion of this ravine still exists today and is a prominent feature of the cultural landscape of the Fallen Timbers Battlefield. Because it is the only topographical feature associated with the battle that was mentioned in contemporary accounts, the ravine was a key element in rediscovering the exact location of the battlefield. All action alternatives include some trail system that would allow visitors to view the ravine system.

The wet woods that covered a large portion of Fallen Timbers Battlefield were also important as the battle progressed on August 20, 1794. The battle was named after a swath of timber that had been blown down several years before by a tornado. It was from within this fallen timber that the American Indian forces fired on the legion with devastating results early in the battle. As the first shots rang out, a large portion of the legion found themselves in swampy, thick woods. One soldier noted that the brush and timber made it difficult to see a man 10 yards away. As the legion struggled, the Native Confederacy continued to fire from their strategic location in the fallen timber. It was MisCampbell's charge that began to compel the warriors to retreat toward their main battle line. Yet, this quagmire of trunks and branches also slowed MisCampbell's charge and may have led to his death as he and his dragoons mixed with the warriors hidden there. A large portion of this wet woods still stands and drains through the ravine into the Maumee River. Because of the low swampy conditions and the ravine itself, this area was never farmed. These woods provide a glimpse back to 1794 and the conditions that existed at the time of the battle.

Sacred Sites

No sacred sites have been identified by any group at the battlefield. There is the possibility that prehistoric or historic graves may be identified during pre-development surveys at the site. Such sites would be treated in accordance with state and federal laws and might be considered sacred sites.

NATURAL RESOURCES

The Fallen Timbers Battlefield is located above deposits of Silurian period bedrock (480–408 million years before present), which include dolomite, limestone, and shale. The bedrock exposed in the bottom of the Maumee River, 0.5 mile south of the battlefield, is Tymochtee Shaly dolomite of the Salina group of bedrock units on the western flank of the Findlay Arch, a regional geologic structure of Ohio.

The bedrock formed as sediments when the region was a warm-water shallow saltwater sea, with the sediments hardening into bedrock over time.

Soils and Drainage

The soils within the Fallen Timbers Battlefield site are Lenawee silty clay loam, Toledo silty clay, Hoytville clay loam — all of which are listed as hydric soils in Lucas County. In addition, there are also Napanee loam, Del Rey loam, and Sisson loam — all of which are non-hydric soils with hydric components in low areas or drainageways. The final soil type is St. Clair silty clay loam (Soil Survey of Lucas County 1980).

On the battlefield approximately 160 acres (88% of the battlefield) are composed of soil types that are listed as "prime where drained," according to the Lucas County Soil and Water Conservation District (Feb. 13, 2003). In October 2003, 82,537 acres of land in Lucas County were under Current Agricultural Use Valuation, of which 59,315 acres were listed as prime agricultural land. The use of the approximately 160 acres of the battlefield, of which 120 acres were in agricultural production and the remaining 40 acres were wooded, represents 0.02%, or a very small portion of the total prime agricultural land in Lucas County (Lucas County Soil and Water Conservation District, Nov. 2003).

Drainage of the area is divided approximately from east to west. Field tiles were installed to enable tillage of the area. There is some evidence of man-made deepening of natural drainage swales to enhance drainage on the west side of the woods. The northern portion of the property is drained by a ditch along the north edge of the woodland and field, all of which drains to the northeast by means of field tiles to Bostdorf Ditch, which eventually flows into the Maumee River. The southern portion, which includes the woodland, drains through natural ravines that join Whidden Ditch, which combines with Jerome Ditch and drains into Side Cut Metropark lowlands, where a tile then intercepts the water and diverts it into Siegert Lake of Side Cut and to the Maumee River. A check gate on the river side of the outflow regulates Maumee River floodwater entering Siegert Lake. The original drainage of Whidden Ditch was eastward to the Silver Lake area of Side Cut, but this was cut off by the construction of I-475 (Lucas County Drainage Maps #32 and #2, Monclova Township).

Vegetation

General Description. Approximately 60 acres within the center of Fallen Timbers Battlefield is a second-growth maple, ash, and oak swamp woodland. Most trees are under 100 years of age. While the area has been subject to logging, portions of the woodland near the ravine and US 24 remain relatively undisturbed.

An ongoing flora survey of the site was begun in 2001 and has identified 204 species so far (see appendix D). The Ohio Division of Natural Areas and Preserves lists 11 species (5%) as invasive and 43 species (21%) as nonnative species for the northwest Ohio region. Herbicides, including Round-up®, were used when the area was farmed. During the summer of 2002, Metropark Land Management conducted invasive plant and poison ivy control within the woods.

Threatened or Endangered Species or Species of Concern. As previously mentioned, the eastern prairie fringed orchid *(Platanthera leucophaea),* a federally listed threatened plant species, has not been found at the battlefield (see appendix D).

The nodding rattlesnake root *(Prenanthes crepidinea),* which is listed by the state as a potentially threatened species,* has been documented in the woods just north of the central ravine.

A relatively undisturbed portion of the woods on either side of the ravine and along US 24 contains several plant species uncommon to the region, including Greek valerian (*Polemonium reptans)* and fire pink *(Silene virginica);* these are the only known locations for these species in Lucas County.

The uncommon Michigan lily *(Lilium michiganense)* was discovered along the railroad right-of-way.

Wildlife

General Description. White-tailed deer frequently use the woods for cover or browse. Due to loss of habitat, deer have been crowded into natural areas and have been over-browsing areas, causing declines especially in spring ephemeral wildflowers. The wet woodland area is habitat for a number of resident and Neotropical migrating birds. In addition, eastern box turtles are found in the woods. Red-tailed hawks nested in the woods in 2002. Great horned owls are woodland residents. Fox squirrels, red squirrels, red fox, raccoon, opossum, striped skunk, short-tailed shrews, and coyotes are also found within the area.

Threatened or Endangered Species or Species of Concern. As previously stated, habitat for the Indiana bat and the Karner blue butterfly could occur in the vicinity of the park units (see page 91).

VISITOR USE

Public programs occasionally take place on the battlefield site. In 2001 some 300 volunteers took part in an archeological survey headed by Dr. G. Michael Pratt from Heidelberg College. Walks through the site are provided when requested. These special programs have not amounted to more than a dozen per year, totaling less than 1,000 people.

Access and Circulation

The national historic site can be accessed from regional highways. Local and regional bus service is provided by the Toledo Area Regional Transit Authority (TARTA).

Currently, the general public is permitted on the site only when accompanied by park staff.

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* A native Ohio plant species may be designated potentially threatened if one ore more of the following criteria apply:

1. The species is extant in Ohio and does not qualify as a state endangered or threatened species, but it is a proposed federal endangered or threatened species or a species listed in the *Federal Register* as under review for such proposal.
2. The natural populations of the species are imperiled to the extent that the species could conceivably become a threatened species in Ohio within the foreseeable future.
3. The natural populations of the species, even though they are not threatened in Ohio at the time of designation, are believed to be declining in abundance or vitality at a significant rate throughout all or large portions of the state.

Interpretation and Experience

Walking tours led by tour guides generally begin from the project headquarters, cross through a former farm field to the woods, and then circle back to headquarters. Within the woods tour guides may interpret trees, wildflowers, and how combatants used vegetation for cover and concealment. Opportunities to learn about American Indian culture and the struggle for the Northwest Territory are limited to these few scheduled tours each year and to offsite programs.

Initial contacts have been made with local schools to offer onsite programs for students.

Because the battlefield is near the I-475 / US 24 interchange, traffic noise can be heard in certain parts of the battlefield.

PARK OPERATIONS

A former private residence on Jerome Road is currently used as headquarters and the starting point for tours. The ranger and maintenance staff of Side Cut Metropark, about 3 miles away, are responsible for day-to-day maintenance and security at the site. In addition, the Maumee Police Department conducts random patrols around the perimeter of the site.

ADJACENT LAND USES

The battlefield area is bounded by Jerome Road on the west, the right-of-way of the Norfolk-Southern Railroad to the north, southbound I-475 and off-ramp to US 24 to the east, and US 24 to the south. It lies some 3 miles southwest of the Ohio Turnpike (I-80/90) and I-475 interchange. The area along the expressway is lighted with cluster lights on towers, which illuminate the eastern and southern portions of the site at night with an orange glow. While walking on the battlefield within 100 yards of I-475 and US 24 to the east and southeast, the smell of vehicle exhaust is noticeable.

Fallen Timbers Battlefield is surrounded by suburban houses, commercial developments, and a few remaining agricultural fields. The area is experiencing rapid development, and Toledo and the City of Maumee had originally planned a joint economic venture in this area. North of Monclova Road an office complex is being developed; to the northwest are housing and condominium developments; to the west commercial and retail development is being considered; to the east is the St. Luke's Hospital and Medical Complex; and to the south is residential housing and the Fallen Timbers Monument. The Toledo Express Airport (commercial and general aviation) and the Ohio Air National Guard Base are 6 miles west northwest of the site.

There are approximately nine inholdings with private residences along Jerome Road adjacent to the battlefield. At one time all residences had wells, but since the extension of the municipal water system in 2000, most have tapped into municipal water provided by the City of Maumee. All residences still have septic systems.

A primary electrical transmission line for First Energy follows the active rail line and has single support towers. Below the power line is a buried petroleum pipeline and a buried telephone cable. There are several cellular telephone towers just beyond the northeast corner of the property. A landscaping firm, a gaseous products company, and food distribution warehouse are all along the northern boundary across the railroad tracks.

FALLEN TIMBERS STATE MONUMENT

As previously described, the Fallen Timbers Monument consists of a 10-foot statue of General Anthony Wayne. In addition to the monument are two side markers, one commemorating the soldiers killed or wounded in the battle, and the other commemorating the Indian casualties. Also, the Turkey-foot Rock Monument was moved to the site in 1953.

The monument site offers visitors an unobstructed view to the Maumee River from a point some 50 feet above the floodplain. This important natural corridor has not changed significantly since the time of the battle, showing visitors the ultimate prize of the battle — control of transportation and access along the Maumee River.

CULTURAL RESOURCES

Archeological Resources

Minimal archeological surveying was conducted at the Fallen Timbers Monument site in 1994 when the parking lot was expanded.

Cultural Landscape

The landscape at the Fallen Timbers Monument was initially designed and constructed in 1936 by the Ohio State Archaeological and Historical Society. It contained the monument and flagpole on the top of the hill overlooking the Maumee River floodplain. Access to the site was from River Road to the south; access from the north was envisioned by way of a future boulevard. Parking was adjacent to the monument. Informal groupings of plants were oriented along a central driveway from the monument to the northern access point.

In 1954 a more formalized plan was more developed, reflecting what currently exists today. Parking was relocated to the northern end of the property, and a formal walkway was created along a central axis from the parking lot to the monument. An allée of honey locust was planted along the walkway, and new plantings were installed along the perimeter. A formal pavement design encircled the monument. The River Road vehicular access was removed.

The parking area was further expanded in 1994, in accordance with the 1954 design. An additional monument to the American Indians was also installed in 1994 to commemorate the 200th anniversary of the battle.

The present landscape design focuses attention on the Fallen Timbers Monument. Access from the parking area is by way of two parallel walkways separated by a grassy area. Along the outside edge of each walkway are seven thornless honey locust trees planted in a row; each tree is approximately 20 inches in diameter. A paved pathway encircles the monument and the memorial markers on either side. There are two park benches on each side of the monument overlooking the hillside. The areas to the side of the monument consist of mowed expanses with a tree and shrub line at the edges beside the fence. Included are plantings consistent with the original landscaping; many plants are now overgrown and lack formal pruning and care.

Historic Structures

The Fallen Timbers State Monument consists of a 10-foot-high bronze sculpture mounted on a 15-foot-high granite base. An evaluation in 1993 by the Ohio Outdoor Sculpture Inventory noted black crusts and metallic staining on the sculpture and base, an etched/pitted/eroded surface on the sculpture, chalky powder on the base, and graffiti (The Sculpture Center 1993). In 1998 the state provided $61,018 through the Ohio Arts and Sports Facilities Commission to clean and preserve the monument (Ohio Arts and Sports Facilities Commission 2003)

Sacred Sites

According to many period narratives, resident Native American groups historically used Turkeyfoot Rock, in its original location along the Maumee River, for offerings. The earliest written history that mentions Turkeyfoot Rock was recorded in 1829 by a Presbyterian missionary who spent time in the area. He claimed that Native people of that time period spoke of a spirit descending on the rock in the form of a turkey during the battle. By the 1880s, the written histories had changed the spirit to an Ottawa chief by the name of Turkeyfoot. Chief Turkeyfoot was supposed to have stood on the rock, encouraging his warriors during the battle, only to be shot down during the midst of the fighting. The rock was moved from its original location along the river when Ohio Route 24 was relocated in 1953. The reasoning for the move was that the relocation would allow visitors easier access and less difficulty in locating the rock. In conversations with representatives of the American Indian Intertribal Association, it has been discovered that during the last decade, some American Indian individuals and groups have used the Turkeyfoot Rock monument as the site of offerings and ceremonies.

NATURAL RESOURCES

Soils and Water Resources

The upland soil within the site is Fulton silty clay loam, which is a non-hydric soil with hydric components when found in low or in drainage ways. St. Clair silty clay loam is a highly erosion-prone soil and is found on the hillside. Sloan loam, which is listed as a hydric soil in Lucas County, is found at the base of the hill in the floodplain (Soil Survey of Lucas County, Ohio, 1980)

Drainage of the area is divided approximately from northwest to southeast. The northern portion of the property drains to the parking area and Fallen Timbers Drive. The southern portion drains to a small swale at the bottom of the hill. Both drains flow toward Whidden Ditch, which flows into the floodplain area and Siegert Lake by means of a tile.

Vegetation

General Description. Vegetation at the Fallen Timbers Monument consists of landscape variety plantings throughout the upland site. The hillside area consists of an open grassy area. An ongoing flora survey of the site began in 2001, and 86 species have been identified thus far (see appendix D). Of these species, 11 (5%) are listed as invasive by the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, and 43 (21%) are nonnative species. For a complete listing of plants at the site, see "Ethnobotany Floristic Assessment: Fallen Timbers Monument" (appendix D).

Threatened or Endangered Species or Species of Concern. No habitat for the eastern prairie fringed orchid occurs within the monument. About 0.25 mile to the south along the Maumee River and outside

the park boundary, the flat-stemmed spike-rush *(Eleocharis compressa)* is found, which is listed as threatened by the state.

Wildlife

As previously stated, federally listed threatened or endangered species, or species of concern, including the Indiana bat and the Karner blue butterfly, could occur (see page 91).

VISITOR USE

Currently visitors come to see the monument and to use the site for active recreation. Metroparks and the Ohio Historical Society do not currently maintain visitor counts at this property.

Access and Circulation

Access is via I-475/US 23 at the US 24 exit. The parking lot consists of paved black top and 10 lined spaces on either side of a paved turnaround. In addition, there are two handicapped parking spaces.

From the monument area one can see River Road, as well as housing developments on the Wood County side of the river. Previously there was an unpaved access road via River Road from the floodplain to the monument, but this has been abandoned, and the route is being converted to an all-purpose trail connection to the Maumee River. Access to the floodplain and the Fallen Timbers / Red Trail is via a 4-foot paved sidewalk at the southwest edge of the site down to the floodplain. Along the inside edge of the sidewalk is a drainage channel. At the base of the hill, a 4-foot high chain-link fence separates the monument site from surrounding private property and Metroparks land. At the floodplain the trail reverts to mowed turf. A walkway connects with a 2-mile trail to Side Cut Metropark.

Interpretation and Experience

Fallen Timbers Monument overlooks the historic Maumee Valley and is used for educational, reflective, and recreational uses. Historical programs are sometimes held at the monument site. They focus on the participants associated with the struggle for the Old Northwest Territory and the history of the Battle of Fallen Timbers.

Community groups and others frequently use the site for recreational activities, including biking, cross-country events, picnicking, and other passive activities like walking and bird watching.

At the center of the sidewalk, before entering the pedestrian boulevard, there is a 1978 aluminum interpretive display of Anthony Wayne, with text by the Ohio Historical Society. To the right of the display is a small interpretive map box.

The monument is near the I-475 / US 24 interchange, and traffic noise can be heard in certain parts of the monument.

PARK OPERATIONS

The park is open from 7 A.M. to dark. Use restrictions (e.g., dogs must be on leash, and no beer or intoxicants) are posted on signs. There are several park benches but no restroom facilities. A hand pump well for water is to the right of the monument. The area is mowed, patrolled, and maintained by Metroparks under an agreement with the Ohio Historical Society.

ADJACENT LAND USES

The area surrounding the Fallen Timbers Monument is within a residential section of Monclova Township, adjacent to the City of Maumee. The monument area fronts Fallen Timbers Lane, which is adjacent to US 24. Private residences are to the east (along Hilltop Lane) and west (along Anthony Drive). Metroparks owns the floodplain area below to River Road. St. Luke's Hospital is 1.25 miles to the northeast, the I-475 and US 24 interchange 0.75 mile to the northeast, the Lucas County wastewater treatment plant 0.5 mile to the southwest, and a fiberglass insulation manufacturing plant 1 mile to the southwest. Commercial and retail development could be located 0.5 mile to the northwest.

FORT MIAMIS

Fort Miamis was constructed by the British in 1794 on a bluff overlooking the "Foot of the Rapids" on the Maumee River. This location marked the end of the navigable deep water coming from Maumee Bay on Lake Erie and was therefore a very strategic location. During the life of the fort, this viewshed was kept clear of trees and brush in order to maintain a view of the river below. The purpose of the fort was to protect Detroit and Canada from the advancing American Legion and to encourage Indian resistance to the Americans in the Old Northwest Territory.

In the Treaty of Greenville of 1795, Anthony Wayne reserved strategic tracts of land for the United States government within the bounds of the Indian Territory created in the treaty. One of these reserves was centered on Fort Miamis. It was onto this reserve that some of the earliest traders ventured and settled after the battle in 1794. Fort Miamis was reoccupied during the War of 1812, when the British again entered the Maumee Valley in order to contest the Americans for control of the region.

From the flagpole area the Maumee River is visible in the winter months, as well as Audubon Islands State Nature Preserve, and the City of Perrysburg on the opposite side of the Maumee River. This vista demonstrates the historic strategic importance of this location for control of the river. Heavy underbrush and trees block the view of the river in warmer months.

The remnants of Fort Miamis provide visitors with a reminder of the international significance of the Maumee Valley during the late 18th and early 19th centuries. The fort's earthworks are visible from the parking area and from Corey Street. The 4.5-acre site consists of mowed turf and a steep wooded hillside with ravines leading to the Maumee River. At the Maumee River there is a narrow terrace above the water line. Steel sheet piling has been installed to stabilize the bank, and the top of the piling is falling in toward the river.

CULTURAL RESOURCES

Archeological Resources

Fort Miamis was the site of archeological investigations from 1981 to 1984. They revealed intact fabric, including footing trenches, sill logs, log wall fragments, and wooden flooring in undisturbed contexts. Thus, not only portions of the visible earthworks remain at the site, but also remnants of the fort's barracks and other man-made structures.

Cultural Landscape

What remains of the cultural landscape at Fort Miamis consists of the remnants of the earthworks from the original 1794 fort. Portions of the earthen walls have eroded into the Maumee River, but significant portions remain.

Sacred Sites

No sacred site has been identified by any group at Fort Miamis. Any prehistoric or historic graves identified in the future would be treated in accordance with state and federal laws and might be considered sacred sites.

NATURAL RESOURCES

Soils and Water Resources

The upland soil at the Fort Miamis site is estimated to be 25% Del Rey-Urban land complex soil, which is a non-hydric soil. The rest of the site, including the central portion, the fort embankments, and the hillside, consists of St. Clair silty clay loam, a highly erosion-prone soil (Soil Survey of Lucas County, Ohio, 1980).

Drainage of the parking area is via a street storm sewer to a large storm drain buried along the west boundary. The central, earthworks, and hillside portions drain along Corey Street and through steep hillside ravines to the Maumee River.

Vegetation

Much of the fort site has been disturbed since 1974. The upland area is mowed grassland with trees. The hillside contains elm, maple, ash, and oak. Most trees are estimated to be under 60 years of age. The hillside and surrounding area have been cleared of trees for perimeter protection of the original fort.

An ongoing flora survey of the site was begun in 2001, and 101 species have been discovered thus far (see appendix D). Of these species, 5 are listed as invasive by the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, and 29 are nonnative species for the northwest Ohio region.

Wildlife

As previously stated, federally listed threatened or endangered species, or species of concern, including the Indiana bat and the Karner blue butterfly, could occur (see page 91).

VISITOR USE

Fort Miamis is currently managed as a neighborhood park, with walkers, picnickers, sports enthusiasts and downhill sledders being the primary users. The City of Maumee currently does not track visitation at this site, but no significant increases in use are anticipated.

Access and Circulation

Fort Miamis is between the intersections of Michigan Avenue and Corey Street and is accessible from River Road. There are no signs at the approaches to the parking area.

A blacktop parking area for 10 cars has been installed. There are no designated parking spaces for visitors with disabilities, although there are curb cuts to the sidewalk on each side across the front of the property. A portable toilet has been placed near the parking lot. A split two-rail wooden fence surrounds the parking lot, and a split three-rail fence runs along the north and east sides of the site. Several openings in the split rail fence allow access to the site.

Beyond the fenced parking area is a black-topped walkway and a grassy area. Picnic tables have been placed within a short walk to the parking area. The walkway passes adjacent to the old earthworks and foundations of the fort, ending at a small flagpole.

Interpretation and Experience

Interpretation at the site is extremely limited. At the sidewalk before entering the parking lot is a metal historical marker erected in 1955 by the Historical Society of Northwestern Ohio. The Anthony Wayne Parkway emblem is at top, the words "Ft. Miamis" are on the entry side, and "The Indian Wars 1790–1795" on the reverse. One plaque near the parking area tells visitors about the fort and the conflict of the 1790s in the Old Northwest Territory. No other interpretive programming is offered.

Fort Miamis is currently used by the public for both reflective and recreational pursuits. While the public is free to roam over the earthworks and view portions of the river, reflective use is limited by the amount of active recreation at the site.

Recent recreational pursuits at Fort Miamis have included picnicking, sledding, all-terrain bicycling, and other activities. The resources are showing erosion down to mineral soil as a result of these uses. The wooded hillside has also been used as a sledding hill. As of fall 2005, bicycling and sledding have been prohibited (see appendix A).

Corey Street is particularly busy on weekends as a result of boating and some fishing from the break wall at the Maumee River.

PARK OPERATIONS

The grassland areas were regularly mowed by the City of Maumee Parks and Recreation Division. Maintenance operations reverted to Metroparks in November 2005.

ADJACENT LAND USE

The surrounding area is zoned residential, but it is commercial to the north across River Road. The west boundary is marked by a chain-link fence, adjacent to which is an old right-of-way for Michigan Avenue and a storm sewer easement to the Maumee River. The southwest boundary is a private residence. There is a seasonal access to the Maumee River at Corey Street.

Across the Maumee River is a private educational foundation including an approximately 5-acre island. Audubon Islands State Nature Preserve, a 170-acre nature preserve owned by Metroparks, is just upstream.

ENVIRONMENTAL CONSEQUENCES



The National Environmental Policy Act requires that environmental documents disclose the environmental impacts of the proposed federal action, reasonable alternatives to that action, and any adverse effects that cannot be avoided. This section analyzes the environmental consequences of the four alternatives. This analysis provides the basis for comparing the alternatives.

METHODOLOGY FOR ANALYZING IMPACTS

The impact analysis and conclusions were based on Metroparks staff knowledge of the resources and the site, a review of existing literature and studies, information provided by experts in the National Park Service and other agencies, and best professional judgment.

INTENSITY OF IMPACTS

Intensity refers to the degree or severity of an impact. Impacts are described as adverse or beneficial, and the levels of intensity for each impact topic were determined using the definitions presented below.

Cultural Resources. Cultural resources analyzed in this environmental impact statement include archeological resources, the cultural landscape, historic structures, and sacred sites. The following definitions are used for impact intensities:

- *Negligible:* The impact would be barely perceptible and not measurable, and it would be confined to a small area or a single contributing element of a historic structure, site, or archeological resource.
- *Minor:* The impact would be perceptible and measurable, and it would be confined to a small area or a single contributing element of a historic structure, site, or archeological resource.
- *Moderate:* The impact would be sufficient to cause a change in the character-defining features of a resource, and it would generally involve a single or small group of contributing elements of a historic structure, site, or archeological resource.
- *Major:* The impact would result in substantial and highly noticeable changes in character-defining features of a resource, and it would involve a large group of contributing elements and/or an individually significant historic structure, site, or archeological resource.

Natural Resources. For the purposes of estimating impacts on soils and vegetation, the following assumptions were used (estimates for soil disturbance were rounded to the nearest tenth of an acre):

Roads — The lineal distances for roads were derived from geographic information system (GIS) maps. Construction disturbance from roads was assumed to be 60 feet in width for all existing and proposed road segments. This width was based on several measurements of average visible road corridor widths from orthographic photos of the battlefield area.

Trails — The lineal distances for trails were also derived from GIS maps. Construction disturbance was assumed to be 10 to 12 feet (average 11 feet) for trails in the higher intensity historical interpretation zone, and 6 to 8 feet (average 7 feet) for trails in the lower intensity interpretation zone.

Reflective Zones / Gathering Areas — The diameter of circular reflective zones, and of gathering areas in the higher intensity historical interpretation zone was determined to be a 200-foot diameter.

Overlooks — The diameter of the ravine overlook, battlefield view, and Native American perspective in the higher intensity historical interpretation zone under alternative B was determined to be 300 feet.

Kiosk — The diameter of the kiosk zone was determined to be 50 feet.

Transition — The width of a transitional zone would be a minimum of 100 feet.

Visitor Centers and Parking Lots — Disturbance would be restricted to lands owned by Metroparks and outside the battlefield property.

Maintenance Facility — Disturbance would be restricted to lands owned by Metroparks and outside the battlefield property.

For the purposes of the natural resource analysis (air quality, soils and water resources, vegetation and wildlife, threatened and endangered species), the intensity of impact is defined as follows:

- *Negligible:* The impact would be barely perceptible or not measurable and would be confined to a small area.
- *Minor:* The impact would be perceptible and measurable, but it would be localized.
- *Moderate:* The impact would be clearly detectable, and it could have an appreciable effect on a natural resource.
- *Major:* The impact would have a substantial, highly noticeable influence on the natural resource.

Visitor Use. The intensity of impacts on visitor experience and interpretation was determined using the following definitions:

- *Negligible:* The impact would not be detectable by visitors, and it would have no discernible effect on their experiences.
- *Minor:* The impact would be slightly detectable by some visitors, but it would not affect overall visitor use or experiences.
- *Moderate:* The impact would be clearly detectable by many visitors, and it could have an appreciable effect on visitor experiences.
- *Major:* The impact would have a substantial, highly noticeable influence on most visitors' experiences, and it could permanently alter access, use, and availability of various aspects of the visitor experience.

Park Operations, Access, and Transportation. The intensity of impacts on operations and the local and regional transportation network was determined using the following definitions:

- *Negligible:* The impact would be barely detectable, and it would have no discernible effect on park operations or facilities.
- *Minor:* The impact would be slightly detectable, but it would not affect overall services and maintenance functions, or access and transportation.
- *Moderate:* The impact would be clearly detectable, and it could have an appreciable effect on park operations and facilities, or access and transportation.
- *Major:* The impact would have a substantial, highly noticeable influence on park operations and facilities, the provision of adequate services or facilities, or access and transportation.

Land Use and Socioeconomic Effect. The intensity of impacts on the economy, population, socioeconomic effect, and local land use was determined using the following definitions:

- *Negligible:* The impact would be barely detectable, and it would have no discernible effect on the local community.

- *Minor:* The impact would be slightly detectable, but it would not have an appreciable effect on the local economy or population, nor would it affect local land use within the community.
- *Moderate:* The impact would be clearly detectable, it could have an appreciable effect on the local economy and population, and it could affect local land use within the community.
- *Major:* The impact would have a substantial, highly noticeable influence on the local economy and population and would result in local land use changes.

DURATION OF IMPACTS

Duration refers to the time period over which the effects persist. The following durations were used for all impact topics.

- *Short-term:* The impact would last less than one year.
- *Long-term:* The impact would last one year or longer.
- *Permanent:* The impact would last forever.

CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what entity (federal or nonfederal) undertakes such action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cumulative impacts analyzed in this document consider the incremental effects of each alternative in conjunction with past, current, and future actions at Fallen Timbers Battlefield and Fort Miamis National Historic Site. As discussed on page 19, under "Relationship to Other Plans, Projects, and Proposals," these actions include the following:

- A trail connection between the north and south forks of the Wabash Cannonball Trail with the city of Maumee bicycle trail and regional bikeways plan of Metroparks, including the Jerome Road pedestrian bridge.
- A proposed commercial / retail development west of Jerome Road, with runoff diversions to drainageways to the west.
- Effects of runoff from US 24.

MITIGATION

Mitigation measures, according to the regulations of the Council on Environmental Quality (CEQ 1978), are defined as

- avoiding the impact altogether by not taking a certain action or parts of an action
- minimizing impacts by limiting the degree or magnitude of the action and its implementation
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- compensating for the impact by replacing or providing substitute resources or environments

The NPS *DO #12 Handbook* states the effectiveness of mitigation measures proposed must be analyzed, and also the impacts if a project proceeded without mitigation (NPS 2001c). For instance, it should be clear whether mitigation is integral to the project and therefore included as part of the alternative, or dependent on factors such as funding or permission from another agency.

Mitigation was integrated into the formulation of the alternatives, such as proposing different locations for administrative offices, visitor centers, and maintenance facilities to avoid impacts. In addition, all proposed actions would be evaluated by the Ohio State Heritage Preservation Office to ensure that appropriate mitigation of impacts is designed and undertaken to minimize the loss of, or damage to, cultural resources. Metroparks staff would continue to develop inventories for and oversee research about the cultural resources of Fallen Timbers and Fort Miamis. These resources would be managed according to federal regulations and NPS guidelines.

A number of archeological reports covering work done at the battlefield and the fort have been completed. Archeological evaluation would be sought before any ground disturbance to determine the appropriate level of mitigation necessary, if any.

IMPAIRMENT OF RESOURCES

In addition to determining the environmental consequences of implementing the preferred and other alternatives, NPS *Management Policies* require that potential effects be analyzed with regard to whether actions would impair site resources, specifically cultural and natural resources. As an NPS affiliated area, Fallen Timbers Battlefield and Fort Miamis National Historic Site "must be managed in accordance with the policies and standards that apply to units of the national park system" (NPS *Management Policies 2001,* sec. 1.3.4).

As defined in the NPS *Management Policies,* impairment is "an impact that, in the professional judgment of the responsible . . . manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts." An impact would be more likely to constitute an impairment to the extent that it is a major adverse impact and it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation for the affiliated national historic sites;
- key to the natural or cultural integrity of the affiliated national historic sites or to opportunities for their enjoyment; or
- identified as a goal in the affiliated national historic site's general management plan or other relevant NPS planning documents.

Impairment may result from visitor activities, management activities, or activities undertaken by concessioners, contractors, and others operating in the park. A determination on impairment is made in this chapter in the conclusion section for each cultural and natural resource impact topic.

PROJECTED ANNUAL AND DAILY VISITOR USE TRENDS

Visitation to Fallen Timbers Battlefield and Fort Miamis National Historic Site under the action alternatives (B, C, and D) is projected to be similar to that at Fort Meigs, which is directly across the Maumee River from Fallen Timbers and where 34,000 annual visitors are expected. As an affiliated unit of the national park system, use patterns at Fort Necessity National Battlefield were also analyzed, because it is assumed these two sites would have a similar appeal to user groups, and therefore be similar in use. Over the last five years at Fort Necessity, 44% of the visitors have come during the summer, 27% during the fall, 23% during the spring, and 6% during the winter. Assuming that 34,000 annual visitors would come to Fallen Timbers, then it could be assumed that about 14,960 would come during summer, 9,180 during fall, 7,820 during spring, and 2,040 during winter (see Table 12).

To determine numbers of vehicles and potential impacts on air quality and traffic, use at the park during the summer peak season was further analyzed. Assuming that visitation was evenly distributed over June, July, and August (and not accounting for holiday usage), and conservatively estimating two people per vehicle, then the maximum number of vehicles per day to any unit would be 82. This use would further be spread throughout the day, and it is assumed that perhaps 80% of the use would occur from 9 A.M. to 3 P.M., or a maximum of 11 cars per hour, or about one car every 5 minutes.

In actuality it is likely that school groups would account for a sizable percentage of use, and they would arrive by bus; therefore, the number of vehicles would likely be less than shown. Also use would likely be greater on holidays. It was further assumed that all visitors would visit all three park units under alternatives B, C, and D.

TABLE 12: ESTIMATED ANNUAL USE PATTERNS AND AVERAGE DAILY USE

Season	Estimated Use	Percentage of Use	Average Daily Use	Average Daily Number of Vehicles*	Number of Vehicles per Hour**
Spring	7,820	23	85.9	43	5.7
Summer	14,960	44	164.4	82	10.9
Fall	9,180	27	100.8	50	6.7
Winter	2,040	6	22.4	11	1.5
Total	**34,000**	**100**			

Note: Use patterns based on average use at Fort Necessity National Battlefield from 1997 through 2002 (available at <http://www2.nature.nps.gov/ stats>).

* Occupancy per vehicle conservatively estimated at 2 people; calculation does not include people arriving by public transportation or school bus.

** Assuming that 80% of use occurs between 9 A.M. and 3 P.M.

IMPACTS OF ALTERNATIVE A — NO ACTION

IMPACTS COMMON TO ALL PARK UNITS

Natural Resources

Regional Air Quality. *Analysis* — Current use levels at Fallen Timbers Battlefield and Fort Miamis National Historic Site are minimal; there are no facilities to accommodate visitors at the battlefield, and present visits are limited to special events and guided tours, with less than 1,000 people participating annually. Current use at the monument and Fort Miamis is primarily local. Some additional impacts on air quality are expected due to increased visitation levels as people become more aware of the site, but under current conditions small parking areas at each unit would further serve to limit use at the park units. Also, most use is expected to be local, so there would be a minimal net increase in vehicle emissions as a result of park visitor use. Impacts of any additional use would be negligible.

Cumulative Impacts — Air quality is generally good in the region, and there were no exceedances of the current ozone standard in 2002 (Toledo Department of Public Utilities 2002). Impacts on air quality from vehicle emissions, wood burning for home heating, industrial activity, and a wastewater treatment plant nearby would continue to affect air quality at about current levels. Impacts from vehicle emissions are expected to increase. Impacts from all sources are expected to be negligible to minor and adverse over the long term; however, overall regional air quality is expected to remain good.

Conclusion — Impacts on regional air quality from present use levels would be negligible. Impacts from all sources are expected to be negligible to minor and adverse over the long term; however, overall regional air quality is expected to remain good.

Because impacts would not be major and adverse, there would be no impairment of park resources or values.

Vegetation: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of one federally listed threatened plant species, the eastern prairie fringed orchid. After extensive surveys (see appendix D), this species has not been found in any of the park units, and no impacts are expected.

Cumulative Impacts — Management for this species would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements and specific restrictions to preserve it.

Conclusion — No impacts on federally listed plant species are expected because no species have been found.

Because there would be no impact on threatened or endangered plant species, there would be no impairment of park resources or values.

Wildlife: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of two federal endangered animal species (the Indiana bat and the Karner blue butterfly), one threatened species (the bald eagle), and one federal candidate species (the eastern massasauga). No impacts on the bald eagle are expected because no nest sites have been identified on or near any park lands, and there is no habitat for the massasauga. Measures proposed by the U.S. Fish

and Wildlife Service to protect habitat for the Indiana bat and the Karner blue butterfly include the following:

- *Indiana bat* — The bats would only be expected in the project area from approximately April 15 to September 15. If any trees exhibiting characteristics favored by the bat occur in the park units, they and the surrounding trees will be saved wherever possible. If they must be cut, they will not be cut between April 15 and September 15. If desirable trees are present and if this time restriction is unacceptable, then mist net or other surveys will be conducted in June or July to determine if bats are present.
- *Karner blue butterfly* — Native lupine plants would be conserved wherever possible, and such plants would be incorporated into site restoration efforts, green areas, and other project designs where possible.

Cumulative Impacts — Management for these species would continue to follow present guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements and specific restrictions to preserve them.

Conclusion — No impacts on federally listed animal species are expected.

Because there would be no impact on threatened or endangered animal species, there would be no impairment of park resources or values.

Partnerships

Analysis — Under alternative A no additional efforts would be pursued to develop partnerships with other agencies and organizations. Continuing agreements with the Ohio Historical Society and Heidelberg College would result in minor beneficial impacts over the long term.

Cumulative Impacts — Continuing the present level of partnerships would encourage limited community involvement and a sense of stewardship for park resources.

Conclusion — Maintaining current agreements (the Ohio Historical Society and Heidelberg College) would result in minor, beneficial impacts over the long term. On a cumulative basis present partnerships would encourage only limited community involvement and a sense of stewardship for park resources.

Socioeconomic Impacts

Impacts on the local and regional economies from park operations and maintenance would be negligible at all units.

In terms of cumulative impacts, proposed commercial / retail development west of Jerome Road could draw additional tourists to the vicinity of the national historic site, with the greatest impact on the battlefield and the monument because of their proximity. Impacts are expected to be minor to moderate.

FALLEN TIMBERS BATTLEFIELD

Cultural Resources

Archeological Resources. *Analysis* — No further impacts to archeological resources from farming in the battlefield unit would occur. Alternative A would allow limited opportunities for archeological exploration at the battlefield site related to specific projects.

Unknown archeological resources could be adversely affected because little is being done to prevent the looting of artifacts from the battlefield. Because of the public attention around the creation of the national historic site, and because security has not been increased, the threat of looting has risen and would likely continue in the foreseeable future. Patrols are difficult at present due to limited access and the terrain, making it hard to detect unauthorized entries. Any loss of resources due to looting would be a major, adverse, permanent impact, constituting an irreversible and irretrievable loss.

Unauthorized use by snowmobiles and all-terrain vehicles (ATVs) would continue, with a minor adverse impact on archeological resources.

Cumulative Impacts — Past agricultural practices on portions of the battlefield adversely affected the site's archeological deposits; it is believed the impact is minor. Artifacts that have been recovered at the battlefield are the property of Metroparks and are currently housed at the Center for Historic and Military Archeology at Heidelberg College in Tiffin, Ohio. This relationship ensures the proper curation and storage of artifacts.

Previously planned projects — constructing a pedestrian bridge over US 24 to the monument and planting vegetation around the outer edges of the battlefield unit — could disturb archeological resources. These actions are to be preceded by surveys to identify whether any archeological resources are present and to ensure that appropriate mitigating measures are taken. With appropriate mitigation, these actions should not result in any adverse impacts.

Conclusion — Continued unauthorized snowmobile and ATV use could cause a minor adverse impact on archeological resources. Potential looting of archeological resources could result in a major, adverse, long-term impact. In terms of cumulative impacts, the construction of a planned pedestrian / bicycle bridge over US 24 would be preceded by an archeological survey, and mitigating measures would be taken as appropriate; impacts are expected to be negligible.

There could be a major adverse impact on archeological resources due to looting under this alternative. The loss of any archeological resources would impair the integrity of the Fallen Timbers Battlefield site.

Cultural Landscape. *Analysis* — While the Battle of Fallen Timbers resulted in no man-made structures, the terrain that the Legion of the United States traversed during the course of the battle is still intact. This includes the ravine system that was an important factor in the U.S. troop movements and the wet woods that covered the site. The ravine system would not be affected by the no-action alternative.

In the years following the battle the wet woods were logged, drained, and farmed. Farming has now been stopped. Under alternative A the woods would become reestablished through natural succession; no action would be taken to actively reestablish historic vegetative conditions. Fallen trees and other natural debris would be allowed to accumulate in the ravine and natural drainage areas, decreasing the

amount of drainage from the area. Over time this would result in wetter conditions, although at a rate much slower than under the action alternatives.

Purchasing residential housing along the western edge of the battlefield on a willing-selling / willing-buyer basis, or accepting donations of land, would help protect the cultural landscape.

Cumulative Impacts — The construction of a pedestrian bridge over US 24 and a trail would increase site visitation and have a minor effect on the cultural landscape of the battlefield. Increased development and ongoing uses around the battlefield site, including vehicle traffic on US 24 and commercial / retail development west of Jerome Road, could detract from the cultural landscape. These intrusions would be minor to moderate, adverse, and long term.

Conclusion — Over the long term alternative A would have a moderate, beneficial impact on the cultural landscape of Fallen Timbers Battlefield because no more farming would be allowed and the wet woods would be reestablished gradually over the long term as a result of fallen trees and other natural debris accumulating in the ravine and natural drainage areas, decreasing the amount of drainage from the area.

There would be no major adverse impact to the cultural landscape, and there would be no impairment of park resources or values.

Sacred Sites. No sacred sites have been identified by any group at the battlefield site. Because no development would take place under this alternative, no impacts on sacred sites are expected at the battlefield, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Increased visitation would lead to a slight increase in the number of vehicles visiting the battlefield, but restricted parking along Jerome Road would limit the number of cars.

Cumulative Impacts — In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Air quality within the battlefield unit along US 24 would continue to be affected by vehicle emissions, with a negligible, adverse, long-term effect. Some impacts on air quality could be expected if traffic increased as a result of commercial / retail development west of Jerome Road. Overall, the levels of emissions from all sources could increase slightly, but any change is expected to be negligible to minor.

Conclusion — Impacts on air quality from increased vehicular use would be negligible. Cumulative impacts would be negligible to minor.

Because impacts on air quality would not be major or adverse, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative A present soil and water resource conditions at the battlefield would continue. Stopping agricultural production and associated agri-chemical application would reduce sediments and fertilizer levels in adjacent drainage areas. Allowing native vegetation to become reestablished naturally in the open fields would slow soil erosion and reduce stream turbidity. Applications of herbicides would control invasive plants. Only herbicides approved

by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves, and The Nature Conservancy guidelines (1996) would be applied. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality. Drainage patterns would be identified for the site and adjacent to the site. Conducting baseline samples to determine background pH and agricultural chemicals present in the soil would provide an early indication of any adverse effects that might have to be mitigated.

Approximately 160 acres or 88% of the Fallen Timbers Battlefield are composed of soil types that are listed as "prime where drained" (Lucas County Soil and Water Conservation District, Feb. 13, 2003). Allowing wet conditions to become gradually reestablished on the battlefield and taking about 120 acres out of agricultural production would represent a loss of 0.02% of the total prime agricultural land in Lucas County (Lucas County Soil and Water Conservation District, Nov. 2003). The impact of removing this land from agricultural production would be negligible.

Cumulative Impacts — In conjunction with past, present, and reasonably foreseeable future actions, water quality is expected to remain good, and any adverse effects on soils from proposed trail development would be short term and negligible. Proposed commercial / retail development would divert water from Whidden Ditch, which flows on the south side of the battlefield, to an intermittent stream to the southwest, which flows into the Maumee River near the intersection of Jerome Road and River Road. Using this runoff diversion would result in no impacts to the battlefield. Runoff along US 24 is diverted into Whidden Ditch, which forms a portion of the southern boundary of the battlefield and crosses the highway by means of a 24-inch culvert at the outlet of the large central ravine. Periodic maintenance is conducted by the Ohio Department of Transportation to remove trash and debris, which might block the culvert.

Conclusion — Alternative A would result in a beneficial, negligible, long-term impact on soil and water quality as a result of stopping agricultural production. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources, so there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative A vegetation and wildlife at the battlefield would gradually revert to more native conditions. Early succession woodland and young age classes of trees would continue to be represented, while stands more than 60 years would remain underrepresented due to previous timber harvests. Wildlife would be monitored by staff to identify species, and impacts from deer would be monitored.

No impacts should occur to a viable population of the state threatened nodding rattlesnake-root. Ongoing flora and fauna surveys would identify any other sensitive species. Over time as native vegetation became established in the open fields, it would be maintained to keep invasive plants to a minimum. Periodic herbicide applications on invasive shrub and nonnative plants within the woodlands and fields would be conducted. As described under "Soils and Water Resources," only herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy would be applied. The impact would be moderate in reducing invasive and exotic plants to a maintenance-control level, which would allow native species to dominate. Deadfall trees and logs would be allowed to decompose without human disturbance.

Wildlife species that favor wet woodland would benefit from the woodland area expanding from about 60 acres at present to 182 acres over time. Neotropical migrating birds would be attracted to the woodland and fields as they reverted to shrub / scrub communities then to wet woodland.

Cumulative Impacts — Active and successful fire suppression efforts would continue the trend of increasing fuel loads across the landscape, particularly in this woodland, which would not be actively managed. Cumulative impacts would be negligible.

Conclusion — Over the long term the gradual succession of native vegetation and wildlife at Fallen Timbers Battlefield would reestablish conditions more typical of the 1794 period. Alternative A would result in a moderate, beneficial, long-term effect on vegetation and wildlife. Cumulative impacts would be negligible.

There would be no major adverse impacts on native vegetation or wildlife, and there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative A maintaining access and transportation at the battlefield would have no additional impact. Present means of access (by automobile, walking, bicycling, and regional transit) would continue. Drivers would continue to arrive from I-80/I-90 and I-475 by way of US 24. Parking is currently permitted along the roadside and in the driveway or the grass overflow parking area at the present headquarters.

Cumulative Impacts — Other past, present, and reasonably foreseeable future actions include development of commercial / retail development on the west side of Jerome Road, which could have moderate, adverse impacts on local and regional transportation systems.

A proposal has been made to route the TARTA bus line west on Monclova Road and south on Jerome Road to the proposed commercial / retail development area. Because no visitor facilities would be provided at the battlefield, the impact would be negligible to minor, depending on how much additional visitor use was generated. In 2000 average daily traffic on I-475 and US 24 near the battlefield was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact.

Connections to the Wabash Cannonball Trail are proposed along Jerome Road. This would provide access to the present project headquarters, with a negligible impact on access and transportation.

Conclusion — Present access options to Fallen Timbers Battlefield would have a negligible impact on the local transportation system, and impacts are not expected to increase in the future because no visitor development would take place. Cumulative impacts on the local and regional transportation systems related to commercial and retail development west of Jerome Road could be moderate and adverse. Impacts of regional trail links and a bus line past the battlefield would be negligible.

Visitor Interpretation and Experience. *Analysis* — Under alternative A visitor use at the battlefield would continue to be limited to occasional scheduled group tours. Parking facilities would consist of one stone driveway and grass parking at a former residence. No visitor center, restrooms, or trails would be provided at the battlefield site.

Minimal orientation would be available before visitors enter the battlefield. Visitors participating in scheduled tours would receive limited interpretation regarding the events leading up to the battle, the battle itself, and its consequences. Seasonal flooding can make visitation extremely difficult on the battlefield site.

Cumulative Impacts — There would be no programs to connect the events at the battlefield with other events that took place at other sites in the region, such as Fort Meigs. In order to learn about the overall historic significance of the struggle for the Old Northwest Territory and the consequences for the people involved in that struggle, visitors would need to do the research themselves. This would be a moderate, adverse impact. Visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact.

Conclusion — Under alternative A opportunities for the public to visit the battlefield and to appreciate the significance of site resources would be extremely limited. Impacts on the visitor experience and interpretation would be moderate and adverse over the long term. With regard to cumulative effects, not providing interpretive or physical connections to the other park units, or to regional historic sites, would have an adverse effect on visitor experiences.

Land Use

Analysis — The Fallen Timbers Battlefield lies entirely within the City of Maumee and is included in its 1998 *Comprehensive Plan Update* ("Exhibit A — General Concepts"). The plan lists the battlefield as an archeological / historic site. Under alternative A land use at the battlefield would be consistent with the Maumee land use plan because farming in the former agricultural fields has been discontinued, allowing native vegetation, as well as a more historic scene, to become reestablished over the long term. The fields are being maintained with a native vegetative cover crop and managed to control invasive plants.

Maintaining a cooperative dialog with surrounding landowners, acquiring inholdings from willing sellers, and accepting donations of land and resources would over the long term help protect the historic scene.

Cumulative Impacts — The City of Maumee and Monclova Township land use plans would be relied on to prevent any impacts to the battlefield from proposed commercial / retail development west of Jerome Road. The City of Maumee's 1998 *Comprehensive Plan Update* shows no changes to Jerome Road, which forms a portion of the western boundary of the battlefield. Approximately 0.5 mile to the west of the battlefield, a Briarfield Boulevard extension is proposed from US 20A / Illinois Avenue to the Jerome Road interchange of US 24. An intersection at Russell Road should reduce local traffic on Jerome Road. Under "Exhibit B" of the *Comprehensive Plan Update,* Jerome Road is shown as a "buffer" between the battlefield and development to the west.

Monclova Township is on the west side of Jerome Road, across from the west central section of the battlefield, and continues northward. While the area is outside the battlefield, some information applies to the site. For North Jerome Road the 1998 Monclova Township *Land Use Plan* states that the intent is to direct traffic away from the existing North Jerome Road residential area. "A buffer of mounding and trees is required on the west side of North Jerome Road to protect existing residents from the impacts of the proposed commercial / retail development" (Monclova Township 1998, 51).

Conclusion — Ending farming and continuing to acquire inholdings along Jerome Road from willing sellers would not result in any conflict with local land use plans.

Park Operations and Energy Consumption

Analysis — Continuing present levels of operations at the battlefield, with maintenance provided through Side Cut Metropark, would create no additional impacts. Maintaining the former agricultural fields in a vegetative cover crop and keeping invasive plants to a minimum through periodic herbicide applications with small vehicles would result in a minor adverse impact on maintenance operations.

Minimal operations at the park would have a minor adverse impact on staffing. Using volunteers for tasks such as periodic roadside and interior litter pickup would reduce impacts on park staff, a minor, beneficial, long-term impact.

Security at the site includes periodic walking inspections, and ranger patrols during daylight and evening hours, a minor adverse effect on park staffing. Overnight security is accomplished through periodic patrols by the Maumee Police Department. Because patrols are infrequent, there is a greater potential for looting at the battlefield.

Fuel consumption is required for routine maintenance operations, a minor, adverse, long-term impact. Where possible, existing efficient diesel mowers are used with soy-based fuels.

Cumulative Impacts — Prevailing winds from the southwest could blow trash into the site from the proposed commercial / retail development across Jerome Road to the west. Removing this trash would be a constant maintenance concern.

Conclusion — Locating park operations off site would result in a negligible impact to the battlefield now and in the future. Continuing minimal operations at the park would have a minor adverse impact on staffing. Infrequent security patrols would result in a greater potential for looting at the battlefield. Energy consumption related to maintenance operations would continue to result in a minor impact over the short and long terms.

Socioeconomic Impacts

Analysis — Visits to the battlefield site would be by reservation, so visitor use is expected to be low. Consequently, the no-action alternative would result in a negligible increase in visitation and tourism, with a negligible impact on the regional economy.

Under the no-action alternative ending farming and continuing to acquire inholdings along Jerome Road from willing sellers would result in a negligible, long-term, beneficial impact for the preservation of areas adjacent to the battlefield.

Cumulative Impacts — Proposed commercial / retail development west of Jerome Road could draw additional tourists into the area, but as visits to the battlefield would be by reservation, visitor use would be expected to be low. Local land use plans would further act to prevent impacts to the battlefield.

Conclusion — The no-action alternative would result in a negligible increase in visitation and tourism, with a negligible impact locally or regionally.

FALLEN TIMBERS STATE MONUMENT

Cultural Resources

Archeological Resources. *Analysis* — Minimal archeological surveying was conducted at the Fallen Timbers Monument site in 1994 for a parking lot expansion, and little is known about potential archeological resources. Future surveys would help ensure that adverse impacts would be avoided or mitigated before any action.

Visitor use would gradually increase at the site, causing more wear and tear. However, since the site was designed to accommodate visitation, this increased use would have negligible impacts on the archeological and historic resources.

Cumulative Impacts — Preconstruction surveys would mitigate any potential impacts associated with constructing the pedestrian / bicycle bridge over US 24. Any information obtained would add to the local and possibly the regional knowledge base. No other cumulative impacts on archeological resources under alternative A were identified.

Conclusion — Alternative A would result in negligible, adverse, long-term impacts on archeological resources from increased visitor use at the monument site. Preconstruction surveys and evaluations for the US 24 bridge would identify any possible impacts on archeological resources; no other cumulative impacts were identified.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — The Fallen Timbers State Monument is a designed landscape whose purpose is to encourage visitation and public use. No action would be taken under this alternative to alter the management or design of the monument area, and there would be no additional impacts.

Cumulative Impacts — Two previously proposed actions under this alternative would affect the site. The proposed pedestrian and bicycle bridge across US 24 and the construction of a trail around the edge of the site to link to the Wabash Cannonball Trail would likely increase visitation to the site and would have a negligible adverse impact on the cultural landscape.

Conclusion — Alternative A would have no additional impact on the cultural landscape of the monument. Cumulative impacts from constructing a trail link to the Wabash Cannonball Trail would result in a negligible, adverse, long-term impact to the cultural landscape of Fallen Timbers State Monument.

There would be no major adverse impacts on the cultural landscape of Fallen Timbers State Monument, and there would be no impairment of park resources or values.

Historic Structures. The monument, which underwent cleaning and preservation treatment in 1998, would be maintained and cleaned as necessary. No adverse impacts are expected.

Sacred Sites. *Analysis* — According to many period narratives, resident Native American groups historically used Turkeyfoot Rock, in its original location along the Maumee River, for offerings. Over the last decade the Turkeyfoot Rock monument has been used as the site of offerings by some American Indian groups and individuals. Continued use of Fallen Timbers Monument for recreational

activities by many other groups would adversely affect the sacred aspect of this site to a moderate degree.

Cumulative Impacts — Fallen Timbers Monument has been used for a number of years by local schools for soccer, cross-country meets, and other track and field events that detract from the memorial aspect of the site. These uses would continue under alternative A, with a moderate, adverse impact on ceremonies conducted at the site.

Conclusion — Continued recreational uses at the monument under alternative A would have a moderate, adverse, long-term impact on the use of Turkeyfoot Rock.

There would be no major adverse impacts on sacred sites at the monument, and there would be no impairment of park resources or values.

Natural Resources

Air Quality. *Analysis* — Increased visitation would lead to a slight increase in the number of vehicles at the monument. Parking would be limited to the existing area, and negligible, adverse effects are expected on air quality.

Cumulative Impacts — Airborne sewer odor from the Lucas County wastewater treatment plant, 0.25 mile to the southwest, is noticeable in the monument depending on the season and wind direction.

As described for the battlefield, in 2000 average daily traffic on I-475 and US 24 near the monument was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Traffic on US 24 would continue to have a negligible to minor impact within the monument area. Overall, the levels of emissions from all sources would increase slightly, but any change is expected to result in negligible to minor adverse impacts.

Conclusion — Alternative A would result in some additional impacts on air quality. Impacts, including cumulative impacts, would be negligible to minor, adverse, and long term.

Because there would be no major adverse impacts on air quality, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative A maintaining present conditions at the monument would result in no additional impacts to soil and water resources. Runoff from Fallen Timbers State Monument flows along the south side of the highway into Whidden Ditch to the northeast.

Cumulative Impacts — The proposed linking trail from the battlefield to the floodplain would have the potential to impact water quality through ground disturbance, which would result in increased surface runoff and soil erosion. However, due to the limited extent of the proposed trail and through the implementation of best management practices to control soil erosion, increased sedimentation and turbidity would be negligible and limited to the period of construction and vegetation recovery.

Road salt washed off of US 24 could locally affect soils along the monument boundary; no other cumulative impacts have been identified. Water quality is expected to remain good because of the filtering

effect of floodplain vegetation, and there would be no contribution to ongoing impacts in the Maumee River.

Conclusion — Alternative A would result in no additional impacts on soils or water resources. Cumulative impacts related to trail construction would be negligible.

There would be no major adverse impacts on soil or water resources; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — No additional impacts on vegetation or wildlife are anticipated under alternative A with the continuation of present management activities. Crews would conduct periodic herbicide applications on invasive and exotic plants within the site boundaries. Wildlife favoring shrub / scrub edges would continue to benefit from the wooded edges. Vegetation and wildlife monitoring would continue in order to determine what species are present and what impacts are experienced from deer.

Cumulative Impacts — Active and successful fire suppression efforts would continue the trend of increasing fuel loads across the landscape, particularly in the monument hillside, although the amount would be negligible. Removing limited amounts of vegetation for recreation trail development would have a negligible, adverse impact.

Conclusion — Continuing current vegetation and wildlife conditions at Fallen Timbers Monument would result in a long-term, negligible, beneficial impact on vegetation and wildlife. Removing limited amounts of vegetation for recreation trail development would have a negligible, adverse impact.

There would be no major adverse impacts on native vegetation or wildlife, and there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative A road access to the Fallen Timbers State Monument would be the same as now and the same as for the battlefield. A small parking area is accessed from Fallen Timbers Drive and the Jerome Road exit of US 24. The nearest TARTA bus stop is some 2 miles east at Monclova Road. No additional impacts are expected on the local or regional transportation systems under this alternative because present visitor use patterns would continue.

Cumulative Impacts — The impacts of alternative A, combined with the impacts of past, present, and reasonably foreseeable future actions, would be similar to those described for the battlefield unit. A planned bicycle / pedestrian bridge over US 24 would provide a link between the battlefield and the monument, and a bicycle trail connection would provide links to the Wabash Cannonball Trail, with a negligible impact on access and transportation.

Other future impacts include proposed commercial / retail development west of Jerome Road, which could have moderate impacts on local and regional transportation systems. The monument could also be affected by increased visitation from commercial / retail development users, but impacts are expected to be minor. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers State Monument was 79,970 vehicles (ODOT 2000); additional traffic to the park unit would be an extremely small proportion of the traffic volume and would constitute a negligible impact.

Joint efforts by Metroparks, the City of Maumee, and TARTA to develop a bus stop along Fallen Timbers Road could encourage further interest and access to monument facilities, resulting in a moderate beneficial impact. Currently, TARTA offers service to the monument on a request-only basis through its "Call-A-Ride" program for Maumee residents.

Conclusion — No additional impacts are expected on the local or regional transportation systems under this alternative because present visitor use patterns would continue. Cumulative impacts related to commercial / retail development could be moderate. Establishing a bus stop at the monument could have moderate beneficial impacts. Impacts on access to the monument from trail connections with the Wabash Cannonball Trail would be negligible.

Visitor Interpretation and Experience. *Analysis* — Under alternative A the Fallen Timbers State Monument would remain open to the public for educational, recreational, and reflective uses. Interpretive signs and brochures would continue to give a brief sketch of the significance of the battle. Occasional historical programs would provide visitors with a deeper understanding of the battle's consequences on the Native Confederacy, the United States, and Great Britain. Efforts would continue to maintain the historic viewshed of the Maumee Valley. Opportunities for ceremonial use by American Indians and others would continue.

Continued recreational uses by individuals, schools, and other groups, including biking, cross-country events, picnicking, and other passive and active recreational pursuits, would diminish the more reflective qualities of the monument.

Overall, impacts would be minor to moderate and adverse because of the lack of interpretive information and intrusions from recreational uses unrelated to the monument.

Cumulative Impacts — No information about other historic sites in the region would make it harder for visitors to understand connections between historic events. Future uses in the Maumee River valley could be seen from the monument and impact experiences to the extent that they intruded on the reflective experience at the monument. Visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact. Over the long term cumulative impacts would be minor and adverse.

Conclusion — Inadequate interpretive information and intrusions from recreational activities would result in a minor to moderate, adverse, long-term impact on visitor experiences. Over the long term cumulative impacts would be minor and adverse because the events at Fallen Timbers would not be incorporated into regionwide interpretive programs, and incompatible uses in the Maumee River valley could detract from views at the monument.

Land Use

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society.

Under alternative A no new land uses would impact the site, and no boundaries would be changed. The monuments, parking, walkways, and plantings would be maintained in their present condition.

Maintaining a cooperative dialog with surrounding landowners would help avoid any incompatible uses.

Cumulative Impacts — Under the no-action alternative the proposed connecting trail to the Wabash Cannonball Trail would result in a negligible impact on land uses. The floodplain below the monument is currently being maintained as tallgrass prairie, through periodic mowing on a three- to five-year basis by Metroparks crews. These actions would be consistent with local land use plans.

Conclusion — Under alternative A no new land uses would impact the site, and no boundaries would be changed. Land uses would remain consistent with local land use plans.

Park Operations and Energy Consumption

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society. Continuing to manage park operations from Side Cut Metropark would be cost-effective and efficient. Continuing periodic roadside and interior litter pickup using volunteers would reduce demands on park staff, resulting in a minor beneficial impact on park operations. No additional staffing is proposed for interpretation.

Energy consumption from maintenance operations would continue at current levels, with a negligible impact.

Cumulative Impacts — The planned development of a trail around the monument unit, which would link to the Wabash Cannonball Trail, would be an additional responsibility for Metroparks staff, a minor adverse impact.

As described for the battlefield unit, prevailing winds from the southwest could blow trash into the site. Removing this trash would be a constant maintenance concern.

Conclusion — Continuing to manage park operations from an offsite location would be cost-effective over the long term and would have a negligible impact on the monument. Energy consumption would be related to the daily maintenance operations, with a minor impact. Recreation trail maintenance would be an additional responsibility for Metroparks staff, a minor adverse impact.

Socioeconomic Impacts

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society. Because present operations and visitor use would continue, there would be no additional impact on the local or regional economy. Free access to the site would be maintained, and interpretation of the site would be given when requested.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," with minor to moderate impacts on the local and regional economies as a result of proposed commercial / retail development. Under the no-action alternative the proposed connecting trail to the Wabash Cannonball Trail would result in a negligible to minor, beneficial, long-term socioeconomic impact to the area.

Conclusion — No additional economic impacts from actions at the monument are expected under this alternative. Cumulative impacts on the local and regional economies would be minor to moderate as a result of proposed commercial / retail development.

FORT MIAMIS

Cultural Resources

Archeological Resources. *Analysis* — Intensive archeological excavations at Fort Miamis from 1981 to 1984 revealed intact fabric, including footing trenches, sill logs, log wall fragments, and wooden flooring, in undisturbed contexts. Thus, not only the visible earthworks, but also remains of the fort's barracks and other structures, are present.

Decades of recreational sledding down the fort's earthen remains have resulted in substantial wear and tear, potentially affecting archeological resources. Other forms of active recreation have also contributed to the degradation of the archeological record. Prohibiting certain recreational activities at the site (all-terrain bike riding and sledding) would curtail further impacts to archeological resources. But alternative A would not discourage other active recreational uses at Fort Miamis, and visitors would continue to have access to the walls and ditches, resulting in the potential for further damage to archeological resources, even if on a more limited scale. The overall impact would be minor, adverse, and long term.

No active measures would be taken to diminish looting at the site. Current patrols have little effect on present levels of recreation and even less effect on looting since the parking area is some distance from the ditches and earthen walls of the fort site. Any loss of archeological resources due to looting could be a major, adverse, permanent impact.

Cumulative Impacts — Even though some recreational uses would stop under this alternative, the potential for looting would remain a problem. Depending on the types of artifacts removed, the cultural significance of the site would be compromised, possibly diminishing contributions to regional history.

Conclusion — Alternative A would result in minor to major, adverse, long-term impacts on archeological resources at Fort Miamis due to access to fort remnants and potential looting. On a cumulative basis, depending on the types of artifacts removed, the cultural significance of the site would be compromised, possibly diminishing contributions to regional history.

There could be a major adverse impact on archeological resources due to looting under this alternative. Therefore, the archeological integrity of the Fort Miamis site could be impaired.

Cultural Landscape. *Analysis* — Trees on the hillside to the river give visitors a false impression of the landscape that existed in 1794 at the fort. The hillside was originally cleared in order to provide an open, defensive view of the river.

Portions of the cultural landscape at Fort Miamis have eroded into the Maumee River, although substantial original fabric of the earthen portions of Fort Miamis are still present. Existing interlocking steel sheet piling erosion control structures along the Maumee River would remain in place under this alternative to protect the edge of the fort from further erosion. However, any further erosion would result in a major, adverse, long-term impact.

Present levels of patrolling are not preventing excavations at the fort site, and there is recent evidence of systematic looting. The no-action alternative would not increase the current level of patrols, and further unauthorized digging into the earthworks and ditches would adversely affect the cultural landscape of the fort, resulting in a moderate, long-term impact.

Cumulative Impacts — Adjacent development also detracts from the landscape that would have been present in 1794, a minor, adverse, long-term impact.

Conclusion — Alternative A would have a minor, adverse, long-term impact to the cultural landscape of Fort Miamis because active recreational uses would be stopped, but visitors would still have access to the fort's earthen fortifications. Further erosion of the site into the Maumee River would result in a minor to major adverse impact on the cultural landscape at Fort Miamis. Adjacent development would continue to intrude on the historic cultural landscape.

If large portions of the fort were lost, resulting in a major adverse impact, park resources and values would be impaired.

Historic Structures. *Analysis* — As previously mentioned, intensive excavations in the early 1980s revealed intact fabric (footing trenches, sill logs, log wall fragments, and wooden flooring) in undisturbed contexts. In addition to the visible earthworks, there are remains of the fort's barracks and other structures.

Decades of recreational sledding down the fort's earthen remains have resulted in substantial wear and tear on the historic resource. Prohibiting certain recreational activities at the site (all-terrain bike riding and sledding) would curtail further deterioration of the original fabric. However, if those regulations were not enforced, major adverse impacts could continue. Alternative A would not discourage other active recreational uses at Fort Miamis, resulting in the potential for further damage to archeological resources. Visitors would have access to the walls and ditches, continuing the potential for resource degradation, even if on a more limited scale than previously.

The present interlocking steel sheet piling erosion control structure would be maintained along the Maumee River to protect the edge of the fort from further erosion. If this structure failed, and more of the hillside eroded into the river, the impact would be major and adverse.

Cumulative Impacts — Any further loss of historic remnants of the fort would destroy a visible link to formative events in our nation's history, particularly related to the Old Northwest Territory. This would be a major adverse impact.

Conclusion — Prohibiting certain recreational activities at the site (all-terrain bike riding and sledding) would curtail further deterioration of the original fabric of the fort. However, if those regulations were not enforced, major adverse impacts could continue. Any loss of the hillside due to erosion as a result of the failure of the erosion control structure along the Maumee River would result in a major adverse impact. On a cumulative basis the loss of historic fort remnants would destroy a visible link to historic events important to the growth and development of the United States.

The loss of any additional historic fabric of the fort due to recreational activities or erosion would be a major adverse impact, which would impair park resources and values.

Sacred Sites. No sacred sites have been identified by any group at Fort Miamis, and no impacts on sacred sites are expected. Park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Visitation at the fort is expected to remain the same as now, with no increase in vehicular access. Vehicle emissions are expected to remain low.

Cumulative Impacts — Vehicular traffic on River Road and Michigan Street would continue to have a negligible impact on air quality at the fort site.

Conclusion — Impacts on air quality would be negligible to minor, as would cumulative impacts.

There would be no major adverse impacts on air quality, and there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Since recreational sledding and all-terrain bike use are currently prohibited, these activities would theoretically no longer cause impacts to soils and water quality. However, if the regulations were not enforced, current impacts would continue.

Cumulative Impacts — In conjunction with past, present, and reasonably foreseeable future actions, water quality is expected to remain good as soils are stabilized, and any adverse effects from future development would be short term and negligible.

Conclusion — Alternative A would result in long-term, negligible impacts on soil and water resources. If regulations prohibiting biking and sledding were not enforced, impacts would continue.

There would be no major adverse impacts on soil or water resources, and there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative A natural resources would be protected from any further degradation, and earthworks and hillside slopes would be stabilized with native species. Wildlife monitoring would continue to determine what species are there and what impacts are caused by deer . The area would continue to be maintained through mowing and tree trimming. The current prohibition on sledding and all-terrain bicycling on the grounds would stop further impacts on vegetation from these activities. Herbicides would be applied periodically to control invasive and exotic plants within the wooded hillside and boundaries. Wildlife favoring shrub / scrub edges and riparian corridors would benefit from the wooded edges.

Cumulative Impacts — Because of active and successful fire suppression efforts, fuel loads have increased across the landscape, particularly on the fort hillside, although the amount is small, and resulting impacts are negligible.

Conclusion — Under the no-action alternative the vegetation and wildlife at Fort Miamis would reflect current conditions. Prohibiting all-terrain bicycle use and sledding would reduce adverse impacts to vegetation on the hillsides, resulting in a minor, beneficial, long-term impact; however, if regulations were not enforced, adverse impacts would continue.

There would be no major adverse impacts on native vegetation or wildlife, and there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative A access to Fort Miamis would be similar to current conditions, and no additional impacts are expected. Access from US 24 is by way of Michigan Street south to River Road. A small 10-space paved parking area is at River Road and Michigan Street at the northwest corner of the site. There is a two-car parking area at the foot of Corey Street at the Maumee River. TARTA bus service is offered along River Road, with a bus stop two blocks away.

Cumulative Impacts — Currently, TARTA bus service is offered to Fort Miamis using two existing routes, seven days per week from 6 A.M. to 9 P.M., and through its Maumee "Call-A-Ride" program. This service results in a minor beneficial impact. No other cumulative impacts on access and transportation have been identified for the Fort Miamis unit.

Conclusion — No additional impacts on the local or regional transportation systems are expected. Establishing a bus stop at the fort site would have a minor beneficial impact on access.

Visitor Interpretation and Experience. *Analysis* — Under alternative A Fort Miamis would remain open to the public; however, certain recreational activities (all-terrain bike riding and sledding) would be prohibited. One interpretive plaque near the parking area tells visitors a little about the fort and the conflict of the 1790s for the Old Northwest Territory. No information about the fort's earthworks or construction would be provided.

Over the long term present management would result in minor to moderate adverse impacts on the visitor experience because no opportunities would be provided for visitors to learn about the fort's historic significance.

Cumulative Impacts — Similar to the cumulative impacts at the other two units, the lack of interpretive information about Fort Miamis and the struggle for the Old Northwest Territory would have a moderate, adverse, long-term cumulative effect in terms of limiting visitor knowledge about regional history. At Fort Miamis, sound levels are expected to range from negligible to minor due to the residential area and secondary street classification of River Road with its 25 mph speed limit.

Conclusion — Alternative A would have a minor to moderate, adverse, long-term impact on the visitor experience at the Fort Miamis site because no opportunities would be provided for visitors to learn about the fort's historic significance. The unit would remain open to the public; however, certain recreational activities (all-terrain bike riding and sledding) would be prohibited. The lack of interpretive information would have a moderate, adverse, long-term cumulative impact.

Land Use

Analysis — The fort is operated by the City of Maumee and has been used for many years for picnicking, all-terrain bicycle riding, sledding on the earthworks, and bank fishing along the Maumee River.

Under alternative A Fort Miamis would be managed to protect the natural and cultural resources from impairment by prohibiting sledding and all-terrain bicycle riding on the embankments and grounds. Mowing and maintenance would continue. Other than restricting certain recreational uses, the fort would continue to be managed as it is now. This would be consistent with local plans.

A cooperative dialog would be maintained with surrounding landowners, but no new land uses would impact the site, and no boundaries would be changed.

Cumulative Impacts — The City of Maumee currently has no comprehensive plan for the fort or for adjacent properties. Within the viewshed areas of the fort, Metroparks has restricted development within Audubon Islands State Nature Preserve and on an upstream island; the islands are managed as natural areas with removal of invasive plants and prescribed burns. Metroparks is also in the process of acquiring the 3-acre island that is owned by the 577 Foundation in the Maumee River to preserve it in its undeveloped state. These actions would result in a moderate beneficial impact.

Conclusion — Prohibiting bicycling and sledding would be consistent with local plans. Restricting development on islands visible from Fort Miamis would result in a moderate beneficial impact.

Park Operations and Energy Consumption

Analysis — Under alternative A park operations and maintenance would continue to be managed from Side Cut Metropark. No additional staff would be added for onsite operations.

Security at the Fort Miamis unit would include periodic walking inspections and patrols by Metroparks. Using volunteers for periodic roadside and interior litter pickup would reduce demands on park staff, a beneficial impact.

Energy consumption for routine maintenance operations would be the same as current conditions, with a negligible impact.

Cumulative Impacts — No cumulative impacts have been identified.

Conclusion — Park operations would be located off site, resulting in a negligible impact. No additional staff would be added for onsite operations. Energy consumption for routine maintenance activities would be negligible.

Socioeconomic Impacts

Analysis — The fort has been used for many years for picnicking, all-terrain bicycle riding, sledding on the earthworks, and bank fishing along the Maumee River. While these uses provide recreational opportunities for local citizens, no effort is made to attract tourists interested in the historic events. Thus, there are no economic benefits associated with the fort. Current prohibitions on past recreational activities to protect the historic landforms would adversely affect local residents, but protecting historic landforms would have a beneficial effect in terms of preserving resources for future enjoyment and education.

Cumulative Impacts — No cumulative effects have been identified.

Conclusion — The no-action alternative would have no effect on the local economy. Current prohibitions on past recreational activities to protect the historic landforms would adversely affect local residents, but there would be no additional economic impact. Preventing further damage to historic landforms would have a beneficial effect in terms of preserving resources for future enjoyment and education.

UNAVOIDABLE ADVERSE IMPACTS

This section summarizes the adverse impacts that could not be avoided in the implementation of this alternative. These are the impacts that would remain after mitigation was implemented. Under the no-action alternative the possible loss of archeological resources due to looting would be an unavoidable, adverse impact. The continued erosion of the hillside at Fort Miamis would create an unavoidable, adverse impact.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section discusses the effects of short-term use of resources resulting from implementing any of the alternatives on the long-term productivity of vegetation and wildlife. No short-term uses would adversely affect long-term productivity. Allowing natural succession throughout most of the battlefield would enhance the natural productivity of this land.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

An irreversible commitment of resources cannot be changed once it occurs except possibly in the extreme long term; an irretrievable commitment means the resource is lost for a period of time and is unlikely to be recovered or reused. Under the no-action alternative any loss of archeological resources as a result of looting would be an irreversible and irretrievable loss.

IMPACTS OF ALTERNATIVE B — PREFERRED ALTERNATIVE

IMPACTS COMMON TO ALL PARK UNITS

Natural Resources

Regional Air Quality. *Analysis* — As described on page 113, visitation to Fallen Timbers Battlefield and Fort Miamis National Historic Site is projected to be similar to that at Fort Meigs, about 34,000 per year. Assuming that use patterns would be similar to those at Fort Necessity National Battlefield because of a similar historic time period, summer would be the peak use season (44% of annual visitors), followed by fall (27%), spring (23%), and winter (6%). During the peak season there would be a maximum of 82 cars per day (conservatively estimating only two people per vehicle), or 10.9 vehicles per hour during the peak hours of the day (assumed to be between 9 A.M. and 3 P.M.). It was further assumed that all visitors would visit all three park units. This level of use would have a negligible impact on regional air quality.

Cumulative Impacts — Air quality is generally good in the region, and there were no exceedances of the current ozone standard in 2002 (Toledo Department of Public Utilities 2002). Impacts on air quality from vehicle emissions, wood burning for home heating, industrial activity, and a wastewater treatment plant nearby would continue to affect air quality at about current levels.

Conclusion — Impacts on regional air quality from increased visitation (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts from other air pollution sources would continue to affect air quality, but the contribution to these impacts from use at Fallen Timbers Battlefield and Fort Miamis National Historic Site would be negligible.

Because impacts would not be major and adverse, there would be no impairment of park resources or values.

Vegetation: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of one federally listed threatened plant species, the eastern prairie fringed orchid. After extensive surveys (see appendix D), this species has not been found in any of the park units, and no impacts are expected.

Cumulative Impacts — Management for the eastern prairie fringed orchid would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements and specific restrictions to preserve it.

Conclusion — No impacts on federally listed plant species are expected because no species have been found. Because there would be no impact on threatened or endangered plant species, there would be no impairment of park resources or values.

Wildlife: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of two federally listed endangered animal species (the Indiana bat and the Karner blue butterfly), one threatened species (the bald eagle), and one federal candidate species (the eastern massasauga). No impacts on the bald eagle are expected because no nest sites have been identified on or near any park lands, and there is no habitat for the massasauga. Measures proposed by

the U.S. Fish and Wildlife Service to protect habitat for the Indiana bat and the Karner blue butterfly include the following:

- *Indiana bat* — If any trees exhibiting characteristics favored by the bat occur in the park units, they and the surrounding trees will be saved wherever possible. If they must be cut, they will not be cut between April 15 and September 15, when the bats could occur in the project area. If desirable trees are present and if this time restriction is unacceptable, then mist net or other surveys will be conducted in June or July to determine if bats are present.
- *Karner blue butterfly* — Native lupine plants would be conserved wherever possible, and such plants would be incorporated into site restoration efforts, green areas, and other project designs where possible.

Cumulative Impacts — Management for these species would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements for these species within the region and specific restrictions to preserve them.

Conclusion — No impacts on federally listed animal species are expected.

Because there would be no impact on threatened or endangered animal species, there would be no impairment of park resources or values.

Partnerships

Analysis — Under alternative B additional efforts would be pursued to develop partnerships to support interpretive programs and park operations at the battlefield. Present agreements with the Ohio Historical Society and Heidelberg College would be continued. The following additional agencies or groups have expressed a desire to become involved in park programs: the Fallen Timbers Battlefield Preservation Commission, the Lucas County / Maumee Valley Historical Society, the Toledo Metropolitan Area Council of Governments, the American Indian Intertribal Association, the Maumee Valley Heritage Corridor, Parks Canada, and South Wales Borders. Over the long term the impact of such relationships would be moderate and beneficial, depending on the extent of involvement and financial support.

Cumulative Impacts — Involving a variety of groups in park-related programs would foster a greater sense of stewardship and community support for park activities. Improved interpretive programs would have a moderate, beneficial, long-term, regional impact.

Conclusion — Over the long term the impact of partnerships with other governmental agencies and private organizations would be moderate and beneficial, depending on the extent of involvement and financial support. Involving various groups in park-related programs would foster a greater sense of stewardship, more community involvement, and improved interpretive programs, with moderate, beneficial, long-term, regional impacts.

Socioeconomic Impacts

Analysis. In order to project future visitation at Fallen Timbers Battlefield and Fort Miamis National Historic Site, several similar sites were researched. Within the national park system, Fort Necessity National Battlefield most closely resembles the future Fallen Timbers Battlefield and Fort Miamis National Historic Site in terms of content, interpretation, and time period. Fort Necessity's records

indicate that the site averages some 89,000 visitors per year, with an economic impact of some $2.42 million, or approximately $27.20 per visitor. (For a breakdown of these numbers, please see appendix E.)

However, Fort Necessity is an established site, and to arrive at more reasonable numbers for the opening of Fallen Timbers, this study focused on the newly renovated Fort Meigs, a Ohio Historical Society site that added a new museum and gift shop complex in 2002. The fort is located directly across the Maumee River from Fallen Timbers. Staff at Fort Meigs estimated that visitation was 34,000 people in its first full year since renovation. Using the economic impact model for Fort Necessity indicates that this level of use at Fallen Timbers in its first years of operation would result in an annual economic impact of about $924,500.

Construction is estimated to cost $3.4 million under this alternative, and individual firms and workers could benefit from these projects. However, the projects would likely be spread over several years, and impacts on the local and regional economies would be negligible, compared to total personal income in Lucas County of $12.9 billion in 2001.

Impacts on the local and regional economies from park operations and maintenance would be negligible at all units.

Cumulative Impacts — Proposed commercial / retail development west of Jerome Road could draw additional tourists into the vicinity of the national historic site, with the greatest impact on the battlefield and the monument because of their proximity. Economic impacts are expected to be minor to moderate.

Conclusion — Compared to $12.9 billion in total personal income in Lucas County in 2001, the economic impacts on the local and regional economies of annual visitor expenditures (estimated at $924,500 per year), construction costs (about $3.4 million over several years), and park operations and maintenance would be negligible over the long term. Cumulative impacts of regional development are expected to be minor to moderate.

FALLEN TIMBERS BATTLEFIELD

Cultural Resources

Archeological Resources. *Analysis* — Under alternative B the designation of 167.89 acres of the battlefield as a resource protection zone would help ensure the preservation of archeological resources; this would be the largest protected area under any alternative. Snowmobile and ATV use would be prohibited. Alternative B would allow greater visitation near the battlefield resources as a result of constructing a 1.25-mile trail and four interpretive areas or nodes (totaling 14 ac.). This would potentially increase the possibility of disturbing archeological deposits; however, use would be restricted to the higher intensity historical interpretation zone, minimizing the amount of area subject to adverse impacts. The increased presence of park personnel and an improved capacity for regular patrolling would greatly reduce the possibility of looting.

While several archeological surveys have been conducted to gain a better understanding of the battle, important material on the site remains undisturbed. Improved technology in the future could substantially increase knowledge of the historic events with less destructive means. By ensuring the protection of archeological resources in place for future evaluation and study, alternative B would have a major, beneficial, long-term impact on the archeology of the site.

Under this alternative a visitor center and an outdoor interpretive area with kiosks (totaling 5.37 ac.) would be constructed in areas previously occupied by private residences on Jerome Road. Archeological surveys would be conducted prior to the finalization of construction plans in order to minimize resource impacts. Development of the higher intensity historical interpretation zone would be preceded by an archeological survey to determine whether any resources associated with either prehistoric use or the battle could be damaged or lost. Mitigation measures would be taken as appropriate.

Housing and conserving artifacts found at the battlefield at the visitor center would increase access for display and research, a minor, beneficial, long-term impact.

Cumulative Impacts — As described for alternative A, the construction of the pedestrian bridge across US 24 would be preceded by an archeological survey to ensure that no resources would be adversely affected and that appropriate mitigating measures were taken.

Continued archeological investigations at the battlefield by authorized institutions could add to the knowledge of historic events. This would potentially have a major, beneficial, long-term impact on regional history.

Conclusion — Alternative B would ensure the protection of archeological resources on 167.89 acres at the battlefield, the largest area of any alternative. Establishing a higher intensity historical interpretation zone could result in limited resource impacts in this zone. However, prohibiting inappropriate recreational activities, confining visitor use to the higher intensity historical interpretation zone, conducting archeological surveys before any ground disturbance, and increasing onsite monitoring and patrols would all help preserve archeological resources in place and provide opportunities for future research. Overall, alternative B would result in major, beneficial, long-term impacts on archeological resources.

In terms of cumulative effects, any increase in knowledge about historic events would contribute to regional history, resulting in potentially major, beneficial, long-term impacts. The planned pedestrian / bicycle bridge over US 24 would be preceded by an archeological survey and appropriate mitigation, and no adverse effects are expected.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative B approximately 167.89 acres of the battlefield would be managed as a resource protection zone, with the goal of eventually restoring a landscape more typical of what existed in 1794. The former farmland portion of the property would be allowed to return to wet woods by identifying the locations of drainage tiles and blocking them, allowing the surface hydrology of the site to return to natural cyclic levels. This would create a more historical appearance for those walking through the site as well as those passing by (pedestrians, bicyclists, or motorists). Allowing visitor access only on the small trail system would create a minor impact on the cultural landscape while still letting visitors experience the battlefield.

Constructing three small interpretive nodes connected by a trail within the higher intensity historical interpretation zone would have a minor impact on the ravine and woods.

Visitor facilities would be built on previously disturbed property along the outer edge of the site, affecting a total of 5.37 acres. This location would not adversely affect the cultural landscape of the battlefield.

A transitional zone along the outer edges of the battlefield would help prevent adjacent uses from intruding on the cultural landscape, a moderate, beneficial impact. Metroparks would continue to purchase residential housing from willing sellers along the western edge of the battlefield and remove the structures, thus reducing nearby impacts on the battlefield.

In summary, gradually returning the battlefield area to more historic conditions would have a major, beneficial, long-term effect on the cultural landscape. Providing a higher intensity historical interpretation zone with a 1.25-mile paved trail through the woods and near the ravine would occupy a very small percentage of the total battlefield area, with a minor, adverse, long-term impact. Constructing a visitor center in a previously disturbed area would not detract further from the overall cultural landscape of the site. Screening adjacent, incompatible uses would have a moderate, beneficial, long-term impact.

Cumulative Impacts — Cumulative impacts would be similar to alternative A except that a transitional zone along US 24 would screen the site from vehicle traffic. The construction of a pedestrian bridge over US 24 and a trail would increase site visitation and have a minor effect on the cultural landscape of the battlefield.

Conclusion — Alternative B would have major, beneficial, long-term impacts on the cultural landscape of the Fallen Timbers Battlefield as a result of reestablishing wet wood conditions through natural succession on 167.89 acres. Providing a higher intensity historical interpretation zone with a 1.25-mile paved trail through the woods and near the ravine would occupy a very small percentage of the total battlefield area, with a minor, adverse, long-term impact. Screening adjacent incompatible uses would result in moderate, beneficial, long-term impacts.

There would be no major adverse impacts on the cultural landscape of the battlefield, and there would be no impairment of park resources or values.

Sacred Sites. No sacred sites have been identified by any group at the battlefield site. However, prehistoric or historic graves could be discovered during future development. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the battlefield, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Construction projects would potentially result in short-term, localized impacts; mitigating measures, such as applying water or dust control agents, would be used to minimize dust.

As described under "Impacts Common to All Park Units" on page 133, there would be an estimated 82 cars per day or 11 cars per hour between 9 A.M. and 3 P.M. in the peak season. This level of use would result in negligible adverse effects on air quality.

Cumulative Impacts — Cumulative impacts on air quality would be the same as alternative A. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Air quality within the battlefield unit along US 24 would continue to be affected by vehicle emissions, with the transitional zone helping mitigate

air pollution effects by partially blocking the transport of pollutants by prevailing winds. Some impacts on air quality could be expected from any projected traffic increases as a result of commercial / retail development west of Jerome Road. Overall, the levels of emissions from all sources would increase, but any change is expected to have negligible to minor adverse impacts.

Conclusion — Construction-related impacts would be localized, minor, adverse, and short term. Impacts from additional visitor traffic to the battlefield (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts on air quality would be negligible to minor. A transitional zone would help mitigate the effects of traffic on US 24.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative B natural wet woodland conditions would be reestablished over the long term on 167.89 acres in the resource protection zone. Most soil types within the battlefield are listed as hydric, and a few are soils listed as non-hydric with hydric components. Impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns, and reestablishing native vegetation through natural succession. To restore natural drainage patterns, which would favor hydric conditions, current drainage patterns would be mapped, and drain tiles would be blocked. As described for alternative A, conducting baseline samples to determine background pH and agricultural chemicals present in the soil would provide an early indication of any adverse effects that might have to be mitigated.

Impacts on soils from construction activities in the developed zone would result in localized, adverse, minor, short-term impacts on a total of 5.37 acres of the soils in and adjacent to the developed zone and the higher intensity historical interpretation zone.

As described for alternative A, stopping agricultural production and associated agri-chemical application would reduce sediments and fertilizer levels in adjacent drainage areas. Revegetation would slow erosion and help improve water quality by providing woodland plants that act as natural filters. Nonnative and exotic species would be controlled by using only those herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality. Construction could increase surface runoff and erosion; however, due to the limited extent of the proposed development (20 ac. total), and the use of best management practices to control erosion, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Overall impacts on water resources would be beneficial and negligible.

As described for the no-action alternative, approximately 160 acres or 88% of the Fallen Timbers Battlefield consists of soil types that are listed as "prime where drained" (Lucas County Soil and Water Conservation District, Feb. 13, 2003). The use of the approximately 160 acres of the Fallen Timbers Battlefield, of which 120 acres were in agricultural production and the remaining 40 acres were wooded, represents 0.02%, or a very small portion of the total prime agricultural land in Lucas County (Lucas County Soil and Water Conservation District, Nov. 2003). The impact of removing this land from agricultural production would be negligible.

Cumulative Impacts — No cumulative impacts on soils have been identified. Water quality is expected to remain good, and any adverse effects from proposed development would be short term and negligible. As described for alternative A, proposed commercial / retail development would divert water from Whidden Ditch to an intermittent stream to the southwest, which would result in no impacts to

the battlefield. Runoff along US 24 is diverted into Whidden Ditch, which crosses the highway by means of a 24-inch culvert at the outlet of the large central ravine. Periodic maintenance by the Ohio Department of Transportation removes trash and debris, which might block the culvert.

Conclusion — Long-term impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns (which favor the hydric soils on site), and reestablishing native vegetation through natural succession on 167.89 acres in the resource protection zone. Impacts on soils from construction activities would affect 20 acres and would result in localized, minor, adverse, short-term impacts. Overall impacts on water resources would be beneficial and long term. Taking 120 acres of prime farmland out of production would have a negligible impact.

There would be no major adverse impacts on soil or water resources or values; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative B a resource protection zone of 167.89 acres would be established where vegetation would be allowed to revert through natural succession to a maple / ash / oak swamp woodland. In order to avoid damaging archeological resources, promoting natural succession would be done by controlling invasive plants rather than proactively planting native species. While the impact to vegetation and wildlife of reestablishing natural conditions would be major and beneficial over the very long term (perhaps 50 years), for the 15–20 year time frame of this general management plan, this impact would be minor. Periodic herbicide applications would be carefully applied to control invasive and exotic plants. As described for alternative A, herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy, would be used to control invasive plants. Such herbicides have a short-term toxicity specific to invasive plants. The impact would be moderate in reducing invasive and exotic plants to a maintenance-control level, which would allow native species to dominate.

Potentially hazardous trees, storm damage, and deadfall trees would be trimmed only along the higher intensity historical interpretation zone. Within the resource protection zone, deadfall trees and logs would be allowed to decompose naturally.

Vegetation would be removed for approximately 1.25 mile of trail and for 7 acres of interpretive areas for the ravine overlook, the battlefield, and the Native American perspective, all part of the higher intensity historical interpretation zone. A total of about 14 acres would be affected. The removal of vegetation along the trail alignment would slightly increase the risk of invasive plant spread.

Park and visitor facilities would be provided in previously disturbed areas along the east side of Jerome Road, so there would be no additional impact to vegetation and wildlife.

Visitor use impacts would be limited to the 14-acre higher intensity interpretation zone. In this zone a boardwalk trail (1.25 miles long) would be built not only to encourage visitors to stay on the trail, but also to minimize trail maintenance needs that could be expected in the restored wetter environment. This boardwalk would also prevent visitors from trampling and compacting soils. Therefore, while there would be some negligible, adverse, short-term impacts to vegetation and wildlife during construction of the trail (about 20 acres), there would be no detectable long-term impacts from visitor use of this trail.

The proposed trail in the higher intensity historical interpretation zone would be located 300 feet to the east of a viable population of the nodding rattlesnake-root, a state-listed threatened species. This population would not be adversely affected by the trail. The proposed trail alignment would be surveyed to ensure that no individual threatened plants would be affected. Continued monitoring and

surveys of plant and animal species would ensure that no threatened, endangered, or sensitive species would be inadvertently affected.

Neotropical migrating birds would be attracted to the woodland and fields as they reverted to shrub / scrub then to wet woodland. Wildlife favoring wet woodlands would benefit from an expanded woodland area, which would triple over time from the present 60 acres to about 173 acres.

Alternative B would result in the removal of the least amount of vegetation of the action alternatives and the least impact from visitor use. Direct and indirect impacts on vegetation as a result of use and construction would be adverse, negligible, and long term. Overall impacts on vegetation and wildlife habitat as a result of restoring more natural conditions on 167.89 acres (the most of any action alternative) would be beneficial, moderate, and long term.

Cumulative Impacts — Under alternative B early succession woodland and young age classes of trees would continue to be represented, and stands more than 60 years would remain underrepresented due to previous timber harvests. Active and successful fire suppression efforts would continue the trend of increasing fuel loads, particularly in this woodland because no active management would be undertaken. Proposed retail / commercial development would further reduce and fragment wildlife habitat and alter vegetation patterns. Acquisition of additional inholdings along Jerome Road and adjacent to the battlefield would mitigate these effects by allowing the establishment of succession woodland and a corridor connection across US 24 to Fallen Timbers State Monument and the Maumee River.

Conclusion — Reestablishing natural vegetation patterns on approximately 167.89 acres would result in moderate, long-term, beneficial impacts on vegetation and wildlife. Direct and indirect impacts on vegetation as a result of visitor use and construction would affect a total of 20 acres, with negligible, adverse, short- and long-term impacts. Cumulative impacts would be beneficial, negligible, and long term.

There would be no major adverse impacts on vegetation or wildlife resources; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative B access to the battlefield would be similar to current conditions. Transportation options would include private vehicles and buses, as well as walking and bicycling. Drivers would continue to arrive at the site from I-80/I-90 and I-475 by way of US 24. Metroparks would coordinate plans with the Toledo Metropolitan Area Council of Governments, the regional transit authority, and the Ohio Department of Transportation.

Metroparks, in cooperation with the City of Maumee, would develop a park entry along Jerome Road, and parking would be provided adjacent to the new visitor center and at the group entrance. This could encourage further interest in and access to battlefield facilities and cause a minor impact on local transportation systems as a result of increased traffic. During construction of the visitor center, there could be a minor impact on local traffic.

As described for "Air Quality," on one day in the peak season there would be an average of 82 vehicles per day traveling to Fallen Timbers Battlefield. This number is based on the assumption that there would be 34,000 visitors per year, 44% of whom would visit during the summer (based on use patterns at Fort Necessity National Battlefield), or about 165 people per day. Conservatively assuming two people per car gives a total of 82 cars per day. It can also be assumed that 80% of the use would occur

between 9 A.M. and 3 P.M., resulting in about 11 cars per hour, or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. The number of vehicles could be reduced if visitors to the monument used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there. The projected level of vehicular access to the battlefield would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

Trail connections to the monument and the fort, as well as the Maumee River Road trail, would result in a minor impact on local transportation from additional visitation.

Cumulative Impacts — As described for the no-action alternative, in 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

Proposed retail / commercial development west of Jerome Road could have moderate adverse impacts on the local and regional transportation system.

TARTA pledges its full support for the development of the Fallen Timbers Corridor utilizing Fort Miamis, the Fallen Timbers State Monument, and the proposed Fallen Timbers Battlefield. For the battlefield, TARTA would offer service immediately with one bus route and if demand merited, additional service via a second route. Service to all sites within Maumee would be offered seven days per week from 6 A.M. to 9 P.M. (James Gee, General Manager, TARTA, e-mail to Metroparks, Sept 5, 2003). The impact for the battlefield would be beneficial because an alternate means of access would be provided.

Connections to the Wabash Cannonball Trail along Jerome Road, along with access to visitor facilities, would create a negligible impact on transportation facilities. In addition, a link to the south over a bicycle/pedestrian bridge over US 24 would provide access to the monument and the River Road bicycle trail.

Conclusion — Visitors coming to Fallen Timbers Battlefield by vehicle would have negligible to minor, adverse, long-term impacts on the local and regional transportation system (about 11 cars per hour could be expected for six hours a day in the peak summer season). However, this number could be reduced if visitors to the monument used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there, or if they used public transportation. During construction there could be minor adverse impacts on local traffic. Cumulative transportation impacts related to the development of proposed commercial / retail development west of Jerome Road could have moderate adverse impacts on the local and regional transportation system.

Visitor Interpretation and Experience. *Analysis* — Alternative B would provide interpretive programs at the visitor center and an outdoor interpretive area that would be geared to telling people about the historic events and their importance. Visitors would have access to the battlefield by way of the higher intensity historical interpretation zone, with interpretive waysides and guided tours providing site-specific information. While the experience on the battlefield would be more reflective, the interpretive program would present all the relevant stories. Exhibiting artifacts recovered from the battlefield, Fort Miamis, and Fallen Timbers Monument at the visitor center would provide further educational opportunities. Opening the battlefield for year-round visitation would increase visitor use.

This alternative would provide the least extensive trail development on the battlefield in order to protect resources. A single paved interpretive trail would lead to an overlook adjacent to the ravine, continue to the area of the main U.S. battle line, and on to the area identified as the Indian battle line. Interpretive signs along the trail would provide visitors with further information. To complement the interpretive messages, areas would be provided for more reflective experiences. Visitors could also participate in guided interpretive walks and other special programs. These actions would result in a major, beneficial, long-term impact on visitor experiences because visitors would learn about the importance of events at the site through offsite educational programs and onsite interpretive signs and tours, and they would have opportunities for reflective experiences on site.

A transitional zone along the outer edges of the battlefield would help prevent modern intrusions from marring visitor experiences at the battlefield site, particularly along US 24.

Cumulative Impacts — Interpretive programs would link the events surrounding the Battle of Fallen Timbers with events at other sites in the region. Visitors would have more opportunities to learn about the struggle for the Old Northwest Territory in an integrated fashion. This would be a moderate, beneficial impact. Visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact.

Conclusion — Alternative B would have a major, beneficial, long-term impact on visitor experiences at Fallen Timbers Battlefield because interpretive facilities and programs would be provided to tell visitors about the importance of the historic events, visitors would have access to parts of the battlefield, and opportunities would be provided for more reflective experiences. On a cumulative basis, linking the events surrounding the battle with events at other regional sites would give visitors more opportunities to learn about the struggle for the Old Northwest Territory, a moderate beneficial impact.

Land Use

Analysis — An effort would be made to coordinate plans with local governments such as the City of Maumee and its Municipal Planning Commission, as well as the Toledo-Lucas County Plan Commissions, to ensure that actions would be consistent with local land use plans to the extent possible.

Managing the battlefield unit under the proposed management zones would be consistent with the City of Maumee's 1998 *Comprehensive Plan Update,* which designates the battlefield as an archeological / historic site, and Monclova Township's 1998 *Land Use Plan,* which indicates transition / buffer zones to the west of the site and commercial/industrial zones north of the site along Monclova Road. The majority of the interior portion of fields, woods, and ravines would be managed as a resource protection zone, with a transitional zone along the outside edges of the unit to screen adjacent incompatible activities and uses. A higher intensity historical interpretation zone would consist of a trail from the visitor center to the ravine overlook in the center of the park. Farming would cease, and the open fields would be allowed to revert to native vegetation through natural succession. Management methods would encourage native species, and keep invasive plants to a minimum.

Cumulative Impacts — As described for alternative A, City of Maumee and Monclova Township land use plans would be relied on to prevent impacts to the battlefield as a result of proposed commercial / retail development west of Jerome Road. The Maumee *Comprehensive Plan Update* ("Exhibit A — General Concepts") shows no changes to Jerome Road, which forms a portion of the western boundary of the battlefield. Approximately 0.5 mile to the west, a Briarfield Boulevard extension from US 20A / Illinois Avenue to the Jerome Road interchange of US 24 is proposed. An intersection at Russell Road

should reduce local traffic on Jerome Road. Under the plan Jerome Road is shown as a "buffer" between the battlefield and development to the west ("Exhibit B").

Conclusion — Managing the Fallen Timbers Battlefield as primarily a resource protection zone where more natural vegetative conditions would be reestablished, and providing for visitor use, would not result in any conflict with local land use plans.

Park Operations and Energy Consumption

Analysis — Under alternative B providing park maintenance operations through Side Cut Metropark would be efficient and cost-effective. Additional park staff would be required for daily operations at the visitor center, the visitor kiosk, and the battleground. Coordinating partnerships with various agencies and organizations interested in the site would require additional staff time. Operations, such as litter pickup along roadsides and in the interior, would be accomplished using volunteers where possible to reduce requirements on park staff. Total Productive Maintenance (TPM) methods would ensure the most efficient use of resources. Impacts of increased staffing would be moderate over the long term.

Allowing natural succession throughout most of the site (167.89 ac.) would reduce intensive maintenance operations, a moderate beneficial impact. Programs to control invasive and exotic species would be labor intensive, a minor adverse impact.

Under this alternative an onsite visitor center just east of Jerome Road, on the west side of the unit, would better enable staff to monitor operations and provide security. Providing increased security through the Metroparks ranger staff, supplemented by the Maumee Police Department and the Lucas County Sheriff's Department during off hours, would be a moderate, adverse impact in terms of park staffing and operations. However, this would be offset by better protection of battlefield resources, a major, beneficial impact.

Maintenance operations and related fuel consumption would occur primarily in the higher intensity historical interpretation zone and the developed zone, resulting in a negligible impact. Where possible, fuel-efficient diesel mowers would be used with soy-based fuels.

Cumulative Impacts — Prevailing winds from the southwest could blow trash into the site from the proposed commercial / retail development across Jerome Road to the west. Vegetation in the proposed transitional zone (including native grasses and shrubs) would help catch such wind-blown litter, so cleanup efforts would be confined to a smaller area compared to alternative A, a minor beneficial impact.

Conclusion — Locating park maintenance operations off site would be more efficient in terms of personnel and equipment. Impacts of increased staffing would be moderate over the long term. Allowing natural succession throughout most of the site (167.89 ac.) would reduce intensive maintenance operations, a moderate, beneficial impact. Energy consumption would be related to routine maintenance operations, resulting in minor, short- and long-term impacts.

Socioeconomic Impacts

Analysis — Constructing a visitor center to the west of the battlefield along Jerome Road on Metroparks land would result in a minor, short-term benefit to the local economy as a result of workers

staying in the local area and using commercial establishments. Construction companies could also hire local workers, which would temporarily benefit the local economy. Construction costs at the battlefield are estimated at about $3 million and would likely be spread over several years. Impacts on the local and regional economies would be negligible compared to total personal income in Lucas County (estimated at $12.9 billion in 2001).

Visitors would have access to visitor facilities on a daily basis. School programs would be established, and visiting students would be encouraged to return with their families. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors could be approximately $924,500, a negligible beneficial impact locally and regionally.

Cumulative Impacts — Cumulative impacts would be similar to those described in "Impacts Common to All Park Units." Proposed commercial / retail development west of Jerome Road could draw additional tourists to the battlefield area, with minor to moderate beneficial impacts on the local and regional economies. Local land use plans would help prevent any adverse impacts to the battlefield.

Conclusion — Constructing visitor facilities (estimated cost of about $3 million) and opening the battlefield to visitation (estimated annual expenditures of $924,500) would likely result in negligible, beneficial, short- and long-term impacts on the local and regional economies. As described under "Impacts Common to All Park Units," cumulative impacts of regional development would be minor to moderate and beneficial.

FALLEN TIMBERS STATE MONUMENT

Cultural Resources

Archeological Resources. *Analysis* — Under alternative B most of the Fallen Timbers State Monument would be managed as a reflective area, similar to present conditions. The parking area would be maintained, and a visitor kiosk would be provided. Construction could have negligible adverse impacts on archeological resources. Establishing a transitional zone could result in negligible adverse impacts. Any potential impacts would be reduced by conducting an archeological survey before any ground disturbance and taking appropriate mitigating measures. This would lessen the likelihood that archeological resources associated with either prehistoric or historic use would be damaged or lost.

As described for alternative A, visitor use would gradually increase at the site, causing more wear and tear. However, because the site was designed to accommodate visitation, this increased use would have negligible impacts on the archeological and historic resources.

The battlefield visitor center would house and conserve any artifacts found at the site, enhancing access to the artifacts for research as well as display.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Archeological surveys for the US 24 bridge before any construction would add to the knowledge base for the site and potentially for the region. There would be no other cumulative impacts under this alternative.

Conclusion — Constructing a visitor kiosk and establishing a transitional zone could result in negligible, adverse, long-term impacts on archeological resources. Preconstruction surveys and evaluations would mitigate any adverse effects. Other than construction of the recreation trail and the US 24 bridge, no cumulative impacts were identified.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative B most of Fallen Timbers State Monument would be managed as a reflective area (5.36 ac.), thus preserving the monument's original design intent. This would be a moderate, beneficial, long-term impact.

A small parking area with a kiosk (0.68 ac.) would be provided along the US 24 side of the unit. Minimal development in the parking area would have a negligible, adverse, long-term impact on the original design of the cultural landscape.

To screen incompatible adjacent uses and activities, a transitional zone (2.19 ac.) would be established around three sides, resulting in a minor, beneficial, long-term impact for monument visitors, but vegetation would also obscure views of the monument from off site, an adverse impact in terms of the original design intent.

The construction of a recreation trail around the edge of the site would not substantially detract from the cultural landscape; the impact would be minor, adverse, and long term.

Cumulative Impacts — The construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact on the original design of the monument landscape. A viewshed protection area outside the monument and toward the Maumee River would enhance the cultural landscape at the monument by ensuring that the river valley below remained in a natural state reminiscent of the historic period. The impact would be moderate, beneficial, and long term.

Conclusion — Preserving the original landscape design of most of the monument area (5.36 ac.) would be a moderate, beneficial, long-term impact. The transitional zone would have a minor, beneficial, long-term impact within the monument because incompatible uses and activities would be screened; however, outside the monument views would be obscured, conflicting with the original intent of the monument's design and resulting in a minor, adverse, long-term impact. In terms of cumulative impacts, the construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact. A viewshed protection area outside the monument would preserve historic views toward the Maumee River, a moderate, beneficial, long-term impact.

There would be no major adverse impacts on the cultural landscape of Fallen Timbers State Monument, and there would be no impairment of park resources or values.

Historic Structures. As described for alternative A, the monument, which underwent cleaning and preservation treatment in 1998, would be maintained and cleaned as necessary. No adverse impacts are expected.

Sacred Sites. *Analysis* — Alternative B would prohibit inappropriate recreational uses at the monument. Walkers, runners, and bikers would be diverted around the site on a recreation trail that would be screened by vegetation from the reflective portion of the site. The transitional zone between the parking area and US 24 would lessen the impact of traffic and enhance a reflective atmosphere. These actions would have a moderate, beneficial, long-term impact for the setting of Turkeyfoot Rock.

The small kiosk in the parking area would not intrude on the reflective nature of the site. Interpretive signs at the kiosk would educate visitors to sacred uses of the monument, potentially helping foster a more respectful attitude.

Cumulative Impacts — No longer allowing use of the monument by local schools for recreational activities would have a minor beneficial effect on the site's character. Protecting the viewshed of the Maumee River valley would enhance the setting of the monument, a moderate, beneficial, long-term impact.

Conclusion — Alternative B would have a moderate, beneficial, long-term impact on Turkeyfoot Rock because inappropriate recreational activities would be prohibited and interpretive signs would educate visitors about sacred uses, potentially helping foster a more respectful attitude.

There would be no major adverse impacts on sacred sites at the monument, and there would be no impairment of park resources or values.

Natural Resources

Air Quality. *Analysis* — Construction activities on a total of 0.68 acre under alternative B would potentially result in an increase in dust from soil exposure and disturbance. However, this effect would be localized and would occur only during construction. In addition, mitigating measures (water or dust control agents) would be used to minimize dust. Impacts on air quality would be negligible, adverse, and short term.

Increased visitation would lead to a negligible to minor increase in the number of vehicles at the monument, but parking would be limited to the existing area. As described for the battlefield unit, there could be a maximum of 82 cars per day arriving at the monument. Assuming peak hours of use would be between 9 A.M. and 3 P.M., about 11 cars per hour would arrive at and leave the monument. Impacts from vehicle emissions would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Airborne sewer odor from the Lucas County wastewater treatment plant, 0.25 mile to the southwest, is noticeable in the monument depending on the season and wind direction. The transitional zone would somewhat mitigate the effects of these odors by partially blocking the transport of pollutants by prevailing winds.

As described for alternative A, in 2000 average daily traffic on I-475 and US 24 near the monument was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Traffic on US 24 would continue to have a negligible to minor adverse impact in the monument.

Prescribed burning by Metroparks to maintain prairie vegetation in the floodplain below the monument would be conducted in accordance with local fire management plans; adverse impacts are expected to be negligible to minor and short term.

Some impacts on air quality could be expected as a result of commercial / retail development and related traffic increases west of Jerome Road.

Overall, the levels of emissions from all sources are expected to increase slightly, but any change would be negligible to minor.

Conclusion — Alternative B would result in a negligible, adverse, short-term impact on air quality as a result of construction activities. Long-term impacts associated with visitors coming to the monument by vehicle (estimated at about 82 cars per day during the peak summer season) would be negligible. Impacts of traffic on US 24 would be partially mitigated by vegetation in the transitional zone, which

would help block the transport of pollutants by prevailing winds, and cumulative impacts would be negligible to minor and adverse over the long term.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative B most of the monument would be managed as a reflective zone, similar to current conditions, except a 2.19-acre transitional zone would be established around three sides of the unit to screen adjacent uses. Construction activities at the parking area, the visitor kiosk, and the recreation trail on the northwest and northeast edges of the unit, plus establishing the transitional zone, would affect a total of 2.87 acres. Using best management practices would control soil erosion, and adverse impacts on soils would be negligible.

Invasive plants would be controlled by periodic herbicide applications, using only herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy, as described for the battlefield. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality.

Proposed trails would have the potential to impact water quality through ground disturbance, which would result in increased surface runoff and soil erosion. However, due to the limited extent of new construction, and the use of best management practices, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Parking lot runoff would continue to be diverted to the existing roadway storm sewer and to Whidden Ditch to the northeast. Overall impacts on water quality would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Road salt washed off of US 24 could locally affect soils along the monument boundary; no other cumulative impacts to soils have been identified. Water quality is expected to remain good.

Conclusion — Alternative B would result in a negligible, adverse, short-term impact on soils and water quality as a result of construction activities affecting a total of 0.68 acre in the developed zone, plus 2.19 acres in the transitional zone. Cumulative impacts would be negligible.

There would be no major adverse impacts on soil or water resources or values; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — No state or federally endangered plant species have been identified at the monument. Under alternative B vegetation and wildlife at the monument would be maintained in current conditions: the designed landscape in the 5.36-acre reflective zone would be routinely mowed and trees in the upland and slope areas cared for. Allowing native forbs and grasses on the hillside and along the boundary edges, and maintaining the hillside by periodic mowing and prescribed burning, would have negligible, beneficial, long-term impacts. Dead standing native trees would be allowed to remain as cavity nesting areas, unless they presented a direct hazard to visitors.

Vegetation would be removed for 0.25 mile of recreation trail along the edges of the unit, extending from Fallen Timbers Lane to the eastern corner. Some vegetation would be removed within the transitional zone, and native vegetation would be planted to screen adjacent uses. Removal of vegetation would slightly increase the risk of invasive plant spread, which would be controlled by periodic herbicide applications. Only herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy would

be used because such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and do not affect water quality. No impacts are expected on wildlife. Long-term impacts on vegetation would be negligible and adverse.

Cumulative Impacts — The floodplain prairie below the monument and outside the park, extending to the Maumee River, would be managed as a viewshed protection area. Prescribed fire would enhance the establishment of native prairie grasses and forbs in the floodplain, decreasing fuel loads. Wildlife favoring woodland edges and grasslands would benefit from plantings in the transitional zone and existing edge areas. Cumulative impacts would be moderate, beneficial, and long term.

Conclusion — Maintaining existing conditions in the majority of the monument under alternative B would result in no additional impacts on vegetation and wildlife. Allowing native forbs and grasses on the hillside and along the boundary edges would have negligible, beneficial, long-term impacts. Removing limited amounts of vegetation for trail development would have negligible, adverse impacts. On a cumulative basis, maintaining the existing floodplain prairie outside the park would result in moderate, beneficial, long-term impacts.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative B access to the monument would be similar to current conditions. A small parking area would continue to be accessed from Fallen Timbers Drive by way of the Jerome Road exit from US 24.

As described for the battlefield, it is estimated that an average of 82 vehicles per day would travel to the Fallen Timbers State Monument during the peak summer season. This equates to about 11 cars per hour between 9 A.M. and 3 P.M., or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. However, this number of vehicles at the monument could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 instead of driving to the monument. The projected level of use would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

The recreation trail zone would provide a connection between the battlefield and the monument, as well as the Maumee River corridor and Fort Miamis, by way of a paved bicycle trail and a bridge over US 24. A canoe launch would be available at the river to travel downstream to Fort Miamis. Connections to the battlefield and the fort, as well as the Maumee River Road trail, would result in a minor impact on local transportation from additional visitation.

During construction activities associated with the monument, there could be a minor adverse impact on local traffic.

Cumulative Impacts — The impacts of alternative B, combined with the impacts of past, present, and reasonably foreseeable future actions, would be similar to those described for the battlefield unit and alternative A. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers State Monument was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this

alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

Other actions include proposed commercial / retail development west of Jerome Road, which could have moderate impacts on local and regional transportation systems.

Joint efforts by Metroparks and the city of Maumee to develop a bus stop along Fallen Timbers Road could encourage further interest and access to the monument, resulting in a moderate, beneficial impact because of improved access.

Connections to the Wabash Cannonball Trail along Jerome Road would provide access to the monument, with a negligible impact on access and transportation.

Conclusion — Alternative B could result in negligible to minor, adverse, long-term impacts on the local and regional transportation systems (11 cars per hour, the same as for the battlefield); however, this number could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 to visit the monument instead of driving, or if they used public transportation. Connections to the battlefield and the fort by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction activities at the monument, there could be a minor impact on local traffic. Similar to alternative A, cumulative impacts related to proposed commercial / retail development could be moderate. Establishing a bus stop at the monument could have moderate beneficial impacts. Impacts on access to the monument from trail connections to the Wabash Cannonball Trail would be negligible.

Visitor Interpretation and Experience. *Analysis* — Under this alternative the Fallen Timbers State Monument would remain open to the public for educational and reflective uses. Active recreational uses (biking and jogging) would be moved to a recreation trail around the site so they would not intrude on experiences within the monument. A kiosk in the parking area would provide interpretive information, while more reflective experiences would be encouraged throughout the main portion of the site.

Interpretive information at the kiosk would explain about the site. Other interpretive media relating to the monument would be found at the battlefield visitor center. Maintaining the original landscape design would illustrate to visitors how the Battle of Fallen Timbers was memorialized during the 1930s and 1940s.

A transitional zone around the site would screen adjacent incompatible uses from visitors within the monument, enhancing their experiences.

Cumulative Impacts — Information about other regional sites would help visitors learn about local, regional, and national history, with a minor to moderate beneficial impact. Visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact. Efforts to maintain the historic viewshed of the Maumee River valley from the monument would further enhance the potential for reflective experiences, a moderate, beneficial, long-term impact.

Conclusion — Providing interpretive information at a kiosk and fostering reflective experiences throughout the main portion of the monument, with no intrusions from recreational uses, would have moderate, beneficial, long-term impacts. Screening incompatible adjacent uses would enhance onsite visitor experiences. Over the long term cumulative impacts would be minor to moderate and beneficial, with more information about other regional historic sites and efforts to protect the viewshed of the Maumee River valley.

Land Use

Analysis — As described for the battlefield unit, planning efforts would be coordinated with the Ohio Historical Society, the City of Maumee and its Municipal Planning Commission, as well as the Toledo-Lucas County Plan Commissions, to ensure that any actions were consistent with local plans to the extent possible. The monument would continue to be operated by Metroparks under an agreement with the Ohio Historical Society.

Land use at the monument would essentially remain the same as now. This management concept would be consistent with present land use plans. No changes in adjacent land use are expected, and present boundaries would be maintained.

Cumulative Impacts — As described under the no-action alternative, the proposed connecting trail to the Wabash Cannonball Trail would result in a negligible impact to land uses. A viewshed protection area in the floodplain outside the park, which would be managed as floodplain prairie, would maintain the historic open appearance. These actions would be consistent with local land use plans.

Conclusion — Under alternative B monument lands would be managed similar to present conditions. The addition of a kiosk in the parking area and a recreation trail would be consistent with local plans.

Park Operations and Energy Consumption

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society. Managing park operations from Side Cut Metropark would be cost-effective and efficient, similar to the no-action alternative. Under this alternative maintenance responsibilities would increase slightly because the kiosk and perimeter fence, as well as the monuments and the landscaping, would be the responsibility of the Metroparks staff. Additional staffing would be provided for visitor services and partnership coordination, which would be headquartered at the battlefield unit. Impacts on staffing would be minor. Continuing periodic roadside and interior litter pickup using volunteers would reduce demands on park staff, a negligible, beneficial impact.

Energy consumption from maintenance operations would continue at about current levels, with negligible impacts.

Cumulative Impacts — The impacts of alternative B, combined with the impacts of past, present, and reasonably foreseeable future actions, would be similar to those described for alternative A. Similar to the battlefield unit, trash blown into the site would be stopped by vegetation and structures in the transitional zone, so cleanup efforts would be confined to a smaller area, a minor beneficial impact.

Maintaining the previously proposed trail around the monument unit, which would link to the Wabash Cannonball Trail, would be an additional responsibility for Metroparks staff, a minor adverse impact.

Conclusion — Continuing to manage park operations from an offsite location would be cost-effective over the long term and would have a negligible impact on the monument. Energy consumption would be related to daily maintenance operations, with a negligible impact. Maintaining the recreation trail, in addition to the kiosk, the monuments, and the perimeter fence, would be an additional responsibility for Metroparks staff, a minor adverse impact.

Socioeconomic Impacts

Analysis — Construction costs at the monument are estimated at about $100,000, which could be spread over one or two years. As described under "Impacts Common to All Park Units," visitor expenditures would potentially total approximately $924,500 in the first years of operation, based on 34,000 visitors. Free access to the site would be enhanced by a recreation trail to the battlefield. Schools would be encouraged to visit, with students urged to return with their families. Overall, economic impacts would be negligible, beneficial, and short and long term, both locally and regionally.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units" and alternative A, with minor to moderate, beneficial impacts. Constructing the connecting recreation trail, in conjunction with the interpretive kiosk, could result in a negligible, beneficial, short-term impact on the local economy.

Conclusion — Construction costs at the monument (estimated at about $100,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Cumulative impacts, as described under "Impacts Common to All Park Units," would range from minor to moderate as a result of commercial / retail development.

FORT MIAMIS

Cultural Resources

Archeological Resources. *Analysis* — Under the preferred alternative the majority of Fort Miamis (4.59 ac.) would be managed for historic preservation. All forms of active recreation would be prohibited, and access within this zone would be restricted to those with written permission from the managing entity. The potential for looting would be reduced through an increased presence of park personnel and regular patrols. Visitor awareness of the delicate archeological nature of the site would be conveyed at an interpretive kiosk on the other side of River Road, fostering more of a conservation ethic among visitors. Altogether these protection effects would have a major, beneficial, long-term impact on archeological resources at Fort Miamis.

Preconstruction archeological surveys and evaluations would be carried out before any ground disturbance associated with constructing two elevated platforms near the earthen remains of Fort Miamis, widening and resurfacing the trail to the fort, and establishing more natural conditions in the historic preservation zone. Although these actions could impact the site's archeology, impacts would be mitigated by the knowledge gained through the archeological survey. The platforms would also allow visitors to view the remains of the fort from above, thereby protecting the earthworks from further wear and tear associated with pedestrian traffic, and more natural conditions would help protect resources from future development-related impacts. These measures would lessen the likelihood that archeological resources associated with either prehistoric use or the fort's occupation would be damaged or lost.

Housing and conserving artifacts found at the fort unit at the main visitor center at the battlefield would make them readily available for research and study.

This alternative would provide the highest degree of protection to archeological resources at the fort.

Cumulative Impacts — Substantially reducing the potential for looting could protect the value of archeological resources at the site for future study, with major beneficial contributions to regional history.

Conclusion — The preferred alternative would have major, beneficial, long-term impacts on archeological resources at Fort Miamis. This would result from managing most of the site (4.59 ac.) for historic preservation, restricting visitors to trails and two overlooks, prohibiting active recreational uses, educating visitors about the delicate nature of the resource, and increasing the presence of park personnel and patrolling to lessen the potential for looting. Any adverse effects potentially associated with construction projects and establishing more natural conditions in the historic preservation zone would be mitigated through archeological surveys and evaluations before any ground disturbance. With regard to cumulative impacts, ensuring the preservation of resources for future study could result in major beneficial contributions to regional history.

There would be no major adverse effects on archeological resources, and there would be no impairment of park resources and values.

Cultural Landscape. *Analysis* — Managing most of the Fort Miamis unit as a historic preservation zone (4.59 ac.), with limited visitor access and no recreational activities, would provide a more historic landscape scene. Visitor access would only be allowed in the higher intensity historical interpretation zone, with two viewing platforms for visitors to see the fortification. Access to the fortifications would only be allowed by permit and for research purposes. Constructing elevated platforms near the fort remnants would detract from the cultural landscape to a minor degree. Halting further degradation of the fort earthworks and repairing the landforms associated with the fort would have major, beneficial, long-term impacts in terms of reestablishing the historic landscape scene, with minor adverse impacts from the two viewing platforms.

The hillside down to the Maumee River would be cleared of invasive species and dead trees, but the hillside would not be cleared completely, as it was historically. Native grasses and forbs would be established to anchor soils and prevent hillside erosion. This would be a minor, adverse, long-term impact to the historic landscape.

Providing a small interpretive kiosk across River Road would not impact the cultural landscape. Educating visitors about the delicate nature of the resource would help foster a need to protect the resources. The resulting impacts of these actions would be minor to moderate, beneficial, and long term.

Under this alternative research would be coordinated through the U.S. Army Corps of Engineers and ODNR Coastal Zone Management Program to investigate removal of the interlocking steel sheet piling along the Maumee River and replacing it with a more natural "tree root-wattle" method to hold riverbank soils in place. Such structures would reduce erosion and sedimentation in the Maumee River. This would have a moderate, beneficial, long-term impact on the cultural landscape.

Cumulative Impacts — Adjacent development detracts from the landscape that would have been present in 1794, a minor, adverse, long-term impact, as described for alternative A. Establishing a viewshed protection area outside the park boundaries and including the islands in the Maumee River would help preserve the historical appearance of the landscape, a moderate beneficial impact.

Conclusion — Managing most of the Fort Miamis unit as a historic preservation zone (4.59 ac.) and limiting visitor access to the higher intensity historical interpretation zone (0.57 ac.) would result in a major, beneficial, long-term impact on the historic cultural landscape. A more natural erosion control method along the Maumee River would have a moderate beneficial impact. Minor adverse impacts would result from two viewing platforms adjacent to the fort and from not returning the hillside down to the Maumee River to its historical appearance as a cleared area. On a cumulative basis, adjacent development would continue to intrude on the historic cultural landscape, a minor adverse effect.

Establishing a viewshed protection area would help preserve the historical appearance of the river landscape, a moderate, beneficial impact.

There would be no major adverse impacts on the cultural landscape at Fort Miamis, and there would be no impairment of park resources or values.

Historic Structures. *Analysis* — Prohibiting inappropriate recreational activities at the site would stop further deterioration of the original fabric, a major, beneficial, long-term impact.

Replacing the present erosion control structure along the Maumee River with a tree-root-wattle system would help control erosion from the hillside and protect the remnants of the fort structure.

Cumulative Impacts — Protecting historic remnants of the fort would maintain a visible link to formative events in our nation's history, a major beneficial impact.

Conclusion — Prohibiting inappropriate recreational activities at Fort Miamis and controlling erosion along the riverbank would protect the historic remnants of the fort, a major, beneficial, long-term impact. On a cumulative basis protecting the remaining landforms would maintain a visible link to formative events in our nation's history.

Because there would be no major adverse impacts, there would be no impairment of park resources or values.

Sacred Sites. No sacred sites have been identified by any group at Fort Miamis. However, prehistoric or historic graves could be discovered during future development. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the fort, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Constructing a 0.3-mile trail to an overlook of the fort could generate dust from soil exposure and disturbance. However, impacts would be localized and would only occur during the construction period, with mitigating measures (e.g., applying water or dust control agents) used to minimize dust. Construction-related impacts on air quality would be minor, adverse, and short term.

Increased visitation would lead to a minor increase of vehicles at the fort, with parking across River Road at the visitor kiosk. As described for the other two units, there could be a maximum of 82 cars per day arriving at the fort. Assuming peak hours of use would be between 9 A.M. and 3 P.M., about 11 cars per hour would arrive at and leave the fort. Impacts from vehicle emissions would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Vehicular traffic on River Road and Michigan Street would continue to have a negligible impact on air quality at the fort. Vegetation in the historic preservation zone would help mitigate the effects of vehicle emissions by acting as a natural buffer and partially blocking the transport of pollutants by prevailing winds. Overall, the levels of emissions from all sources would increase slightly, and impacts would be negligible to minor.

Conclusion — Construction impacts at Fort Miamis would have localized, minor, adverse, short-term impacts. Over the long term alternative B would have a negligible adverse impact on air quality as a result of more visitors coming to the site by vehicle (estimated at about 82 cars per day during the peak summer season). Cumulative impacts would be negligible to minor.

There would be no major adverse impacts on air quality, and there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative B a total of 4.59 acres in the historic preservation zone would be re-seeded with native plant species to prevent erosion. This would result in a moderate, beneficial, long-term impact on soils and water quality. Enforcing regulations prohibiting sledding and all-terrain bicycling would protect embankments from further erosion.

Adverse impacts to soils would be limited to constructing a 0.3-mile trail from the existing parking area to an overlook of the fort, affecting 0.57 acre; all other facilities would be located off site. The existing parking area (0.28 ac.) on site would be maintained. Construction could increase surface runoff and erosion; however, due to the limited extent of the proposed development, and the use of best management practices to control erosion, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Trail construction impacts on soils and water resources would be minor and short term.

Erosion control measures along the Maumee River would protect the edge of the fort property from any further erosion.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Water quality is expected to remain good, and any adverse effects from proposed development outside the park would be short term and negligible.

Conclusion — Alternative B would result in minor, adverse, short-term impacts on soils and water resources from constructing a 0.3-mile trail, affecting 0.57 acre. Reseeding 4.59 acres in the historic preservation zone with native plant species would help prevent erosion in the future, resulting in a moderate, beneficial, long-term impact on soils and water quality. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources, and there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative B designating most of Fort Miamis as a historic preservation zone and reseeding it with native species would mean that most of the area would return to species more typical of 1794; invasive and nonnative vegetation would be controlled. The wooded hillside would become less wooded than under the no-action alternative. A hillside with areas of trees, openings, prairie, and native shrub/scrub vegetation would encourage riparian corridor species near the Maumee River, especially birds of prey and Neotropical migrating birds, which favor such habitats. Removing the steel sheet piling along the Maumee River and replacing it with a more natural tree-root-wattle system would create habitat for fish and wildlife, a minor beneficial impact. Vista maintenance would require the ongoing clearing of selected vegetation, a negligible adverse impact.

Turf would be removed in a 600-foot linear area along the higher intensity historical interpretation zone on either side of an existing blacktop trail and at the fort landform remnant. A second higher intensity historical interpretation zone would lead from the entry point around the northwest and northeast edges of the site to a boat dock on the Maumee River; there would be an interpretive

overlook at the fort site off Corey Street. Less than 0.25 acre of vegetation would be removed at the overlook, reducing nutrient capital and increasing the risk of invasive plant spread. In the rest of the higher intensity historical interpretation zone existing pavement and sidewalk would be used, with no additional impact. Tree trimming would be limited to hazards identified along the trail. Standing dead trees along the hillside would be allowed to remain to provide cavity nesting areas for birds.

No additional impacts would occur in the 0.28-acre developed area, which has been previously disturbed.

Altogether, removal of 0.57 acre of vegetation would have a negligible, adverse, long-term impact in the fort unit. Compared to the other action alternatives, alternative B would cause the least disturbance at Fort Miamis. All other direct and indirect impacts on vegetation would be minimal.

Cumulative Impacts — Natural succession in the hillside area, supplemented with seeds planted from local genotypes, would result in a beneficial, minor, long-term impact because native vegetation communities would be reestablished. Wildlife favoring riparian corridors would benefit from the habitat provided along the Maumee River.

Conclusion — Managing most of the Fort Miamis unit as a historic preservation zone and reseeding with native species would result in a moderate, beneficial, long-term impact on vegetation and wildlife. Removing 0.57 acre of vegetation for the higher intensity historical interpretation zone would have a negligible adverse impact. Cumulative impacts would be minor, beneficial, and long term.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Access to Fort Miamis under alternative B would be similar to current conditions, with visitors arriving by vehicle (by way of Michigan Street from US 24), bus, or on foot. Access would also be provided from the Maumee River as part of the linkage plan for the three park units. Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation.

The small parking area at River Road and Michigan Street would remain as the main parking area, and a visitor kiosk would be added. Construction activities could cause a minor impact on local traffic.

As described for the battlefield and the monument units, it is estimated that an average of 82 vehicles per day would travel to Fort Miamis during the peak summer season. This equates to about 11 cars per hour between 9 A.M. and 3 P.M., or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. The projected level of use would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

From the Maumee River pedestrian access to the fort would be available from the small boat dock at the foot of Corey Street, which could be used by canoeists or others water recreationists, a minor beneficial impact. A two-way water shuttle would be provided from June through September from the main dock at Harrison Park.

Cumulative Impacts — Joint efforts by Metroparks, the City of Maumee, and TARTA to develop a bus stop on River Road could encourage further interest in the fort. This would be a minor beneficial impact since there is a bus stop two blocks away. No other cumulative impacts have been identified.

Conclusion — Alternative B could have negligible to minor, adverse, long-term impacts on the local and regional transportation systems (assuming 11 cars per hour, for six hours a day, during the peak summer season, the same as for the battlefield and the monument). Establishing a bus stop at the fort site would have a minor beneficial impact. Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction there could be a minor impact on local traffic.

Visitor Interpretation and Experience. *Analysis* — Allowing no visitor access or recreational activities in the historic preservation zone would ensure the protection of fort resources for future generations. Interpretation would be provided at a kiosk across River Road from the fort unit in order to avoid impacting the site. The kiosk and signs would provide a brief orientation to the fort. Within the unit access to the fort would be by way of a trail to an overlook; a second overlook would be accessible from Corey Street. Trailside signs would provide interpretive information, and occasional walking tours would offer a different type of opportunity. More in-depth interpretation regarding the British at the fort and their interaction with the Native confederacy and Wayne's legion would occur at the battlefield visitor center.

Interpretation at Fort Miamis under the preferred alternative would greatly enhance visitor understanding of the struggle for the Old Northwest Territory, resulting in a major, beneficial, long-term impact.

Cumulative Impacts — Enhanced interpretive programs at the national historic site would benefit regional interpretation about the fight for the Old Northwest Territory, a moderate to major beneficial impact. At Fort Miamis sound levels are expected to range from negligible to minor due to the residential area and secondary street classification of River Road with its 25 mph speed limit, the same as the no-action alternative.

Conclusion — The preferred alternative would have a major, beneficial, long-term impact on visitor experiences at the Fort Miamis site because of prohibiting inappropriate recreation and constructing elevated interpretive platforms near the fort's earthworks. Interpretation would greatly enhance visitor understanding of the struggle for the Old Northwest Territory on a regional level, resulting in a moderate to major, beneficial, long-term impact.

Land Use

Analysis — Planning efforts would be coordinated with the City of Maumee and its Municipal Planning Commission to ensure that actions were consistent with local plans to the extent possible. The fort has been used for many years for picnicking, all-terrain bicycle riding, sledding on the earthworks, and bank fishing along the Maumee River. Prohibiting active recreational uses and stabilizing the historic fort remnants would help ensure their long-term preservation, a major beneficial impact. This would be the highest and best use of this nationally significant site, far exceeding the foreclosure of recreational uses, which could take place at many other locations throughout the region where they would not damage a nationally significant historic site. Adjacent land uses are not expected to change, and present boundaries would remain.

Managing the entire interior portion as a historic preservation zone, with public access restricted to the higher intensity historical interpretation zone, would be consistent with local land use plans.

Cumulative Impacts — As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties. Establishing a viewshed protection area for Audubon Islands in cooperation with the Perrysburg Planning Commission and the ODNR Division of Natural Areas and Preserves would help preserve the 1794 cultural and historic landscape setting. Metroparks has restricted development on the islands, which are being managed as a natural area, with removal of invasive vegetation and prescribed burns. Metroparks is also in the process of acquiring the 3-acre island that is owned by the 577 Foundation in the Maumee River to preserve it in its undeveloped state. These actions would complement the management of Fort Miamis as a historic preservation zone, resulting in moderate, beneficial, long-term impacts.

Conclusion — Managing most of the fort site for historic preservation would help ensure the long-term protection of this National Historic Landmark, a major beneficial impact. This would be the highest and best use of this nationally significant site. No boundaries would be changed. Land use management plans would be consistent with local plans. On a cumulative basis, establishing a viewshed protection area for the Audubon Islands in cooperation with the Perrysburg Planning Commission and other entities would help preserve the 1794 cultural and historic landscape setting, complementing the management of Fort Miamis as a historic preservation zone. This would result in moderate, beneficial, long-term impacts.

Park Operations and Energy Consumption

Analysis — Under alternative B managing most of the Fort Miamis unit as a historic preservation zone would reduce maintenance requirements over the long term, although initially efforts would be required to stabilize and restore the historic earthworks. Coordinating partnerships with various agencies and organizations interested in the site would likely be headquartered at the battlefield visitor center. Using volunteers for periodic roadside and interior litter pickup would reduce demands on park staff, a beneficial impact. Modest increases in park staffing would be required, resulting in a minor impact.

Allowing the formerly mowed interior portions of the site to revert to native grasses and forbs would only require annual mowing to prevent woody growth, so less fuel would be used for maintenance. Energy consumption for routine maintenance would have a negligible impact.

Cumulative Impacts — No cumulative impacts have been identified.

Conclusion — Park operations would continue to be managed from off site, with a negligible impact. Modest increases in park staffing would be required, resulting in a minor impact. Energy consumption for routine maintenance would be reduced over the long term as a result of allowing interior portions to revert to native vegetation, a minor long-term impact.

Socioeconomic Impacts

Analysis — Economic impacts would be the same as those described under "Impacts Common to All Park Units," with a minor to moderate beneficial impact on the local and regional economies. Free access to the site would be maintained. Impacts would result from preserving the historic fort remnants, which are nationally significant, and providing a visitor kiosk and parking area across River Road from the fort. Interpretive programs would be available for the general public by request. Schools would be urged to visit, and as at the other units, students would be encouraged to return with their families. Stopping active recreational activities at the fort site (such as all-terrain bike riding and sledding) would have an adverse impact on local users but no additional economic impact.

During construction there would be minor economic benefits over the short term from workers staying in the local area and using commercial establishments. Construction companies could also hire local workers, temporarily benefiting individuals and local businesses. Construction costs of about $135,000 at the fort would have a negligible, beneficial, short-term impact on the local and regional economies.

As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors to all park units could be approximately $924,500, a negligible, beneficial impact locally and regionally over the short and long term.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies. As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties, thus no cumulative effects have been identified.

Conclusion — Construction costs at the fort (estimated at about $135,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Prohibitions on recreational activities such as sledding and mountain biking would adversely affect local residents, but there would be no additional economic impact. Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies.

UNAVOIDABLE ADVERSE IMPACTS

Soils and vegetation removed in the development zone (totaling 6.43 acres for all three units) would be an unavoidable adverse impact.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Returning the majority of the battlefield unit to natural vegetative conditions would enhance long-term productivity.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There would be no irreversible and irretrievable commitments of resources.

ALTERNATIVE C — MULTIPLE INTERPRETIVE OPTIONS

IMPACTS COMMON TO ALL PARK UNITS

Natural Resources

Regional Air Quality. *Analysis* — As described on page 113, visitation to Fallen Timbers Battlefield and Fort Miamis National Historic Site is projected to be similar to that at Fort Meigs, about 34,000 per year. Assuming that use patterns would be similar to those at Fort Necessity National Battlefield because of a similar historic time period, summer would be the peak use season (44% of annual visitors), followed by fall (27%), spring (23%), and winter (6%). During the peak season there would be a maximum of 82 cars per day (conservatively estimating only two people per vehicle), or 10.9 vehicles per hour during the peak hours of the day (assumed to be between 9 A.M. and 3 P.M.). It was further assumed that all visitors would visit all three park units. This level of use would have a negligible impact on regional air quality.

Cumulative Impacts — Impacts on air quality from vehicle emissions, wood burning for home heating, industrial activity, and a wastewater treatment plant nearby would continue to affect air quality at about current levels. Air quality is generally good in the region, and there were no exceedances of the current ozone standard in 2002 (Toledo Department of Public Utilities 2002). Regional air quality is expected to remain good.

Conclusion — Impacts on regional air quality from increased visitation (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts for other air pollution sources would continue to affect air quality, but the contribution to those impacts from use at Fallen Timbers would be negligible.

Because impacts would not be major and adverse, there would be no impairment of park resources or values.

Vegetation: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of one federally listed threatened plant species, the eastern prairie fringed orchid. After extensive surveys (see appendix D), this species has not been found in any of the park units, and no impacts are expected.

Cumulative Impacts — Management for the eastern prairie fringed orchid would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements, with specific restrictions to preserve it.

Conclusion — No impacts on federally listed plant species are expected because no species have been found.

Because there would be no impact on threatened or endangered plant species, there would be no impairment of park resources or values.

Wildlife: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of two federally listed endangered animal species (the Indiana bat and the Karner blue butterfly), one threatened species (the bald eagle), and one federal candidate species (the

eastern massasauga). No impacts on the bald eagle are expected because no nest sites have been identified on or near any park lands, and there is no habitat for the massasauga. Measures proposed by the U.S. Fish and Wildlife Service to protect habitat for the Indiana bat and the Karner blue butterfly include the following:

- *Indiana bat* — If any trees exhibiting characteristics favored by the bat occur in the park units, they and the surrounding trees will be saved wherever possible. If they must be cut, they will not be cut between April 15 and September 15, when the bats could occur in the project area. If desirable trees are present and if this time restriction is unacceptable, then mist net or other surveys will be conducted in June or July to determine if bats are present.
- *Karner blue butterfly* — Native lupine plants would be conserved wherever possible, and such plants would be incorporated into site restoration efforts, green areas, and other project designs where possible.

Cumulative Impacts — Management for these species would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements for these species within the region and specific restrictions to preserve them.

Conclusion — No impacts on federally listed animal species are expected.

Because there would be no impact on threatened or endangered animal species, there would be no impairment of park resources or values.

Partnerships

Analysis — Partnerships at the battlefield unit would be similar to those described for alternative B. Present agreements with the City of Maumee, the Ohio Historical Society, and Heidelberg College would be continued. Agreements would be pursued with the following additional agencies or groups: the Fallen Timbers Battlefield Preservation Commission, the Lucas County / Maumee Valley Historical Society, the Toledo Metropolitan Area Council of Governments, the American Indian Intertribal Association, the Maumee Valley Heritage Corridor, Parks Canada, and South Wales Borders. Over the long term the impact of such relationships would be moderate and beneficial, depending on the extent of involvement and financial support.

Cumulative Impacts — Similar to alternative B, involving a variety of groups in park-related programs would foster a greater sense of stewardship and community support for park activities. Improved interpretive programs would have a moderate to major, beneficial, long-term impact throughout the region.

Conclusion — Over the long term the impact of partnerships with other governmental agencies and private organizations would be moderate and beneficial, depending on the extent of involvement and financial support. Involving a variety of groups in park-related programs would foster a greater sense of stewardship, more community involvement, and improved interpretive programs, with moderate, beneficial, long-term, regional impacts.

Socioeconomic Impacts

Analysis. As described for alternative B, future visitation at Fallen Timbers Battlefield and Fort Miamis National Historic Site was based on use at Fort Necessity National Battlefield and projected use at Fort Meigs. Fort Necessity's records indicate that the site averages some 89,000 visitors per

year, with an economic impact of some $2.42 million, or approximately $27.20 per visitor. (For a breakdown of these numbers, please see appendix E.) However, it is assumed that initially at Fallen Timbers visitation would more closely resemble that at the newly renovated Fort Meigs. Staff at Fort Meigs estimated visitation at 34,000 people in its first full year since renovation. Using the economic impact model for Fort Necessity indicates that this level of use at Fallen Timbers in its first years of operation would result in an annual economic impact of about $924,500. No major difference in visitation between alternatives was assumed.

Construction is estimated to cost $3.8 million under this alternative, and individual firms and workers could benefit from these projects. However, the projects would likely be spread over several years, and impacts on the local and regional economies would be negligible, compared to total personal income in Lucas County of $12.9 billion in 2001.

Impacts on the local and regional economies from park operations and maintenance would be negligible at all units.

Cumulative Impacts — Proposed commercial / retail development west of Jerome Road could draw additional tourists into the vicinity of the national historic site, with the greatest impact on the battlefield and the monument because of their proximity. Impacts are expected to be minor to moderate.

Conclusion — Compared to $12.9 billion in total personal income in Lucas County in 2001, the economic impacts on the local and regional economies of annual visitor expenditures (estimated at $924,500 per year), construction costs (about $3.8 million over several years), and park operations and maintenance would be negligible over the long term. Cumulative impacts of regional development are expected to be minor to moderate.

FALLEN TIMBERS BATTLEFIELD

Cultural Resources

Archeological Resources. *Analysis* — Under alternative C the designation of 60.76 acres as a resource protection zone would help ensure the preservation of archeological resources in the areas of the battlefield that have been identified as being the most important historically. An additional 95.38 acres would be managed as a vegetation restoration zone, and active revegetation efforts could result in adverse impacts as a result of ground disturbance. About 19.95 acres of higher and lower intensity interpretive areas, including 1 mile of paved and unpaved trails, would be developed. Allowing use in these management zones would also increase potential threats to the integrity of archeological material. Snowmobile and ATV use would be prohibited. Impacts of preserving archeological material in the resource protection zone would be major, beneficial, and long term; however, potential impacts in the other zones would be minor and adverse because the integrity of resources could be compromised by visitor use and revegetation efforts.

Archeological surveys would be conducted before any ground disturbance for construction projects, and any resulting archeological data would help increase understanding of historic events. However, no specific archeological investigation would be done in the vegetation restoration zone, where foot traffic and active revegetation efforts could adversely impact archeological deposits.

The increased presence of park personnel and a greater capacity for patrolling would reduce the possibility of looting, but off-trail access would make patrolling more difficult than under the other action alternatives.

Housing artifacts recovered from the site at the visitor center would allow visitors and researchers to have access to appropriate artifacts for greater understanding of the progression of the battle, similar to alternative B.

Of the three action alternatives, alternative C would provide the least amount of protection for the site's archeological resources in return for the most varied visitor experience. Increased visitor use as a result of a new primary visitor center, a greater degree of onsite interpretation, more trail development, and an active revegetation program, as well as off-trail access, would result in a greater possibility that archeological deposits could be disturbed. Overall, impacts would be minor, adverse, and long term.

Cumulative Impacts — As described for alternative A, the construction of the pedestrian bridge across US 24 would be preceded by an archeological survey to ensure that no resources would be adversely affected and that appropriate mitigating measures were taken.

Similar to alternative B, any future archeological investigations that added to the knowledge of historic events would have a potentially major, beneficial, long-term impact on regional history.

Conclusion — Alternative C would ensure the protection of archeological resources on approximately 60.76 acres at the battlefield, the smallest area of any action alternative. The long-term impact would be beneficial but moderate in effect because less area would be protected. Onsite development and interpretation would be substantially increased, and large portions of the site would be accessible to public use. Any impacts to the integrity of archeological resources as a result of greater public access or active revegetation efforts could be minor and adverse over the short and long terms.

In terms of cumulative effects, the planned pedestrian / bicycle bridge over US 24 would be preceded by an archeological survey and appropriate mitigation, and no adverse effects are expected. Any increase in knowledge about historic events would contribute to regional history, resulting in potentially major, beneficial, long-term impacts.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under this alternative 60.76 acres of the battlefield would be managed as a resource protection zone, and 95.38 acres as a vegetation restoration zone. A wet woods community would be reestablished through natural succession in the resource protection zone. The locations of drainage tiles would be identified and the tiles blocked, allowing the surface hydrology of the site to return to natural cyclic levels. The reestablished woods would create a more historical appearance for those within the battlefield unit as well as those passing by the site. This alternative would have moderate, beneficial, long-term impacts on the overall appearance of the cultural landscape.

Constructing about 1 mile of paved and unpaved walkways and two interpretive nodes in the higher and lower intensity interpretation zones would affect the cultural landscape. One of the trails would cross the ravine that played an important role in the battle, adversely affecting its original appearance. Greater visitor use would adversely impact the landscape through wear and tear.

Constructing a visitor center off site but adjacent to the battlefield would not adversely affect the cultural landscape of the battlefield.

The purchase of residential housing along the western edge of the battlefield on a willing-seller basis and subsequently removing the structures would reduce adjacent intrusions over time. Constructing a

transitional zone would screen adjacent, incompatible uses, thus enhancing the cultural landscape of the battlefield, a minor, beneficial, long-term impact.

In summary, gradually returning a portion of the battlefield area to more historic conditions would have a major, beneficial, long-term effect on the cultural landscape. Providing a higher intensity historical interpretation zone with about 1 mile of paved and unpaved trails through the woods and near the ravine would provide visitor access to a large portion of the battlefield area, with a moderate, adverse, long-term impact. Constructing a visitor center off site would not detract further from the overall cultural landscape of the site.

Cumulative Impacts — Cumulative impacts would be similar to alternative A except that a transitional zone along US 24 would screen the site from vehicle-related intrusions. The construction of a pedestrian bridge over US 24 and a trail would increase site visitation and have a minor effect on the cultural landscape of the battlefield.

Conclusion — Alternative C would have moderate, beneficial, long-term impacts on the cultural landscape of Fallen Timbers Battlefield as a result of reestablishing wet wood conditions over about 156 acres, 95.38 acres of which would be a vegetation restoration zone with access allowed by visitors. Constructing about 1 mile of trails, including a trail across the ravine system, and allowing visitor access to large areas of the landscape would have a moderate, adverse, long-term impact on the cultural landscape because the historic ravine would be affected and greater visitor use could cause more wear and tear. Screening adjacent incompatible uses would result in moderate, beneficial, long-term impacts.

There would be no major adverse impacts on the cultural landscape of the battlefield, and there would be no impairment of park resources or values.

Sacred Sites. As described for alternative B, no sacred sites have been identified by any group at the battlefield site. However, prehistoric or historic graves could be discovered during future development. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the battlefield, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — As described under alternative A, air quality in the area is generally good. Construction-related impacts would be temporary, and mitigating measures, such as applying water or dust control agents, would be used to minimize dust, resulting in minor, short-term impacts. Increased visitation would lead to a minor increase in vehicle traffic, as described under "Impacts Common to All Park Units"; impacts from a maximum of 82 cars per day arriving at the battlefield, with 80% of the use between 9 A.M. and 3 P.M. (about 11 cars per hour), would result in negligible impacts.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Traffic on US 24 would continue to impact air quality within the battlefield, but vegetation in the transitional zone along US 24 would help mitigate adverse effects by blocking the transport of pollutants. Some impacts on air quality could be expected from any projected traffic increases as a result of commercial / retail development west of

Jerome Road. Overall, the levels of emissions from all sources would increase, but the change is expected to result in negligible to minor adverse impacts.

Conclusion — Similar to alternative B, construction-related impacts on air quality would be localized, minor, adverse, and short term. Impacts from additional visitor traffic to the battlefield (estimated at about 82 cars per day during the peak summer season) would be negligible. A transitional zone would help mitigate the effects of traffic on US 24, and cumulative impacts on air quality would be negligible.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative C natural wet woodland conditions would be reestablished on 156.14 acres (60.76 acres in the resource protection zone and 95.38 acres in the vegetation restoration zone). As described for alternative B, impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns, and reestablishing native vegetation. Under this alternative intensive land management techniques would be used to reestablish vegetation to the wet woodland present in 1794. Methods used would include native seed and tree planting, invasive species control through herbicide applications, and blocking drainage tiles to restore natural hydrology.

Constructing a 0.75-mile trail in the higher intensity historical interpretation zone across the ravine would result in short-term, negligible impacts, and soft impact methods using an elevated boardwalk would help prevent erosion. Trail construction would have the potential to impact water quality through ground disturbance, which would result in increased surface runoff and soil erosion. Impacts would occur only during construction and would be localized. Best management practices to control soil erosion would reduce sedimentation and turbidity to a minimum. Establishing two reflective areas (totaling 7.4 acres) would have negligible impacts on soils. Altogether, a total of 19.95 acres would be affected by development. Mitigating measures, such as applying water or dust control agents, would be used to minimize dust from construction activities.

Similar to alternatives A and B, stopping the application of fertilizers would be beneficial for local water quality. Nonnative and exotic species would be controlled by using herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy, as described for alternative A. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality. Natural revegetation would reduce sedimentation and stream turbidity by providing woodland plants that act as natural filters. Conducting baseline samples to determine background pH and agricultural chemicals present in the soil would provide an early indication of any adverse effects that might have to be mitigated.

As described for the no-action alternative, approximately 160 acres or 88% of the Fallen Timbers Battlefield consists of soil types that are listed as "prime where drained" in Lucas County (Lucas County Soil and Water Conservation District, Feb. 13, 2003). The use of the approximately 160 acres of the Fallen Timbers Battlefield, of which 120 acres were in agricultural production and the remaining 40 acres were wooded, represents 0.02% of the total prime agricultural land in Lucas County (Lucas County Soil and Water Conservation District, Nov. 2003). The impact of removing this land from agricultural production would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative B. No cumulative impacts on soils have been identified. Water quality is expected to remain good, and any

adverse effects from proposed development would be short term and negligible. As described for alternative A, proposed commercial / retail development would divert water from Whidden Ditch to an intermittent stream to the southwest, which would result in no impacts to the battlefield. Runoff along US 24 is diverted into Whidden Ditch, which crosses the highway by means of a 24-inch culvert at the outlet of the large central ravine. Periodic maintenance by the Ohio Department of Transportation removes trash and debris, which might block the culvert. Runoff from Fallen Timbers State Monument is along the south side of the highway and intercepts Whidden Ditch to the northeast.

Conclusion — Similar to alternative B, long-term impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns, and reestablishing native vegetation on 156.14 acres in the resource protection and vegetation restoration zones. Impacts on soils from construction activities would affect approximately 19.95 acres and would result in localized, minor, adverse, short-term impacts. Taking 120 acres of prime farmland out of production would have a negligible adverse impact. Overall impacts on water resources would be beneficial and long term.

There would be no major adverse impacts on soil or water resources or values; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Native trees and understory vegetation would be reintroduced in the 95.38-acre vegetation restoration zone in order to re-create appearances at the time of the battle, and intensive land management practices in this zone would be undertaken to restore it to a wet wooded landscape. Periodic herbicide applications targeted to specific plants would be required to control invasive and exotic species.

In the 60.8-acre resource protection zone natural vegetative conditions would be reestablished through natural succession, eventually returning to a maple / ash / oak swamp woodland. In the resource protection zone, which would include the ravine and the battlefield corridor, deadfall trees and logs would be allowed to decompose. Impacts of restoring natural vegetation communities throughout approximately 156 acres would be beneficial, moderate, and long term.

A 0.75-mile trail in the higher intensity historical interpretation zone would be constructed across the ravine in an area where no rare species have been identified by surveys. Existing native plants along the trail alignment would be transplanted outside the route. Removing vegetation along the trail route and at two reflective areas would affect a total of 19.95 acres; construction impacts would be minor, long term, and adverse. Removing vegetation could increase the risk of invasive plant spread. Potentially hazardous trees, storm-damaged trees, and deadfall trees would be trimmed only along the higher intensity historical interpretation zone. The nodding rattlesnake-root, a potential state threatened species, occurs as a viable population in the woodland area of the battlefield. The trail would be located away from this small population, so there would be no impacts on this species.

A lower intensity interpretation zone with 0.4 mile of trail would be established to allow visitor access to the restored woodland. Total vegetation affected would amount to 11.32 acres. Visitor use in the unguided area would result in a moderate, adverse impact to emergent vegetation.

Visitor facilities for the battlefield unit would be located off site under this alternative, so there would be no additional impacts or vegetation or wildlife resources.

Under alternative C visitors would have access to the largest portion of the battlefield of any alternative. Impacts to vegetation from visitor use would include trampling and compaction of soils and would depend on the degree of use, with the most intensive use occurring in the higher intensity

historical interpretation zone, followed by the lower intensity interpretation zone, and then the vegetation restoration zone. The overall impact on vegetation from visitor use would be minor, adverse, and long term.

Neotropical migrating birds would be attracted to the woodland and succession fields as they reverted to shrub / scrub then wet woodland. Impacts to wildlife from the restoration of more natural habitat would be minor, beneficial, and long term.

Cumulative Impacts — Cumulative impacts under alternative C would be similar to the other action alternatives. Active and successful fire suppression efforts would continue the trend of increasing fuel loads across the landscape, particularly in the woodland. Impacts would be negligible, long term, and beneficial.

Conclusion — Reestablishing more natural vegetative communities on 156.14 acres at Fallen Timbers Battlefield (including 95.38 acres of active revegetation) would result in moderate, beneficial, long-term impacts on vegetation and wildlife. Visitor use and construction would affect a total of 19.95 acres, with negligible, adverse, short- and long-term impacts. Cumulative impacts would be negligible, beneficial, and long term.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative C access and transportation at the battlefield would be enhanced with an offsite visitor center and parking areas. Drivers would continue to arrive from I-80/I-90 and I-475 by way of US 24. Metroparks would coordinate plans with the Toledo Metropolitan Area Council of Governments, the regional transit authority, and the Ohio Department of Transportation.

As described under "Impacts Common to All Park Units," on one day in the peak season there would be an average of 82 vehicles traveling to the battlefield. It is also assumed that 80% of the use would occur between 9 A.M. and 3 P.M., resulting in about 11 cars per hour, or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. The number of vehicles could also be reduced if monument visitors used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there. The projected level of vehicular access to the battlefield would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

Metroparks, in cooperation with the City of Maumee, would develop a park entry along Jerome Road. This could encourage further interest in and access to battlefield facilities, providing a minor, long-term impact to the local transportation system. During construction of visitor facilities, there could be a minor adverse impact on local traffic.

Bicycle and walking options would be the same as described for alternative B, with connections to the Wabash Cannonball Trail and the monument by way of a bridge over US 24.

Cumulative Impacts — The impacts of alternative C, combined with past, present, and reasonably foreseeable future actions, would be similar to those described for alternative B. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

If the regional transit authority extended regular bus service to the proposed mall, with a stop at the battlefield, the impact would be beneficial because an alternate means of access to the battlefield would be provided.

Connections to the Wabash Cannonball Trail along Jerome Road, with access to the visitor center, would create a minor impact from additional visitation.

Conclusion — Visitors coming to Fallen Timbers Battlefield by vehicle would have negligible to minor, adverse, long-term impacts on the local and regional transportation system (about 11 cars per hour could be expected for six hours a day in the peak summer season). However, this number could be reduced if visitors to the monument used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there or if they used public transportation. During construction of visitor facilities there could be a minor adverse impact on local traffic. Cumulative transportation impacts related to commercial / retail development could be moderate.

Visitor Interpretation and Experience. *Analysis* — Alternative C would provide the widest range of opportunities for visitors to understand and experience the Fallen Timbers Battlefield. A large visitor center across Jerome Road would provide in-depth interpretation, with artifact exhibits, virtual exhibits, hands-on exhibits, orientation videos, and a research library relevant to the struggle for the Old Northwest Territory. Keeping the site open year-round would increase visitor use at the battlefield.

Alternative C would allow for extensive access to the battlefield. A system of paved and unpaved trails would allow visitors to explore the ravine and woods. Interpretive signs would provide further information. One trail leading to the northwest corner of the site would allow visitors to view the battlefield from the Native American battle line. Visitors would also have opportunities to participate in guided walks and other special interpretive programs.

Under this alternative a large portion of the battlefield would become a vegetation restoration zone, with unpaved trails and opportunities for more reflective experiences. The intent would be to let visitors become immersed in the historic scene by exploring the woods off-trail. This is the only alternative offering this type of experience.

As described for alternative B, a transitional zone along the outer edges of the battlefield would help prevent modern intrusions from marring the visitor experience at the battlefield site, particularly along US 24.

Cumulative Impacts — As described for alternative B, interpretive opportunities would link the events surrounding the Battle of Fallen Timbers with events at other sites in the region. Visitors would have more opportunities to learn about the struggle for the Old Northwest Territory. This would be a moderate beneficial impact. As described for the no-action alternative, visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact.

Conclusion — Providing multiple opportunities for visitors to learn about the struggle for the Old Northwest Territory would have a major, beneficial, long-term impact on visitor experiences. A large visitor center adjacent to the battlefield and direct access to the historic resource would benefit visitors

of all ages and interest levels. On a cumulative basis the Battle of Fallen Timbers would be linked with events at other sites in the region, further enhancing visitor learning opportunities, similar to alternative B.

Land Use

Analysis — Similar to alternative B, managing the battlefield unit in accordance with management prescriptions under this alternative would be consistent with the City of Maumee's 1998 *Comprehensive Plan Update,* which designates the battlefield as an archeological / historic site, and Monclova Township's 1998 *Land Use Plan,* which indicates transition / buffer zones to the west of the site and commercial / industrial zones north of the site along Monclova Road.

Under alternative C managing the battlefield as a mix of vegetation restoration and resource protection zones, with lower and higher intensity interpretation zones and a transitional zone, would be consistent with local plans. Constructing a visitor center on adjacent Metroparks land to the west of Jerome Road would also be consistent with local land use plans.

Cumulative Impacts — As described for alternative A, City of Maumee and Monclova Township land use plans would be relied on to prevent impacts to the battlefield as a result of proposed commercial / retail development west of Jerome Road. The Maumee *Comprehensive Plan Update* ("Exhibit A — General Concepts") shows no changes to Jerome Road, which forms a portion of the western boundary of the battlefield. Approximately 0.5 mile to the west, a Briarfield Boulevard Extension from US 20A / Illinois Avenue to the Jerome Road interchange of US 24 is proposed. An intersection at Russell Road should reduce local traffic on Jerome Road. Under the plan Jerome Road is shown as a "buffer" between the battlefield and development to the west ("Exhibit B").

Conclusion — Managing the Fallen Timbers Battlefield as a mix of vegetation restoration and interpretive zones, and providing for visitor use, would not result in any conflict with local land use plans.

Park Operations and Energy Consumption

Analysis — Under alternative C providing park maintenance operations through Side Cut Metropark would be efficient and cost-effective, as described for alternative B. Additional park staff would be required for daily operations. As described for alternative B, coordinating partnerships with various agencies and organizations interested in the site would require additional staff time. Some maintenance activities, such as litter pickup along roadsides and in the interior, would be accomplished using volunteers where possible to reduce requirements on park staff. TPM methods would ensure the most efficient use of resources. Impacts of increased staffing would be moderate over the long term.

Under this alternative actively restoring native vegetation of the open fields (95.38 ac.) through extensive native tree planting and a vegetative cover crop would initially be labor intensive. This could be accomplished using volunteers on foot to reduce labor expenses and fuel consumption. Periodic herbicide applications to control invasive and exotic plants would involve the use of small vehicles for the most efficient application.

The visitor center under alternative C would be located off site, on the other side of Jerome Road. Stationing personnel at this location would have a minor adverse impact in terms of security during normal hours of operation. Similar to alternative B, providing increased security, which would be the primary responsibility of the Metroparks ranger staff and supplemented by the Maumee Police

Department and the Lucas County Sheriff's Department during off hours, would result in a moderate adverse impact on staffing. However, greater protection of site resources would be a major beneficial impact.

Fuel consumption for maintenance operations would be restricted to the higher intensity historical interpretation zone and the developed zone around the visitor center. Where possible, fuel-efficient diesel mowers would be used with soy-based fuels.

Cumulative Impacts — As described for alternative B, prevailing winds from the southwest could blow trash into the site from the proposed commercial / retail development across Jerome Road to the west. This wind-blown trash could be trapped by materials in the proposed transitional zone, so that cleanup efforts would be confined to a smaller area, a minor beneficial impact.

Conclusion — Locating park maintenance operations off site would be more efficient in terms of personnel and equipment. Impacts of increased staffing would be moderate over the long term. Establishing a vegetation restoration zone on 95.38 acres would initially be labor intensive, a moderate, adverse impact. Allowing natural succession on 60.76 acres would result in less intensive maintenance operations in this area, a minor beneficial impact. Energy consumption would be related to the daily upkeep of the facilities and grounds, resulting in minor, short- and long-term impacts.

Socioeconomic Impacts

Analysis — Under this alternative the largest visitor center of the three action alternatives would be constructed west of Jerome Road. As described for alternative B, workers staying in the local area and using commercial establishments, as well as construction companies hiring local workers. Construction costs at the battlefield of an estimated $3.5 million would have a negligible local and regional economic impact compared to total personal income in Lucas County ($12.9 billion in 2001).

Once visitor facilities were in place, increased visitation would result in a minor to moderate benefit over the long term. Daily access to visitor facilities would be available, school programs would be established, and visiting students would be urged to return with their families. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors could be approximately $924,500, a negligible beneficial impact locally and regionally over the short and long term.

Cumulative Impacts — Cumulative impacts would be the same as those described under "Impacts Common to All Park Units." Proposed commercial / retail development west of Jerome Road could draw additional tourists into the area, with minor to moderate, beneficial impacts. Local land use plans would help prevent any adverse impacts to the battlefield.

Conclusion — Constructing visitor facilities (estimated cost of about $3.5 million) and opening the battlefield to visitation (estimated annual expenditures of $924,500) would likely result in negligible, beneficial, short- and long-term impacts on the local and regional economies. As described under "Impacts Common to All Park Units," cumulative impacts of regional development would be minor to moderate and beneficial.

FALLEN TIMBERS STATE MONUMENT

Cultural Resources

Archeological Resources. *Analysis* — Impacts on archeological resources under alternative C due to construction and the active reestablishment of more natural vegetative conditions would be negligible and adverse. Preconstruction archeological surveys would be carried out before any proposed ground disturbance related to the visitor kiosk and the recreation trail. This would lessen the likelihood that archeological resources associated with either prehistoric or historic use would be damaged or lost.

Similar to alternative A, visitor use would gradually increase at the site, causing more wear and tear. However, since the site was designed to accommodate visitation, this increased use would have negligible impacts on archeological resources.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Archeological surveys for the US 24 bridge before any construction would add to the knowledge base for the site and potentially for the region. There would be no other cumulative impacts under this alternative.

Conclusion — Constructing a visitor kiosk and recreation trail, and reestablishing more natural vegetative conditions, could result in negligible, adverse, short- and long-term impacts on archeological resources. Preconstruction surveys and evaluations would mitigate any adverse effects. Other than construction of the US 24 bridge, which would be preceded by an archeological survey, no cumulative impacts were identified.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative C the Fallen Timbers State Monument would be managed as a combination of a reflective area (1.35 ac.) and a vegetation restoration zone (1.35 ac.). In addition, a lower intensity interpretation zone (1.92 ac.) would flank the reflective zone. The overall management zoning scheme would allow prairie grasses to grow in areas around the monument, substantially changing the appearance of the designed landscape. The impact would be moderate, adverse, and long term.

Similar to alternative B, a small parking area with a kiosk (0.68 ac.) would be provided, with a negligible adverse impact.

This alternative would create a transitional zone (2.93 ac.) around three sides of the monument, similar to alternative B. While this would reduce intrusions from the highway for visitors at the monument, vegetation would also obscure views of the monument, thereby detracting from the original design intent.

The construction of a recreation trail around the edge of the site would not detract substantially from the cultural landscape; the impact would be minor, adverse, and long term.

Like alternative B, a viewshed protection area outside the park toward the Maumee River would enhance the cultural landscape at the monument. The impact would be moderate, beneficial, and long term.

Cumulative Impacts — The construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact on the original design of the monument landscape.

Conclusion — Allowing prairie grasses to become established on more than half of the site under alternative C would have a moderate, adverse, long-term impact on the cultural landscape because the original design intent would be changed. The transitional zone would have a minor, beneficial, long-term impact within the monument because incompatible uses and activities would be screened; however, outside the monument views would be obscured, conflicting with the original design and resulting in a minor, adverse, long-term impact. The viewshed protection area outside the park would preserve historic views toward the river, a moderate, beneficial, long-term impact. In terms of cumulative impacts, the construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact.

There would be no major adverse impacts on the cultural landscape of Fallen Timbers State Monument, and there would be no impairment of park resources or values.

Historic Structures. As described for alternative A, the monument, which underwent cleaning and preservation treatment in 1998, would be maintained and cleaned as necessary. No adverse impacts are expected.

Sacred Sites. *Analysis* — Impacts on Turkeyfoot Rock would be beneficial, similar to those described under alternative B, because inappropriate recreational uses within the center of the monument would be prohibited, and bicyclists and other recreationists would be diverted to a recreation trail around the monument site. The portion of the trail on the northeast side of the monument would be screened by vegetation; however, the trail portion near the parking area would be in full view of those at the monument, resulting in a minor adverse impact on sacred uses that might be taking place.

Restoring native prairie grasses to a portion of the site would not affect sacred uses. A transitional zone between the parking area and US 24 would lessen the impact of traffic at the monument and enhance a reflective atmosphere. Protecting the viewshed of the Maumee River Valley from the monument would also enhance the natural/historic environment. These actions would have a moderate, beneficial, long-term impact for the setting of the Turkeyfoot Rock monument.

As described under alternative B, the small kiosk in the parking area would not intrude on the reflective nature of the site. Interpretive signs at the kiosk would educate visitors about sacred uses of the monument, potentially helping foster a more respectful attitude.

Cumulative Impacts — Similar to alternative B, no longer allowing use of the monument by local schools for recreational activities would have a minor adverse effect.

Conclusion — This alternative would have a moderate, beneficial, long-term impact on the setting of the Turkeyfoot Rock monument because inappropriate recreational activities would be prohibited and interpretive signs would educate visitors about sacred uses, potentially helping foster a more respectful attitude.

There would be no major adverse impacts on sacred sites at the monument, and there would be no impairment of park resources or values.

Natural Resources

Air Quality. *Analysis* — Construction-related impacts on air quality, as described under alternative B, would potentially result from dust generated by soil exposure and disturbance. Mitigating measures would be implemented to minimize dust from construction activities, such as applying water or dust

control agents. Construction activities would result in a localized, minor, adverse, short-term impact on air quality.

Increased visitation would lead to a negligible to minor increase in the number of vehicles at the monument, but parking would be limited to the existing area. As described for the battlefield unit, there could be a maximum of 82 cars per day arriving at the monument. Assuming peak hours of use would be between 9 A.M. and 3 P.M., about 11 cars per hour would arrive at and leave the monument. Impacts from vehicle emissions would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Airborne sewer odor from the Lucas County wastewater treatment plant, 0.25 mile to the southwest, is noticeable in the monument depending on the season and wind direction. This impact would be somewhat mitigated by vegetation in the 2.93-acre transitional zone, which would partially block the transport of pollutants by prevailing winds.

As described for alternative A, in 2000 average daily traffic on I-475 and US 24 near the monument was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Traffic on US 24 would continue to impact air quality within the monument, but vegetation in the transitional zone along US 24 would help mitigate adverse effects by blocking the transport of pollutants.

Prescribed burning by Metroparks to maintain prairie vegetation in the floodplain below the monument would be conducted in accordance with local fire management plans; adverse impacts are expected to be negligible to minor and short term.

Overall, the levels of emissions from all sources could be expected to increase slightly. Any change would be negligible to minor over the long term.

Conclusion — Alternative C would result in a minor, adverse, short-term impact on air quality as a result of construction activities. Long-term impacts associated with visitors coming to the monument by vehicle (estimated at about 82 cars per day during the peak summer season) would be negligible. Impacts of traffic on US 24 would be partially mitigated by vegetation in the transitional zone, which would help block the transport of pollutants by prevailing winds, and cumulative impacts would be negligible to minor and adverse over the long term.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative C Fallen Timbers State Monument would be managed as a mix of management zones that would promote a landscape more typical of the prairie. Projects related to establishing a lower intensity interpretation zone, a vegetation restoration zone, and a transitional zone would affect a total of 6.2 acres. Transitioning to more natural vegetative conditions would reduce overall maintenance, mowing, and fertilizer application, with a minor beneficial impact on soils. Controlling invasive plants by periodic herbicide applications, using only herbicides approved by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy, would not affect water quality because the chemical compounds break down quickly in the soil.

Constructing a 0.25 mile recreation trail would have minor adverse impacts on soils along the trail route, and ground disturbance could result in increased surface runoff and soil erosion. However, by using best management practices to control soil erosion, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Parking lot runoff would

continue to be diverted to the existing roadway storm sewer and to Whidden Ditch to the northeast; overall impacts on water quality would be negligible.

Reducing overall maintenance, mowing, and fertilizer application on 6.2 acres that would be returned to more natural conditions would have a minor beneficial impact on water quality.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Road salt washed off of US 24 could locally affect soils along the monument boundary; no other cumulative impacts to soils have been identified. Water quality is expected to remain good.

Conclusion — Alternative C would result in a minor, adverse, short-term impact on soils and water quality as a result of construction activities along 0.25 mile of trail. Transitioning to more natural vegetative conditions on 6.2 acres would reduce overall maintenance, mowing, and fertilizer application, with a minor beneficial impact on soils and water resources. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative C vegetation and wildlife at the monument would be enhanced through successional plantings. The narrow, 1.35-acre reflective zone flanking the walk to the main monument (the smallest of the action alternatives) would be routinely mowed. Adjacent zones would be managed to encourage native forbs and grasses. A lower intensity interpretation zone (1.92 ac.), with prairie vegetation appropriate to 1794, would be established from local genotype seed sources outside the memorial walk. A vegetation restoration zone of 1.35 acres would be established on the hillside below the monument and leading to the floodplain (this is the only alternative in which this zone would be used at the monument). Woody trees and shrubs would be removed to maintain the viewshed to the Maumee River, in cooperation with Metroparks, which manages the area between the boundary and the Maumee River as floodplain prairie.

Under alternative C establishing a 2.93-acre transitional zone on three sides of the unit would include heavy additional native plantings to screen adjacent uses; this would benefit wildlife favoring shrubby edges. Restoring native vegetation on the hillside would benefit wildlife favoring grassland and prairie habitat adjoining the riparian corridor. The area could be maintained through mowing or prescribed burns (coordinated with Metroparks prescribed burning of the floodplain below). Dead standing native trees would be allowed to remain as cavity nesting areas, unless they presented a direct hazard to visitors.

As described for alternative B, vegetation would be removed in a 0.25-mile area along the recreation trail zone, from Fallen Timbers Lane to the eastern corner of the unit. Some vegetation would be removed in the transitional zone and the edge of the developed zone, which would increase the risk of invasive plant spread. This impact would be mitigated by the natural prairie plantings in the lower intensity interpretation zone. Invasive plants would be controlled by periodic herbicide applications. As described for the battlefield, only approved herbicides would be used, which have a short-term toxicity specific to invasive plants, break down quickly in the soil, and do not affect water quality. Consequently, no impacts are expected on wildlife.

No state or federally threatened or endangered plant species have been identified on site.

Cumulative Impacts — Cumulative impacts related to the floodplain and the viewshed protection area outside the park would be similar to those described for alternative B. However under this alternative the hillside below the monument would be managed as a vegetation restoration zone that would blend

into the floodplain extending to the Maumee River. Restoration of the hillside area would be accomplished by natural regeneration of species from the floodplain prairie, supplemented with seeds planted from the prairie below. Cumulative impacts would be moderate, beneficial, and long term.

Conclusion — Managing portions of the monument as a lower intensity interpretation zone, vegetation restoration zone, and transitional zone would result in the reestablishment of native vegetation patterns more typical of 1794. Removing limited amounts of vegetation for recreation trail development would have negligible adverse impacts. Overall, alternative C would have a minor, beneficial, long-term impact on vegetation and wildlife. On a cumulative basis, maintaining the existing floodplain prairie in the viewshed protection area outside the park would result in beneficial, moderate, long-term impacts.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative C access to the monument would be similar to current conditions, by way of the Jerome Road exit from US 24 and Fallen Timbers Drive to a small parking area. Similar to alternative B, if site visits increased substantially under this alternative, with more visitors arriving by private vehicle in response to more publicity about the site and the nearby visitor center at the battlefield, impacts on the local transportation system could be minor to moderate.

As described for the battlefield, it is estimated that an average of 82 vehicles per day would travel to the Fallen Timbers State Monument during the peak summer season. This equates to about 11 cars per hour between 9 A.M. and 3 P.M., or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. However, this number of vehicles at the monument could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 instead of driving to the monument. The projected level of use would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

Bike trail and pedestrian access to the battlefield would be by way a bridge over US 24 and a connecting trail to River Road and Fort Miamis. A canoe launch would be available at the river to travel downstream to Fort Miamis. Connections to the battlefield and the fort, as well as the Maumee River Road trail, would result in a minor impact on local transportation from additional visitation, similar to alternative B.

During construction at the monument, there could be a minor adverse impact on local traffic.

Cumulative Impacts — The impacts of alternative C, in conjunction with past, present, and reasonably foreseeable future actions, would be similar to those described for the battlefield unit and for alternatives A and B. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers State Monument was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

Joint efforts by Metroparks, TARTA, and the City of Maumee to provide a bus stop along Fallen Timbers Road could encourage further interest and access to monument facilities, resulting in a moderate beneficial impact in terms of access.

Connections to the Wabash Cannonball Trail along Jerome Road would provide access to the monument, with a negligible impact on access and transportation.

Conclusion — Alternative C could result in negligible to minor, adverse, long-term impacts on the local and regional transportation systems (11 cars per hour, the same as for the battlefield). However, this number could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 to visit the monument instead of driving, or if they used public transportation. Connections to the battlefield and the fort by means of land and water trails would result in a minor impact on local transportation from additional visitation. Establishing a bus stop at the monument could have moderate beneficial impacts. During construction activities at the monument, there could be a minor impact on local traffic. Similar to alternative A, cumulative impacts related to proposed commercial / retail development could be moderate. Impacts on access to the monument from trail connections to the Wabash Cannonball Trail would be negligible.

Visitor Interpretation and Experience. *Analysis* — Alternative C would provide the widest range of opportunities for visitors to experience and understand Fallen Timbers State Monument. Public educational and reflective uses would be encouraged at the site, and no active recreational uses would be allowed except on the recreation trail around the site, similar to alternative B. The trail would be routed between the parking area and the monument and would be visible from the monument. A kiosk in the parking area would provide interpretive information, as would signs in the lower intensity interpretation zone, providing a more varied experience at the site. The rest of the site would be devoted to providing quality reflective experiences for visitors of all ages and interest levels.

Under this alternative the lower intensity interpretation zone and the vegetation restoration zone on the hillside below the monument would be landscaped with native prairie grasses, thus reestablishing a scene more typical of the late 1700s. This action would alter the designed landscape in most of the monument area, leaving the designed landscape only along the central memorial walkway and around the monument. Visitors would no longer see the landscape that was created in the 1930s and 1940s when the monument was established. The impact on visitor experiences could be moderate and adverse if visitors were accustomed to the manicured, designed landscape, or the impact could be beneficial if they wanted to see a landscape with more native vegetation.

Similar to alternative B, a transitional zone around the site would screen adjacent incompatible uses from visitors within the monument, enhancing their experiences. This zone would be slightly larger under this alternative.

Efforts to maintain the historic viewshed of the Maumee River valley would further enhance the potential for reflective experiences.

Cumulative Impacts — Similar to alternative B, information about other regional sites would help visitors learn about local, regional, and national history, with a minor to moderate beneficial impact. As described for the no-action alternative, visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact.

Conclusion — Alternative C would have moderate, beneficial, long-term impacts on visitor experiences, similar to alternative B. Reestablishing native vegetation on the majority of the site could have adverse or beneficial impacts, depending on visitor expectations about the monument. Screening

incompatible adjacent uses would enhance visitor experiences on site, as would protecting the viewshed of the Maumee River valley. Over the long term cumulative impacts would be minor to moderate and beneficial, with more interpretive information about other regional historic sites.

Land Use

Analysis — As described for the battlefield unit and alternative B, planning efforts would be coordinated with the Ohio Historical Society, the City of Maumee and its Municipal Planning Commission, as well as the Toledo-Lucas County Plan Commissions to ensure that any actions were consistent with local plans to the extent possible. The monument would continue to be operated by Metroparks under an agreement with the Ohio Historical Society. No changes in adjacent land uses are expected, and present boundaries would be maintained. Management zones under alternative C would be consistent with local plans.

Cumulative Impacts — As described under the no-action alternative, the proposed connecting trail to the Wabash Cannonball Trail would result in a negligible impact to land uses. A viewshed protection area in the floodplain outside the park, which would be managed as floodplain prairie, would maintain the historical open appearance. These actions would be consistent with local land use plans.

Conclusion — Under alternative C monument lands would be managed similar to present conditions. The addition of a kiosk in the parking area and a recreation trail would be consistent with local plans.

Park Operations and Energy Consumption

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society. Managing park operations from Side Cut Metropark would be cost-effective and efficient, similar to alternatives A and B. Under this alternative establishing native plantings in areas that were formerly mowed would reduce maintenance requirements slightly compared to the other alternatives, a negligible beneficial impact on park staff. Coordinating partnerships with various agencies and organizations interested in the site would likely be handled at the park's main visitor center at the battlefield. Using volunteers for periodic roadside and interior litter pickup would reduce demands on park staff, a beneficial impact.

Similar to alternative B, maintenance responsibilities would increase slightly because the kiosk and perimeter fence, as well as the monuments and the landscaping, would be the responsibility of Metroparks staff. More staffing would be provided under this alternative for visitor services, which would be focused at the battlefield unit. Impacts on staffing would be minor to moderate.

Energy consumption would continue for routine maintenance operations for the kiosk and monuments, the perimeter fence, and the parking area. A smaller mowed area would have a negligible impact on fuel consumption.

Cumulative Impacts — The impacts of alternative C, combined with the impacts of past, present, and reasonably foreseeable future actions, would be similar to those described for alternatives A and B. Similar to the battlefield unit, trash blown into the site would be stopped by vegetation and structures in the transitional zone, so cleanup efforts would be confined to a smaller area, a minor beneficial impact.

Maintaining the previously proposed trail around the monument unit, which would link to the Wabash Cannonball Trail, would be an additional responsibility for Metroparks staff, a minor adverse impact.

Conclusion — Under alternative C continuing to manage park operations from off site and reducing the amount of mowing would have a negligible beneficial impact. Reduced energy consumption because of less mowing within the portion of the site reverting to native vegetation would be a negligible long-term impact. Maintaining the recreation trail, in addition to the kiosk, the monuments, and the perimeter fence, would be an additional responsibility for Metroparks staff, a minor adverse impact.

Socioeconomic Impacts

Analysis — As described under alternative B, a kiosk in the parking area along Fallen Timbers Road would be provided for visitor information. Construction costs of approximately $100,000 would have a negligible adverse impact on the local and regional economies.

Free access to the site would be maintained, and interpretive programs would be established. Schools would be encouraged to visit, with students urged to return with their families. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors to all park units could be approximately $924,500, a negligible beneficial impact locally and regionally over the short and long terms.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units" and alternative A, with minor to moderate, beneficial impacts. Constructing the connecting recreation trail, in conjunction with the interpretive kiosk, could result in negligible, beneficial, short-term impacts on the local economy.

Conclusion — Construction costs at the monument (estimated at about $100,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Cumulative impacts, as described under "Impacts Common to All Park Units," would range from minor to moderate as a result of commercial / retail development.

FORT MIAMIS

Cultural Resources

Archeological Resources. *Analysis* — Under alternative C the fort site itself, extending to the Maumee River (totaling 2.09 ac.), would be managed for historic preservation, while the area to the north and west (2.08 ac.) would be managed for higher intensity historical interpretation. As described for alternative B, the potential for looting would be reduced through an increased presence of park personnel and regular patrols. While access to the earthworks would be greatly restricted, any archeological deposits in the higher intensity interpretation zone would continue to be subject to adverse impacts from high foot traffic. These actions would increase the protection of archeological resources compared to the no-action alternative, but visitor use impacts could still occur on over half of the site. Impacts in the historic preservation zone would be moderate, beneficial, and long term, while impacts in the higher intensity historical interpretation zone would be minor and adverse because of continued use.

Preconstruction archeological surveys and evaluations would be carried out before any ground disturbance associated with enlarging the parking area at the north end of the unit, upgrading the trail to the fort, and providing a reflective area overlooking the fort. These measures would lessen the likelihood

that archeological resources associated with the fort or with prehistoric or later historic use of the site would be damaged or lost.

Housing and conserving any artifacts found at the fort unit at the battlefield visitor center would make them readily available for research and study.

Cumulative Impacts — As described for alternative B, substantially reducing looting could protect the value of archeological resources at the site for future study, with potential major, beneficial contributions to regional history.

Conclusion — Alternative C would have a moderate, beneficial, long-term impact on archeological resources at Fort Miamis because the fort site itself (2.09 ac.) would be managed for historic preservation, active recreational uses would be prohibited, and the increased presence of park personnel and patrols would lessen the potential for looting. Visitor access to the higher intensity historical interpretation zone (2.08 ac.) would lessen the protection of the archeological resources in this area, a minor, adverse, long-term impact. With regard to cumulative impacts, ensuring the preservation of the fort resource for future study could result in major beneficial contributions to regional history.

There would be no major adverse effects on archeological resources, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative C a portion of the Fort Miamis unit would be managed for historic preservation (2.09 ac.). Similar to alternative B, visitor access, as well as recreational activities, would be prohibited on the fort earthworks. Access to the fortifications would be allowed for research purposes but would require a permit, similar to alternative B. These actions would result in major, beneficial, long-term impacts on the cultural landscape.

Onsite interpretive programming would be provided in the higher intensity historical interpretation zone (2.08 ac.) in lieu of a kiosk or visitor center. Allowing access and programs in the interpretation zone, away from the fragile earthworks, would not impact the cultural landscape. Providing onsite interpretation would also educate visitors about the fragile nature of the fort remnants and encourage their protection.

Expanding the current parking area (0.83 ac.) would have a minor, adverse, long-term impact on the cultural landscape. This impact would be mitigated by establishing a transitional zone so that the parking area, as well as traffic on River Road, would be screened from the fort, enhancing the cultural landscape for visitors.

Under this alternative the hillside below the fort to the Maumee River would be stabilized and managed to reflect the historical condition, when vegetation was cleared to emphasize the defensive position of the fort. Hillside stabilization would be achieved with native plantings whose root structures help hold soils in place. This would show visitors the setting of the fort in 1794, a moderate, beneficial, long-term impact. Some trees and native vegetation would remain in place; dead standing trees would be removed.

An increased presence of personnel and patrols would help alleviate the problem of systematic looting of the site, which has caused deterioration of the earthworks and ditches. The resulting impacts on the cultural landscape would be minor to moderate, beneficial, and long term.

As described under alternative B, erosion control structures would be maintained along the Maumee River to protect the edge of the fort from further erosion, a beneficial impact.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative B. Halting erosion along the riverbank would have a moderate, beneficial, long-term impact on the cultural landscape. Adjacent development would continue to detract from the landscape that would have been present in 1794, a minor, adverse, long-term impact. Establishing a viewshed protection area outside the park boundaries and including the islands in the Maumee River would help preserve the historical appearance of the landscape, a moderate, beneficial, long-term impact.

Conclusion — Preserving the immediate area of the fort earthworks as a historic preservation zone would result in a major, beneficial, long-term impact on the cultural landscape. Managing vegetation on the hillside below the fort to reflect the defensive position of the fort in 1794 would result in a moderate beneficial impact. Conducting onsite interpretive programs in the higher intensity historical interpretation zone, in lieu of a kiosk or visitor center, would have no adverse effect. Erosion control structures along the Maumee River would have a beneficial impact. Expanding the current parking area (0.8 ac.) would have a minor, adverse, long-term impact that would be mitigated by screening it from the fort. On a cumulative basis, adjacent development would continue to intrude on the historic cultural landscape, a minor adverse effect. Establishing a viewshed protection area would help preserve the historical appearance of the river landscape, a moderate, beneficial, long-term impact.

There would be no major adverse impacts on the cultural landscape at Fort Miamis, and there would be no impairment of park resources or values.

Historic Structures. *Analysis* — Visitors would be able to look at the fort from various angles, but all forms of active recreation would be prohibited, stopping human-caused deterioration of the original fabric. Visitors would also be educated about the fragile nature of the fort remnants, helping foster a conservation ethic. Impacts would be major, beneficial, and long term.

Continuing to control erosion along the Maumee River would help prevent further loss of historic remnants of the fort structure.

Cumulative Impacts — Protecting historic remnants of the fort would maintain a visible link to formative events in our nation's history, a major beneficial impact.

Conclusion — Prohibiting inappropriate recreational activities at Fort Miamis and controlling erosion along the riverbank would protect the historic remnants of the fort, a major, beneficial, long-term impact. On a cumulative basis protecting the remaining landforms would maintain a visible link to formative events in our nation's history.

Because there would be no major adverse impacts, there would be no impairment of park resources or values.

Sacred Sites. As described for alternative B, no sacred sites have been identified by any group at Fort Miamis. However, prehistoric or historic graves could be discovered during future surveys. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the fort, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Under alternative C construction projects could increase dust from soil exposure and disturbance. However, this impact would be localized and would occur only during the construction period, and mitigating measures (e.g., applying water or dust control agents) would minimize dust generation. Construction activities would result in a minor, adverse, short-term impact on air quality.

As described for the other two units, there could be a maximum of 82 cars per day arriving at the fort. Assuming peak hours of use would be between 9 A.M. and 3 P.M., about 11 cars per hour would arrive at and leave the fort. Impacts from vehicle emissions would be negligible. Under alternative D parking would be at the northwest end of the fort site.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Vehicle traffic on River Road and Michigan Street would continue to have a negligible impact on air quality at the fort, and native vegetation in the historic preservation zone and the transitional zone would help mitigate the effects of vehicle emissions. Overall, the levels of emissions from all sources would increase slightly; impacts would be negligible to minor.

Conclusion — Construction projects under alternative C would result in minor, adverse, short-term impacts on air quality. Over the long term alternative B would have a negligible adverse impact on air quality as a result of more visitors coming to the site by vehicle (estimated at about 82 cars per day during the peak summer season). Over the long term, impacts on air quality would be negligible to minor.

There would be no major adverse impacts on air quality, and there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative C recreational sledding and all-terrain bicycle use would cease at the fort, stopping embankment erosion, the same as the other alternatives. Maintaining turf in the northern half of the site and encouraging native plant species in the 2.08-acre historic preservation zone would result in a minor, beneficial, long-term impact on soils and water quality.

Adverse impacts to soils would be limited to enlarging the parking area at the northwest end of the site (0.83 ac.) and constructing a trail within the higher intensity historical interpretation zone to an overlook of the fort. Construction could increase surface runoff and erosion; however, due to the limited extent of the proposed development, and the use of best management practices to control erosion, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Construction would result in minor, short-term impacts on soils and water resources. No water quality impacts from parking area runoff are expected.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Water quality is expected to remain good as soils are stabilized, and any adverse effects from proposed development outside the park would be short term and negligible.

Conclusion — Alternative C would result in minor, adverse, short-term impacts on soils and water resources from expanding the parking area and constructing a trail to a fort overlook. Reestablishing native plant species in the historic preservation zone would help prevent erosion in the future, resulting in a minor, beneficial, long-term impact on soils and water quality. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources, and there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative C the historic preservation zone surrounding Fort Miamis would cover 2.09 acres and would be managed to protect the fort remnants; no public access would be allowed. Vegetation would be managed for native species and to somewhat re-create conditions present in 1794, when trees around the fort were cleared to provide perimeter security. Dead standing trees would be removed using techniques so as not to uproot soils and elements of the site. This zone would include the hillside, which would be stabilized, with some native trees and vegetation remaining in place. The vista would need to be maintained and would include ongoing clearing of selected vegetation, with a negligible adverse impact. Overall, impacts on vegetation within the historic preservation zone would be moderate, beneficial, and long term.

On the north end of the site a 0.83-acre developed zone for parking would have no effect on vegetation and wildlife because this is a previously disturbed site. The transitional zone (0.29 ac.) to screen the parking area from the fort would contain native plantings. The higher intensity historical interpretation zone (2.08 ac.) would be directly accessible from the parking area and would surround the fort on three sides. This zone would receive a high level of maintenance in terms of mowing and managing vegetation to allow for visitor circulation. A trail through this zone would lead to a small reflective zone (0.15 ac.) overlooking the fort site and the river, where the landscape would be highly maintained, and a 0.29-acre transitional zone would be created.

Vegetation and wildlife would continue to be monitored by Metroparks staff, with updates to the flora and fauna lists.

Altogether, 3.35 acres of vegetation would be affected, with a negligible, adverse, long-term impact. Overall, impacts on vegetation and wildlife would be moderate, beneficial, and long term.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative B. Natural succession in the hillside area, supplemented with seeds planted from local genotypes, would result in a beneficial, minor, long-term impact because native vegetation communities would be re-established. Wildlife favoring riparian corridors would benefit from the habitat provided.

Conclusion — Managing the area immediately around Fort Miamis and the hillside for historic preservation would allow vegetation patterns more typical of 1794 to be reestablished. Altogether, 3.35 acres of vegetation would be affected, with a negligible, adverse, long-term impact. Allowing higher intensity historical interpretation and development on the northern portion of the site would be similar to current conditions, with negligible adverse impacts. Overall, impacts would be beneficial, moderate, and long term. Cumulative impacts would be beneficial, minor, and long term.

There would be no major adverse impacts on vegetation or wildlife resources; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative C access to Fort Miamis would be by vehicle, bus, or on foot, similar to current conditions. Access would also be provided from the Maumee River as part of the linkage plan for the three park units, as described for alternative B.

Alternative C could have negligible to minor, long-term impacts on the local and regional transportation systems (assuming peak summer season of 11 cars per hour, for six hours a day, the same as for the battlefield and the monument). Establishing a bus stop at the fort site would have a minor beneficial impact. Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction there could be a minor impact on local traffic.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternatives A and B. A bus stop at the fort would have a minor beneficial effect on access.

Conclusion — Alternative C could have negligible to minor, long-term impacts on the local and regional transportation systems (assuming 11 cars per hour, for six hours a day, during the peak summer season, the same as for the battlefield and the monument). Establishing a bus stop at the fort site would have a minor beneficial impact. Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction there could be a minor impact on local traffic.

Visitor Interpretation and Experience. *Analysis* — Under alternative C about half of the Fort Miamis unit would be managed for historic preservation, with no visitor access. An approximately equal portion would be managed for higher intensity historical interpretation, where visitors could freely wander. All inappropriate recreational activities would be prohibited, the same as alternative B. Under alternative C, however, the widest range of interpretive opportunities would be provided at Fort Miamis, with a major beneficial impact because interpretive signs would provide orientation and more in-depth information. An overlook near the fort would give visitors a better perspective of the fort's original construction and the importance of the navigable section of the Maumee River. Additional in-depth interpretation regarding the British at the fort and their interaction with the Native Confederacy and Wayne's legion would occur at the battlefield visitor center.

A transitional zone between the parking area and the remainder of the historic site would provide visitors with more opportunities to become immersed in the history of the fort.

Greater onsite interpretation under alternative C would allow visitors of all ages and interest levels to gain a better understanding of the site's historic significance and the struggle for the Old Northwest Territory, resulting in a major, beneficial, long-term impact. These experiences would be enhanced by the absence of recreational activities at the site and the transitional zone near the entrance to the site.

Cumulative Impacts — Cumulative impacts would be similar to alternative B. Better interpretive programming would enhance regional interpretive programs about the struggle for the Old Northwest Territory, a moderate to major beneficial impact. At Fort Miamis, sound levels are expected to range from negligible to minor due to the residential area and secondary street classification of River Road with its 25 mph speed limit, the same as the no-action alternative.

Conclusion — Alternative C would have a major, beneficial, long-term impact on visitor experiences at Fort Miamis. Greater onsite interpretation would allow visitors of all ages and interest levels to gain a better understanding of the site's historic significance. Similar to alternative B, interpretation would greatly enhance visitor understanding of the struggle for the Old Northwest Territory on a regional level, resulting in a moderate to major, beneficial, long-term impact.

Land Use

Analysis — As described for alternative B, planning efforts would be coordinated with the City of Maumee and its Municipal Planning Commission to ensure that any actions were consistent with local plans to the extent possible. The fort has been used for many years for picnicking, all-terrain bicycle riding, sledding on the earthworks, and bank fishing along the Maumee River. No changes in adjacent land uses are expected, and present boundaries would remain.

Under alternative C land use at the fort would be managed as nearly equal portions of the historic preservation zone and the higher intensity historical interpretation zone. A transitional zone would screen the parking area from the interior zones. A small reflective zone would overlook the historic preservation zone, hillside, and river.

Cumulative Impacts — As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties. Establishing a viewshed protection area for the Audubon Islands, in cooperation with the Perrysburg Planning Commission and the ODNR Division of Natural Areas and Preserves, would help preserve the 1794 cultural and historic landscape setting. Within the viewshed areas of the fort, Audubon Islands State Nature Preserve and Metroparks have restricted development on the island, which is being managed as a natural area, with removal of invasive vegetation and prescribed burns. Metroparks is also in the process of acquiring the 3-acre island that is owned by the 577 Foundation in the Maumee River to preserve it in its undeveloped state. These actions would complement the management of Fort Miamis as a historic preservation zone, resulting in moderate, beneficial, long-term impacts.

Conclusion — Managing the immediate area of the fort site for historic preservation would help ensure the long-term preservation of this National Historic Landmark, a major beneficial impact. However, under this alternative about half of the site would be managed as a higher intensity historical interpretation zone, where visitor use would be allowed. No boundaries would be changed. Land use management plans would be consistent with local plans. On a cumulative basis, establishing a viewshed protection area for the Audubon Islands in cooperation with the Perrysburg Planning Commission and other entities would help preserve the 1794 cultural and historic landscape setting, complementing the management of the Fort Miamis historic site as a historic preservation zone and resulting in moderate, beneficial, long-term impacts.

Park Operations and Energy Consumption

Analysis — Under alternative C Metroparks would take the lead in providing interpretive programs and would be responsible for site maintenance. Managing about half the Fort Miamis unit as a higher intensity historical interpretation zone would require about the same level of maintenance as now, but more staffing would be required than under alternative B. Initial efforts would also be required to stabilize and restore the historic earthworks. As described for alternative B, coordinating partnerships with various agencies and organizations interested in the site would most likely be handled at the site's main visitor center at the battlefield. Using volunteers for periodic roadside and interior litter pickup would reduce demands on park staff, a beneficial impact. Because additional staffing for maintenance would be required, impacts would be moderate.

Under alternative C energy consumption for maintenance operations would be similar to current conditions.

Cumulative Impacts — Under this alternative a partnership would be developed with the 577 Foundation, the Perrysburg Planning Commission, and the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, for the joint management with Metroparks of the Audubon Islands. Protecting the viewscape of this island would be a long-term, beneficial impact.

Conclusion — Park operations would continue to managed from off site, with a negligible impact. Because additional staffing for maintenance would be required with a higher intensity historical interpretation zone, impacts would be moderate. Energy consumption for routine maintenance would result in a minor, long-term impact.

Socioeconomic Impacts

Analysis — Preserving the area immediately surrounding the nationally significant fort site would have moderate, beneficial impacts on the local economy over the long term because the site's significance would be interpreted for the benefit of local citizens and tourists now and in the future. As described for alternative A, stopping active recreational activities in order to protect the historic remnants would adversely affect local users but would have no additional economic impact.

During construction, there would be short-term, minor economic benefits from workers staying in the local area and using commercial establishments. Construction companies could also hire local workers, which could temporarily benefit individuals and local businesses. Construction costs of about $183,000 at the fort would have a negligible, beneficial, short-term impact on the local and regional economies.

Free access to the site would be maintained, and interpretation would be provided when requested by the general public. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors to all park units could be approximately $924,500, a minor to moderate beneficial impact locally and regionally over the short and long term.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies. As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties.

Conclusion — Construction costs at the fort (estimated at about $183,000) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local economy. Prohibitions on recreational activities such as sledding and mountain biking would adversely affect local residents, but there would be no additional economic impact. Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies.

UNAVOIDABLE ADVERSE IMPACTS

Soils and vegetation would be removed in the development zone (totaling 1.51 acres for all three units), resulting in an unavoidable adverse impact.

Relationship of Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity

Returning the majority of the battlefield unit to natural vegetative conditions would enhance long-term productivity.

Irreversible and Irretrievable Commitments of Resources

There would be no irreversible and irretrievable commitments of resources.

ALTERNATIVE D — AN INTERPRETIVE NETWORK OF SITES

IMPACTS COMMON TO ALL PARK UNITS

Natural Resources

Regional Air Quality. *Analysis* — As described on page 113, visitation to Fallen Timbers Battlefield and Fort Miamis National Historic Site is projected to be similar to that at Fort Meigs, about 34,000 per year. Assuming that use patterns would be similar to those at Fort Necessity National Battlefield because of a similar historic time period, summer would be the peak use season (44% of annual visitors), followed by fall (27%), spring (23%), and winter (6%). During the peak season there would be a maximum of 82 cars per day (conservatively estimating only two people per vehicle), or 10.9 vehicles per hour during the peak hours of the day (assumed to be between 9 A.M. and 3 P.M.). This level of use would have a negligible impact on regional air quality.

Cumulative Impacts — Impacts on air quality from wood burning for home heating, industries, and a wastewater treatment plant nearby would continue to affect air quality at about current levels. Impacts from vehicle emissions would increase. Air quality is generally good in the region, and there were no exceedances of the current ozone standard in 2002 (Toledo Department of Public Utilities 2002). Overall, regional air quality is expected to remain good.

Conclusion — Impacts on regional air quality from increased visitation (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts for other air pollution sources would continue to affect air quality, but the contribution to those impacts from use at Fallen Timbers would be negligible.

Because impacts would not be major and adverse, there would be no impairment of park resources or values.

Vegetation: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of one federally listed threatened plant species, the eastern prairie fringed orchid. After extensive surveys (see appendix D), this species has not been found in any of the park units, and no impacts are expected.

Cumulative Impacts — Management for this species would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements for this species within the region and specific restrictions to preserve it.

Conclusion — No impacts on federally listed plant species are expected because no species have been found.

Because there would be no impact on threatened or endangered plant species, there would be no impairment of park resources or values.

Wildlife: Threatened or Endangered Species or Species of Concern. *Analysis* — All of the park units lie within the range of two federally listed endangered animal species (the Indiana bat and the Karner blue butterfly), one threatened species (the bald eagle), and one federal candidate species (the eastern massasauga). No impacts on the bald eagle are expected because no nest sites have been

identified on or near any park lands, and there is no habitat for the massasauga. Overall visitation levels would remain low, and no changes in time of use are expected. Disturbance of habitat for federally listed species would remain low. Measures proposed by the U.S. Fish and Wildlife Service to protect habitat for the Indiana bat and the Karner blue butterfly include the following:

- *Indiana bat* — If any trees exhibiting characteristics favored by the bat occur in the park units, they and the surrounding trees will be saved wherever possible. If they must be cut, they will not be cut between April 15 and September 15, when the bats could occur in the project area. If desirable trees are present and if this time restriction is unacceptable, then mist net or other surveys will be conducted in June or July to determine if bats are present.
- *Karner blue butterfly* — Native lupine plants would be conserved wherever possible, and such plants would be incorporated into site restoration efforts, green areas, and other project designs where possible.

Cumulative Impacts — Management for these species would continue to follow guidelines from the U.S. Fish and Wildlife Service regarding habitat requirements and specific restrictions to preserve them.

Conclusion — No impacts on federally listed animal species are expected.

Because there would be no impact on threatened or endangered animal species, there would be no impairment of park resources or values.

Partnerships

Analysis — Under alternative D there would be a greater emphasis on partnerships at the battlefield to support interpretive programs and park operations. Similar to the other alternatives, present agreements with the City of Maumee, the Ohio Historical Society, and Heidelberg College would be continued. The following additional agencies or groups have expressed a desire to become involved in park programs: the Fallen Timbers Battlefield Preservation Commission, the Lucas County / Maumee Valley Historical Society, the Toledo Metropolitan Area Council of Governments, the American Indian Intertribal Association, the Maumee Valley Heritage Corridor, Parks Canada, and South Wales Borders. Over the long term the impact of such relationships would be moderate and beneficial, depending on the extent of involvement and financial support.

Cumulative Impacts — Involving a variety of groups in park-related programs would foster a greater sense of stewardship and community support for park activities, similar to alternative B. Under this alternative an emphasis on more regional interpretation and links to other historic sites would have a major, beneficial, long-term impact.

Conclusion — Over the long term the impact of partnerships with other governmental agencies and private organizations would be moderate and beneficial, depending on the extent of involvement and financial support. Under this alternative an emphasis on more regional interpretation and links to other historic sites, along with fostering a greater sense of stewardship, more community involvement, and improved interpretive programs, would have a major, beneficial, long-term impact.

Socioeconomic Impacts

Analysis — As described for alternative B, future visitation at Fallen Timbers Battlefield and Fort Miamis National Historic Site was based on use at Fort Necessity National Battlefield and projected use at Fort Meigs. Fort Necessity's records indicate that the site averages some 89,000 visitors per year, with an economic impact of some $2.42 million, or approximately $27.20 per visitor. (For a breakdown of these numbers, please see appendix E.) However, it is assumed that initially at Fallen Timbers visitation would more closely resemble that at the newly renovated Fort Meigs. Fort Meigs staff estimated that visitation would total 34,000 people in its first full year since renovation. Using the economic impact model for Fort Necessity indicates that this level of use at Fallen Timbers in its first years of operation would result in an economic impact of about $924,500. No major difference in visitation between alternatives was assumed.

Construction is estimated to cost about $8 million under this alternative, the most of any alternative, and individual firms and workers could benefit from these projects. However, the projects would likely be spread over several years, and impacts on the local and regional economies would be negligible, compared to total personal income in Lucas County of $12.9 billion in 2001.

Impacts on the local and regional economies from park operations and maintenance would be negligible at all units.

Cumulative Impacts — Proposed commercial / retail development west of Jerome Road could draw additional tourists into the vicinity of the national historic site, with the greatest impact on the battlefield and the monument because of their proximity. Impacts are expected to be minor to moderate.

Conclusion — Compared to $12.9 billion in total personal income in Lucas County in 2001, the economic impacts on the local and regional economies of annual visitor expenditures (estimated at $924,500 per year), construction costs (about $8 million over several years), and park operations and maintenance would be negligible over the long term. Cumulative impacts of regional development are expected to be minor to moderate.

FALLEN TIMBERS BATTLEFIELD

Cultural Resources

Archeological Resources. *Analysis* — Under alternative D the designation of approximately 151.31 acres as a resource protection zone would help ensure the preservation of archeological resources; this would be the second largest protected area after the preferred alternative. Snowmobile and ATV use would be prohibited. Visitor use would be confined to about 1.6 miles of trails in the higher and lower intensity interpretation zones and seven interpretive nodes in the reflective zone (totaling 19.08 ac.). Even though alternative D would encourage greater visitation, confining use to trails and interpretive nodes would reduce the possibility of off-trail impacts that could occur under alternative C. The increased presence of park personnel and an improved capacity for patrolling would greatly reduce the possibility of looting.

Over the long term a larger resource protection area, where important material on the site remains undisturbed, in conjunction with improved technology in the future, could substantially increase knowledge of the historic events, similar to alternative B. This would be a major, beneficial, long-term impact on the archeology of the site.

Adjacent development would consist of a small visitor center and parking area (5.43 ac.) constructed in previously disturbed areas along Jerome Road. Portions of trails and the interpretive nodes would be in areas previously undisturbed below the plow zone, potentially impacting archeological material. Proposed construction sites or use areas would be evaluated before any ground disturbance to determine whether archeological resources associated with either prehistoric use or the battle could be damaged or lost. Mitigation measures would be taken as appropriate.

As described for the other action alternatives, housing artifacts recovered from the site at the visitor center would allow visitors and researchers to have access to appropriate artifacts for greater understanding of the progression of the battle.

Cumulative Impacts — Cumulative impacts would be similar to alternative B. The construction of the pedestrian bridge across US 24 would be preceded by an archeological survey to ensure that no resources would be adversely affected and that appropriate mitigating measures were taken.

Continued archeological investigations at the battlefield by authorized institutions could add to the knowledge of historic events. This would potentially have a major, beneficial, long-term impact on regional history.

Conclusion — Alternative D would ensure the protection of archeological resources on approximately 151.31 acres in the resource protection zone, the second largest protected area after the preferred alternative. Establishing higher and lower intensity interpretation zones would result in the potential for resource impacts. However, resources would be protected by prohibiting inappropriate recreational activities, confining visitor use to the higher intensity historical interpretation zone, conducting archeological surveys before any ground disturbance, and increasing onsite monitoring and patrols. Resources would be protected in place for future research. Overall, the impact on archeological resources would be major, beneficial, and long term.

In terms of cumulative effects, the planned pedestrian / bicycle bridge over US 24 would be preceded by an archeological survey and appropriate mitigation, and no adverse effects are expected. Any increase in knowledge about historic events would contribute to regional history, resulting in potentially major, beneficial, long-term impacts.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Impacts under alternative D would be similar to those under alternative B, except approximately 151.31 acres of the battlefield would be managed as a resource protection zone, with the goal of eventually restoring a landscape more typical of what existed in 1794. The former agricultural fields would be allowed to return to wet woods by blocking drainage tiles and encouraging natural succession. Identifying the locations of drainage tiles and blocking them would allow the surface hydrology of the site to return to natural cyclic levels. This would create a more historical appearance for those walking through the site, as well as those passing by.

About 1.6 miles of paved and unpaved trails would provide access to most portions of the unit, including seven interpretive nodes. Other than the trails and reflective nodes, the entire site would become a resource protection zone and not accessible to visitors.

The ravine system, which was so significant during the battle, would be preserved, with visitors being able to view the area from an interpretive overlook.

Constructing a visitor center and parking area (5.43 ac. total) in a previously disturbed area adjacent to Jerome Road would have a negligible impact on the historic scene.

A transitional zone would be created along the outer edges of the site to reduce modern intrusions on the cultural landscape, a minor, beneficial, long-term impact. Metroparks would continue to purchase residential housing along the western edge of the battlefield and remove the structures, thus reducing adjacent impacts on the battlefield.

In summary, a more historical appearance throughout the majority of the site would be a major, beneficial, long-term impact. Constructing a small visitor center and developed area would detract slightly from the overall cultural landscape. A system of paved and unpaved trails through the woods would detract to some degree from the wet woods environment. Creating a reflective node near the ravine system would have little impact on the cultural landscape.

Cumulative Impacts — Cumulative impacts would be similar to alternative A except that a transitional zone along US 24 would screen the site from vehicle traffic. The construction of a pedestrian bridge over US 24 and a trail would increase site visitation and have a minor effect on the cultural landscape of the battlefield.

Conclusion — Alternative D would have a major, beneficial, long-term impact on the cultural landscape of Fallen Timbers Battlefield as a result of reestablishing wet wood conditions over 151.31 acres and preserving the ravine system. Constructing about 1.6 miles of trails and seven interpretive nodes would have a minor, adverse, long-term impact on the cultural landscape. Screening adjacent incompatible uses would result in moderate, beneficial, long-term impacts.

There would be no major adverse impacts on the cultural landscape of the battlefield, and there would be no impairment of park resources or values.

Sacred Sites. No sacred sites have been identified by any group at the battlefield site. However, prehistoric or historic graves could be discovered during future development. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the battlefield, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Construction projects would potentially result in short-term, localized impacts on air quality; mitigating measures (such as applying water or dust control agents) would be used to minimize dust. Increased visitation would lead to a minor increase of vehicles, as described under "Impacts Common to All Park Units"; impacts from a maximum of 82 cars per day arriving at the battlefield, with 80% of the use between 9 A.M. and 3 P.M. (about 11 cars per hour), would result in negligible impacts.

Cumulative Impacts — As described for alternative A, in 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Traffic on US 24 would continue to impact air quality within the battlefield, but vegetation in the transitional zone along US 24 would help mitigate adverse effects. Overall, the levels

of emissions from all regional sources would increase slightly, but any adverse impact on air quality would be negligible to minor.

Conclusion — Similar to alternative B, construction-related impacts on air quality would be localized, minor, adverse, and short term. Impacts from additional visitor traffic to the battlefield (estimated at about 82 cars per day during the peak summer season) would be negligible. Cumulative impacts on air quality would be negligible; a transitional zone would help mitigate the effects of traffic on US 24.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative D natural wet woodland conditions would be established on 151.31 acres in the resource protection zone. As described for alternative B, impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns, and reestablishing native vegetation through natural succession. To restore natural drainage patterns, drainage tiles would be blocked.

Constructing approximately 1.6 miles of trails in the higher and lower intensity interpretation zones, plus a parking area and small visitor center in the developed zone, would potentially result in localized, adverse, minor impacts. A total of 24.51 acres in and adjacent to construction areas would be affected. Impacts would be localized and limited to the construction period; using mitigating measures such as applying water or dust control agents would minimize dust. Construction activities would result in minor, adverse, short-term impacts to air quality.

Similar to alternative B, stopping the application of fertilizers would be beneficial for local water quality. Nonnative and exotic species would be controlled by herbicides approved by the Ohio Department of Agriculture and recommended by the ODNR Division of Natural Areas and Preserves and The Nature Conservancy, as described for alternative A. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality. Natural revegetation would reduce sedimentation and stream turbidity by providing woodland plants that act as natural filters. Conducting baseline samples to determine background pH and agricultural chemicals present in the soil would provide an early indication of any adverse effects that might have to be mitigated.

As described for the no-action alternative, approximately 160 acres or 88% of the Fallen Timbers Battlefield consists of soil types that are listed as "prime where drained" in Lucas County (Lucas County Soil and Water Conservation District, Feb. 13, 2003). The use of the approximately 160 acres of the Fallen Timbers Battlefield, of which 120 acres were in agricultural production and the remaining 40 acres were wooded, represents 0.02% of the total prime agricultural land in Lucas County (Lucas County Soil and Water Conservation District, Nov. 2003). The impact of removing this land from agricultural production would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative B. No cumulative impacts on soils have been identified. Water quality is expected to remain good, and any adverse effects from proposed development would be negligible and short term. As described for alternative A, proposed commercial / retail development would divert water from Whidden Ditch to an intermittent stream to the southwest, which would result in no impacts to the battlefield. Runoff along US 24 is diverted into Whidden Ditch, which crosses the highway by means of a 24-inch culvert at the outlet of the large central ravine. Periodic maintenance by the Ohio Department of Transportation removes trash and debris, which might block the culvert. Runoff from Fallen Timbers State Monument is along the south side of the highway and intercepts Whidden Ditch to the northeast.

Conclusion — Similar to alternative B, long-term impacts on soils would be beneficial as a result of stopping agricultural production, slowing erosion, restoring natural drainage patterns, and reestablishing native vegetation through natural succession on 151.31 acres in the resource protection zone. Impacts on soils from construction activities would affect approximately 24.51 acres and would result in localized, minor, adverse, short-term impacts. Taking 120 acres of prime farmland where drained out of production would have a negligible, adverse impact. Overall long-term impacts on water resources would be beneficial.

There would be no major adverse impacts on soil or water resources or values; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under this alternative 151.31 acres through the interior of the site would be designated as a resource protection zone where natural vegetative succession would be allowed. Over time a maple / ash / oak woodland swamp would become reestablished in this area. Periodic herbicide applications would be used to control invasive and exotic plants during the period of revegetation. Only approved herbicides would be used, and no impacts on wildlife are expected because the compounds break down quickly in the soil and water quality is not affected. Within this zone deadfall trees and logs would be allowed to decompose.

Vegetation would be removed along 0.4 mile of trail in the higher intensity historical interpretation zone and along 1.2 miles of trails in the lower intensity interpretation zone. In addition, vegetation would be affected on 16.36 acres in the reflective zone. Removing vegetation in these areas could increase the risk of invasive plant spread. Potentially hazardous trees, those suffering from storm damage, and deadfall trees would be trimmed only along the higher intensity historical interpretation zone and in the lower intensity interpretation zone.

Impacts to vegetation from visitor use would include trampling and compaction of soils along trails; the intensity of impacts would depend on the degree of use. The most intensive use would occur in the higher intensity historical interpretation zone, followed by the lower intensity interpretation zone. The overall impact on vegetation from visitor use would be negligible, adverse, and long term.

As described for alternative B, a viable population of nodding rattlesnake-root (a potential state threatened species) is found in the woodland area of the battlefield. The trail in the higher intensity historical interpretation zone would be located 300 feet to the east of this population, and there would be no adverse impact to this population. Continuing to conduct flora and fauna surveys of the site would ensure that no threatened, endangered, or sensitive species would be affected.

Under this alternative 5.43 acres in the battlefield unit would be used for parking and a small visitor center. Previously disturbed areas east of Jerome Road would be used, so there would be no new impacts to vegetation and wildlife.

Neotropical migrating birds would be attracted to the woodland and succession fields as they reverted to shrub / scrub then wet woodland. Wildlife favoring wet woodland would benefit from expanding the woodland area from the present 60 acres to 151.31 acres over time.

Alternative D would affect a total of about 24.51 acres of vegetation, the greatest amount of any alternative. The long-term impact of construction and visitor use on vegetation and wildlife would be negligible; the overall impact as a result of restoring more natural vegetative conditions throughout the majority of the site would be beneficial, moderate, and long term.

Cumulative Impacts — Cumulative impacts would be similar to the other alternatives. Active and successful fire suppression efforts would continue the trend of increasing fuel loads across the landscape, particularly in this woodland. Impacts would be negligible, long term, and beneficial.

Conclusion — Reestablishing more natural vegetation conditions on approximately 154 acres would result in moderate, beneficial, long-term impacts on vegetation and wildlife. Construction and visitor use would affect a total of 24.51 acres of vegetation and potential wildlife habitat, the greatest amount of any alternative, but long-term impacts would be negligible. Cumulative impacts would be negligible, long term, and beneficial.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative D access and transportation to the battlefield would be similar to current conditions, with drivers arriving from I-80/I-90 and I-475 by way of US 24. A small visitor center would be provided on site, along with parking.

Similar to alternative B, Metroparks, in cooperation with the City of Maumee, would develop a park entry along Jerome Road. This could encourage further interest and access to battlefield facilities, with a minor impact to the local transportation system. During construction of visitor facilities, there could be a minor adverse impact on local traffic.

As described under "Impacts Common to All Park Units," on one day in the peak season there would be an average of 82 vehicles per day traveling to Fallen Timbers Battlefield. It is also assumed that 80% of the use would occur between 9 A.M. and 3 P.M., resulting in about 11 cars per hour, or one car every 5.5 minutes. This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or that a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. The number of vehicles could also be reduced if monument visitors used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there. The projected level of vehicular access to the battlefield would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

Bicycle and walking options would be the same as described for alternative B, with connections to the Wabash Cannonball Trail and the monument by way of a bridge over US 24.

Cumulative Impacts — The impacts of alternative D, combined with past, present, and reasonably foreseeable future actions, would be similar to those described for alternatives B and C. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers Battlefield was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

If the regional transit authority extended regular bus service to the proposed mall, with a stop at the battlefield, the impact would be beneficial because an alternate means of access to the battlefield would be provided.

Connections to the Wabash Cannonball Trail along Jerome Road, with access to the visitor center, would create a minor impact from additional visitation.

Conclusion — Visitors coming to Fallen Timbers Battlefield by vehicle would have negligible to minor, adverse, long-term impacts on the local and regional transportation system (about 11 cars per hour could be expected for six hours a day in the peak summer season). However, this number could be reduced if monument visitors used the proposed pedestrian bridge over US 24 to visit the battlefield instead of driving there, or if they used public transportation. During the construction of visitor facilities there could be a minor adverse impact on local traffic. Cumulative transportation impacts related to commercial / retail development would be moderate.

Visitor Interpretation and Experience. *Analysis* — Alternative D would focus on the key elements of U.S. involvement in the Battle of Fallen Timbers, as well as interpreting the other elements of the story. Visiting all three units would help visitors more fully understand the struggle for the Old Northwest Territory. A small onsite visitor center would offer in-depth interpretation about U.S. involvement in the battle. Artifacts recovered from the battlefield would be housed in the center, allowing visitors to better understand the role of the Legion of the United States. The visitor center would direct visitors to other sites through printed materials and virtual technology. Keeping the site open year-round would increase visitor use at the battlefield.

Several trails, both paved and unpaved, would allow visitors to explore the woods and view the ravine system. Interpretive signs along the trails would provide visitors with further educational information. Interpretive nodes along the trails would offer opportunities for more reflective experiences. A trail leading to the northwest corner of the site would allow visitors to view the battlefield from the American Indian battle line. Apart from the trails and interpretive nodes, the rest of the battlefield would be closed to visitor access and use. Altogether, these actions would result in a major, beneficial, long-term impact on visitor experiences, similar to alternative B. Impacts would result from visitors learning about the importance of historic events through visitor center exhibits and programs, onsite interpretive signs, and tours. Opportunities would also be provided for reflective experiences.

As described for alternatives B and C, alternative D would provide a transitional zone along the outer edges of the battlefield. This zone would help prevent modern intrusions from marring the visitor experience at the battlefield site, particularly along US 24.

Cumulative Impacts — Interpretive opportunities would link the events surrounding the Battle of Fallen Timbers with events at other sites in the region. Under this alternative visitors would have more opportunities to learn about the struggle for the Old Northwest Territory. This would be a moderate beneficial impact. As described for the no-action alternative, visitors to the battlefield could be affected by traffic noise from the I-475 / US 24 interchange, with a negligible to minor impact.

Conclusion — Alternative D would have major, beneficial, long-term impacts on visitor experiences at the Fallen Timbers Battlefield, similar to alternatives B and C. Under this alternative an onsite visitor center would focus on the American perspective of the war and would introduce visitors to a wide variety of options for further experiences within the park and throughout the region. A loop trail system would give visitors access to most areas of the battlefield, including interpretive nodes for more reflective experiences. On a cumulative basis the Battle of Fallen Timbers would be linked with events at other sites in the region, further enhancing visitor learning opportunities.

Land Use

Analysis — Similar to alternative B, an effort would be made to coordinate plans with local governments such as the City of Maumee and its Municipal Planning Commission, as well as the Toledo-

Lucas County Plan Commissions, to ensure that actions would be consistent with local land use plans to the extent possible.

Under alternative D the battlefield would be managed primarily for resource protection, with the re-establishment of more natural vegetative conditions, and invasive and exotic plants would be controlled. A visitor center would be constructed just east of Jerome Road. A higher intensity historical interpretation zone would provide interior access to the site from the visitor center, and a lower intensity interpretation zone would provide access to interpretive nodes throughout the site. Similar to alternatives B and C, a transitional zone would be established to screen incompatible adjacent uses. These management zones would be consistent with local land use plans.

Cumulative Impacts — As described for alternative A, the Maumee and Monclova land use plans would be relied on to prevent impacts to the battlefield as a result of proposed commercial / retail development west of Jerome Road. Maumee's 1998 *Comprehensive Plan Update* ("Exhibit A — General Concepts") shows no changes to Jerome Road, which forms a portion of the western boundary of the battlefield. Approximately 0.5 mile to the west, a Briarfield Boulevard extension from US 20A / Illinois Avenue to the Jerome Road interchange of US 24 is proposed. An intersection at Russell Road should reduce local traffic on Jerome Road. Under the plan Jerome Road is shown as a "buffer" between the battlefield and development to the west ("Exhibit B").

Conclusion — Managing the Fallen Timbers Battlefield as a mix of resource protection and interpretive zones, and providing for visitor use, would not result in any conflict with local land use plans.

Park Operations and Energy Consumption

Analysis — Under alternative D providing park maintenance operations through Side Cut Metropark would be efficient and cost-effective, as described for alternative B. Additional park staff would be required for daily operations, similar to alternatives B and C. Under this alternative there would be a greater emphasis on partnerships with various agencies and organizations interested in the site, requiring additional staff time for coordination. Some maintenance activities, such as litter pickup along roadsides and in the interior, would be accomplished using volunteers where possible to reduce requirements on park staff. TPM methods would ensure the most efficient use of resources. Impacts of increased staffing would be moderate over the long term.

On most of the open fields (151.31 ac.) vegetation would be allowed to succeed naturally, with programs to control invasive and exotic species, similar to alternative B. Fuel consumption would be restricted to equipment needed to maintain the higher intensity historical interpretation zone, the lower intensity interpretation zone, and the developed zone around the visitor center. Where possible, fuel efficient diesel equipment would be used with soy-based fuels.

Under this alternative a small visitor center would be located at the western edge of the site, off Jerome Road. Similar to alternatives B and C, increased security would be the primary responsibility of the Metroparks ranger staff and supplemented by routine patrols by the Maumee Police Department and the Lucas County Sheriff's Department, resulting in a moderate adverse impact on staffing. However, greater protection of site resources would be a major beneficial impact.

Cumulative Impacts — Cumulative impacts would be similar to alternative B. Prevailing winds from the southwest could blow trash into the site from the proposed commercial / retail development across Jerome Road to the west. This trash could be trapped by plantings, berms, and walls in the proposed transitional zone, so cleanup efforts would be confined to a smaller area, a minor beneficial impact.

Conclusion — Locating park maintenance operations off site would be more efficient in terms of personnel and equipment. Allowing natural succession throughout most of the site (151.31 ac.) would reduce intensive maintenance operations, a moderate beneficial impact. Energy consumption would be related to the daily upkeep of the facilities and grounds, resulting in minor, short- and long-term impacts.

Socioeconomic Impacts

Analysis — Constructing a small visitor center would result in a minor, short-term benefit to the local economy as a result of workers staying in the local area and using commercial establishments. Construction companies could also hire local workers, which would temporarily benefit the local economy. Construction costs at the battlefield are estimated at about $3.5 million and would likely be spread over several years. Impacts on the local and regional economies would be negligible compared to total personal income in Lucas County (estimated at $12.9 billion in 2001).

Visitors would have access to visitor facilities on a daily basis. School programs would be established, and visiting students would be encouraged to return with their families. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors could be approximately $924,500, a negligible, beneficial impact locally and regionally.

Cumulative Impacts — Cumulative impacts would be similar to those described in "Impacts Common to All Park Units." Proposed commercial / retail development west of Jerome Road could draw additional tourists to the battlefield area, with minor to moderate, beneficial impacts on the local and regional economies. Local land use plans would help prevent any adverse impacts to the battlefield.

Conclusion — Constructing visitor facilities (estimated cost of about $3.5 million) and opening the battlefield to visitation (estimated annual expenditures of $924,500) would likely result in negligible, beneficial, short- and long-term impacts on the local and regional economies. As described under "Impacts Common to All Park Units," cumulative impacts of regional development would be minor to moderate and beneficial.

FALLEN TIMBERS STATE MONUMENT

Cultural Resources

Archeological Resources. *Analysis* — Constructing a visitor center and recreation trail, and establishing a transitional zone, could result in negligible to minor adverse impacts on archeological resources under alternative D. Preconstruction archeological surveys would be carried out before any proposed ground disturbance related to the visitor center or the recreation trail. This would lessen the likelihood that archeological resources associated with either prehistoric or historic uses would be damaged or lost.

Visitor use could increase at a faster rate under this alternative because of an onsite visitor center and a broader interpretive focus. However, since the site was designed to accommodate visitation, this increased use would have negligible impacts on the archeological and historic resources.

Housing and displaying any artifacts found on the site at the onsite visitor center would make the artifacts easily accessible for research.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Archeological surveys for the US 24 bridge before any construction would add to the knowledge base for the site and potentially for the region. There would be no other cumulative impacts under this alternative.

Conclusion — Constructing a visitor center and recreation trail, and establishing a transitional zone, could result in negligible, adverse, long-term impacts on archeological resources. Preconstruction surveys and evaluations would mitigate any adverse effects. Other than construction of the US 24 bridge, which would be preceded by an archeological survey, no cumulative impacts were identified.

There would be no major adverse impacts on archeological resources under this alternative, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative D most of Fallen Timbers State Monument would be managed as a reflective area (3.98 ac.), similar to alternative B, thus preserving the original design intent, a moderate, beneficial, long-term impact.

Under alternative D a small visitor center would be constructed in the parking area, as opposed to a small kiosk under alternatives B and C. This structure would have a minor, adverse, long-term impact on the cultural landscape. The center would be screened from the monument area by vegetation in a transitional zone (3.57 ac. total), which would lessen the impact from the monument area. The transitional zone would extend along both sides of the monument toward the Maumee River, resulting in a minor, beneficial, long-term impact for visitors at the monument, but an adverse impact in terms of the original design intent for the monument because views of the monument would be blocked from outside areas.

Like alternatives B and C, the construction of a recreation trail around the edge of the site would not detract substantially from the cultural landscape; the impact would be minor, adverse, and long term.

Cumulative Impacts — The construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact on the original design of the monument landscape. Like alternatives B and C, a viewshed protection area toward the Maumee River and outside the park would protect the natural/historic landscape of the Maumee River valley. The impact would be moderate, beneficial, and long term.

Conclusion — Preserving the original landscape design of the monument area (3.98 ac.) would be a moderate, beneficial, long-term impact. Constructing a small visitor center in the parking area, which would be screened from the monument area by vegetation in the transitional zone, would result in a minor, adverse, long-term impact. Generally, the transitional zone would have a minor, beneficial, long-term impact within the monument because incompatible uses and activities would be screened; however, outside the monument views would be obscured, conflicting with the original intent of the monument's design and resulting in a minor, adverse, long-term impact. In terms of cumulative impacts, the construction of the pedestrian bridge and trail would result in a minor, adverse, long-term impact. The viewshed protection area outside the park would preserve historic views toward the river, a moderate, beneficial, long-term impact.

There would be no major adverse impacts on the cultural landscape at the monument, and there would be no impairment of park resources or values.

Historic Structures. As described for alternative A, the monument, which underwent cleaning and preservation treatment in 1998, would be maintained and cleaned as necessary. No adverse impacts are expected.

Sacred Sites. *Analysis* — Impacts on sacred uses at Turkeyfoot Rock would be beneficial, similar to those described under alternative B because inappropriate recreational uses would be prohibited. Bicyclists and other recreationists would be diverted around the site on a recreation trail, which would be screened from the monument area.

Using vegetation to screen the visitor center would reduce its impact on the sacred aspect of the site. The visitor center would also provide an opportunity to educate visitors about uses of the monument by some as a sacred site, potentially fostering a more respectful attitude by visitors.

Cumulative Impacts — Similar to alternative B, no longer allowing use of the monument by local schools for recreational activities would have a minor adverse effect.

Conclusion — This alternative would have a moderate, beneficial, long-term impact on the Turkeyfoot Rock monument because inappropriate recreational uses would be prohibited and interpretation of sacred uses would be provided, potentially fostering a more respectful attitude by visitors.

There would be no major adverse impacts on sacred sites at the monument, and there would be no impairment of park resources or values.

Natural Resources

Air Quality. *Analysis* — As described under alternative B, construction projects under alternative D would potentially result in more dust from soil exposure and disturbance. Mitigating measures, such as applying water or dust control agents, would be implemented to minimize dust from construction activities. Construction-related impacts would be minor, adverse, and short term.

Increased visitation would lead to a negligible to minor increase in the number of vehicles at the monument, with a new visitor center in the parking area. As described for the battlefield unit, there could be a maximum of 82 cars per day arriving at the monument. Assuming peak hours of use would be between 9 A.M. and 3 P.M., about 11 cars per hour would arrive at and leave the monument. Impacts from vehicle emissions would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Airborne sewer odor from the Lucas County wastewater treatment plant, 0.25 mile to the southwest, is noticeable in the monument depending on the season and wind direction. This impact would be somewhat mitigated by vegetation in the transitional zone, which would partially block the transport of pollutants by prevailing winds.

As described for alternative A, in 2000 average daily traffic on I-475 and US 24 near the monument was approximately 80,000 vehicles (ODOT 2000); additional traffic to park units would be an extremely small proportion of the traffic volume and would constitute a negligible impact. Impacts of traffic on US 24 would be partially mitigated by vegetation in the transitional zone, which would help block the transport of pollutants.

Prescribed burning by Metroparks to maintain prairie vegetation in the floodplain below the monument would be conducted in accordance with local fire management plans; adverse impacts are expected to be negligible to minor and short term.

Overall, the levels of emissions from all sources would increase slightly, but any change would be negligible to minor.

Conclusion — Similar to alternative B, alternative D would result in a negligible, adverse, short-term impact on air quality as a result of construction activities. Long-term impacts associated with visitors coming to the monument by vehicle (estimated at about 82 cars per day during the peak summer season) would be negligible. Impacts of traffic on US 24 would be partially mitigated by vegetation in the transitional zone, which would help block the transport of pollutants by prevailing winds, and cumulative impacts would be negligible to minor and adverse over the long term.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative D Fallen Timbers State Monument would be managed similar to alternative B, with a slightly larger transitional zone and a slightly smaller reflective area. Allowing the hillside to succeed back to prairie vegetation would have a minor, beneficial impact on soil quality as a result of reducing overall maintenance, mowing, and fertilizer application. Constructing a 0.2-mile recreation trail would have minor adverse impacts on soils along the trail route. The visitor center would be constructed in a previously disturbed area and would have no additional effects on soils.

Trail construction could impact water quality through ground disturbance, which would result in increased surface runoff and soil erosion. Using best management practices to control soil erosion would minimize sedimentation and turbidity, which would occur only during the period of construction and vegetation recovery. Parking lot runoff would continue to be diverted to the existing roadway storm sewer and to Whidden Ditch to the northeast; overall impacts on water quality would be negligible.

As described for the battlefield, nonnative species would be controlled by periodic applications of approved herbicides. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Road salt washed off of US 24 could locally affect soils along the monument boundary; no other cumulative impacts on soils have been identified. Water quality is expected to remain good.

Conclusion — Alternative D would result in minor, adverse, short-term impacts on soils and water quality as a result of constructing 0.2 mile of trail. No impacts are expected from constructing the visitor center in a previously disturbed area. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources; consequently, there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Most of the monument would be in the reflective zone (3.98 ac.) and would be maintained by mowing and manicuring the landscape and trees in the upland and hillside areas. The hillside would also be part of the reflective zone, but native forbs and grasses would be encouraged. Dead standing native trees would be allowed to remain as cavity nesting areas, unless they presented a direct hazard to visitors. The hillside would be maintained in prairie species by periodic mowing and prescribed burning in coordination with local agencies. Under alternative D vegetation and wildlife at the monument would benefit less from impacts than under alternative C and slightly more than under alternate B as a result of a slightly larger transitional zone.

Similar to alternatives B and C, removing vegetation for 0.2 mile of trail around the edge of the unit from Fallen Timbers Lane to the eastern corner of the site would slightly increase the risk of invasive plant spread, which would be controlled by periodic herbicide applications. As described for the

battlefield, only approved herbicides would be used. Such herbicides have a short-term toxicity specific to invasive plants, break down quickly in soils, and have no effect on water quality. Consequently, no impacts are expected on wildlife. Heavy plantings within the transitional zone and the reestablishment of prairie vegetation on the hillside would provide more habitat for small mammals, raptors, and insect eating birds.

An ongoing flora and fauna survey has not identified any state or federally threatened, endangered, or sensitive plant species.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternatives B and C. The viewshed to the floodplain would be maintained through cooperation with Metroparks, which manages the area between the boundary and the Maumee River as a floodplain prairie. Wildlife favoring woodland edges, shrub / scrub, and grasslands would benefit from plantings in the transitional zone. Prescribed fire would enhance the establishment of native prairie grasses and forbs on the hillside and in the floodplain, decreasing fuel loads in that landscape.

Conclusion — Maintaining existing conditions in the majority of the monument under alternative D would result in no additional impacts on vegetation or wildlife. Allowing native forbs and grasses on the hillside and along the boundary edges would have negligible, long-term, beneficial impacts. Removing limited amounts of vegetation for trail development would have negligible adverse impacts. On a cumulative basis, maintaining the existing floodplain prairie in the viewshed protection area outside the park would result in beneficial, moderate, long-term impacts.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative D access to the monument would be similar to current conditions, by way of the Jerome Road exit of US 24 and Fallen Timbers Drive to a small parking area. Constructing a small visitor center in the parking area would increase interpretation at the monument, potentially attracting more visitors than under the other alternatives. If visitation increased substantially, with more visitors arriving by private vehicle, impacts on the local transportation system could be minor to moderate.

As described for the battlefield, it is estimated that an average of 82 vehicles per day would travel to the Fallen Timbers State Monument during the peak summer season, or about 11 cars per hour between 9 A.M. and 3 P.M. (one car every 5.5 minutes). This projection does not account for higher use on holidays, nor does it take into consideration the likelihood that there could be more than two people per car, or a substantial number of visitors could arrive by public transit or school bus. Any of these scenarios would reduce the number of vehicles per hour. However, this number of vehicles could at the monument be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 instead of driving to the monument. The projected level of use would have a negligible to minor adverse impact on local and regional traffic conditions over the long term.

Bike trail and pedestrian access to the battlefield would be by way of a bridge over US 24 and a connecting trail to River Road and Fort Miamis. A canoe launch would be available at the river to travel downstream to Fort Miamis. Connections to the battlefield and the fort, as well as the Maumee River Road trail, would result in a minor impact on local transportation from additional visitation, similar to alternatives B and C.

During construction activities at the monument, there could be a minor adverse impact on local traffic.

Cumulative Impacts — The impacts of alternative D, in conjunction with past, present, and reasonably foreseeable future actions, would be similar to those described for the battlefield unit and the other alternatives. In 2000 average daily traffic on I-475 and US 24 near Fallen Timbers State Monument was approximately 80,000 vehicles (ODOT 2000). Additional traffic to the park unit under this alternative would be an extremely small proportion of the total traffic volume and would constitute a negligible impact.

Joint efforts by Metroparks, TARTA, and the City of Maumee to provide a bus stop along Fallen Timbers Road could encourage further interest and access to monument facilities, resulting in a moderate beneficial impact in terms of access.

Connections to Wabash Cannonball Trail along Jerome Road would provide access to the monument, with a negligible impact on access and transportation.

Conclusion — Alternative D could result in negligible to minor, adverse, long-term impacts on the local and regional transportation systems (11 cars per hour, the same as for the battlefield). However, this number could be reduced if battlefield visitors used the proposed pedestrian bridge over US 24 to visit the monument instead of driving, or if they used public transportation. Connections to the battlefield and the fort by means of land and water trails would result in a minor impact on local transportation from additional visitation. Establishing a bus stop at the monument could have moderate beneficial impacts. Construction activities at the monument could have a minor impact on local traffic. Similar to alternative A, cumulative impacts related to proposed commercial / retail development could be moderate. Impacts on access to the monument from trail connections to the Wabash Cannonball Trail would be negligible.

Visitor Interpretation and Experience. *Analysis* — Under alternative D interpretation at Fallen Timbers State Monument would commemorate all of the participants in the Battle of Fallen Timbers. Public educational and reflective uses would be encouraged at the site, but no active recreational uses would be allowed except on the recreation trail around the site, similar to alternatives B and C. A small visitor center in the parking area would provide in-depth interpretive information, and appropriate artifacts would be exhibited to enhance the educational aspects of a visit. To fully understand the struggle for the Old Northwest Territory, visitors would be encouraged through printed materials and virtual technology to go to the other park units, as well as sites throughout the region. This would require a greater time commitment for visitors, although the essential elements of the story would be communicated at the park units.

Visitors would also have the opportunity to view the original landscape design at the monument. Similar to alternatives B and C, a transitional zone around the site would enhance the visitor experience by screening incompatible adjacent uses and activities.

Cumulative Impacts — Alternative D would provide visitors with a wide variety of optional experiences for learning about the struggle for the Old Northwest Territory, with a moderate, beneficial impact. Partnerships with other historical institutions would be particularly beneficial under this alternative. As described for the no-action alternative, visitors to the battlefield could be affected by traffic noise from I-475 and US 24, with a negligible to minor impact. Similar to alternatives B and C, a viewshed protection area for the Maumee River valley outside the park would enhance the visitor experience by maintaining more of a historic scene.

Conclusion — Alternative D would have major, beneficial, long-term impacts on visitor experiences because an onsite visitor center would offer expanded interpretation and there would be a greater emphasis on incorporating the national historic site into regionwide interpretive programs. Screening incompatible adjacent uses would enhance onsite visitor experiences. Cumulative impacts would be moderate and beneficial over the long term because of a greater emphasis on regional history. Protecting the viewshed of the Maumee River valley would help preserve historic views toward the river, the same as alternatives B and C

Land Use

Analysis — As described for the battlefield unit and alternative B, planning efforts would be coordinated with the Ohio Historical Society, the City of Maumee and its Municipal Planning Commission, as well as the Toledo-Lucas County Plan Commissions, to ensure that any actions were consistent with local plans to the extent possible. The monument would continue to be operated by Metroparks under an agreement with the Ohio Historical Society. No changes in adjacent land uses are expected, and present boundaries would be maintained.

Under alternative D the monument would be managed similar to now, as a reflective zone, except a small visitor center would be constructed in the parking area to more fully interpret the site. A transitional zone adjacent to Fallen Timbers Drive and along each side boundary would screen uses and activities on adjacent lands. Management zones under alternative D would be consistent with local plans.

Cumulative Impacts — As described under the no-action alternative, the proposed connecting trail to the Wabash Cannonball Trail would result in a negligible impact to land uses and would be consistent with local land use plans. A viewshed protection area outside the park would preserve opportunities for viewing the floodplain prairie and the Maumee River.

Conclusion — Under alternative D monument lands would be managed similar to present conditions. The addition of a small visitor center in the parking area and a recreation trail would be consistent with local plans. A viewshed protection area in the floodplain outside the park would maintain the historical open appearance.

Park Operations and Energy Consumption

Analysis — The monument is operated by Metroparks under an agreement with the Ohio Historical Society. Managing park operations from Side Cut Metropark would be cost-effective and efficient, similar to the other alternatives. Under alternative D park operations would increase because of an onsite visitor center. As described for the battlefield unit, there would be a greater emphasis on partnerships with various agencies and organizations interested in the site, requiring additional staff time for coordination; this function would likely be centralized for all three park units. Additional staffing would be provided on site under this alternative for visitor services. Establishing a slightly larger transitional zone would slightly reduce mowing. Using volunteers to help with periodic roadside and interior litter pickup would reduce demands on park staff, a negligible beneficial impact.

Energy consumption for routine maintenance operations (the monuments, the perimeter fence, and the parking area) would increase slightly because of the visitor center, a negligible adverse impact.

Cumulative Impacts — The impacts of alternative D, combined with the impacts of past, present, and reasonably foreseeable future actions, would be similar to those described for the other alternatives. Similar to the battlefield unit, trash blown into the site would be stopped by vegetation and structures in the transitional zone, so cleanup efforts would be confined to a smaller area, a minor beneficial impact.

Maintaining the previously proposed trail around the monument unit, which would link to the Wabash Cannonball Trail, would be an additional responsibility for Metroparks staff, a minor adverse impact.

Conclusion — Continuing to manage park maintenance operations from an offsite location would be cost-effective over the long term and would have a negligible impact on the monument. Maintaining the visitor center, the perimeter fence, and the recreation trail would be additional responsibilities for Metroparks staff, a minor adverse impact. Energy consumption would be related to the daily maintenance operations, with a minor impact.

Socioeconomic Impacts

Analysis — Construction costs at the monument are estimated at about $2.4 million, which could be spread over several years. During construction there would be a temporary economic benefit from workers staying in the local area and using commercial establishments. Construction companies also could hire local workers, which would temporarily benefit the local economy. However, impacts on the local and regional economies would be negligible

As described under "Impacts Common to All Park Units," visitor expenditures would potentially total approximately $924,500 in the first years of operation, based on 34,000 visitors. Free access to the site would be enhanced by a recreation trail to the battlefield. Schools would be encouraged to visit, with students urged to return with their families. Overall, economic impacts would be negligible, beneficial, and short and long term, both locally and regionally.

Cumulative Impacts — Cumulative impacts would be similar to alternative A. Constructing the connecting recreation trail, in conjunction with a visitor center and links to other regional interpretive sites, could result in a minor, beneficial, long-term impact on the local economy.

Conclusion — Construction costs at the monument (estimated at about $2.4 million) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Cumulative impacts, as described under "Impacts Common to All Park Units," would range from minor to moderate as a result of commercial / retail development.

FORT MIAMIS

Cultural Resources

Archeological Resources. *Analysis* — Under alternative D the major portion of the site (4.28 ac.) would be managed for historic preservation. A larger developed zone (1.05 ac.) along the north and west edges of the unit would provide parking and a small visitor center, thus reducing the size of the historic preservation zone compared to alternative B. All forms of active recreation would be prohibited, and access within this zone would be restricted to those with written permission from the managing entity. The potential for looting would be reduced through an increased presence of park personnel and regular patrols. Visitor awareness of the delicate archeological nature of the site would be

conveyed at the onsite visitor center in the parking area, helping foster a conservation ethic. Altogether these protection effects would have a major, beneficial, long-term impact on archeological resources at Fort Miamis.

Preconstruction archeological surveys and evaluations would be carried out before any ground disturbance associated with constructing the parking area and the visitor center and a hard-surface trail or elevated walkway to the vicinity of the fort. These measures would lessen the likelihood that archeological resources associated with the fort or with prehistoric or historic uses of the site would be damaged or lost.

Housing and conserving any artifacts found at the fort unit at the onsite visitor center would make them readily available for research and study.

Cumulative Impacts — As described for alternative B, substantially reducing looting could protect the value of archeological resources at the site for future study, with potential major beneficial contributions to regional history.

Conclusion — Alternative D would have a major, beneficial, long-term impact on archeological resources at Fort Miamis. This would result mainly from managing a large portion of the site (4.28 ac.) for historical interpretation, restricting visitor use to the higher intensity historical interpretation zone, prohibiting active recreational uses, and increasing the presence of park personnel and patrolling to lessen the potential for looting. Any adverse effects potentially associated with the construction of a parking area and visitor center (1.05 ac.) would be mitigated through archeological surveys and evaluations before any ground disturbance. With regard to cumulative impacts, ensuring the preservation of resources for future study could result in major beneficial contributions to regional history.

There would be no major adverse effects on archeological resources, and there would be no impairment of park resources or values.

Cultural Landscape. *Analysis* — Under alternative D the majority of the Fort Miamis unit would be managed as a historic preservation zone (4.28 ac.), and visitor access, as well as recreational activities, would be prohibited. Visitor access would only be allowed in the higher intensity historical interpretation zone, with a viewing area for visitors to see the fort remnants. Similar to alternatives B and C, access to the fortifications would be allowed for research purposes but would require a permit. These actions would result in major, beneficial, long-term impacts.

An expanded developed zone and the construction of a visitor center would intrude on the cultural landscape once visitors left the center and ventured out-of-doors to view the earthworks and the Maumee River. Even though the visitor center would not affect the remnants of the fort, they would lessen the historic "feel" of the site. A paved trail leading to an overlook of the fort would detract slightly from the cultural landscape, a minor adverse impact.

Providing in-depth interpretation at the visitor center would educate visitors about the delicate nature of the fort earthworks and archeological resources. Increased presence of personnel and patrolling would help alleviate the potential for looting. The resulting impacts of these actions on archeological resources would be minor to moderate, beneficial, and long term.

As described under alternatives B and C, erosion control structures would be maintained along the Maumee River to protect the edge of the fort from further erosion. This would result in a beneficial impact.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative B. Adjacent development would continue to detract from the landscape that would have been present in 1794, a minor, adverse, long-term impact. Establishing a viewshed protection area outside the park boundaries and including the islands in the Maumee River would help preserve the historical appearance of the landscape, a moderate beneficial impact.

Conclusion — Preserving the majority of the Fort Miamis unit as a historic preservation zone (4.28 ac.) and limiting visitor access to the higher intensity historical interpretation zone (0.11 ac.) would result in a major, beneficial, long-term impact on the historic cultural landscape. Erosion control structures along the Maumee River would have a beneficial impact. Moderate adverse impacts would result from enlarging the parking area and constructing a small, onsite visitor center, which could be seen from the fort site. On a cumulative basis, adjacent development would continue to intrude on the historic cultural landscape, a minor adverse effect. Establishing a viewshed protection area would help preserve the historical appearance of the river landscape, a moderate beneficial impact.

There would be no major adverse impacts on the cultural landscape at Fort Miamis, and there would be no impairment of park resources or values.

Historic Structures. *Analysis* — Prohibiting inappropriate recreational activities at the site would stop further deterioration of the original fabric, a major, beneficial, long-term impact. Providing in-depth interpretation at the onsite visitor center would educate visitors about the delicate nature of the fort earthworks and encourage their protection. Continuing to control erosion along the Maumee River would help prevent further loss of historic remnants of the fort structure.

Cumulative Impacts — Protecting historic remnants of the fort would maintain a visible link to formative events in our nation's history, a major beneficial impact.

Conclusion — Prohibiting inappropriate recreational activities at Fort Miamis, educating visitors about the delicate nature of the historic remnants at the onsite visitor center, and controlling erosion along the riverbank would protect the historic remnants of the fort, a major, beneficial, long-term impact. On a cumulative basis protecting the remaining landforms would maintain a visible link to formative events in our nation's history.

Because there would be no major adverse impacts, there would be no impairment of park resources or values.

Sacred Sites. As described for alternative B, no sacred sites have been identified by any group at Fort Miamis. However, prehistoric or historic graves could be discovered during future development. Therefore, every effort would be made to leave such sites in place. In addition, areas for development would be assessed prior to construction to avoid disturbing prehistoric or historic graves. If such sites were identified during the assessment period, development would be relocated. No impacts on sacred sites are expected at the fort, and park resources and values would not be impaired.

Natural Resources

Air Quality. *Analysis* — Under alternative D construction projects, including an expanded parking area and a small visitor center, could result in increased dust from soil exposure and disturbance. However, this effect, which would occur only during the construction period, and mitigating measures (e.g., applying water or dust control agents) would minimize dust generation. Construction activities would result in a minor, adverse, short-term impact on air quality.

Increased visitation would lead to a minor increase in vehicles at the fort, with parking across River Road. As described for the other two units, there could be a maximum of 82 cars per day arriving at the fort, or about 11 cars per hour between 9 A.M. and 3 P.M. Impacts from vehicle emissions would be negligible.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Air quality along River Road and Michigan Street would continue to be affected to a negligible degree by vehicle emissions. Vegetation in the historic preservation zone would help mitigate the effects of vehicle emissions by acting as a natural buffer. Overall, the levels of emissions from all sources would increase slightly, but any change would be negligible, and air quality would not change measurably over the long term.

Conclusion — Similar to alternative B, construction-related impacts on air quality would be localized, minor, adverse, and short term. Alternative B would have a negligible adverse impact on air quality as a result of more visitors coming to the site by vehicle (estimated at about 82 cars per day during the peak summer season). Over the long term impacts on air quality would be negligible to minor.

There would be no major adverse impacts on air quality; consequently, there would be no impairment of park resources or values.

Soils and Water Resources. *Analysis* — Under alternative D recreational sledding and all-terrain bicycle use would cease at the fort, the same as the other alternatives. Natural succession would occur in the 4.28-acre historic preservation zone, along with reseeding some areas with native grasses and forbs to prevent erosion, resulting in a moderate, beneficial, long-term impact on soils and water quality.

Adverse impacts to soils would be limited to enlarging the parking area at the northwest end of the site and constructing a small visitor center, which would affect 1.05 acres, plus 0.06 mile (331 feet or 0.11 ac.) to an overlook of the fort, for a total impact of 1.16 acres. Construction could increase surface runoff and erosion; however, due to the limited extent of the proposed development, and the use of best management practices to control erosion, increased sedimentation and turbidity would be minimal and limited to the period of construction and vegetation recovery. Construction would result in minor, short-term impacts on soils and water resources. Parking area runoff would continue to be collected by catch basins to a storm sewer along River Road and would not result in any additional adverse impacts to water quality.

Cumulative Impacts — Cumulative impacts would be similar to those described for alternative A. Water quality is expected to remain good as soils are stabilized, and any adverse effects from proposed development outside the park would be negligible and short term.

Conclusion — Alternative D would result in minor, adverse, short-term impacts on soils and water resources from enlarging the parking area, constructing a small visitor center, and building 331 feet of trail to a fort overlook (total of 1.16 ac. affected). Reestablishing native plant species on 4.28 acres in the historic preservation zone through natural succession would help prevent erosion in the future, resulting in moderate, beneficial, long-term impacts on soils and water quality. Cumulative impacts would be negligible.

There would be no major adverse impacts on soils or water resources, and there would be no impairment of park resources or values.

Vegetation and Wildlife. *Analysis* — Under alternative D vegetation in the historic preservation zone (4.28 ac.), the major part of the unit, would be managed to encourage natural succession, consisting of

native grasses and forbs. The area would be periodically mowed to prevent the establishment of woody species, but no public use would be allowed, so there would be no related use impacts in this zone. Herbicide applications would be used to control invasive and exotic species. The historic preservation zone would also include the hillside, and preservation methods would include bank stabilization; dead standing trees would be removed using techniques so as not to uproot soils and disturb elements of the site

Under this alternative a 1.05-acre developed zone, including a parking area and small visitor center, would have a minor impact on vegetation because this area was previously disturbed by the installation of a city storm sewer. Vegetation in the relatively small higher intensity historical interpretation zone (0.11 ac.) would be routinely mowed and maintained.

Native grasses and forbs in the historic preservation zone would have a minor, long-term impact on wildlife. Fuel loading at the site would be expected to be negligible. Vegetation and wildlife would continue to be monitored by Metroparks staff, with additions made to the flora and fauna lists as species are identified.

Cumulative Impacts — Cumulative impacts would be similar to the other alternatives. Natural succession in the hillside area, supplemented with seeds planted from local genotypes, would result in a beneficial, minor, long-term impact because native vegetation communities would be reestablished. Wildlife favoring riparian corridors would benefit from the habitat provided.

Conclusion — Alternative D would result in a moderate, beneficial, long-term impact on vegetation and wildlife as a result of managing most of the unit as a historic preservation zone. Development would affect a total of 1.16 acres in the development zone and the higher intensity historical interpretation zone, with a minor adverse impact. Cumulative impacts would be beneficial, minor, and long term.

There would be no major adverse impacts on vegetation or wildlife resources or values; consequently, there would be no impairment of park resources or values.

Visitor Use

Access and Transportation. *Analysis* — Under alternative D access to Fort Miamis would be similar to current conditions. A waterway connection along the river would be maintained.

Under this alternative a parking area for cars and buses would be provided along the northwest corner of the site, and a small visitor center would be constructed. Alternative D could have negligible to minor, long-term impacts on the local and regional transportation systems (assuming 11 cars per hour, for six hours a day, during the peak summer season, the same as for the battlefield and the monument). Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction there could be a minor impact on local traffic. An onsite visitor center could have minor impacts on access.

Connections to the other units and the Maumee River Road trail would create a minor impact on access and transportation to the extent that visitation increased.

Cumulative Impacts — Cumulative impacts would be similar to those described for the other alternatives. A bus stop at the fort would have a minor beneficial impact on access.

Conclusion — Alternative D could have negligible to minor, long-term impacts on the local and regional transportation systems (assuming 11 cars per hour, for six hours a day, during the peak summer season, the same as for the battlefield and the monument). An onsite visitor center could have minor impacts on access. Connections to the battlefield and the monument by means of land and water trails would result in a minor impact on local transportation from additional visitation. During construction there could be a minor impact on local traffic. Establishing a bus stop at the fort site would have a minor beneficial impact.

Visitor Interpretation and Experience. *Analysis* — Under alternative D the majority of the Fort Miamis unit would be managed for historic preservation, similar to alternative B, with recreational uses prohibited. An onsite visitor center would help focus the interpretive program on Euro-American involvement in the Battle of Fallen Timbers, with explanations of later events, including the Treaty of Greenville, the settlement of the Maumee River valley, the fur trade, and the War of 1812. Visitors would be encouraged to visit the battlefield and the monument, as well as other sites throughout the region. Printed materials, signs, and virtual technology would all be used to offer comprehensive interpretation of the historic events. Artifacts displayed in the visitor center would help visitors understand the story.

Interpretive signs along the trail from the visitor center to the southern portion of the earthworks would give visitors in-depth information about the battle. Guided walks and other special programs would also enhance the visitor experience.

Because of an expanded interpretive program under alternative D, visitors would have a wide variety of options to fully understand the history and settlement of the Maumee Valley. Visitors would be able to determine how much time they wanted to spend in learning about the entire story of the struggle for the Old Northwest Territory. Partnerships with other historical institutions would benefit under this alternative because interconnections with other sites would be emphasized.

Cumulative Impacts — Cumulative impacts would be similar to alternatives B and C, but expanded efforts to relate Fallen Timbers Battlefield and Fort Miamis to other regional sites, and encouraging visitors to go to these sites as well, would offer the broadest level of interpretation. Over the long term impacts would be major and beneficial.

As described for the no-action alternative, sound levels at Fort Miamis are expected to range from negligible to minor due to the residential area and secondary street classification of River Road with its 25 mph speed limit.

Conclusion — Alternative D would have a major, beneficial, long-term impact on visitor experiences at Fort Miamis, which would be enhanced by providing a small, onsite visitor center and by actively connecting the site to other historic sites that were involved in the development of the region. On a cumulative basis, impacts from expanded regional interpretation would be major and beneficial.

Land Use

Analysis — As described for alternative B, planning efforts would be coordinated with the City of Maumee and its Municipal Planning Commission to ensure that any actions were consistent with local plans to the extent possible. The fort is operated by the City of Maumee. Similar to alternatives B and C, prohibiting active recreational uses on the historic fort landforms and stabilizing them would help ensure their long-term preservation, a major beneficial impact. This would be the highest and best use of this nationally significant site. This use would also far exceed the foreclosure of recreational uses,

which could take place at many other locations throughout the region, where they would not damage a nationally significant historic site. No adjacent land use changes are expected, and present boundaries would be maintained.

Providing a small visitor center and managing the interior portion for historic preservation, with vegetation in open areas allowed to revert through natural succession to native grasses and forbs, would be consistent with local land use plans.

Cumulative Impacts — As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties. Within the viewshed areas of the fort, Audubon Islands State Nature Preserve and Metroparks have restricted development on the island, which is being managed as a natural area, with removal of invasive vegetation and prescribed burns. Metroparks is also in the process of acquiring the 3-acre island that is owned by the 577 Foundation in the Maumee River to preserve it in its undeveloped state. These actions would result in moderate, beneficial, long-term impacts.

Conclusion — Managing most of the fort site for historic preservation would help ensure the long-term preservation of this National Historic Landmark, a major beneficial impact. This would be the highest and best use of this nationally significant site. Land use management plans would be consistent with local plans. On a cumulative basis, managing the Audubon Islands as a state nature preserve and acquiring a 3-acre island in the Maumee River would help protect the historic scene from Fort Miamis, resulting in moderate, beneficial, long-term impacts.

Park Operations and Energy Consumption

Analysis — Under alternative D Metroparks would take the lead in providing interpretive programs and site maintenance. Managing most of the Fort Miamis unit as a historic preservation zone, similar to alternative B, would reduce maintenance requirements over the long term, although initially efforts would be required to stabilize and restore the historic earthworks. As described for the battlefield unit, there would be a greater emphasis on partnerships with various agencies and organizations interested in the site, requiring additional staff time for coordination; this function would likely be centralized for all three park units. Using volunteers for periodic roadside and interior litter pickup would reduce demands on park staff, a beneficial impact. Providing a visitor center onsite would result in additional staff needs for operations and interpretation, resulting in a moderate impact.

Under alternative D energy consumption for routine maintenance operations would be reduced slightly from current conditions because more of the area would be allowed to revert to native grasses and forbs, only requiring annual mowing to prevent woody plant growth.

Cumulative Impacts — No cumulative impacts have been identified.

Conclusion — Park maintenance would continue to be managed from off site, resulting in a negligible impact. Providing a visitor center onsite would result in additional staff needs for operations and interpretation, resulting in a moderate impact. Energy consumption for routine maintenance would result in a minor, long-term impact.

Socioeconomic Impacts

Analysis — Impacts under alternative D would be similar to those under alternative B. Preserving the nationally significant fort site would have moderate beneficial economic impacts over the long term because the site's significance would be interpreted for the benefit of all visitors now and in the future. As described for alternative B, stopping active recreational activities in order to protect the historic remnants of the fort would have an adverse impact on local users but no additional economic impact.

During construction, there would be minor, short-term economic benefits from workers staying in the local area and using commercial establishments. Construction companies could also hire local workers, temporarily benefiting individuals and local businesses. Construction costs of about $2.5 million at the fort would have a negligible, beneficial, short-term impact on the local and regional economies.

Under alternative D providing a small visitor center on site and connecting Fort Miamis to other historic sites in the region would enhance interpretive opportunities. Free access to the site would be maintained. As described under "Impacts Common to All Park Units," the economic impact of 34,000 annual visitors to all park units could be approximately $924,500, a negligible beneficial impact locally and regionally over the short and long terms.

Cumulative Impacts — Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies. As described for alternative A, the City of Maumee currently has no comprehensive plan for the fort or for adjacent properties.

Conclusion — Construction costs at the fort (estimated at about $2.5 million) and annual visitor expenditures would have negligible, beneficial, short- and long-term impacts on the local and regional economies. Prohibitions on recreational activities such as sledding and mountain biking would adversely affect local residents, but there would be no additional economic impact. Providing a small visitor center on site and connecting Fort Miamis to other historic sites in the region would further enhance interpretive opportunities, possibly resulting in additional socioeconomic benefits. Cumulative impacts would be similar to those described under "Impacts Common to All Park Units," ranging from minor to moderate for the local and regional economies.

UNAVOIDABLE ADVERSE IMPACTS

Soils and vegetation removed in the development zone (totaling 7.16 acres for all three units) would be an unavoidable adverse impact.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Returning the majority of the battlefield unit to natural vegetative conditions would enhance long-term productivity.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There would be no irreversible and irretrievable commitments of resources.

CONSULTATION AND COORDINATION



PUBLIC INVOLVEMENT IN THE DEVELOPMENT OF THE DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

The notice of intent to prepare a general management plan and environmental impact statement for Fallen Timbers Battlefield and Fort Miamis National Historic Site was published in the *Federal Register* on March 26, 2002 (67 FR (no. 58): 13799–800).

A news release dated March 8, 2002, was sent to local and regional media announcing the first public scoping meeting. Advertisements were also placed in *The Blade,* a daily newspaper in Toledo, and *The Mirror,* a weekly newspaper in Maumee, during the week prior to the meeting. A newsletter was also mailed in early March to the individuals and organizations involved in the planning process and a mailing list of interested citizens and organizations compiled by the Fallen Timbers Battlefield Preservation Commission. Copies of the newsletter were also circulated to the 19 branches of the Toledo-Lucas County Public Library. The newsletter described the planning process, announced the scoping meeting, and gave a tentative schedule for development of the general management plan.

The planning team conducted the initial scooping meeting March 12 in two, open-house style sessions at the Maumee Branch of the Toledo-Lucas County Public Library. A total of 150 people attended the two sessions to express comments, concerns, and suggestions related to the national historic site.

Comments were also solicited by means of a survey distributed with the newsletter. A total of 62 surveys were returned by March 31, 2002, the deadline.

A second meeting was held in two sessions on August 27, 2002, at the same location to present draft alternatives and solicit responses from the public. A newsletter, including descriptions and maps of each alternative, was distributed to the mailing list and through the library system prior to the meeting. A total of 35 people attended the meetings, and 33 surveys or written comments were returned.

The local media reported on each of the public meetings.

COMMENTS AND RESPONSES ON THE DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

The *Draft General Management Plan / Environmental Impact Statement* was available for public review from March 10 to June 3, 2004. Two public forums were held to discuss the draft plan and to answer questions. The first forum was on March 10, 2004, at the Maumee Public Library and included a formal presentation. It was attended by roughly 125 people and was covered by the local news media. The second forum was on April 28, 2004, and offered a drop-in opportunity for the public to engage one-on-one with Toledo Metroparks staff about the document. Only a few people attended the second forum.

In addition to comments gathered during these forums, 13 written comments were received. These comments were sorted to determine which of them could be considered substantive according to the regulations of the Council on Environmental Quality for implementing the National Environmental Policy Act (40 CFR 1503.4). The regulations require that the National Park Service respond to substantive comments. Substantive comments are those which (1) question the accuracy of the information/data provided, (2) question the adequacy of the environmental analysis, (3) present reasonable alternatives to those presented in the draft document, or (4) cause changes or revisions in the preferred alternative. Comments that could be considered substantive were then grouped into similar themes. Summaries of these comments and responses to them follow. Written comments that were considered substantive are reprinted beginning on page 219; addresses of individuals commenting on the draft document have been blacked out to protect their privacy.

COMMENT THEME: VISITOR EXPERIENCE AT THE BATTLEFIELD AND FORT

Comments: Comments within this theme ranged from questions about how visitors will be prevented from moving off trail or using the sites inappropriately (e.g., sledding and mountain biking at Fort Miamis) to questions about why such prevention is needed at the battlefield. Commenters who favored more movement about the battlefield and fort cited the desire to more directly experience the resource. These commenters felt that such free movement would not damage the resource, especially considering prior use of the battlefield site for farming. One commenter noted that the alternative that allowed more freedom of movement scored very close to the preferred alternative during the Choosing-by-Advantages evaluation process.

> ***Commenters:*** U.S. Environmental Protection Agency, Rick Kolhoff, Kenneth Pauken, Jeff Johns, four public meeting comments (March 10, 2004)

Response to Comments: Expanding the trail at the battlefield so that it makes a complete loop would enhance the visitor experience, with only negligible additional impact to the resource. By reconfiguring the trail at the battlefield in the preferred alternative, this advantage of alternative C has been incorporated into the preferred alternative. Note that the map of the preferred alternative shows a longer loop trail at the battlefield than in the draft document.

However, free movement about the battlefield and the fort, or a longer trail at the fort, would risk damaging these resources. Visitors would be restricted to walking and to using the paths at both sites. The intention is to build the battlefield path as a raised boardwalk in order to (1) emphasize the importance

of staying on the trail; (2) minimize damage to archeological resources; and (3) minimize maintenance on the trail.

COMMENT THEME: TYPE OF DEVELOPMENT AND PROGRAMMING AT THE BATTLEFIELD

Comments: Real "fallen timbers" should be placed on the ground to approximate the appearance of the battle, and living history with re-enactors should be considered. One commenter suggested that the park collaborate with the Chamber of Commerce in building a visitor center, linking to their planned development.

> ***Commenters:*** Fallen Timbers Battlefield Preservation Commission (Gary C. Newnham, Treasurer), Tamara Urbas, public meeting comment (March 10, 2004)

Response to Comments: The intention is not to literally recreate the appearance of the battle by, for example, felling trees to create the "fallen timbers" for which the battle is named (these timbers resulted from tornado damage a few years prior to the battle), but rather to use interpretation to explain the past appearance of the battlefield, including the role that the fallen timbers had in the battle. Living history using re-enactors is one way in which the battle would be interpreted. The plan calls for a visitor center and parking in the vicinity of Jerome Road. Collaborating with the Chamber of Commerce might be an option to be pursued and, if in this general area, would be consistent with this plan.

COMMENT THEME: VEGETATION

Comments: The park should more aggressively return the sites to natural conditions by, for example, using nursery plants and a nurse crop to encourage natural succession at the battlefield, incorporating native plants in transitional zones, and mixing native plants in with the cultural landscape at the monument.

> ***Commenter:*** U.S. Environmental Protection Agency

Response to Comment: While using native plants in transitional zones is the intention of the plan, using native plants in restoring the cultural landscape at the monument would not be consistent with the original monument landscaping plan from 1954. Natural succession by controlling exotics, as opposed to proactively planting, is preferable from the perspective of protecting archeological resources. The overarching intent of natural succession at the battlefield is not a quick succession to natural conditions, but rather a return to natural conditions without disturbing archeological resources.

COMMENT THEME: EXTENT OF THE PARK

Comments: A few commenters suggested that more resources in the area and/or relevant to the time period be included in the national historic site.

> ***Commenters:*** Richard F. Brown Jr., Maumee Valley Historical Society (Charles M. Jacobs, Executive Director), Kenneth Pauken

Response to Comments: The legislation establishing the Fallen Timbers Battlefield and Fort Miamis National Historic Site as an affiliated area of the national park system specifically describes the

boundaries of this park to include only the battlefield, the monument, and the fort. Information about related sites in the region will be available at the park.

COMMENT THEME: TRANSPORTATION BETWEEN SITES WITHIN THE PARK

Comments: Because Fallen Timbers Battlefield and Fort Miamis National Historic Site comprises three areas separated by as much as 4 miles, a few commenters recommended that a shuttle system, by road and/or river, be part of the plan.

Commenters: Tamara Urbas, public meeting comment (March 10, 2004)

Response to Comments: With adequate funding and appropriate river conditions that allow for safe travel, a waterway connection between the monument and the fort might be a future possibility and would be consistent with the alternatives discussed in the *Draft General Management Plan / Environmental Impact Statement.* It is a current practice of Toledo Metroparks to arrange for shuttles during peak events at parks. Additionally, public transportation links are being pursued between the sections of the park with the Toledo Area Regional Transit Authority (TARTA), as described in the linkages section of the plan.

COMMENT THEME: AREA OF DEVELOPMENT AT THE FORT

Comments: It was suggested that the map showing the development area for a kiosk at Fort Miamis was too prescribed. Rather than singling out one lot as an appropriate placement for a kiosk, other locations in the vicinity should be considered.

Commenters: Rick Kolhoff, public meeting comment (March 10, 2004)

Response to Comments: The area on the map of the preferred alternative that indicates potential locations for a kiosk and parking near the fort has been expanded to indicate that these services would be developed in the general vicinity across River Road.

COMMENT THEME: EXTENT OF FORT MIAMIS

Comment: A question was asked about whether or not the underwater remains of Fort Miamis are part of the national historic site.

Commenter: Public meeting comment (March 10, 2004)

Response to Comment: The water lot is not now within the Fort Miamis boundary. However, Metroparks would like to pursue necessary permission to do archeological work there and, depending on the results of that work, would pursue preservation options.

COMMENT THEME: TREATMENT OF ALL THREE SITES

Comment: A question was asked about whether all three areas of this national historic site were "treated the same."

Commenter: Public meeting comment (March 10, 2004)

Response to Comment: Various management prescriptions were considered for each site — the battlefield, the monument, and the fort. The prescriptions would be applied differently to achieve the appropriate balance of visitor experience and preservation goals.

LIST OF AGENCIES AND ORGANIZATIONS FOR THE FINAL ENVIRONMENTAL IMPACT STATEMENT

An asterisk indicates that a comment was received on the *Draft General Management Plan / Environmental Impact Statement.*

Ohio Congressional Representatives

Representative Marcy Kaptur
Senator Mike De Wine
Senator George Voinovich

Federal Agencies

Advisory Council on Historic Preservation
Department of the Interior
    National Park Service, Midwest Regional Office
    United States Fish and Wildlife Service
Environmental Protection Agency*

American Indian Tribes

Delaware Nation
Miami Nation of Oklahoma
Seneca-Cayuga Nation

State Agencies

Ohio Bicentennial Commission
Ohio Department of Natural Resources
Ohio Historic Preservation Office

Local Agencies

City of Maumee, Ohio
    Municipal Planning Commission
City of Toledo, Ohio
Toledo Area Rapid Transit Authority
Toledo-Lucas County Plan Commissions
Toledo Metropolitan Area Council of Governments

Organizations

577 Foundation
American Indian Intertribal Association
Daughters of the American Revolution
Fallen Timbers Battlefield Preservation Commission*
Greater Toledo Civil War Round Table
Heidelberg College
Lucas County/Maumee Valley Historical Society
Maumee Valley Heritage Corridor
Maumee Valley Historical Society*
Ohio Historical Society
Ohio Society Sons of the American Revolution
Toledo-Lucas County Public Library
Wolcott Museum Guild

Individuals

Richard F. Brown, Jr.*
Jeff Johns*
Rick Kolhoff*
Kenneth Pauken*
Tamara Urbas*

SUBSTANTIVE WRITTEN COMMENTS ON THE DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 2 7 2004

REPLY TO THE ATTENTION OF:

B19-J

Mr. Nick Chevance
Regional Environmental Coordinator
National Park Service
Midwest Region
1709 Jackson Street
Omaha, Nebraska 68102-2571

RE: Comments on the Draft General Management Plan (GMP)/Environmental Impact Statement (DEIS) for Fallen Timbers Battlefield and Fort Miamis National Historic Site, DES-04-08, Lucas County, Ohio CEQ#: 040143

Dear Mr. Chevance:

The U.S. Environmental Protection Agency (U.S. EPA) has received the document listed above. Under the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations, and Section 309 of the Clean Air Act, U.S. EPA reviews and comments on major federal actions.

In the GMP/DEIS, the National Park Service proposes alternatives for the management and public use of Fallen Timbers Battlefield and Fort Miamis National Historic Site. The national historic site contains three units–the battlefield, the state monument and the fort. The alternative that is chosen as the plan will guide the management of the three units over the next 15 to 20 years. The document describes a preferred alternative (B), and three other alternatives (A, C, and D). Alternative A is the no-action alternative. Alternatives B, C, and D propose varying degrees of protecting historic resources, enhancing visitor experiences, paving trails and reestablishing native vegetation.

U.S. EPA rates the Draft Environmental Impact Statement (DEIS) and the preferred alternative B as **LO, Lack of Objection.** We commend the National Park Service (NPS) and Toledo Metroparks for limiting invasive plant species, encouraging native plant succession and limiting visitor access to help establish plants and protect cultural resources. U.S. EPA has two questions regarding visitor access and waste receptacles. We also have suggestions regarding native plants.

PUBLIC ACCESS

The Fallen Timbers battlefield would have a trail accessible to all visitors, but no other areas beyond the trail would be open to them (see page 30 of DEIS). How would visitors be restricted from entering the other areas? For example, alternative C would give guided tours using this trail.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (40% Postconsumer)

WASTE RECEPTACLES

Does the NPS have any guidance pertaining to the use of recycling and trash containers for these types of sites? If there is guidance, please include those Best Management Practices that relate to the preferred alternative in the Final Environmental Impact Statement.

NATIVE PLANTS

We suggest using native plants for the planting in the transitional zones. Additionally, we suggest that the state monument incorporate some native landscaping in combination with the traditional landscaping that exists. This will follow more closely 65 Fed. Reg., No.81, pg 24603 Presidential Memorandum and set new standards of beauty in landscaping for the population to emulate. A sign identifying the native and non-native plants used in the landscape design would help the public understand how to combine the plants on their own property for the desired effect.

We suggest the use of nursery-propagated transplants for those natives which are difficult to propogate from seed. Seeding and/or nursery plants are preferred to using natural succession. When seeding is implemented, we also suggest the use of a non-propogating nurse crop to help slower-growing natives take root.

The DEIS was presented in an organized manner that provided most of the needed information. If you have any questions regarding U.S. EPA's comments, please contact Julie Guenther at (312) 886-3172 or email her at guenther.julia@epa.gov.

Sincerely,

Kenneth A. Westlake, Chief
Environmental Planning and Evaluation Branch

Enclosures: (1) *Summary of Rating Definitions and Followup Actions*

cc: James Speck, Director of Planning
Metropolitan Park District of the Toledo Area
5100 W. Central Ave.
Toledo, OH 43615-2100

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment



April 7, 2004

James Speck, Director of Planning
Metropolitan Park District of the Toledo Area
5100 W. Central Ave.
Toledo, Ohio 43615-2100

Dear Mr. Speck:

In my capacity as treasurer of the Fallen Timbers Battlefield Preservation Commission, I have enclosed a brochure for the San Jacinto Battlefield State Historical Park. I believe that the programs and exhibits there, particularly the multi-image presentation, can serve as a model for the visitor's center at Fallen Timbers Battlefield. Additionally, I would like to see fallen timbers on the grounds of the battlefield to approximate the conditions faced by the opposing forces at the time of the battle in 1794.

Sincerely,

Gary C. Newnham

Gary C. Newnham

Editor's Note: The brochure referred to by Mr. Newnham has not been reprinted.

Maumee Valley Historical Society

1864 MAUMEE VALLEY HISTORICAL SOCIETY 2004
140 YEARS
"Seven Score in O-Four"

Mr. James Speck, Director of Planning
Metropolitan Park District of the Toledo Area
5100 W. Central Ave.
Toledo, OH 43615-2100

March 10, 2004

RE: Fallen Timbers Battlefield and Fort Miamis National Historic Site
Draft General Management Plan/Environmental Impact Statement

Dear Jim:

Congratulations to you, your staff, and the National Park Service/United States Department of the Interior on your ambitious enterprise, the draft of the General Management Plan and Environmental Impact Statement. Indeed, it represents many, many hours of careful deliberation, as well as the integration of a variety of ideas from a variety of sources, both internal and external.

I will share the draft with our Executive Committee come its March (15th) meeting, and propose that at that time we comment on the Plan & Statement in an "official" manner. However, as Wolcott House curator and a former Fallen Timbers Battlefield Preservation Commission trustee, I feel personally obliged and compelled to respond with a few preliminary observations, suggestions, et al.

First and foremost, although the Wolcott House Museum Complex and Fort Meigs State Memorial are designated as "Sites of Interest," and passing references to these historic properties are sprinkled throughout the text, no serious effort/attempt has been to integrate them "organically" into the Plan. To paraphrase my 2002 report, *Linkage: The Wolcott House Museum as an Integral Link in the Fallen Timbers-Wayne Monument-Ft. Miamis Chain* (attached),

> ***Our Complex has the promise and potential of becoming one of the stronger links in the lower Maumee Valley heritage corridor, that chain between the Monument and Fort Miamis ... Both Meigs and our Complex offer wonderful opportunities for public appreciation of our historic resources. It would certainly be a great shame not to integrate them, in a substantial and significant way, into the management plan.***

1031 River Road • Maumee, Ohio 43537
Telephone 419-893-9602 • Fax 419-893-3108

The Wolcott House, with its kindred interpretive themes and scope (e.g., trade, settlement, multiculturalism, land use), merits serious consideration in all the alternative proposals. I encourage a symbiotic relationship in which our site contributes to the public appreciation of the cultural and natural landscapes, and in turn, the historic corridor provides context, contrast, as well as confirmation for the Maumee museum's educational mission and purposes. I do believe that the Plan does need to formally and substantively define and recognize the roles of the Wolcott House Museum and the greater Maumee Valley Historical Society (by the by, the official county agency dedicated to the study, collection, preservation, and interpretation of our local and regional heritage). Although "Partnerships" are addressed in the Plan's descriptions of the various alternatives, I fear that the proposed "over the long term" approach (see page 121) is a little like putting the cart before the horse.

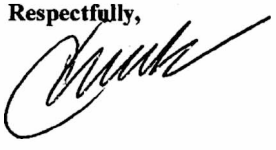
Along these lines, I cannot detect much of a "Native American voice" throughout the text. From previous experience, I know that many American Indian representatives do like to be involved with a relevant, major, public, and educational program from its inception, not consulted when the project has matured into 241 page draft. (Granted, the American Indian Intertribal Association took an active role and had significant input, but what of the Miami, the Ottawa, the Shawnee ....?)

One pet interest of mine that I feel merits consideration is the appreciation and documentation of the greater historic corridor as a 19th and 20th century cultural landscape. What were the former locations of Turkey Foot Rock? Does the public realize that River Road was one our county's first concrete thoroughfares? Where's the location of Presque Isle Post Office? What's all that interesting rubble along the riverbank below the Monument? And what's left of the original access road to the Monument?

Finally, in very general terms, as well as specific reference to the Alternatives, I would like to echo Mies van der Rohe's philosophy, *Less is more.*

Thank you for your consideration, keep up the good work, and all the best in this long and involved process (and thanks for allowing me to be a part of it!).

Respectfully,



Charles M. Jacobs

May 3, 2004

Mr. James Speck
Director of Planning
Metropolitan Park District of the Toledo Area
5100 West Central Avenue
Toledo, OH 43615-2100

Dear Mr. Speck:

I am writing to let you know I support the preferred alternative (Alternative B) general management plan for the Fallen Timbers Battlefield/Fort Miamis National Historic Site. It is wonderful to see coordinated preservation efforts taking place to protect historic battlefields and military sites in the Great Lakes region and to include them in the National Park system. It is my hope that other pivotal battlefields located in this region, such as Tippecanoe Battlefield near Lafayette, Indiana and River Raisin Battlefield in Monroe, Michigan can receive similar recognition in the future.

It is unfortunate that when Americans think of battlefields, their thoughts tend to be of places outside of the Great Lakes region. Most may not even be aware of the important historic events that unfolded here between the Revolutionary War and the conclusion of the War of 1812 to shape both the United States and Canada. I believe a comprehensive effort should be made between government agencies and preservation organizations in Ohio, Indiana, Michigan, and Ontario, in concert with the National Park Service and Parks Canada to preserve and protect as many remaining sites as possible and present their story in a manner that educates and informs visitors and residents alike. Options could include:

- Expanding the focus of the Maumee Valley Heritage Corridor to encompass all of Western Lake Erie and its tributaries; or
- Creating sub-corridors (or heritage trails) that focus specifically on the War of 1812, General Anthony Wayne, and/or Little Turtle.

The battles, military posts, and related events which took place in an arc around western Lake Erie and its tributaries such as Fallen Timbers, River Raisin, Perry's Victory, Fort Stephenson, St. Clair's Defeat/Fort Recovery, Harmar's Defeat, Fort Meigs, Fort Malden, Brownstown, Monguagon, Thames/Moraviantown, and River Canard should become familiar, especially to residents and students of this region. What better opportunity than during the roughly 20-year time span connecting all their 200th anniversaries. In addition, the increased awareness will enhance these sites (and the communities their located in) as tourist destinations in the same manner that Civil War and Revolutionary War sites are in the east and south.

Page 2

Our family has stopped at the Fallen Timbers Monument on past travels. We are looking forward to a future trip to the battlefield itself and the new visitor's center. Congratulations to the Toledo Metroparks, the National Park Service, and other agencies, individuals and organizations involved in this impressive achievement. If there is any way I can assist in these efforts, please let me know.

Sincerely,

Richard F. Brown, Jr., AICP

[redacted]

Fallen Timbers Battlefield and Fort Miamis National Historic Site
Comment Form, Page 1 of 3
March 10, 2004

Please provide us with your ideas for the Fallen Timbers Battlefield and Fort Miamis National Historic Site. If you need more space, feel free to attach additional pages to this form. Your responses will be the most helpful to us if you tell us why you like or dislike a particular item and how you would improve it. Please submit your comments by May 12, 2004.

I like the plans for the Memorial and the Fort Miamis sites. I am, however, very disappointed in the plan for the Battlefield itself. It is way too conservative. For years, a great portion of the Battlefield was used for farming. Opening up the site with a more extensive trail system can't hurt.

Are the management areas (zones) appropriate for preferred Alternative B? Are there any aspects of Alternative C and Alternative D that should be integrated into the preferred alternative?

Battlefield
Developed Zone: _____

Transitional Zone: _____

Higher Intensity Historical Interpretation Zone: I would like to see a crushed-stone, circular trail similar to plan

Recreation Trail Zone: D installed.

Resource Protection Zone: _____

Fallen Timbers Memorial
Developed Zone: _____

Transitional Zone: _____

Reflective Zone: _____

Recreation Trail Zone: _____

Fallen Timbers Battle and Fort Miamis National Historic Site
Comment Form, Page 2 of 3

Fort Miamis
Developed Zone: _____

Historic Preservation Zone: _____

Higher Intensity Historical Interpretation Zone: _____

Should more of the cultural resources (ground disturbance, resource protection, level of preservation and level of intrusion) be impacted in order to allow additional and easier access onto the battlefield, monument and fort site? Why?

YES. At the presentation, there was a lot of talk about the spiritual and/or reflective experience the trail system should offer. What could be more emotional than running or walking on a soft, natural circular trail through the whole battlefield?

In what way can the richness of the visitor experience be enhanced?

Opportunities for emotional engagement: Drop the finger-like, paved trail plan and adopt a natural (wood-chip or crushed stone) circular trail plan.

Opportunities for intellectual engagement: Maintain the kiosk or story-board plan but expand it over an enlarged trail.

Potential for immersion into the experience: _____

Aesthetic appreciation of the site(s): Limit paving on the site.

Diversity of the experience: Expand the trail!!

Fallen Timbers Battle and Fort Miamis National Historic Site
Comment Form, Page 3 of 3

Is there anything else you would like us to know about the plans for the Fallen Timbers Battlefield and Fort Miamis National Historic Site? Please write your name and address below. If you are representing an organization, please include the name of that organization.

Once again, I was very disappointed in the preferred trail plain. I am a great supporter of the Metroparks but I see one disturbing trend. I call it the "urbanization" of the parks. The increasing amount of paved trails within the parks (exs: Swan Creek and Oak Openings) is destroying the natural experience we are supposed to have in a metropark. I live near Swan Creek Metropark but I rarely visit it since it became "Walbridge Park West."

Our practice is to make comments, including names and addresses of respondents available for public review during regular business hours. We will not consider anonymous comments. However, individual respondents may request that we withhold their addresses from the rule-making record, which we will honor to the extent allowable by law. There also may be circumstances in which we may withhold *from* the record a respondent's identify, as allowable by law. If you wish us to withhold your name and/or address, *you* must state this prominently at the beginning of your comments. 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.

Jeff Johns
[redacted]

Name: Rick Kolhoff

[redacted]

Comments: For the most part Plan B does a good job, however the is 1 change I'd make. All battlefield parks I've been to (Gettysburg, Antietam & Chickamunga) the visitor can roam just about anywhere on the field but as I understand Plan B this kind of activity would be restricted at FTBP, mostly to people with special permits, while everyone else would have to stay on the marked pathways. I think it would enhance the visitor's experience if they where allowed on the field. Also since the plan was drafted the site at the SW corner of Michigan & River Rds., that was designated for a visitor kiosk and parking for Ft. Miamis, has been sold to a new owner & he refurbished it. If it's no longer availible why not just move across Michigan St. to the NW corner and use the old Koral Hamburger shop for the same thing.

This Comment was Created on 05/27/2004

Fallen Timbers Battlefield and Fort Miamis National Historic Site
Comment Form, Page 1 of 3
March 10, 2004

Please provide us with your ideas for the Fallen Timbers Battlefield and Fort Miamis National Historic Site. If you need more space, feel free to attach additional pages to this form. Your responses will be the most helpful to us if you tell us why you like or dislike a particular item and how you would improve it. Please submit your comments by May 12, 2004.

Alt. B is the best. It is practical and achievable. I like it.

Are the management areas (zones) appropriate for preferred Alternative B? Are there any aspects of Alternative C and Alternative D that should be integrated into the preferred alternative?

Battlefield
Developed Zone: Loosen up on keeping visitors on the "edge." Let us wander a little — walk about.

Transitional Zone: _____

Higher Intensity Historical Interpretation Zone: _____

Recreation Trail Zone: _____

Resource Protection Zone: _____

Fallen Timbers Memorial
Developed Zone: _____

Transitional Zone: _____

Reflective Zone: _____

Recreation Trail Zone: _____

Fallen Timbers Battle and Fort Miamis National Historic Site
Comment Form, Page 2 of 3

Fort Miamis
Developed Zone: _____

Historic Preservation Zone: _____

Higher Intensity Historical Interpretation Zone: _____

Should more of the cultural resources (ground disturbance, resource protection, level of preservation and level of intrusion) be impacted in order to allow additional and easier access onto the battlefield, monument and fort site? Why?

(yes) let the visitor walk in the footsteps of the soldiers & indians, Stand in the gun emplacements at Fort Miamis and look out over the river, (I have done this at Mackinac (SP) and in Roman ruins in Paris and placed my hands on masonry carved 2000 yrs ago; Now that was a visitor experience!)

In what way can the richness of the visitor experience be enhanced?

Opportunities for emotional engagement: _____

_____

Opportunities for intellectual engagement: _____

_____

Potential for immersion into the experience: X

_____

Aesthetic appreciation of the site(s): X

_____

Diversity of the experience: _____

_____

Fallen Timbers Battle and Fort Miamis National Historic Site
Comment Form, Page 3 of 3

Is there anything else you would like us to know about the plans for the Fallen Timbers Battlefield and Fort Miamis National Historic Site? Please write your name and address below. If you are representing an organization, please include the name of that organization.

The linkages should have markers describing, e.g.,
where gun batteries were located in ~~Maumee~~ what is
now Maumee (St Joseph church, Presbyterian church)
Dudley's Massacre at the present library site.
Include other points of interest re. The canal days:
point out the locks, the tow path, the existing
canal bed. Present day Detroit Ave in Maumee
started as an indian trail from the river to Detroit.
Shortest route north from the river rapids crossing -
what does FATI stand for? No explanation was given.
also - any planting to be done at the battlefield will be
promptly eaten by the deer unless protected for years to come.

Our practice is to make comments, including names and addresses of respondents available for public review during regular business hours. We will not consider anonymous comments. However, individual respondents may request that we withhold their addresses from the rule-making record, which we will honor to the extent allowable by law. There also may be circumstances in which we may withhold from the record a respondent's identify, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comments. 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.

Excellent work on the project to date!

Submitted by:

KENNETH PAUKEN

[redacted]

Fallen Timbers Battlefield and Fort Miamis National Historic Site
Comment Form, Page 1 of 3
March 10, 2004

Please provide us with your ideas for the Fallen Timbers Battlefield and Fort Miamis National Historic Site. If you need more space, feel free to attach additional pages to this form. Your responses will be the most helpful to us if you tell us why you like or dislike a particular item and how you would improve it. Please submit your comments by May 12, 2004.

I support Plan B but hope it might be a little more flexible. I would like to see Living History using reenactors used perhaps only at certain dates. Visitors would remain in restricted areas to view but reenactors might intrude into other areas just for the event. This visual experience would enrich the visitors' grasp of the history here, at all 3 sites.

In the future I think a waterway connection between the 3 sites perhaps only on event weekends would increase tourism and enrich the visitor experience. A shuttle bus or minivan to run between sites during special events would be appreciated by many esp. "out of towners". The bike connections are great for those able to use them.

Are the management areas (zones) appropriate for preferred Alternative B? Are there any aspects of Alternative C and Alternative D that should be integrated into the preferred alternative?

Battlefield
Developed Zone: _____

Transitional Zone: _____

Higher Intensity Historical Interpretation Zone: _____

Recreation Trail Zone: _____

Resource Protection Zone: _____

Fallen Timbers Memorial
Developed Zone: _____

Transitional Zone: _____

Reflective Zone: _____

Recreation Trail Zone: _____

Editor's note: There were no comments on page 2 of the comment form.

Fallen Timbers Battle and Fort Miamis National Historic Site
Comment Form, Page 3 of 3

Is there anything else you would like us to know about the plans for the Fallen Timbers Battlefield and Fort Miamis National Historic Site? Please write your name and address below. If you are representing an organization, please include the name of that organization.

Thanks to all those putting in long hours on this.

Tamara Urbas

[redacted]

Our practice is to make comments, including names and addresses of respondents available for public review during regular business hours. We will not consider anonymous comments. However, individual respondents may request that we withhold their addresses from the rule-making record, which we will honor to the extent allowable by law. There also may be circumstances in which we may withhold from the record a respondent's identify, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comments. 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.

APPENDIXES
GLOSSARY
SELECTED BIBLIOGRAPHY
PREPARERS

APPENDIX A: LEGISLATION AND LEGAL CONTRACTS

Public Law 106–164
106th Congress

An Act

Dec. 9, 1999
[S. 548]

To establish the Fallen Timbers Battlefield and Fort Miamis National Historical Site in the State of Ohio.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Fallen Timbers Battlefield and Fort Miamis National Historic Site Act of 1999.
16 USC 461 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Fallen Timbers Battlefield and Fort Miamis National Historic Site Act of 1999".

SEC. 2. DEFINITIONS.

As used in this Act:

(1) The term "historic site" means the Fallen Timbers Battlefield and Monument and Fort Miamis National Historic Site established by section 4 of this Act.

(2) The term "management plan" means the general management plan developed pursuant to section 5(d).

(3) The term "Secretary" means the Secretary of the Interior.

(4) The term "management entity" means the Metropolitan Park District of the Toledo Area.

(5) The term "technical assistance" means any guidance, advice, or other aid, other than financial assistance, provided by the Secretary.

SEC. 3. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds the following:

(1) The 185-acre Fallen Timbers Battlefield is the site of the 1794 battle between General Anthony Wayne and a confederation of Native American tribes led by Little Turtle and Blue Jacket.

(2) Fort Miamis was occupied by General Wayne's legion from 1796 to 1798.

(3) In the spring of 1813, British troops, led by General Henry Proctor, landed at Fort Miamis and attacked the fort twice, without success.

(4) Fort Miamis and Fallen Timbers Battlefield are in Lucas County, Ohio, in the city of Maumee.

(5) The 9-acre Fallen Timbers Battlefield Monument is listed as a National Historic Landmark.

(6) Fort Miamis is listed in the National Register of Historic Places as a historic site.

(7) In 1959, the Fallen Timbers Battlefield was included in the National Survey of Historic Sites and Buildings as 1

of 22 sites representing the "Advance of the Frontier, 1763–1830".

(8) In 1960, the Fallen Timbers Battlefield was designated as a National Historic Landmark.

(b) PURPOSES.—The purposes of this Act are—

(1) to recognize and preserve the 185-acre Fallen Timbers Battlefield site;

(2) to recognize and preserve the Fort Miamis site;

(3) to formalize the linkage of the Fallen Timbers Battlefield and Monument to Fort Miamis;

(4) to preserve and interpret United States military history and Native American culture during the period from 1794 through 1813;

(5) to provide assistance to the State of Ohio, political subdivisions of the State, and nonprofit organizations in the State to implement the management plan and develop programs that will preserve and interpret the historical, cultural, natural, recreational and scenic resources of the historic site; and

(6) to authorize the Secretary to provide technical assistance to the State of Ohio, political subdivisions of the State, and nonprofit organizations in the State, including the Ohio Historical Society, the city of Maumee, the Maumee Valley Heritage Corridor, the Fallen Timbers Battlefield Commission, Heidelberg College, the city of Toledo, and the Metropark District of the Toledo Area, to implement the management plan.

SEC. 4. ESTABLISHMENT OF THE FALLEN TIMBERS BATTLEFIELD AND FORT MIAMIS NATIONAL HISTORIC SITE.

(a) IN GENERAL.—There is established, as an affiliated area of the National Park System, the Fallen Timbers Battlefield and Fort Miamis National Historic Site in the State of Ohio.

(b) DESCRIPTION.—The historic site is comprised of the following as generally depicted on the map entitled Fallen Timbers Battlefield and Fort Miamis National Historical Site-proposed, number NHS–FTFM, and dated May 1999:

(1) The Fallen Timbers site, comprised generally of the following:

(A) The Fallen Timbers Battlefield site, consisting of an approximately 185-acre parcel located north of U.S. 24, west of U.S. 23/I–475, south of the Norfolk and Western Railroad line, and east of Jerome Road.

(B) The approximately 9-acre Fallen Timbers Battlefield Monument, located south of U.S. 24; and

(2) The Fort Miamis Park site.

(c) MAP.—The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.

SEC. 5. ADMINISTRATION OF HISTORIC SITES.

(a) APPLICABILITY OF NATIONAL PARK SYSTEM LAWS.—The historic site shall be administered in a manner consistent with this Act and all laws generally applicable to units of the National Park System, including the Act of August 25, 1916 (16 U.S.C. 1, 2–4; commonly known as the National Park Service Organic Act), and the Act of August 21, 1935 (16 U.S.C. 461 et seq.; commonly known as the Historic Sites, Buildings, and Antiquities Act).

(b) COOPERATIVE AGREEMENT.—The Secretary may enter into a cooperative agreement with the management entity to provide technical assistance to ensure the marking, research, interpretation,

education and preservation of the Fallen Timbers Battlefield and Fort Miamis National Historic Site.

(c) REIMBURSEMENT.—Any payment made by the Secretary pursuant to this section shall be subject to an agreement that conversion, use, or disposal of the project so assisted for purposes contrary to the purposes of this section as determined by the Secretary, shall result in a right of the United States to reimbursement of all funds made available to such project or the proportion of the increased value of the project attributable to such funds as determined at the time of such conversion, use, or disposal, whichever is greater.

Deadlines.

(d) GENERAL MANAGEMENT PLAN.—

(1) IN GENERAL.—The Secretary, in consultation with the management entity and Native American tribes whose ancestors were involved in events at these sites, shall develop a general management plan for the historic site. The plan shall be prepared in accordance with section 12(b) of Public Law 91–383 (16 U.S.C. 1a–1 et seq.; commonly known as the National Park System General Authorities Act).

(2) COMPLETION.—The plan shall be completed not later than 2 years after the date funds are made available.

(3) TRANSMITTAL.—Not later than 30 days after completion of the plan, the Secretary shall provide a copy of the plan to the Committee on Energy and Natural Resources of the Senate and the Committee on Resources of the House of Representatives.

SEC. 6. AUTHORIZATION OF APPROPRIATIONS

There is authorized to be appropriated such funds as are necessary to carry out this Act.

Approved December 9, 1999.

LEGISLATIVE HISTORY—S. 548:

SENATE REPORTS: No. 106–64 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 145 (1999):
Oct. 14, considered and passed Senate.
Nov. 18, considered and passed House.

○

CONTRACT

This Contract is made between the Ohio Historical Society, an Ohio corporation not for profit, hereinafter "OHS," and the Metropolitan Park District of the Toledo Area, hereinafter "MPD."

WHEREAS, OHS is authorized by Section 149.30, Revised Code, to protect and maintain a state memorial known as Fallen Timbers, which memorial is located on the real estate described on the attached Exhibit A, and

WHEREAS, OHS has determined that it would be in the public interest to contract with MPD to manage the site, and MPD has agreed to accept responsibility for management of the site in accordance with the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the mutual promises enumerated below, OHS hereby grants to MPD full authority to manage the real estate described on the attached Exhibit A, and MPD accepts responsibility for management of such real estate without cost to OHS commencing on June 1, 1982, and continuing in perpetuity unless and until this contract is cancelled by either party as provided herein, on the following conditions:

1. The MPD shall preserve the natural and historic elements of the site;

2. The MPD shall, upon written authorization by the Director of the OHS to the Director-Secretary of the MPD, maintain access to the site for scientific research and study;

3. The MPD shall, for the period of this contract, allow cost-free access to the site for current members of OHS;

4. The MPD shall, in signs, literature and appropriate symbols, recognize the OHS's interest in the site;

5. The MPD shall operate the site as part of the MPD park system, and shall maintain and encourage public access to the site during usual MPD park operating hours, and shall enforce MPD rules and regulations and erect suitable MPD identification and regulatory signs at the site;

6. The OHS shall restore the Battle of Fallen Timbers monument to a condition acceptable to both parties within one year after the first effective day of this contract;

7. It is mutually agreed that during the period of this contract any public assessment costs shall be paid by MPD.

8. It is mutually agreed that the MPD ~~shall~~ may plan developments at the site as part of the development of the contiguous MPD parkland, in cooperation with the OHS, and shall develop

in accordance with a mutually approved plan for the benefit of the public. The MPD shall obtain written approval from the Director of OHS to construct new facilities or to alter or remove existing facilities at the site. It is further agreed that during the period of this contract the cost of any capital improvements to the property shall be equally divided between the two parties, provided the expenditure for such improvements is authorized in writing by both parties in advance. If the contract is terminated by the MPD, the MPD shall relinquish all of its interest in any such improvements. If the contract is terminated by OHS, the MPD shall be reimbursed for any capital improvements constructed five (5) years or less before the termination notification date. Such reimbursement shall be based on cost less depreciation computed at a rate of twenty (20) percent per year.

9. It is mutually agreed that, at two-year intervals commencing two years after the first effective day of the contract, the Directors of MPD and OHS (or their designated agents) shall meet to review overall plans for management and operation of the areas covered by this contract.

10. MPD shall have no authority to incur any liability for or in the name of OHS without its written authorization. OHS shall not be liable to compensate MPD for any services performed or expenses incurred by MPD under this contract.

Further, so long as the MPD maintains control and management of the site by the terms of this contract, the MPD shall hold the OHS harmless from any liability for personal injury or property damage incurred at the site, save for latent defects in the property caused at a time prior to the date of this contract which the MPD could not have discovered in the exercise of reasonable diligence.

It is further agreed that either party may, upon ninety (90) days written notice, cancel this contract. This contract shall continue in perpetuity unless and until cancelled by either party as provided above.

WHEREFORE, the parties hereto, the Ohio Historical Society and the Metropolitan Park District of the Toledo Area, through their appropriate officers, affix their signatures hereto as evidence of their mutual intent to be bound by the terms of this contract.

THE OHIO HISTORICAL SOCIETY

By: Robert F. Eberger
President, Board of Trustees

Date: 5-20-82

By: Gary C. Ness
Director, Ohio Historical Society

WITNESS:
Jettie C. Hess

METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA

Date: May 13, 1982

By:
Robert N. Metz, Director-Secretary

WITNESS:
Dorothy J. Buckele

By: John W. Yager
John W. Yager, President

EXHIBIT "A"

LEGAL DESCRIPTION FOR FALLEN TIMBERS STATE PARK

All that part of River Tract 29, Town 1, United States Reserve of 12 miles square at the foot of the Rapids of the Miami and Lake Erie, in Monclova Township, Lucas County, Ohio, bounded and described as follows:

Beginning at a point on the Southerly right-of-way line of Fallen Timbers Lane, said point being 245.38 feet Northeasterly of the interesection of said Southerly right-of-way line of Fallen Timbers Lane with the West line of River Tract 29, said point also being the Northwesterly corner of Fallen Timbers State Park and the Northeasterly corner of Fallen Timbers Plat One, as recorded in Volume 76, Page 56 of the Lucas County Plat Record; thence Northeasterly along the Southerly right-of-way line of Fallen Timbers Lane, same also being the Northerly boundary line of Fallen Timbers State Park for a distance of 225.00 feet to intersect the Westerly right-of-way line of Fallen Timbers State Park Road; thence Southerly along the Westerly right-of-way line of Fallen Timbers State Park Road for a distance of 20.00 feet to a point; thence Northeasterly crossing the right-of-way of Fallen Timbers State Park Road and continuing Northeasterly along the Northerly line of Lots 1 and 2 in Fallen Timbers Subdivision, as recorded in Volume 46, Page 6 of the Lucas County Plat Record, for a distance of 275.17 feet to the Northeasterly corner of said Lot 2; thence Southeasterly along the Easterly line of said Lot 2, also being the Easterly line of Fallen Timbers State Park and also being the Westerly line of Lot 3 in said Fallen Timbers Subdivision, a distance of 701.07 feet more or less to an iron pipe monument at the southeast corner of said Fallen Timbers State Park, thence deflecting right 90° 00'00" for a distance of 500 feet more or less along the southerly line of said Fallen Timbers State Park to an iron pipe monument at the southwest corner of said Fallen Timbers State Park, thence deflecting right 90° 00'00" along the easterly side of the said Fallen Timbers Plat One and also along the Westerly line of Fallen Timbers State Park for a distance of 724 feet, more or less, to the point of beginning; containing 8.18 acres more or less and subject to all rights-of-way, easements, restrictions, etc. which are a matter of record.

JEW:ag/4-30-82

EDITOR'S NOTE: During the time that the *Draft General Management Plan / Environmental Impact Statement* was being prepared, the City of Maumee owned and managed the city park containing Fort Miamis. To draw attention to Fort Miamis as a nationally significant historic site and to manage it as described in this *Final General Management Plan / Environmental Impact Statement,* which requires the prohibition of incompatible activities such as sledding, the Maumee City Council voted to return ownership of Fort Miamis to Metroparks. The following is a copy of the resolution adopted by the City Council on November 7, 2005.

ORDINANCE NO. 243 - 2005

AUTHORIZING ADMINISTRATION TO NEGOTIATE WITH BOARD OF PARK COMMISSIONS OF METROPARKS OF TOLEDO AREA RELATIVE TO TRANSFER OF TITLE TO FORT MIAMIS PARK, AUTHORIZING EXECUTION OF AGREEMENTS BETWEEN THE CITY OF MAUMEE AND BOARD OF PARK COMMISSIONS OF METROPARKS OF TOLEDO AREA RELATIVE TO SAME, AND DECLARING AN EMERGENCY.

BE IT ORDAINED by the Council of the City of Maumee, Ohio, that:

SECTION 1. The Mayor and the Municipal Clerk be, and they hereby are, authorized, by and with the advice of the Law Director, on behalf of the City of Maumee, Ohio, to negotiate and to execute and enter into an agreement or agreements with Board Of Park Commissions of Metroparks Of Toledo Area for the transfer of title to Fort Miamis Park from the City of Maumee to the Board Of Park Commissions of Metroparks Of Toledo Area, for the sum of $1.00, and to execute all documents and do all things necessary for the transfer of title to such property from the City of Maumee, Ohio, to the Board Of Park Commissions Of Metroparks of Toledo Area.

SECTION 2. It is hereby found and determined that all formal actions of this Council concerning and relating to the passage of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council and any of its

committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Revised Code of Ohio.

SECTION 3. This Ordinance is hereby declared to be an emergency measure and shall take effect and be in force immediately from and after its passage. The reason for the emergency lies in the fact that this Ordinance is necessary for the immediate preservation of the public peace, health and safety in that the negotiations and agreements referred to herein are required without delay in order to obtain professional management of a national historic site, to prevent the deterioration of the same, and to retain status of the park as a National Park Affiliate.

Vote on emergency clause: Yeas 7 Nays 0

Passed as an emergency measure: November 7, 2005.

Mayor.

ATTEST:

Municipal Clerk.

APPENDIX B: CHOOSING BY ADVANTAGES

In order to designate a preferred alternative, the planning team and advisory group used the Choosing by Advantages (CBA) process. As part of this process they developed the following set of factors and attributes to compare each alternative:

- **Preservation of cultural resources**
  - Ground disturbance
  - Protection
  - Level of preservation effort
  - Level of intrusion
- **Richness of the personal experience**
  - Opportunity for emotional engagement
  - Opportunity for intellectual engagement
  - Potential for an immersion-type experience
  - Aesthetic appreciation
- **Diversity of the visitor experience**
- **Preservation of the natural resource**
  - Amount of impact to the environment
- **Ease of access and freedom of movement**
  - Ease of access
  - Freedom of movement
- **Potential for partnerships**
- **Ease of operation**
  - Security effort
  - Staffing numbers
  - Maintenance

From the attributes, advantages for each attribute were developed. Alternative C was deleted from further consideration because of its close similarities with alternative D (subsequently relettered as alternative C). Advantages were then scored. The factor with the least advantage for a particular alternative was given zero points. Other advantages within the alternative were then given points, with the alternative with higher advantages getting more points compared to the one with lower advantages (see Table B-1).

The alternative with the paramount advantage in this CBA process, as determined by the group, was alternative B. The group felt that minimal ground disturbance, a very high protection of resources, a minimal level of intrusion, and a high level of preservation would be the most important advantages, overriding all other advantages.

TABLE B-1: CBA EVALUATION OF ALTERNATIVES

	Alternative A	Alternative B	Alternative C	Alternative D
Preservation of Cultural Resources				
•Ground disturbance	Low	Minimal	High	Moderate
•Protection	Minimal	Very high	Moderate	High
•Level of preservation effort	Minimal	Very High	Moderate	High
•Level of intrusion	Low	Minimal	Moderate	High
Points Subtotal	0	100	70	80
Richness of Experience				
•Opportunities for emotional engagement	Minimal	Moderate	High	Very High
•Opportunities for intellectual engagement	Low	Moderate	Very High	High
•Potential for immersion	Low	Minimal	Very High	High
•Aesthetic appreciation	Minimal	Moderate	High	High
Points Subtotal	0	45	65	55
Diversity of the Visitor Experience	Low	Moderate	High	Very High
Points Subtotal	0	60	75	85
Preservation of the Natural Environment	Minimal	Very High	Moderate	High
Points Subtotal	0	60	45	55
Ease of Access / Freedom of Movement				
•Ease of access	Minimal	High	Very High	Moderate
•Freedom of movement	Very High	Low	Moderate	Minimal
Points Subtotal	20	30	40	0
Potential for Partnerships	Minimal	High	High	Very High
Points Subtotal	0	55	55	65
Ease of Operation				
•Security effort	Low	High	Very High	Very Very High
•Staffing numbers	Low	Moderate	High	Very High
•Maintenance requirements	Minimal	Moderate	Very High	Very High
Points Subtotal	50	40	30	0
Total CBA Points	**70**	**390**	**380**	**340**

APPENDIX C: TOPOGRAPHIC COORDINATES

Fallen Timbers Battlefield is located on the Maumee QUAD map at approximate coordinates: Northwest Corner N 41°33'24" /W 083°41'57", Northeast Corner N 41°33"30"/W 083°41'19", South Corner N 41°32'48"/W 083°41'46", and Southwest Corner N 41°32'50"/ W 083°41'57."

Fort Miamis is located on the Maumee QUAD at approximate coordinates NW 41°34'25" N 083°37'38"W, within the City of Maumee, Ohio.

Fallen Timbers Battlefield Parcel Acquisitions for the year 2000:

Parcel #:	Address	Acres	Purchased From:	CAUV Void:	Comments	#
38-01581	4805 Jerome Road	1.3	City of Toledo 9/27/00	2003	Area north and one parcel north beyond Project HQ	1.
35-00657	5001 Jerome Rd. (Rear)	43.0	City of Toledo	2002	Includes center of woods	2.
35-00697	5121 Jerome Rd.	6.15	City of Toledo	2002	Adjacent south of above	3.
35-00701	5117 Jerome Rd.	.72	City of Toledo	2002	Adjacent NW of above	4.
35-00691	5111 Jerome Rd.	1.14	City of Toledo	N/A	Adjacent North of above	5.
35-00667	5017 Jerome Rd.	.44	City of Toledo	N/A	Adjacent North of above	6.
35-00065	0 Jerome Road	.427	City of Toledo	2002	Adjacent North of above	7.
35-00064 Part	5026 Jerome Rd.	47.938 Part	City of Toledo	2002 Part	Adjacent North of above	8.

The following parcels were acquired for the battlefield in the year 2001:

Parcel #:	Address	Acres	Purchased From:	CAUV Void:	Comments	#
35-00061	5775 Monclova Rd.	19.24	City of Toledo	2003	Includes between tracks	9.
35-00062	6630 Monclova Rd.	26.16	City of Toledo	2003	Adjacent east of above	10.
35-00020	5632 Monclova Rd.	.45	City of Toledo	2003	Adjacent NE of above at extreme corner along ROW	11.
35-00654	5632 Monclova Rd.	31.67	City of Toledo	2003	Adjacent South of above adj. Off ramp I-475/US 24	12.
35-00064 Part	5026 Jerome Rd.	47.938 Part	City of Toledo	2003 Part	Adjacent West of above	13.
35-00694	5125 Jerome Rd.	6.6	City of Toledo	2003	Extreme southwest corner	14.

The following parcels, including residential inholdings, were acquired by Metroparks in areas along Jerome Road:

Parcel #:	Address	Acres	Purchased From:	CAUV Void:	Comments	#
38-01479	4849 Jerome Rd.	2.1	Nonnemacher (1/18/01)	N/A	South of project headquarters building	15
38-01483	4861 Jerome Rd.	.534	Okuley (4/30/01)	N/A	Adjacent south of above	16
35-00687	5005 Jerome Rd.	1.03	Osstifin (10/23/00)	N/A	5 parcels south of above	17
35-00661	5005 Jerome Rd.	.53	Osstifin (10/23/00)	N/A	Adjacent south of above	18

APPENDIX D: ETHNOBOTANY FLORISTIC ASSESSMENT

FALLEN TIMBERS BATTLEFIELD — December 20, 2005

John F. Jaeger, Director of Natural Resources, Metropolitan Park District of the Toledo Area

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
1.	Slippery Elm	*Ulmus rubra*			Dr,Fo,Fi,Ot
2.	Common Blackberry	*Rubus allegheniensis*			Dr, Fo
3.	Glossy Buckthorn	*Rhamnus frangula*	*X		N/A
4.	Gray Dogwood	*Cornus racemosa*			Dr,Ot
5.	Red Maple	*Acer rubrum*			Dr,Fo,Fi,Ot
6.	Green Ash	*Fraxinus pennsylvanica var. subintegerrima*			Dr,Fo,Fi,Ot
7.	Poison Ivy	*Toxicodendron radicans*			Dr,Ot
8.	White Avens	*Geum canadense*			Dr
9.	Virginia Creeper	*Parthenocissus quinquefolia*			Dr,Fo,Dy
10.	Garlic Mustard	*Alliaria petiolata*	*X		N/A
11.	Amur Honeysuckle	*Lonicera maackii*	*X		N/A
12.	Common Blue Violet	*Viola sororia*			Dr,Ot
13.	Jack-in-the-pulpit	*Arisaema triphyllum*			Dr,Fo,Ot
14.	Common Yellow Violet	*Viola pubescens*			Dr,Ot
15.	Muskingum Sedge	*Carex muskingumensis*			N/A
16.	Running Strawberry-bush	*Euonymus obovatus*			Dr
17.	Common Lake Sedge	*Carex lacustris*			N/A
18.	Wild Geranium	*Geranium maculatum*			Dr
19.	Spring Cress	*Cardamine bulbosa*			Dr
20.	MarginalWood Fern	*Dryopteris marginalis*			Dr
21.	Sensitive Fern	*Onoclea sensibilis*			Dr, Fo
22.	Shagbark Hickory	*Carya ovata*			Dr,Fo,Fi,Ot
23.	Multiflora Rose	*Rosa multiflora*	*X		N/A
24.	Swamp Buttercup	*Ranunculus hispidus var. nitidus*			Dr
25.	Spicebush	*Lindera benzoin*			Dr,Fo
26.	Silver Maple	*Acer saccharinum*			Dr,Fo,Fi,Dy,Ot
27.	Riverbank grape	*Vitis riparia*			Fo
28.	Black Oak	*Quercus velutina*			Dr,Fo,Fi,Dy,Ot
29.	White Oak	*Quercus alba*			Dr,Fo,Fi, Ot
30.	Northern Red Oak	*Quercus rubra*			Dr,Fo,Fi,Dy,Ot
31.	Cottonwood	*Populus deltoides*			Dr,Fo,Fi,Dy,Ot
32.	Sycamore	*Plantanus occidentalis*			Dr,Fi,Ot
33.	Indian-hemp	*Apocynum cannabinum*			Dr,Fi,Fo,Ot
34.	Wild Plum	*Prunus americana*			Dr,Fo,Fi,Dy,Ot
35.	Common Dandelion	*Taraxacum officionale*	*		Dr,Fo,Ot
36.	Hawthorn	*Crataegus ssp*			Dr,Fo
37.	White Trout-lily	*Erythronium albidum*			Dr
38.	Virginia Waterleaf	*Hydrophyllum virginianum*			Dr,Fo
39.	Bloodroot	*Sanguinaria canadensis*			Dr,Dy,Ot
40.	Wild Ginger	*Asarum canadense*			Dr,Fo,Ot
41.	Blue Phlox	*Phlox divaricata*			N/A
42.	Cleavers	*Galium aparine*			Dr,Ot
43.	Black Mustard	*Brassica nigra*	*		Dr, Fo
44.	Northern Bedstraw	*Galium boreale*			Dr,Dy
45.	White-lettuce	*Prenanthes alba*			Dr
46.	Swamp Milkweed	*Asclepias incarnata*			Dr,Fo,Fi
47.	Moneywort	*Lysimachia nummularia*	*		N/A
48.	Pignut Hickory	*Carya glabra*			Fi
49.	Mayapple	*Podophyllum peltatum*			Dr,Fo,Ot
50.	Canada Thistle	*Cirsium arvense*	*X		Dr
51.	Common Teasel	*Dipsacus fullonum*	*X		N/A
52.	Common Mouse-ear Chickweed	*Cerastium fontanum*	*		Dr
53.	Common Cinquefoil	*Potentilla simplex*			Dr
54.	Virginia Strawberry	*Fragaria virginiana*			Dr,Fo,Ot

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
55.	Cut-leaved Toothwort	*Cardamine concatenata*			Dr,Fo,Ot
56.	Cockspur Thorn	*Crataegus crus-galli*			N/A
57.	Wood Anemone	*Anemone quinquefolia*			N/A
58.	Rue-anemone	*Thalictrum thalictroides*			N/A
59.	Smooth Solomon's-seal	*Polygonatum biflorum*			Dr,Fo,Ot
60.	False Solomon's-seal	*Smilacina racemosa*			Dr
61.	Running Groundsel	*Senecio obovatus*			N/A
62.	Jacob's-ladder	*Polemonium reptans*			Dr
63.	Green Dragon	*Arisaema dracontium*			Dr,Ot
64.	False Mermaid	*Floerkea proserpinacoides*			N/A
65.	Tinker's-weed	*Triosteum perfoliatum*			Dr
66.	American Hornbeam	*Carpinus caroliniana*			Dr,Fi
67.	Bristly Crowfoot	*Ranunculus pensylvanicus*			Dr,Dy
68.	Common Enchanter's-nightshade	*Circaea lutetiana*			Dr
69.	Ohio Buckeye	*Aesculus glabra*			Dr
70.	Kidney-leaved Buttercup	*Ranunculus abortivus*			Dr,Fo
71.	Pennsylvania Sedge	*Carex pensylvanica*			N/A
72.	Prickly-ash	*Zanthoxylum americanum*			Dr,Ot
73.	Common Burdock	*Arctium minus*	*		Dr,Fi
74.	White Ash	*Fraxinus americana*			Dr,Fi,Ot
75.	Canada Goldenrod	*Solidago canadensis*			Dr,Fo,Ot
76.	Kentucky Blue Grass	*Poa pratensis*	*		N/A
77.	Daisy Fleabane	*Erigeron annuus*			N/A
78.	Curly Dock	*Rumex crispus*	*		Dr,Fo,Dy
79.	White Mulberry	*Morus alba*	*		Dr,Fo
80.	Gill-over-the-ground	*Glechoma hederacea*	*		Dr
81.	Tall Ironweed	*Vernonia gigantea*			N/A
82.	Yellow Jewelweed	*Impatiens pallida*			Dr
83.	Field Goat's-beard	*Tragopogon dubius*	*		N/A
84.	English Plantain	*Plantago lanceolata*	*		Dr,Fo
85.	Hackberry	*Celtis occidentalis*			Dr,Fo,Ot
86.	Pokeweed	*Phytolacca americana*			Dr,Fo,Dy,Ot
87.	Northern Blue Flag	*Iris versicolor*			Dr,Fi,Ot
88.	Heal-all	*Prunella vulgaris*			Dr,Fo
89.	Shepherd's-purse	*Capsella bursa-pastoris*	*		Dr,Fo
90.	Wild Black Cherry	*Prunus serotina*			Dr,Fo,Fi,Ot
91.	Sugar Maple	*Acer saccharum*			Dr,Fo,Fi,Ot
92.	American Elm	*Ulmus americana*			Dr,Fo,Fi,Ot
93.	Black Walnut	*Juglans nigra*			Dr,Fo,Fi,Dy,Ot
94.	Wild Black Currant	*Ribesamericanum*			Dr,Fo
95.	Japanese Honeysuckle	*Lonicera japonica*	*X		Fi
96.	Morrow's Honeysuckle	*Lonicera morrowii*	*X		N/A
97.	Common Buckthorn	*Rhamnus cathartica*	*X		Dr
98.	Spring-beauty	*Claytonia virginica*			Dr,Fo
99.	Common Chickweed	*Stellaria media*	*		Dr,Fo
100.	Carrion-flower	*Smilax herbacea*			Dr,Fo
101.	Golden Alexanders	*Zizia aurea*			Dr
102.	Common Evening-primrose	*Oenothera biennis*			Dr,Fo,Ot
103.	Yellow Trout-lily	*Erythronium americanum*			Dr
104.	Early Meadow-rue	*Thalictrium dioicum*			Dr
105.	Drooping Bulrush	*Scirpus pendulus*			N/A
106.	Large-leaved Aster	*Aster macrophyllus*			Dr,Fo
107.	Golden Ragwort	*Senecio aureus*			Dr
108.	Woodland Sunflower	*Helianthus divaricatus*			N/A
109.	Pin Oak	*Quercus palustris*			Dr,Ot
110.	Perfoliate Bellwort	*Uvularia perfoliata*			Dr,Fo
111.	Choke Cherry	*Prunus virginiana*			Dr,Fo,Fi,Ot
112.	Sessile-leaved Bellwort	*Uvularia sessilifolia*			Dr,Fo
113.	Rough Bedstraw	*Galium asprellum*			Dr
114.	Elderberry	*Sambucus canadensis*			Dr,Fo,Ot
115.	Heart-leaved Meadow-parsnip	*Zizia aptera*			N/A
116.	Common Alum-root	*Heuchera americana*			Dr

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
117.	Fire-pink	*Silene virginica*			N/A
118.	Jerusalem-artichoke	*Helianthus tuberosus*			Fo
119.	Catnip	*Nepeta cataria*	*		Dr,Fo
120.	Field Horsetail	*Equisetum arvense*			Dr,Fo,Fi,Dy,Ot
121.	Field Penny Cress	*Thlaspi arvense*	*		Dr,Fo
122.	Moonseed	*Menispermum canadense*			Dr
123.	Gray's Sedge	*Carex grayi*			N/A
124.	Common Greenbriar	*Smilax rotundifolia*			Dr,Fo,Ot
125.	Whorled Loosestrife	*Lysimachia quadrifolia*			Dr
126.	Lion's-foot	*Prenanthes serpentaria*			Dr,Fo
127.	Bladdernut	*Staphylea trifolia*			Dr,Ot
128.	Water-pepper	*Polygonum hydropiper*			Dr,Fo
129.	American Germander	*Teucrium canadense*			N/A
130.	Common Ragweed	*Ambrosia artemisiifolia*			Dr,Ot
131.	Great Ragweed	*Ambrosia trifida*			Dr
132.	Trumpet-creeper	*Campsis radicans*			N/A
133.	Honey-locust	*Gleditsia triacanthos*			Dr,Fo,Fi,Ot
134.	Cut-leaved Water-horehound	*Lycopus americanus*			Dr
135.	White Clover	*Trifolium repens*	*		Dr
136.	European Cranberry-bush	*Viburnum opulus var.opulus*	*		Dr,Fo,Ot
137.	Lamb's-quarters	*Chenopodium album*	*		Dr,Fo,Ot
138.	Common St.John's-wort	*Hypericum perforatum*	*		Dr
139.	Bittersweet Nightshade	*Solanum dulcamara*	*		Dr
140.	Swamp White Oak	*Quercus bicolor*			Dr,Fo,Ot
141.	Bur Oak	*Quercus macrocarpa*			Dr,Fo,Dy
142.	Common Wood-reed	*Cinna arundinacea*			Dr,Fo
143.	Yellow Nut-grass	*Cyperus esculentus*			Dr,Fo
144.	Queen Anne's Lace	*Daucus carota*	*		Dr,Fo
145.	Black Snake-root	*Cimicifuga racemosa*			Dr
146.	Field Bindweed	*Convolvulus arvensis*	*		Dr,Fi
147.	Squirrel-tail Barley	*Hordeum jubatum*	*		Dr,Fo,Ot
148.	Barnyard Grass	*Echinochloa crusgalli*	*		Fo
149.	False Pimpernel	*Lindernia dubia*			N/A
150.	Prickly Lettuce	*Lactuca serriola*	*		N/A
151.	Sheep Sorrel	*Rumex acetosella*	*		Dr,Fo
152.	Heart-leaved Skullcap	*Scutellaria ovata*			N/A
153.	American Hazel	*Corylus americana*			Dr,Fo,Fi,Dy,Ot
154.	Lopseed	*Phryma leptostachya*			Dr
155.	Swamp Loosestrife	*Decodon verticillatus*			N/A
156.	Orange Jewelweed	*Impatiens capensis*			Dr,Dy
157.	Wild Potato-vine	*Ipomoea pandurata*			Dr,Fo,Ot
158.	Common Stickseed	*Hackelia virginiana*			Dr,Ot
159.	Devil's Beggar-ticks	*Bidens frondosa*			N/A
160.	Horse-nettle	*Solanum carolinense*			Dr,Ot
161.	Velvet-leaf	*Abutilon theophrasti*	*		N/A
162.	Wild Parsnip	*Pastinaca sativa*	*		Dr
163.	Cow-parsnip	*Heracleum maximum*			Dr,Fo,Fi,Dy,Ot
164.	Michigan Lily	*Lilium michiganense*			N/A
165.	Bouncing Bet	*Saponaria officinalis*	*		Dr,Ot
166.	Wild Bergamot	*Monarda fistulosa*			Dr,Fo,Ot
167.	Blunt Spike-rush	*Eleocharis obtusa*			N/A
168.	Fowl Manna Grass	*Glyceria striata*			N/A
169.	Dudley's Rush	*Juncus dudleyi*			Fi
170.	Calico Aster	*Aster lateriflorus*			Dr
171.	Blue-stemmed Goldenrod	*Solidago caesia*			N/A
172.	Flat-topped Goldenrod	*Euthamia graminifolia*			Dr
173.	Black-eyed Susan	*Rudbeckia hirta var.pulcherrima*			Dr,Dy
174.	Sweet-scented Bedstraw	*Galium triflorum*			Dr,Ot
175.	Common Agrimony	*Agrimonia gryposepala*			Dr
176.	Common Clearweed	*Pilea pumila*			Dr
177.	Virginia Knotweed	*Polygonumvirginianum*			N/A
178.	Tall Anemone	*Anemone virginiana*			Dr
179.	Upright Carrion-flower	*Smilax ecirrata*			N/A

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
180.	Virginia-snakeroot	*Aristolochia serpentaria*			Dr
181.	White Grass	*Leersia virginica*			N/A
182.	Smooth Goldenrod	*Solidago gigantea*			Dr,Fi
183.	Halberd-leaved Orach	*Atriplex patula*	*		N/A
184.	Woodland Goosefoot	*Chenopodium standleyanum*			N/A
185.	Winged Wahoo	*Euonymus alatus*	*		N/A
186.	Japanese Barberry	*Berberis thunbergii*	*X		N/A
187.	False Nettle	*Boehmeria cylindrica*			N/A
188.	Wintercreeper	*Euonymus fortuni*	*		N/A
189.	Fringed Loosestrife	*Lysimachia ciliata*			N/A
190.	Canada Blue Grass	*Poa compressa*	*		N/A
191.	Great Lobelia	*Lobelia siphilitica*			Dr
192.	Kentucky Coffee-tree	*Gymnocladus dioica*			Dr,Fo,Dy,Ot
193.	Wafer-ash	*Ptelea trifoliata*			Dr.
194.	Nodding Rattlesnake-root	*Prenanthes crepidinea*		P	N/A
195.	Wild Leek	*Allium tricoccum*			Dr,Fo
196.	Foxtail Sedge	*Carex vulpinoidea*			Dr
197.	Frank's Sedge	*Carex frankii*			N/A
198.	White Snakeroot	*Ageritina altissima*			Dr
199.	Hop-hornbeam	*Ostrya virginiana*			Dr, Fi, Ot
200.	Bitternut Hickory	*Carya cordiformis*			Dr, Fo, Fi,Ot

Codes Legend (Ethnobotany Cross Reference 200 species, based on Moerman 1998):

	No. of Species	Percentage
Dr – Drug	144	72%
Fo – Food	75	38%
Fi – Fiber	32	16%
Dy – Dye	19	9%
Ot – Other	60	30%
N/A – No Reference	50	25%

DNAP Invasive: X = 10 or 5% listed invasive
* = Nonnative species 43/200=22%

Plant Names: *Seventh Catalog of the Vascular Plants of Ohio,* edited by Tom S. Cooperrider, Allison W. Cusick, and John T. Kartesz. Columbus: The Ohio State University, 2001.

Flora Survey Data

Plant No.	Date Recorded:	Recorder:
1–103	May 4, 2001	John F. Jaeger,Natural Resource Manager
104–115	May 4, 2001	John F. Jaegerand Seth Izor, Naturalist
116–117	May 10, 2001	John F. Jaeger with Dr. G. Michael Pratt and others
118–141	June 1 and June 5,2001	John F. Jaeger,Natural Resource Manager
142–143	August 30,2001	John F. Jaeger, Natural Resource Manager, andAllison W. Cusick, Chief Botanist,Ohio Department of Natural Resources, Division of Natural Areas and Preserves,
144–167	July 6, 2001	John F. Jaeger, Natural Resource Manager andRyan Thomas, student Hocking College
168–169	August 30, 2001	John F. Jaeger,Allison W. Cusick
170–178	August 3, 2001	John F. Jaeger,Natural Resource Manager
179–190	August 30, 2001	John F. Jaeger, Allison W. Cusick
191	September 24, 2001	Mark Plessner, Naturalist
192	Dec. 3, 2001	John F. Jaeger with Ron Harbauer, AssistantManager Side Cut
193–194	June 25, 2002	John F. Jaeger, Natural Resource Manager and Tim Gallaher, Land Management Specialist
195–196	August 28, 2002	John F.Jaeger,Natural Resource Manager
197	June 15, 2004	John F. Jaeger, Director of Natural Resources
198	Dec. 8. 2005	Mark Plessner, Naturalist
199–200	Dec. 12. 2005	John F. Jaeger, Director of Natural Resources and Kyle Robison, Perrysburg High School Mentee

FALLEN TIMBERS MONUMENT — MARCH 11, 2003

John F. Jaeger, Director of Natural Resources, Metropolitan Park District of the Toledo Area

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
1.	Black Walnut	*Juglans nigra*			Dr,Fo,Fi,Dy,Ot
2.	Pin Oak	*Quercus palustris*			Dr,Ot
3.	Sugar Maple	*Acer saccharum*			Dr,Fo,Fi,Ot
4.	Eastern Redbud	*Cercis canadensis*			Dr,Fo,Ot
5.	Virginia Creeper	*Parthenocensis quinquefolia*			Dr,Fo,Dy
6.	Japanese Honeysuckle	*Lonicera japonica*	*X		Fi
7.	Northern Catalpa	*Catalpa speciosa*	*		N/A
8.	Common Yellow Wood-sorrel	*Oxalis stricta*			Dr,Fo,Dy
9.	Gill-over-the-ground	*Glechoma hederacea*	*		Dr
10.	Common Dandelion	*Taraxacum officinale*	*		Dr,Fo
11.	Garlic Mustard	*Alliaria petiolata*	*X		N/A
12.	White Avens	*Geum canadense*			Dr
13.	Fox Grape	*Vitus labrusca*			Dr,Fo
14.	Sweet Gum	*Liquidambar stryaciflua*	*		Dr, Fo
15.	Eastern Hemlock	*Tsuga canadensis*	†		Dr,Fo,Fi,Dy,Ot
16.	Silky Dogwood	*Cornus amomum*			Dr,Ot
17.	Box-elder	*Acer negundo*			Dr,Fo,Ot
18.	Poison Ivy	*Toxicodendron radicans*			Dr,Ot
19.	Sycamore	*Platanus occidentalis*			Dr,Fi,Ot
20.	Honey-locust	*Gleditsia triacanthos*			Dr,Fo,Fi,Ot
21.	Green Ash	*Fraxinus pennsylvanica var. subintegerrima*			Dr,Fo,Fi,Ot
22.	Rough-fruited Cinquefoil	*Potentilla recta*	*		Dr
23.	White Mulberry	*Morus alba*	*		Dr,Fo
24.	Hawthorn sp.	*Crataegus sp.*			Dr,Fo,Ot
25.	Wild Lettuce	*Lactuca canadensis*			Dr,Fo
26.	Common Burdock	*Arctium minus*	*		Dr,Fi
27.	Norway Spruce	*Picea abies*	*		Dr
28.	Kentucky Blue Grass	*Poa pratensis*	*		N/A
29.	Ohio Buckeye	*Aesculus glabra*			Dr
30.	Common Plantain	*Plantago major*	*		Dr,Fo,Ot
31.	White Clover	*Trifolium repens*	*		Dr
32.	Gray Dogwood	*Cornus racemosa*			Dr,Ot
33.	Amur Honeysuckle	*Lonicera maackii*	*X		N/A
34.	Hackberry	*Celtis occidentalis*			Dr,Fo,Ot
35.	Orchard Grass	*Dactylis glomerata*	*		N/A
36.	Riverbank Grape	*Vitis riparia*			Fo
37.	Red Raspberry	*Rubus idaeus var. idaeus*	†		Dr,Fo
38.	Smooth Sumac	*Rhus glabra*			Dr,Fo,Fi,Dy,Ot
39.	White Wood Aster	*Aster divaricatus*			N/A
40.	Catnip	*Nepeta cataria*	*		Dr,Fo
41.	Queen Anne's Lace	*Daucus carota*	*		Dr,Fo
42.	Autumn-olive	*Elaeagnus umbellata*	*X		N/A
43.	Lilac	*Syringa vulgaris*	†		Dr
44.	Glossy Buckthorn	*Rhamnus frangula*	*X		N/A
45.	Common Apple	*Malus pumila*	†		Dr,Dy
46.	Staghorn Sumac	*Rhus typhina*			N/A
47.	Canada Goldenrod	*Solidago canadensis*			Dr,Fo,Ot
48.	Deptford Pink	*Dianthus armeria*	*		N/A
49.	White Grass	*Leersia virginica*			N/A
50.	Wild Bergamot	*Monarda fistulosa*			Dr,Fo,Ot
51.	Amur Maple	*Acer ginnala*	†		N/A
52.	Gray's Sedge	*Carex grayi*			N/A
53.	Multiflora Rose	*Rosa multiflora*	*X		N/A
54.	Common Privet	*Ligustrum vulgare*	*		N/A
55.	Highbush-cranberry	*Viburnum opulus var. americanum*			Dr,Fo,Ot
56.	Yellow Sweet-clover	*Melilotus officinalis*	*		Dr,Fo,Ot
57.	Wild Potato-vine	*Ipomoea pandurata*			Dr,Fo,Ot

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
58.	False Indigo	*Amorpha fruticosa*			Fi,Ot
59.	Cockspur Thorn	*Crataegus crus-galli*			N/A
60.	Eastern Red-cedar	*Juniperus virginiana*			Dr,Fo,Fi,Dy,Ot
61.	Red Clover	*Trifolium pratense*	*		Dr,Fo
62.	Bur Oak	*Quercus macrocarpa*			Dr,Fo,Dy
63.	Curly Dock	*Rumex crispus*	*		Dr,Fo,Dy
64.	Evening Primrose	*Oenothera biennis*	*		Dr,Fo,Ot
65.	Sweet Crabapple	*Malus coronaria*			Dr,Fo
66.	Giant Ragweed	*Ambrosia trifida*			Dr
67.	New England Aster	*Aster novae-angliae*			Dr
68.	Canada Thistle	*Cirsium arvense*	*X		Dr
69.	Kentucky Coffee-tree	*Gymnocladus dioicus*			Dr,Fo,Dy,Ot
70.	Arbor Vitae	*Thuja occidentalis*	†		Dr,Fo,Fi,Ot
71.	Crown-vetch	*Coronilla varia*	*		Dr
72.	Orange Day-lily	*Hemerocallis fulva*	*		N/A
73.	Horse-nettle	*Solanum carolinense*			Dr, Ot
74.	Pokeweed	*Phytolacca americana*			Dr,Fo,Dy,Ot
75.	Virginia Strawberry	*Fragaria virginiana*			Dr,Fo,Ot
76.	Northern Red Oak	*Quercus rubra*			Dr,Fo,Fi,Dy,Ot
77.	Black Locust	*Robinia pseudoacacia*			Dr,Fo,Fi,Ot
78.	Bittersweet Nightshade	*Solanum dulcamara*	*		Dr
79.	Common Milkweed	*Asclepias syriaca*			Dr,Fo,Fi,Ot
80.	Daisy Fleabane	*Erigeron annuus*			N/A
81.	Northern Crab Grass	*Digitaria sanguinalis*	*		N/A
82.	Common Ragweed	*Ambrosia artemisiifolia*			Dr,Ot
83.	Bristly Crowfoot	*Ranunculus pensylvanicus*			Dr,Dy
84.	Cleavers	*Galium aparine*			Dr,Ot
85.	Teasel	*Dipsacus sylvestris*	*		N/A

Codes Legend (Ethnobotany Cross Reference 85 species, based on Moerman 1998):

	No. of Species	Percentage
Dr – Drug	61	72%
Fo – Food	40	47%
Fi – Fiber	15	18%
Dy – Dye	13	15%
Ot – Other	33	39%
N/A – No Reference	20	24%

DNAP Invasive: X = 7 or 8% listed invasive
*, † = Nonnative species 38/85 = 45%

Plant Names: *Seventh Catalog of the Vascular Plants of Ohio,* edited by Tom S. Cooperrider, Allison W. Cusick, and John T. Kartesz. Columbus: The Ohio State University, 2001.

FORT MIAMIS NATIONAL HISTORIC SITE — MARCH 12, 2003

John F. Jaeger, Director of Natural Resources, Metropolitan Park District of the Toledo Area

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
1.	Black Walnut	*Juglans nigra*			Dr,Fo,Fi,Dy,Ot
2.	Pin Oak	*Quercus palustris*			Dr,Ot
3.	Sugar Maple	*Acer saccharum*			Dr,Fo,Fi,Ot
4.	Redbud	*Cercis canadensis*			Dr,Fo,Ot
5.	Virginia Creeper	*Parthenocensis quinquefolia*			Dr,Fo,Dy
6.	Japanese Honeysuckle	*Lonicera japonica*	*X		Fi
7.	Trumpet-creeper	*Campsis radicans*			N/A
8.	Common Yellow Wood-sorrel	*Oxalis stricta*			Dr,Fo,Dy
9.	Gill-over-the-ground	*Glechoma hederacea*	*		Dr
10.	Common Dandelion	*Taraxacum officinale*	*		Dr,Fo
11.	Garlic Mustard	*Alliaria petiolata*	*X		N/A
12.	White Avens	*Geum canadense*			Dr
13.	Fox Grape	*Vitus labrusca*			Dr,Fo
14.	European Linden	*Tilia europaea*	†		N/A
15.	European Beech	*Fagus sylvatica*	†		N/A
16.	Yellow-poplar	*Liriodendron tulipifera*			Dr,Fo,Fi,Ot
17.	Box-elder	*Acer negundo*			Dr,Fo,Ot
18.	Poison Ivy	*Toxicodendron radicans*			Dr,Ot
19.	Sycamore	*Platanus occidentalis*			Dr,Fi,Ot
20.	Honey-locust	*Gleditsia triacanthos*			Dr,Fo,Fi,Ot
21.	Green Ash	*Fraxinus pennsylvanica var. subintegerrima*			Dr,Fo,Fi,Ot
22.	Rough-fruited Cinquefoil	*Potentilla recta*	*		Dr
23.	White Mulberry	*Morus alba*	*		Dr,Fo
24.	Hawthorn sp.	*Crataegus sp.*			Dr,Fo,Ot
25.	Wild Lettuce	*Lactuca canadensis*			Dr,Fo
26.	Common Burdock	*Arctium minus*	*		Dr,Fi
27.	Boston Ivy	*Parthenocissus tricuspidata*	†		
28.	Kentucky Blue Grass	*Poa pratensis*	*		N/A
29.	Ohio Buckeye	*Aesculus glabra*			Dr
30.	Common Plantain	*Plantago major*	*		Dr,Fo,Ot
31.	White Clover	*Trifolium repens*	*		Dr
32.	Gray Dogwood	*Cornus racemosa*			Dr,Ot
33.	Amur Honeysuckle	*Lonicera maackii*	*X		N/A
34.	Hackberry	*Celtis occidentalis*			Dr,Fo,Ot
35.	Orchard Grass	*Dactylis glomerata*	*		N/A
36.	Riverbank Grape	*Vitis riparia*			Fo
37.	Red Raspberry	*Rubus idaeus var. idaeus*	†		Dr,Fo
38.	Smooth Sumac	*Rhus glabra*			Dr,Fo,Fi,Dy,Ot
39.	White Wood Aster	*Aster divaricatus*			N/A
40.	Wingstem	*Verbisina alternifolia*			N/A
41.	Queen Anne's Lace	*Daucus carota*	*		Dr,Fo
42.	Daffodil	*Narcissus pseudo-narcissus*	†		N/A
43.	Common Greenbriar	*Smilax rotundifolia*			Dr,Fo,Ot
44.	Glossy Buckthorn	*Rhamnus frangula*	*X		N/A
45.	Common Apple	*Malus pumila*	†		Dr,Dy
46.	Staghorn Sumac	*Rhus typhina*			N/A
47.	Canada Goldenrod	*Solidago canadensis*			Dr,Fo,Ot
48.	Garden Asparagus	*Asparagus officinalis*	*		Dr,Fo
49.	Smooth Solomon's- seal	*Polygonatum biflorum*			Dr,Ot
50.	Wild Bergamot	*Monarda fistulosa*			Dr,Fo,Ot
51.	Lily-of-the-valley	*Convallaria majalis*	*		N/A
52.	Gray's Sedge	*Carex grayi.*			N/A
53.	Multiflora Rose	*Rosa multiflora*	*X		N/A
54.	Yellow Giant-hyssop	*Agastache nepetoides*			Dr
55.	Wild Garlic	*Allium canadense*			Dr,Fo
56.	Yellow Sweet-clover	*Melilotus officinalis*	*		Dr,Fo,Ot
57.	Prairie Coneflower	*Ratibida pinnata*			N/A
58.	False Indigo	*Amorpha fruticosa*			Fi,Ot

No.	Common Name	Scientific Name	DNAP Invasive	Ohio Status	Ethnobotany Reference
59.	Cockspur Thorn	*Crataegus crus-galli*			N/A
60.	Large-leaved Aster	*Aster macrophyllus*			Dr,Fo
61.	Red Clover	*Trifolium pratense*	*		Dr,Fo
62.	Sandbar Willow	*Salix interior*			Dr,Fo,Fi,Ot
63.	Curly Dock	*Rumex crispus*	*		Dr,Fo,Dy
64.	White Poplar	*Populus alba*	*		Dr,Ot
65.	Sweet Crabapple	*Malus coronaria*			Dr,Fo
66.	Giant Ragweed	*Ambrosia trifida*			Dr
67.	Hedge Bindweed	*Calystegia sepium*			N/A
68.	Canada Thistle	*Cirsium arvense*	*X		Dr
69.	Jerusalem-artichoke	*Helianthus tuberosus*			Fo
70.	Orange Jewelweed	*Impatiens capensis*			Dr,Dy
71.	Garden Phlox	*Phlox paniculata*			N/A
72.	Orange Day-lily	*Hemerocallis fulva*	*		N/A
73.	Horse-nettle	*Solanum carolinense*			Dr, Ot
74.	Pokeweed	*Phytolacca americana*			Dr,Fo,Dy,Ot
75.	Virginia Strawberry	*Fragaria virginiana*			Dr,Fo,Ot
76.	Northern Red Oak	*Quercus rubra*			Dr,Fo,Fi,Dy,Ot
77.	Black Locust	*Robinia pseudoacacia*			Dr,Fo,Fi,Ot
78.	Bittersweet Nightshade	*Solanum dulcamara*	*		Dr
79.	Black Snakeroot	*Cimicifuga racemosa*			Dr
80.	Daisy Fleabane	*Erigeron annuus*			N/A
81.	Northern Crab Grass	*Digitaria sanguinalis*	*		N/A
82.	Common Ragweed	*Ambrosia artemisiifolia*			Dr,Ot
83.	Virginia Knotweed	*Polygonum virginianum*			N/A
84.	Cleavers	*Galium aparine*			Dr,Ot
85.	Common Privet	*Ligustrum vulgare*	*		N/A
86.	Bristly Crowfoot	*Ranunculus pensylvanicus*			Dr,Dy
87.	Common Milkweed	*Asclepias syriaca*			Dr,Fo,Fi,Ot
88.	Pale-leaved Sunflower	*Helianthus strumosus*			Dr
89.	Chinese Elm	*Ulmus pumila*	†		N/A
90.	Common Tansy	*Tanacetum vulgare*	*		Dr,Ot
91.	Foxtail Sedge	*Carex vulpinoidea.*			Dr
92.	Bitternut Hickory	*Carya cordiformis*			Dr,Fo,Fi,Ot
93.	Carpet Bugleweed	*Ajuga reptans*	*		N/A
94.	Common Stickseed	*Hackelia virginiana*			Dr,Ot
95.	Tall Ironweed	*Vernonia gigantea*			N/A
96.	Crown-vetch	*Coronilla varia*	*		Dr
97.	Wild Potato-vine	*Ipomoea pandurata*			Dr,Fo,Ot

Codes Legend (Ethnobotany Cross Reference, 97 species, based on Moerman 1998):

	No. of Species	Percentage
Dr – Drug	65	67%
Fo – Food	39	40%
Fi – Fiber	15	15%
Dy – Dye	9	9%
Ot – Other	35	36%
N/A – No Reference	27	28%

DNAP Invasive: X = 6 or 6% listed invasive
*, † = Nonnative species 36/97 = 37%

Plant Names: *Seventh Catalog of the Vascular Plants of Ohio,* edited by Tom S. Cooperrider, Allison W. Cusick, and John T. Kartesz. Columbus: The Ohio State University, 2001.

APPENDIX E: NATIONAL PARK SERVICE, ECONOMIC IMPACTS OF VISITOR SPENDING BY PARKS: FORT NECESSITY NATIONAL BATTLEFIELD

Fort Necessity National Battlefield hosted 0.09 million recreation visits in 2001. Local day visitors contributed 20% of overall recreation visits, day visitors from other regions 60%, and visitors staying at lodges were 10%, and at campsites 10%. Recreation visits were further converted to 0.04 million party days (a party day is the spending unit in this analysis). On average, visitors spent $64 per party per day at the local area. Total visitor spending was estimated to be $2.42 million in 2001.

The $2.42 million spent by Fort Necessity visitors had a direct economic impact of $1.81 million in direct sales, $650,000 in personal income (wages and salaries), $990,000 in value added, and 54 jobs. Among all direct sales, $310,000 was from lodging sales, $600,000 from food and drinking places, $330,000 from admission fees, and $370,000 from the retail trade. As visitor spending circulates through the local economy, secondary effects created an additional $190,000 in personal income and 9 jobs.

In sum, visitors to Fort Necessity National Battlefield spent $2.42 million dollars in 2001 which supported a total of $2.38 million in sales, $840,000 in personal income, 63 jobs, and $1.33 million in value added. (Based on information from the NPS Web Site, Public Use Statistics Office, Park Visitation Report, <http://www.prr.msu.edu/yayen/NPS/NPSSelect.cfm>.)

TABLE E-1: FORT NECESSITY NATIONAL BATTLEFIELD VISITATION

Year	Visitation
2000	93,860
2001	89,133
2002	89,407

TABLE E-2: VISITATION AND SPENDING BY VISITOR SEGMENTS — 2001

	Local Day Visitors	Non-local Day Visitors	Hotel Visitors	Camp Visitors	Total
Recreation Visits	17,827	53,480	8,914	8,914	89,133
Segment Shares in Rec. Visits	20%	60%	10%	10%	100%
Party Days	7,751	23,253	3,566	3,302	37,870
Avg. Spending Per Party Day	$ 43	$ 51	$ 183	$ 77	$ 64
Total Spending (million's)	$ 0.33	$ 1.19	$ 0.25	$ 0.25	$ 2.42

TABLE E-3: ECONOMIC IMPACTS OF VISITOR SPENDING BY SECTORS

Sectors	Sales (millions)	Personal Income (millions)	Jobs	Value Added (millions)
Direct Effects				
Motel, Hotel, B&B and Cabins	$ 0.31	$ 0.09	8	$ 0.14
Campsites	$ 0.06	$ 0.02	2	$ 0.03
Restaurants & Bars	$ 0.60	$ 0.19	19	$ 0.26
Admissions & Fees	$ 0.33	$ 0.11	10	$ 0.19
Retail	$ 0.37	$ 0.19	14	$ 0.30
Others	$ 0.14	$ 0.05	3	$ 0.08
Total	$ 1.81	$ 0.65	54	$ 0.99
Secondary Effects	$ 0.56	$ 0.19	9	$ 0.35
Total Effects	$ 2.38	$ 0.84	63	$ 1.33

APPENDIX F: LETTERS OF CONSULTATION

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR SAMUEL W. SPECK, DIRECTOR

Division of Natural Areas and Preserves
Nancy Strayer, Acting Chief
1889 Fountain Square, Bldg. F-1
Columbus, OH 43224-1388
Phone: (614) 265-6453, Fax: (614) 267-3096

August 27, 2003

John Jaeger
Metro Park District of the Toledo Area
5100 W. Central Ave.
Toledo, OH 43615-2100

Dear Mr. Jaeger:

After reviewing our Natural Heritage maps and files, I find the Division of Natural Areas and Preserves has no records of rare or endangered species within the Fallen Timbers Battlefield, Fallen Timbers State Memorial and Fort Miamis project areas in Lucas County on the Maumee Quad.

There are no existing or proposed state nature preserves or scenic rivers directly within any of the three project sites. We are also unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations, champion trees, or state parks, forests or wildlife areas directly within any of the three project areas.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke, Data Specialist
Division of Natural Areas & Preserves

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923
Fax: (614) 469-6919

September 22, 2003

Ms. Sändra Washington
National Park Service
1709 Jackson St.
Omaha, NE 68102-2571

Dear Ms. Washington:

This is in response to your September 8, 2003 letter requesting information on Federally threatened and endangered species within the vicinity of the proposed project. The project involves the development of a general management plan for the Battle of Fallen Timbers and Fort Miamis National Historical Site, located in Maumee, Lucas County, Ohio. The park comprises three separate areas: Fallen Timbers Battlefield, approximately 187 acres, owned by the city of Toledo; Fort Miamis, a city park in Maumee; and the 9-acre Fallen Timbers State Memorial and Monument, owned by the Ohio Historical Society and operated by Toledo Metroparks. The planning process includes an environmental analysis and preparation of an environmental impact statement.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally listed endangered species. Summer habitat requirements for the species are not well defined but the following are thought to be of importance:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.

2. Live trees (such as shagbark hickory) which have exfoliating bark.

3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should the proposed site contain trees exhibiting any of the characteristics listed above, we recommend that they and surrounding trees be saved wherever possible. If they must be cut, they should not be cut between April 15 and September 15.

If desirable trees are present and if the above time restriction is unacceptable, mist net or other surveys should be conducted to determine if bats are present. The survey should be designed and conducted in coordination with the endangered species coordinator for this office. The survey should be conducted in June or July since the bats would only be expected in the project area from approximately April 15 to September 15.

The project area lies within the range of the **bald eagle** (*Haliaeetus leucocephalus)*, a Federally-listed threatened species. We recommend that you contact Mr. Mark Shieldcastle, with the Ohio Department of Natural Resources, Division of Wildlife, (419) 898-0960, for the location(s) of the eagle nest(s) in the county. If any nests are located within ½ mile of the project site, further coordination with this office is necessary. If the nest is active, we recommend that work at the site be restricted from mid-January through July to allow pre-nesting activities, incubation, and raising of the young.

The proposed project lies within the range of the Federal endangered **Karner blue butterfly** *(Lycaeides*

melissa samuelis). This butterfly is found in the Oak Openings region of northwest Ohio, due to the presence of *Lupinus perennie*, an important plant in the life cycle of the butterfly. We encourage the conservation of native lupine plants wherever possible. We also encourage that native lupine plants be incorporated into site restoration efforts, green areas, and other project designs to benefit the Karner blue butterfly.

The project lies within the range of the **eastern prairie fringed orchid** (*Platanthera leucophaea*), a Federally-listed threatened species. This tall showy orchid is found in wet prairies, sedge meadows, and moist road-side ditches. We recommend that the project location be examined to determine if suitable habitat for the orchid is present. If suitable habitat is present, we recommend that surveys for this species be conducted in early July when the orchids are in bloom.

The project lies within the range of the **eastern massasauga** *(Sistrurus catenatus catenatus)*, a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. The snake is currently listed as endangered by the State of Ohio. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their reclusive nature, we encourage early project coordination to avoid potential impacts to massasaugas and their habitat.

The massasauga is often found in or near wet areas, including wetlands, wet prairie, or nearby woodland or shrub edge habitat. This often includes dry goldenrod meadows with a mosaic of early successional woody species such as dogwood or multiflora rose. Wet habitat and nearby dry edges are utilized by the snakes, especially during the spring and fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. Some project management ideas include the following:

1) At a minimum, project evaluations should contain delineations of whether or not massasauga habitat occurs within project boundaries. Descriptions should indicate the quality and quantity of massasauga habitat (holes, crayfish burrows, foraging area, or basking sites) that may be affected by the project.

2) In cases where massasaugas are known to occur or potential habitat is rated moderate to high, massasauga surveys may be necessary. If surveys are conducted, it may be helpful to inquire with local resource agency personnel, or reliable local residents, who may know of massasauga sightings. In addition, local herpetologists may have knowledge of historical populations, their habits, and especially the specific local habitats that may contain massasaugas. Surveys should be performed during the periods of spring emergence from dens (usually a narrow window in April or May) and should continue throughout the active season until October. This species is often easiest to locate during the summer months when pregnant females seek open areas in the early mornings, especially after cool evenings. Massasauga biologists recommend that 40 person-hours be spent at each survey locality to confirm the absence or presence of this reclusive species. Recommended survey protocol has been published and should be consulted for further details, as should local experts and literature from previous research and surveys.

> Szymanski, J. A. 1998. Range-wide status assessment for the eastern massasauga (*Sistrurus c. catenatus*). U.S. Fish and Wildlife Service, Fort Snelling, MN, 31 pp. + appendix.
>
> Casper et. al. Recommended standard survey protocol for the eastern massasauga, *Sistrurus catenatus catenatus*. Submitted to Herpetological Review, February 2000.

3) In portions of projects where massasaugas will be affected, clearing and construction activities should occur during the summer when air and ground temperatures are above 65° F. These warm season temperatures allow the snakes to be warm enough to move out of harm's way, if encountered during construction.

4) Maintenance activities (mowing, cutting, burning, etc.) should be conducted during the winter (November 1 to March 15) when snakes are hibernating or during the specified seasonal temperature periods described in the following publication:

> Johnson et al. 2000. The Eastern Massasauga Rattlesnake: A Handbook for Land Managers. U.S. Fish and Wildlife Service, Fort Snelling, MN 55111-4056, 52 pp. + appendix.

The proposed project lies within the range of the piping plover, a Federally listed endangered species. Due to the project type and location, the project, as proposed, will have no effect on this species. Relative to this species, this precludes the need for further action on this project as required by the 1973 Endangered Species Act, as amended.

Should additional information on listed or proposed species or their critical habitat become available or if new information reveals effects of the action that were not previously considered, this determination may be reconsidered. If project plans change or if portions of the proposed project were not evaluated, it is our recommendation that you contact our office for further review.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Megan Seymour at extension 16 in this office.

Sincerely,

Mary Knapp

Mary Knapp, Ph.D.
Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH

Ohio Historic Preservation Office

567 East Hudson Street
Columbus, Ohio 43211-1030
614/ 298-2000 Fax: 614/ 298-2037

Visit us at www.ohiohistory.org

OHIO HISTORICAL SOCIETY
SINCE 1885

October 3, 2003

Sändra Washington
National Park Service
Midwest Region
1709 Jackson Street
Omaha, NE 68102-2571

Re: Fallen Timbers General Management Plan, Lucas and Wood Counties, Ohio

Dear Ms. Washington,

This is in response to correspondence from your office dated August 13, 2003 (received August 18), regarding the development of a general management plan for Fallen Timbers. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]).

We welcome the opportunity to participate in the consultation to consider portions of the general management plan although we recognize the limited nature of our contributions. We appreciate the substantial and far-reaching efforts by the National Park Service and Toledo Metroparks to develop and carry out the general management plan. The management plan includes areas around the Fort Miamis site, the Fallen Timbers Monument, and the Fallen Timbers battlefield. As discussed below, we suggest expanding slightly the scope of the management plan to include Fort Meigs.

Because the Ohio Historic Preservation Office and the Ohio Historical Society will be involved in the development of the management plan under different authorities, we recommend including both of our offices as separate consulting parties. We also suggest including selected representatives of both Federally recognized Tribal authorities and local Native American concerns groups in the consultation. As a starting point for consultation with Tribes, we suggest consideration be given to including the Miami, Shawnee, Wyandotte, Potawatomi, Chippewa, Ottawa, Cayuga, and Seneca.

Responding to the questions in your correspondence, we recommend that the level of effort to identify historic properties for the purposes of the development of the management plan could be limited to the information currently on file at the Ohio Historic Preservation Office. The implementation of the plan has the potential to have far-reaching impacts in Lucas and Wood counties. It may be helpful as the plan is developed to consider more broadly some planning attributes, and it will likely be necessary to expand considerably the areas of potential effects for many of the specific activities and actions programmed in the implementation of the plan. However, for the development of the plan, we suggest that summaries of cultural resources should be limited to known cultural resources within a relatively close distance of the Fallen Timbers Monument and the Fort Miamis site. We have arbitrarily selected a diameter of 1.6 km in compiling information from our databases.

■ Attend **Building Connections** November 6-8 in Columbus – www.buildingconnections.info or 1-888-532-2036 for details.

We present and summarize selected portions of this information as attachments to this correspondence. We believe that extensive additional efforts to identify historic properties for the development of the general management plan may not be needed. As additional actions are programmed, then further consultation will be needed to focus identification efforts for each undertaking. With the provision to continue Section 106 consultation as specific actions are identified, it is our opinion that the development of the general management plan, *per se*, doesn't have the potential to affect historic properties. We believe that the implementation of the management plan will bring about changes in and around a number of historic properties, including at least one National Historic Landmark, and as such there is the potential for the implementation of the management plan to adversely affect historic properties. We believe that the Section 106 consultation process will assist in balancing the benefits from the implementation of the management plan with any adverse effects that may result.

At this time we are not able to offer summary information on known properties in a general study area around the Fallen Timbers Battlefield site. We are aware of substantial efforts to collect field data on this site and on sites in the general battlefield area. However, it is our understanding that this effort to collect data represents ongoing research, and to the best of our knowledge, the final results have not been prepared and submitted to our office. We recommend that one of the objectives of the plan could include specific tasks to finalize reporting with the completion of Ohio Archaeological Inventory forms and National Register nominations resulting from these ongoing research programs.

Our first suggestion is to establish a review process for specific undertakings under the general umbrella of the management plan. Specific efforts to delineate the area of potential effects, compile appropriate background information on known properties, and agree on a level of effort needed to identify historic properties can be effectively focused on the proposed undertaking. The Ohio Historic Preservation Office is able to offer some information on known archaeological sites, buildings, structures, historic properties, and historic districts in the general project area. Through our on-line information management system registered users can access basic Geographic Information System (GIS) mapping projecting locations of known properties against county road maps or USGS topographic maps. Information from our inventories of archaeological sites, buildings, structures, historic properties, and historic districts is available for researchers to access in our office or under contract can be presented in summary form. Attached please find an example of a sample of the information available through our GIS and inventories for the project area.

Our second suggestion is to integrate NHPA and NEPA coordination following regulations at 36 CFR 800.8. We believe that interpretations of the historical events are best presented within an environmental framework. Data collected on plant and animal communities help us better understand past ecological communities, and this can help us better describe and interpret historical events. We also believe that it will be important to integrate the management of these historic properties with current social trends. It will be important to coordinate cultural resource management with transportation projects and commercial development in this area.

Finally, we believe that the general management plan should integrate long-term planning with the development and implementation of short-term objectives. Long-term planning needs to provide direction to the overall mission. It is important for the development at the different units to support

the overall mission. Also, we recommend inclusion of Fort Meigs and other nearby historic properties in the plan. For example, people who visit Fort Meigs or attend special events at Fort Meigs should find information about Fallen Timbers, Fort Miamis, and other nearby historic properties, and they should find an open invitation encouraging them to also visit Fallen Timbers and other nearby historic properties that are open to the public, and they should be able to travel between visitor attractions along well-marked streets that are relatively free of confusing detours.

The general management plan should provide for procedures to implement specific actions. The procedures need to specify who is to undertake the action and who will be involved in the review process. The procedures should specify what kinds of actions require review, and for those actions that do require review, the procedures should provide clear guidance on how to complete the review process. Specific actions should include consistency in design of structures and signage. The review procedures and action plans should include consideration of the need for facilities and amenities at different units. For example, it might be helpful to add bicycle racks and a drinking fountain at the Fallen Timbers monument. The plan should provide for consideration to determine if this kind of action at the Monument is desired, and if it is, then to provide for procedures to determine who is to complete the action. In answer to your final question, OHPO would like to have an opportunity to review the plan, especially those parts of the plan relating to process steps, however we believe that our role in the development of the plan will likely be minimal.

We hope that our preliminary comments are helpful in conveying our ongoing interest in the development of a cultural resources management plan for the Fallen Timbers and Fort Miamis areas and in expressing our appreciation for the important work that NPS and Toledo Metroparks are undertaking in the development of the plan.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

David Snyder

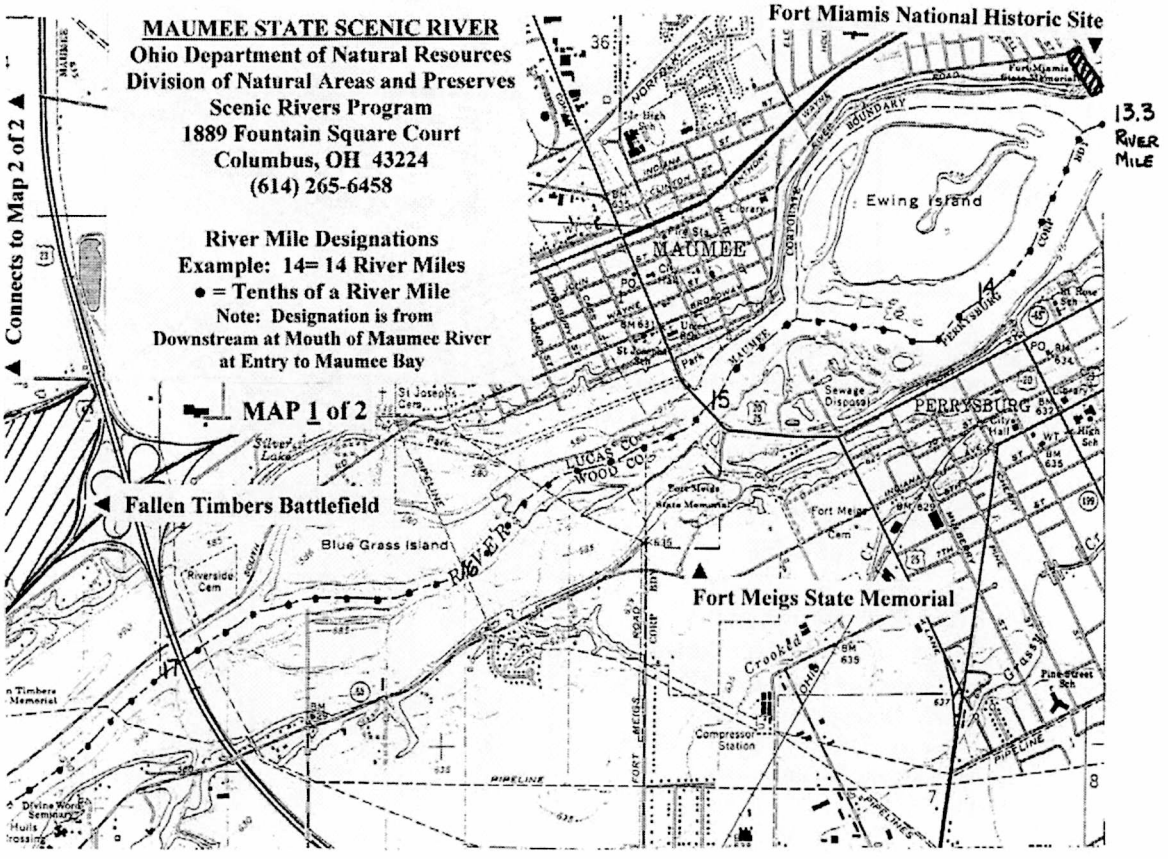
David Snyder, Archaeology Reviews Manager
Resource Protection and Review

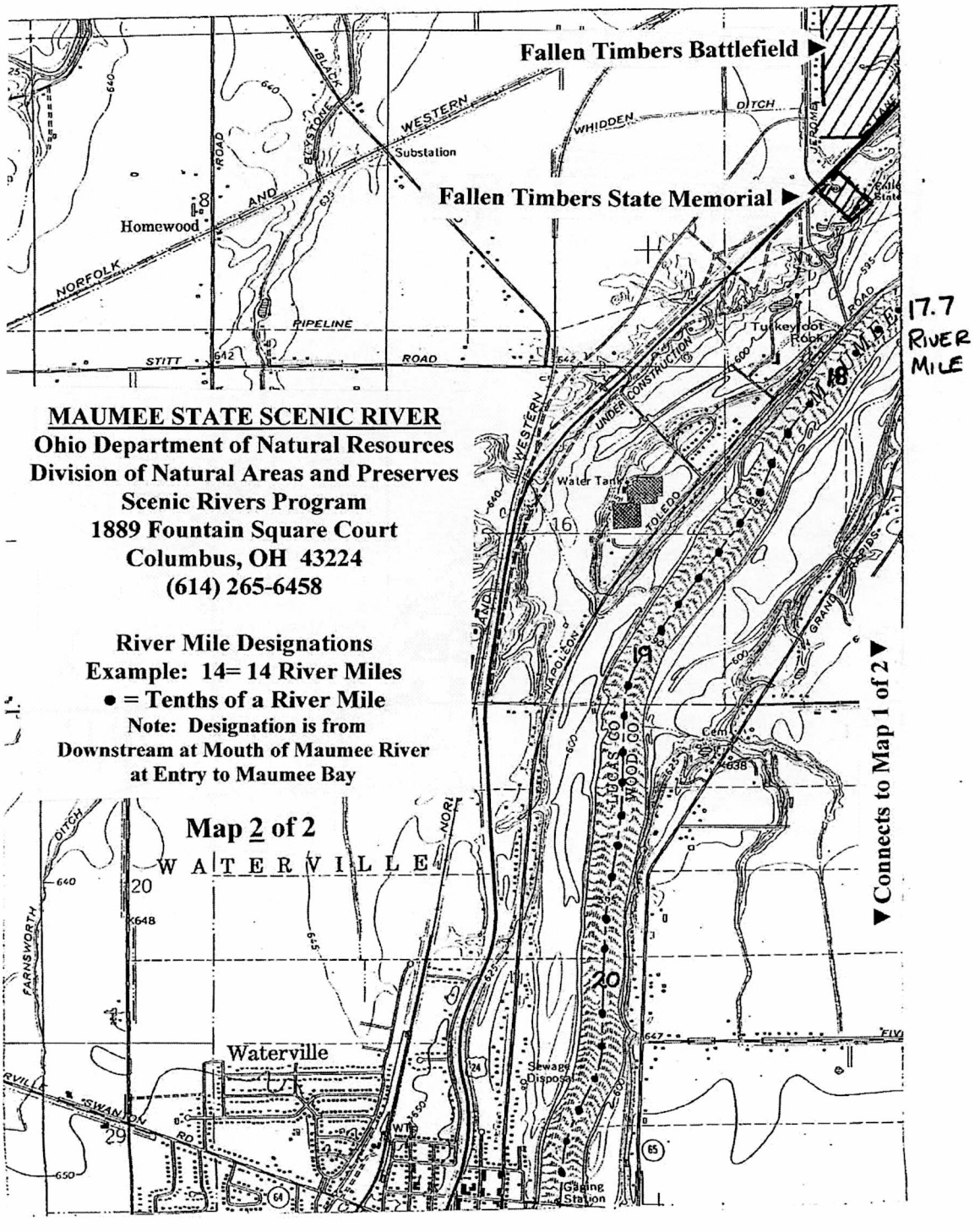
DMS/ds

Attachments (with all)

xc: John Jaeger, Natural Resource Manager, Toledo Metroparks, 5100 W. Central Avenue, Toledo, OH 43615-2100
George Kane, Ohio Historical Society

APPENDIX G: MAUMEE STATE SCENIC RIVER AND RIVER MILE LOCATIONS




Fallen Timbers Battlefield
Fallen Timbers State Memorial
Homewood
Substation
WESTERN
WHIDDEN
DITCH
BLACK
STONE
ROAD
AND
NORFOLK
PIPELINE
STITT
ROAD
Turkeyfoot Rock
UNDER CONSTRUCTION
Water Tank
TOLEDO
NAPOLEON
GRAND
WOOD
LUCAS
Cem
MAUMEE STATE SCENIC RIVER
Ohio Department of Natural Resources
Division of Natural Areas and Preserves
Scenic Rivers Program
1889 Fountain Square Court
Columbus, OH 43224
(614) 265-6458
River Mile Designations
Example: 14= 14 River Miles
• = Tenths of a River Mile
Note: Designation is from
Downstream at Mouth of Maumee River
at Entry to Maumee Bay
Map 2 of 2
WATERVILLE
FARNSWORTH
SWANTON
RD
Waterville
Sewage Disposal
Gasing Station
17.7
RIVER
MILE
▼Connects to Map 1 of 2▼

GLOSSARY

affiliated area — An area that meets criteria for national significance but does not meet other criteria for inclusion in the national park system. As stated in the NPS *Management Policies 2001,* to be eligible for "affiliated area" status, the area's resources must: (1) meet the same standards for national significance that apply to units of the national park system; (2) require some specific recognition or technical assistance beyond what is available through existing NPS programs; (3) be managed in accordance with the policies and standards that apply to units of the national park system; and (4) be assured of sustained resource protection, as documented in a formal agreement between the National Park Service and the non-federal management entity.

cultural landscape — 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 landscape, not mutually exclusive:

- *Historic site:* a landscape significant for its association with a historic event, activity, or person.
- *Historic designed landscape:* a landscape significant as a design or work of art; was consciously designed and laid out either by a master gardener, landscape architect, architect, or horticulturist to a design principle, or by an owner or other amateur according to a recognized style or tradition; has a historical association with a significant person, trend or movement in landscape gardening or architecture, or a significant relationship to the theory or practice of landscape architecture.
- *Historic vernacular landscape:* a landscape whose use, construction, or physical layout reflects endemic traditions, customs, beliefs, or values; in which the expression of cultural values, social behavior, and individual actions over time is manifested in physical features and materials and their interrelationships, including patterns of spatial organization, land use, circulation, vegetation, structures, and objects; in which the physical, biological, and cultural features reflect the customs and everyday lives of people.
- *Ethnographic landscape:* areas containing a variety of natural and cultural resources that associated people define as heritage resources, including plant and animal communities, geographic features, and structures, each with their own special local names.

draft environmental impact statement (DEIS) — A document that describes and assesses the impacts of proposed alternative actions and is available for public comment for a minimum of 60 days.

effect — The result of actions on natural and cultural resources, aesthetics, economic, social or human health and safety. Effects can be direct, indirect, or cumulative. Used interchangeably with "impact."

final environmental impact statement (FEIS) — The document that responds to public comments on the draft environmental impact statement and may include corrections and revisions as a result of public comment.

general management plan — A legislatively required plan that usually guides park management for 15–20 years. It is accompanied by a draft and final environmental impact statement.

impact topic — A specific category of analysis for impacts, such as wildlife, vegetation, or historic structures. Impact topics are identified through public scoping and a determination of what aspects of the human environment would be affected if an action was implemented. An analysis of impacts for a specific topic may be required as a result of a public law (Endangered Species Act) or an executive order (e.g., wetlands, floodplains).

management prescription — A term that describes desired resource conditions and visitor experiences in a particular area that will be achieved by implementing the general management plan. Typically there will be numerous management prescriptions that apply to different types of areas, that prescribe different resource conditions, and that foster various visitor experiences.

management zone — The geographic location for implementing a management prescription.

mitigation — Measures that are taken to reduce the intensity of an adverse impact. Examples include alternative actions that would avoid the impact, that would minimize the impact by limiting the magnitude of the action; that would rectify the impact by repairing, rehabilitating, or restoring a resource; that would reduce impacts through preservation or maintenance; or that would compensate for the impact through replacement or substitution (e.g., creating a wetland environment at another location).

National Environmental Policy Act of 1969 (NEPA) — This public law requires federal agencies to look at alternatives for proposed major federal actions and to fully analyze the impacts of those alternatives on the human environment before a decision is made.

National Historic Landmark — a district, site, building, structure, or object of national historical significance, designated by the Secretary of the Interior under authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places.

National Register of Historic Places — The federal listing of nationally, regionally, or locally significant properties, sites, or landscapes. Sites listed on the national register must be considered when making management decisions if an action could affect that site. Parks are to assess properties over 50 year old to determine their eligibility for nomination to the national register.

Native American consultation — Various laws, policies, and executive orders require consultation with indigenous peoples who may have traditional or contemporary interests in the lands now occupied by parks. This compliance activity is considered government-to-government consultation.

record of decision (ROD) — The document that states which alternative analyzed in an environmental impact statement has been selected for implementation and explains the basis for the decision. The decision is published in the *Federal Register.*

Total Productive Management (TPM) — a maintenance program that involves a concept for maintaining plants and equipment to markedly increase production while, at the same time, increasing employee morale and job satisfaction.

visitor kiosk — a free standing, open structure containing maps and printed interpretive material.

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